TROUTDALE REYNOLDS INDUSTRIAL PARK MITIGATION AND NATURAL AREAS

LONG-TERM MANAGEMENT PLAN

VOLUME II

West Sundial Wetlands and Protected Forested Wetlands in Troutdale, OR

Port of Portland

April 2026

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Abbreviations

BMP	Best management practice
CWA	Clean Water Act
DEQ	Oregon Department of Environmental Quality
DSL	Oregon Department of State Lands
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FSD	Flood Safety District (Urban Flood and Safety Water Quality District (UFSWQD))
JPA	Joint Permit Application
LTMP	Long-term Management Plan
Metro	Metropolitan Service District
NGVD	National Geodetic Vertical Datum
NMFS	National Marine Fisheries Service
OAR	Oregon Administrative Rule
OBL	Obligate wetland species (occur almost always under natural conditions in wetlands)
ODFW	Oregon Department of Fish and Wildlife
ORS	Oregon Revised Statutes
OWRD	Oregon Water Resources Department
PEM	palustrine emergent
PDX	Portland International Airport
PFO	palustrine forested
Port	Port of Portland
PSS	palustrine scrub-shrub
RMC	Reynolds Metals Corporation
SWCA	SWCA Environmental Consultants
TRIP	Troutdale Reynolds Industrial Park
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service

Introduction

Mitigation Management Program

The Port of Portland (Port) initiated their Mitigation Management Program in 1997 to respond to ongoing and proposed mitigation requirements and mandates from various regulatory agencies to address impacts to wetlands and other natural resources. The Port currently manages over 900 acres of mitigation sites and natural areas.

Mitigation and other natural resource enhancement projects are designed to provide a number of wildlife, ecological, and community benefits. These benefits include increasing wildlife value by enhancing or creating nesting, foraging, and resting habitat; creating and enhancing riparian zone functions; improving connectivity between wildlife areas; improving or restoring wetland hydrological functions; improving water quality; providing flood attenuation through water storage; reducing and controlling the spread of invasive weeds; improving habitat for wildlife including avifauna, amphibians, sensitive turtles, and pollinators while providing valuable "green space" in highly urbanized areas. Mitigation planning, designing, monitoring, and reporting follow federal and state regulations, general authorizations, and guidelines.

Long-term management of mitigation sites is vital to ensure that these areas continue to provide ecological benefits to wildlife and the local community. The Port's Natural Resources Policy states that "The Port will manage natural resources in a manner that protects the integrity of the natural environment; promotes natural ecosystems that favor native biodiversity, reduces ecological fragmentation, and improves ecological connectivity, and protects and enhances natural resources of ecological significance." While the Port's Natural Resource staff are dedicated to long-term management of mitigation sites and natural areas, it is not the Port's primary mission. The Port will continue to seek cooperation and partnerships to foster the long-term management of Port mitigation sites and natural areas. The future transfer of mitigation lands to a steward for long-term management would include ownership responsibility and ongoing site management. The long-term steward may be a conservation group, land trust or local agency and shall be referred to as the "steward" for the remainder of this document.

This Volume II TRIP long-term management plan (LTMP) addresses the Port-owned mitigation and natural areas located within and landward of the levee at TRIP including the West Sundial Wetlands mitigation site and protected forested wetlands located east of Sundial Road (see Figure 1 below and Appendix A, Site Figures). This plan summarizes the Port's knowledge of the West Sundial Wetlands mitigation site and will provide the steward with valuable tools to ensure the site's values and functions over time. Long-term management for the adjacent TRIP Phase I mitigation projects, Company and East Lakes and the tree mitigation are addressed in a separate document, TRIP LTMP Volume I.

Site Description and History

The West Sundial Wetlands is located in Fairview and Troutdale, Multnomah County, Oregon. The site is north of NE Marine Drive, west of NE Sundial Road, east of NE 223rd Avenue and south of the levee near

the confluence of the Sandy and Columbia Rivers. The Troutdale Reynolds Industrial Park (TRIP) was previously the site of the Reynolds Metals Corporation (RCM) Troutdale Aluminum Plant. The Port purchased the property in December 2007 with plans to develop the site in phases for industrial use.

In 1994, the site was listed as a Superfund site by the US Environmental Protection Agency (EPA). Since that time, RMC conducted the site clean-up, including demolition of virtually all plant-related structures. EPA issued its Record of Decision in September 2006 indicating that the level of clean-up of the Troutdale site is suitable for industrial use, but not residential or commercial use.

In 2015, the Port received authorizations to begin construction of the Troutdale Reynolds Industrial Park (TRIP) Phase II and III. The project resulted in (1) development of nine industrial lots (lots 4 through 11 and Fairview lot) totaling 176.6 acres; (2) improvements to Sundial Road; (3) improvements to Graham Road; (4) construction of a new roadway link from the terminus of Swigert Way to Graham Road, (5) construction of stormwater and water quality treatment facilities for the improved areas, and (6) construction of an 86 acre wetland mitigation site, the West Sundial Wetlands.

The project was permitted by the U.S. Army Corps of Engineers (USACE) and Oregon Department of State Lands (DSL) (permit numbers NWP-2017-889(1) and DSL #54848-RF) to impact 37.34 acres of wetlands and 4,180 linear feet of waterways. Additional wetland impact occurred as a result of the TRIP Flow Control project (FSD Water control structure, DSL #58816) in which the Port agreed to use up to 0.008 acres of mitigation credit (see Table 2 for the credit ledger). Regulatory monitoring and annual reports for the West Sundial Wetlands project began in 2019 and will continue until 2029 or until the site meets regulatory success criteria. Components of the TRIP Phase II/III mitigation are described in more detail below:

- West Sundial Wetlands – Upon year 5 completion, 37.13 acres of wetland mitigation were created, and 40.92 acres were enhanced for total of 78.05 acres of wetland mitigation for credit. Communities include palustrine emergent (PEM), of palustrine scrub-shrub habitat (PSS), and palustrine forest (PFO). The site is screened from development lots with a 50-foot buffer that includes 3.83 acres of PSS habitat, 0.34 acres of PEM, and 3.76 acres of upland slope shrub buffer with a 10 ft setback for a total mitigation area of 85.98 acres.
- Salmon Creek realignment – 2,627 linear feet of Salmon Creek west of Sundial Road was realigned to increase sinuosity and wetland habitat value. This area is part of the mitigation site and managed with West Sundial Wetlands.
- Sundial Channel – 4,678 linear feet of new channel was constructed within the new wetland to enhance habitat, improve floodplain and connectivity, and provide additional flood water storage west of Sundial Road. Managed with West Sundial Wetlands.
- Salmon Creek East of Sundial Road – 1,155 linear feet of Salmon Creek from Sundial Road to Graham Road was altered to provide a 2-ft. wide channel with a 23 ft. wide floodplain access bench and 6:1 slope. Channel improvement, no compliance requirements other than completion.
- Tree Mitigation – The City of Troutdale required tree mitigation for 1,290 trees removed in conjunction with lot development, primarily east of Sundial Road. The 1:1 mitigation is located north of the levee adjacent to the Phase I 300 Trees site. City of Troutdale requirement only, no

compliance requirements other than completion of tree planting. Managed with TRIP Phase I mitigation and described in TRIP LTMP Volume I. See Figure 1 below.

- Avoided Forested Wetlands - The Port placed a restrictive covenant over West Sundial Wetlands and approximately 14 acres of preserved forested wetland (shown as Protected Open Space on Figure 1) adjacent to Lot 4 east of Sundial Road and adjacent to the levee. Special provisions within the restrictive covenant allow existing utilities to perform their respective missions.

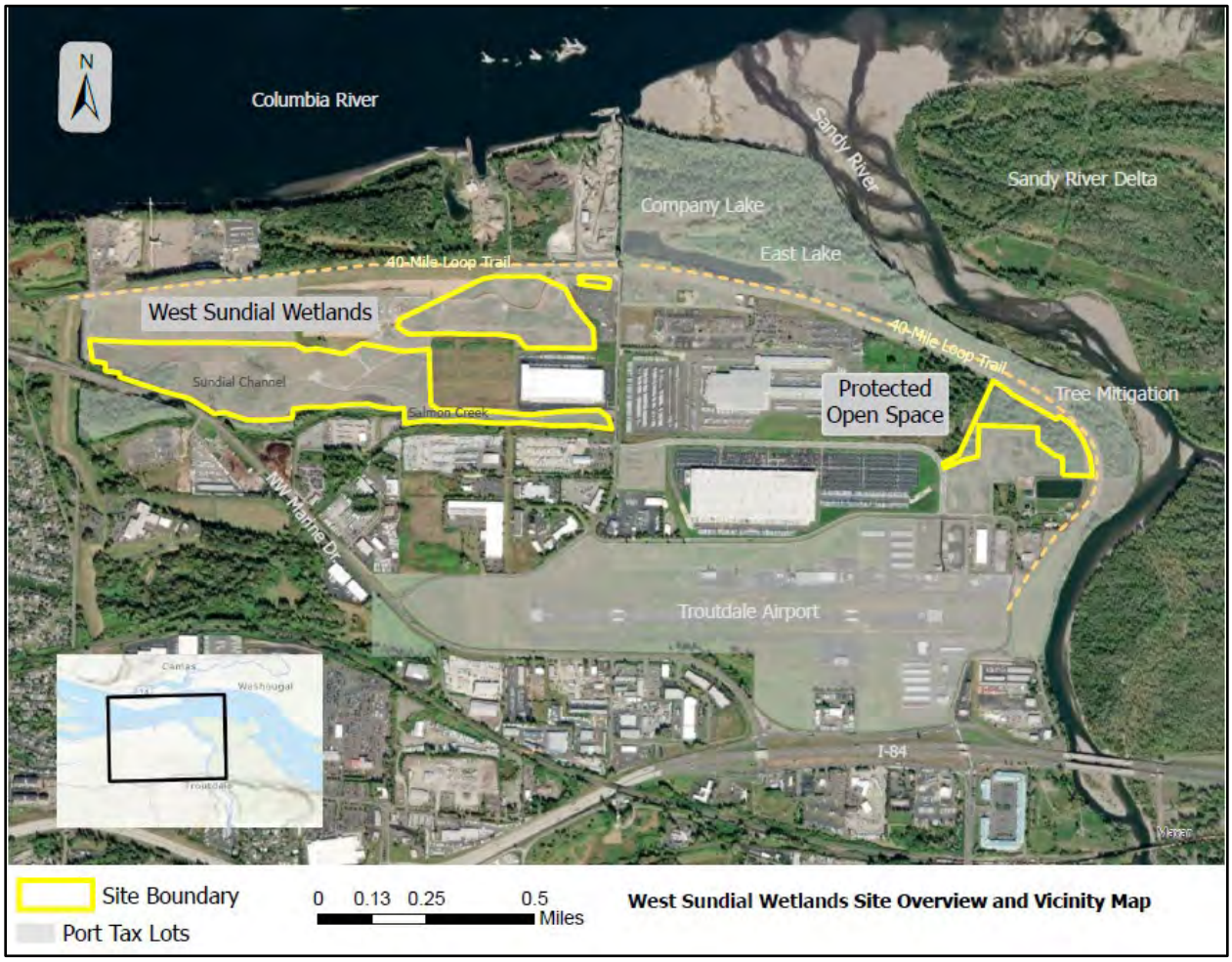


Figure 1: Site Overview and Vicinity Map

Ecological Setting

Habitat and Connectivity

The West Sundial Wetlands is within the historic Columbia River floodplain which is now protected by the Columbia River Levee and managed for flood control by the Urban Flood Safety & Water Quality District also known as the Flood Safety District (FSD). Flows from the watershed are pumped through the levee into Salmon Creek slough by a pump station west of the project area. The ecological goals and objectives of the project were to recreate, to the extent possible, in a watershed managed for flood

control, wetlands, waterways, and scrub-shrub habitat resembling those that existed before dams and levees were constructed along the Columbia River. The historic wetlands were linear in nature and were formed by winter flooding and spring freshets. The historic riparian forest of this area was much wider than it is today. One objective for the mitigation site was to re-establish native wetland vegetation to support native wildlife species. Species selection was based on species historically known to occur such as Columbia sedge (*Carex aperta*) and species found locally outside of the levee such as wax currant (*Ribes divaricatum*). Upland scrub-shrub and herbaceous communities on slopes adjacent to the wetlands provide buffers from development. Site photos are available as Appendix B (see Appendix A, 2025 Aerial and Photo Point Locations as well).

Providing habitat for wildlife was a major goal of the West Sundial Wetlands mitigation plan. However, given the proximity of the site to the Troutdale Airport (TTD), the mitigation was designed to benefit wildlife that are not potentially hazardous to aviation operations such as passerine birds, mammals, and amphibians. Consequently, the site was designed to be less attractive to large birds or birds that flock, such as Canada geese and various other waterfowl. The more mobile wildlife species benefit from a 400-ft wide corridor connecting the southern wetland to the depressional wetlands to the north, adjacent to the levee.

Besides providing habitat for many species of wildlife, another major goal was to increase flood storage in the basin by diverting approximately half of the flow from Salmon Creek into the mitigation area via the new Sundial Channel. Floodwater from the Sundial Channel is held in the mitigation area behind a water control structure for later discharge into the FSD forebay. This benefits local businesses by reducing the potential for flooding and property damage, but it also mimics the historical flooding of the area. Annual flooding provides benefits including recharging groundwater, making soil more fertile, and providing vital nutrients to floodplains which help maintain biodiversity.

Surrounding Land Use

At the west end of the site, the forebay of FSD's pumping facility receives the entire drainage of Salmon and Arata Creeks. FSD holds an access easement along Salmon Creek and Sundial Channel for flood management. Multiple power companies hold access easements through the mitigation site including Bonneville Power Administration (BPA), Portland General Electric (PGE), Pacific Power & Light (PP&L), and NextEra Energy. The mitigation area is bordered to the southeast by a light industrial park which also includes multiple distribution hubs. The West Sundial Wetlands is approximately one mile northwest of TTD and lies within the Federal Aviation Administration (FAA) established separation criteria for airport compatible land use planning and wildlife hazard determination. A public trail is located to the north on top of the levee (see Figure 1).

Site Hydrology

The habitat communities of West Sundial Wetlands consist primarily of PSS with smaller areas of PEM and PFO associated with Salmon Creek and Sundial Channel and a smaller, unconnected area of depressional PSS wetlands located to the northeast near the levee. Hydrology in the northern depressional wetlands is supported by groundwater and precipitation with no other inputs and is separated from the south wetlands by a natural upland berm between two development lots. The hydrology of the south wetlands is influenced by Salmon Creek, Arata Creek and Sundial Channel which

is hydrologically connected to Salmon Creek and runs through the wetlands from east to west, terminating at the water control structure located at the west end of the site adjacent to the forebay.

Hydrologic Management

The FSD is charged with the protection of the Columbia River floodplain which includes the West Sundial Wetlands. In addition, FSD is the Grantee in a Flood Control and Right of Way Access Easement with the Port of Portland. This Access Easement covers Salmon Creek and Sundial Channel within the mitigation site. In the case of a large storm event, FSD has the authority to respond by providing more flood capacity by opening or closing the water control structure and increasing pumping (out of the system). It is expected that monitoring and adaptive management along with close coordination with FSD will be essential in determining the appropriate water levels for the mitigation site.

Pursuant to their individual permit, in 2017, the FSD removed and replaced two 36-inch culverts and slide gates located at the downstream end of Sundial Channel. The new water control structure includes a 60-inch diameter culvert and a broad crested water control structure with slide gates to control water flow at the inlet. The structure allows for controlled flow into the FSD forebay. The new structure is designed to convey the 100-year storm and is equipped with fish screens.

Water levels in Sundial Channel are managed at the water control structure to provide soil saturation throughout the south wetlands to encourage the establishment of PSS, PEM and PFO habitats. During the establishment phase, from construction through year 5, hydrology was managed to limit visible open water, discouraging waterfowl use of the site, while maintaining sufficient soil saturation to support plant establishment and sustain wetland hydrology. Water level at the water control structure gate could be held at 12.5 to 14.5 feet NAVD88 but in general the water control structure is open during the wet season and closed during the dry season to retain ground water. Additional flood storage is allowed for up to 48 hours at a time by closing the upper slide gate with a maximum elevation of 19 feet NAVD88.

Once the site was fully established and woody vegetation dense enough to break up the appearance of open water, hydrology could be managed to provide water levels from 0.5 to 1.0 feet deep in the PSS wetland and deeper in the PEM-OBL depressions where depth could reach 3.0 feet under managed conditions during the wet season. Surface water elevations during this time could reach up to 17 feet NAVD88. Wetland depressions should be completely dry by August so as not to support invasive species such as bullfrogs.

Invasive Species

Effective invasive species management is a critical component of the Port's stewardship role. Invasive species can affect both ecological and economic systems and are one of the primary maintenance concerns for the Port's mitigation sites. Once established, invasive species can be costly to remove; therefore, preventing the introduction and establishment of invasive species has been shown to be the most cost-efficient strategy for long-term management. The Port documents invasive species management strategies approximately every two years in a Vegetation Management Plan that is publicly available on the Port of Portland website: https://www.portofportland.com/Environment/Mitigation

The West Sundial Wetlands are in an urban-industrial setting near shipping and transportation infrastructure making invasive species an on-going management issue. The Port implements a variety of

control methods depending on multiple factors including the species, ODA rank, size of weed population, time of year, etc. The Port seeks to minimize the use of chemical herbicides by prioritizing manual and mechanical removal of invasive species when feasible. Early Detection Rapid Response[1] (EDDR) is employed to prevent the spread of invasive species. Target invasive species can fluctuate over time depending on site conditions, introductions, and control efficacy. At the time this document was published, target species included those listed below in Table 1.

Table 1: Target Invasive Plants

Botanical Name	Common Name
Alopecurus pratensis	meadow foxtail
Cirsium arvense	Canada thistle
Cirsium vulgare	bull thistle
Dipsacus fullonum	teasel
Holcus lanatus	common velvetgrass
Lotus corniculatus	bird's-foot trefoil
Mentha pulegium	pennyroyal
Phalaris arundinacea	reed canarygrass
Rubus armeniacus	Himalayan blackberry
Solanum dulcamara	bittersweet nightshade
Trifolium pratense	red clover
Trifolium repens	white clover

Restored Native Vegetation

Non-native and invasive species, primarily pasture grasses, broadleaf weeds and Himalayan blackberries, were mowed and treated with herbicide multiple times from 2012 through 2014 prior to construction. Site grading and construction began in July of 2015, and initial planting was completed in October 2018. Initial native seeding occurred in phases on multiple dates between fall 2015 and fall 2018. Different seed mixes were applied as appropriate for each community. Refer to Appendix C for a Cumulative Plant Species List.

The site was planted and seeded with native species by community type including PSS, PFO, PEM and upland slope and buffer (see Appendix A, West Sundial Wetlands Habitat Map). PSS is the dominant community found throughout the site. Due to aviation related height constraints, the well-established forested wetlands are confined to the western end of the southern portion of the site. PEM habitats are found beneath the powerline corridor and in some depressional wetland habitats throughout the site. Wetland buffers are primarily scrub-shrub communities in proximity to developable lots with a greater stem density requirement. Interplanting and seeding have taken place annually since site completion to bolster stem densities and to revegetate areas where invasive species management was necessary.

[1] More information on Early Detection and Rapid Response prevention efforts is available at: https://www.usgs.gov/ecosystems/invasive-species-program/science/early-detection-and-rapid-response

Wildlife Species

West Sundial Wetlands provides a variety of habitats that support local and migrating wildlife. A comprehensive species list is provided in Appendix D and includes approximately 75 bird species, 13 mammals, 7 identified reptiles/amphibians, and other observations. Bird species associated with the wetland habitat include great blue heron, great egret, green heron, marsh wren, red-winged blackbird, sora, Virginia rail, wood duck and more. Other notable species include Lazuli bunting, western kingbird, western meadowlark and willow flycatcher. During surveys, egg masses of Pacific chorus frogs (*Pseudacris regilla*), long-toed salamanders (*Ambystoma macrodactylum*) and northern red-legged frogs (*Rana aurora*) were recorded. Beaver, coyote and black-tailed deer were commonly observed or recorded based on evidence. Other mammals observed on the site include North American river otter, long-tailed weasel, muskrat, red fox and striped skunk.

The northern red-legged frog is classified as "sensitive" by the Oregon Department of Fish and Wildlife (ODFW) and listed as a priority species on the Oregon Conservation Strategy. Northern red-legged frog egg masses have been observed at West Sundial Wetlands during amphibian egg mass surveys. The northern red-legged frog prefers wet sites near quiet permanent streams, marshes, ponds, lakes, and other quiet bodies of water. They regularly occur in damp woods and meadows some distance from water, especially during wet weather. In summer, frogs estivate in small mammal burrows, leaf litter, or other moist sites in or within a few hundred feet of riparian areas (Rathbun et al. 1993). Breeding occurs in permanent waters with eggs attached to stiff submerged stems at the surface of the water (Hayes and Miyamoto 1984). West Sundial Wetlands provides habitats critical to amphibian life cycles such as seasonal ponds with structure for egg mass attachment and adjacent grasslands, scrub-shrub, and forested wetlands.

Regulatory Framework[2]

Mitigation projects provide compensation for unavoidable permanent and temporary impacts to wetlands and other natural resources resulting from development and operational activities undertaken. If new development is proposed where wetlands or other regulated natural resources are impacted, federal, state, and local laws and regulations require that project alternatives be evaluated to 1) avoid the impact, 2) minimize the impact, and 3) mitigate or compensate for the unavoidable impacts to these natural resources. Mitigation is usually in the form of restoration, establishment (creation), enhancement, or preservation of the habitats and functions impacted.

Permitting and compliance responsibilities for wetland mitigation sites are primarily enforced by USACE, DSL, and Oregon Department of Environmental Quality (DEQ), with associated federal, state, and local agencies having influence and offering comments on permit compliance. Mitigation for development impacts may also be required through local regulations.

[2] With the exception of City of Troutdale Land Use Regulations, Regulatory Framework language was developed by SWCA Environmental Consultants for the Port's Randall (2016) and Vanport Wetlands (2018) Long-term Management Plans.

Federal and State Regulations

Clean Water Act, Section 404

Section 404 of the Clean Water Act (CWA), initially enacted in 1972, establishes a program to regulate the discharge of dredged or fill material into waters of the United States, including wetlands. Activities in waters of the United States regulated under this program include fill for development, water resource projects (such as dams and levees), infrastructure development (such as highways and airports), and mining projects. Section 404 requires a permit from the USACE before dredged or fill material may be discharged into waters of the United States, unless the activity is exempt from Section 404 regulation (e.g., certain farming and forestry activities). The applicant must first demonstrate that steps have been taken to avoid impacts to wetlands, streams, and other aquatic resources; that potential impacts have been minimized; and that compensation will be provided for all remaining unavoidable impacts.

Oregon Department of State Lands Removal-Fill Law

The DSL's Removal-Fill Law (Oregon Revised Statute (ORS) 196.795-990) requires a permit to be obtained from DSL prior to removing or placing material in waters of the state. The purpose of the law, enacted in 1967, is to protect public navigation, fishery, and recreational uses of the waters. "Waters of the state" are defined as "all natural waterways including all tidal and non-tidal bays, intermittent streams, constantly flowing streams, lakes, wetlands and other navigable and non-navigable bodies of water in this state…, where removal of fill activities are regulated under a state-assumed permit program..." (ORS 196.800(15)). The law applies to all landowners, whether private individuals or public agencies.

Endangered Species Act of 1973

The purpose of the Endangered Species Act (ESA) of 1973 is to protect and recover imperiled species and the ecosystems upon which they depend. It is administered by the U.S. Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NMFS). The USFWS has primary responsibility for terrestrial and freshwater organisms, while the responsibilities of NMFS are mainly marine wildlife such as whales and anadromous fish such as salmon. Under the ESA, species may be listed as either endangered or threatened. *Endangered* means a species is in danger of extinction throughout all or a significant portion of its range. *Threatened* means a species is likely to become endangered within the foreseeable future. The ESA makes it unlawful for a person to take a listed animal without a permit. Take is defined as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct." Section 7 of the ESA requires federal agencies to use their legal authorities to promote the conservation purposes of the ESA and to consult with the USFWS and NMFS, as appropriate, to ensure that effects of actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of listed species.

Migratory Bird Treaty Act

The purpose of the Migratory Bird Treaty Act, initially enacted in 1918, is to protect migratory bird species by making it illegal for anyone to "take, possess, import, export, transport, sell, purchase, barter, or offer of sale, purchase, or barter, any migratory bird, or the parts, nests, or eggs of such a bird except under the terms of a valid permit issued pursuant to federal regulations." It is administered and enforced by the USFWS. The Migratory Bird Treaty Act implements conventions between the United States and four other countries (Canada, Mexico, Japan, and Russia) for protection of migratory birds. A

complete list of migratory bird species protected under this act are listed in 50 Code of Federal Regulations 10.13.

Local Ordinances

Multnomah County Land Use Regulations

Actions requiring a development application are reviewed by Multnomah County staff for compliance with standards under the Multnomah County Land Use Regulations (Chapter 39 – Multnomah County Zoning Code). These codes and regulations outline protections for the health, safety, and welfare of the public and environment and ensure compatible land uses are co-located. The standards within the Multnomah County Code are based on a collection of standards established by the Oregon State Statutes, Oregon State Administrative Rules, and ordinances adopted by the Multnomah County Board of Commissioners. Guidance for protection of wetland resources is included therein. These regulations are modified and often defer to the standards and ordinances in the City of Portland Land Use Regulations (Title 33 – Zoning Code) for areas within those city limits.

City of Troutdale Land Use Regulations

The City of Troutdale Comprehensive Land Use Plan was adopted in 1990 and last amended in 2014. The goals and objectives of the Plan address land use, open spaces, water quality and natural resources among others consistent with Oregon statewide land use planning goals and Metro Urban Growth Management Functional Plan. To protect and buffer wetlands from development, the City of Troutdale developed requirements for planting of vegetation corridors. City of Troutdale Development Code 4.300: Vegetation Corridor and Slope District describes the administrative and technical requirements for the design and construction of vegetation corridors.

City of Fairview Development Code

The western portion of the mitigation site is within the City of Fairview and falls under the Fairview Zoning Ordinance and Code. The purpose of the Code is to establish regulations governing and guiding the development and use of land in the city of Fairview and in accordance with the Fairview Comprehensive Plan. The Fairview Comprehensive Plan was established in 2004 and revised in 2022. The City of Fairview's approach reflects statewide planning goals and addresses roadways, floodplain, new buildings, and identification of compatible uses.

West Sundial Wetlands Mitigation Site Permitting

Permit Summary

In 2007, the Port purchased the Reynolds Metals Corporation (RMC) property, a Superfund-designated clean-up site, with the intent of developing it as an industrial park. Development of the site began in 2008 with Phase I construction of a 142-acre FedEx Ground automated package distribution center, 8,500 linear feet of paved trail on top of a levee (Ch'ak Ch'ak Trail), a new road (NW Swigert Way), the relocation of Salmon Creek and two tributary ditches, and the construction of a new utility corridor and stormwater facilities for the new development. Wetland and tree mitigation for Phase I impacts occurred north of the levee and adjacent to Company and East Lakes (details available online in TRIP LTMP Vol. I).

The Troutdale Reynolds Industrial Park (TRIP) Phase II/III development began in 2015. The project impacted 37.34 acres of wetland and 1.82 acres/4,180 linear feet of waterway. Compensatory mitigation for TRIP Phase II/III consisted of creating 37.13 acres of wetland (1.5:1 ratio) and enhancing 40.92 acres of wetland (3:1 ratio) at West Sundial Wetlands including advanced credits. Waterway impacts were mitigated with 8,460 linear feet of channel improvement and creation. In addition, the City of Troutdale required enhancement of riparian forest near the confluence of the Sandy and Columbia Rivers. Advanced compensatory wetland mitigation credits were proposed and approved by the regulating agencies. A credit ledger is presented in Table 2.

Advanced mitigation credits remaining from West Sundial Wetlands must be used for future Port development projects, subject to agency approval. Final wetland creation and enhancement acreages and mitigation credits are based on a wetland delineation conducted by Haley & Aldrich in July 2022 that was revised in 2023 and further adjusted in 2024 as a result of agency coordination. Table 2 below provides mitigation credit calculations and impact credit/debit for TRIP Phase II/III. The West Sundial Wetland and protected forested wetland are both located south of the levee and protected under a Restrictive Covenant amended and recorded in 2018 (see Appendix E, Supporting Documents).

Table 2: TRIP Phase II/III Mitigation Acreage and Credit Ledger (November 2024)

MITIGATION: WEST SUNDIAL WETLANDS	ACREAGE	RATIO	CREDITS	PEM (ac)	PSS (ac)	PFO (ac)
West Sundial Wetland Mitigation - CREATION	37.13	1.5:1	24.75	7.53	29.57	0.03
West Sundial Wetland Mitigation - ENHANCEMENT	40.92	3:1	13.64	4.79	32.57	3.56
Subtotals:	**78.05**	---	**38.39**	12.32	62.14	3.59
IMPACTS APPLIED TO CREDITS	**ACREAGE**		**CREDITS**	**PEM (ac)**	**PSS (ac)**	**PFO (ac)**
TRIP Phase II/III (DSL 54848-RF, USACE NWP-2007-889(1))	74.92	---	37.34	12.32	60.5	2.10
SDIC Weir (DSL 58816) Delineation meets permit requirements	0.008	---	0.008	0.00	0.008	0.00
Subtotals:	**74.928**	---	**37.348**	12.32	60.508	2.10
Advance credits/acres remaining at West Sundial Wetland:	3.12	3:1	**1.04**	0.00	1.63	1.49
Note: all advance credits remaining are Enhancement credits and only available upon agency approval.						
Note: DSL also approved 245 LF of Advanced Waterway Mitigation Credits						

In February 2023 the Port obtained a permit from the Oregon Water Resources Department (OWRD, R-15553) to store public waters; this permit is also known as an alternate reservoir permit. The Port received a Certificate of Water Right in December 2024 which allows water to be stored on-site and requires water use measurement, recording and annual reports to OWRD.

Mitigation Plan

The mitigation project was completed in four wetland areas west of Sundial Road. The four areas vary in Ordinary High Water (OHW) elevations due to historic conditions that left high mounds and low troughs. These mitigation plan elevations were set based on a groundwater level monitoring study of the area from September 2007 to July 2009 (Schaub et.al. 2010). The most northern wetland mitigation areas, have a maximum OHW elevation of 23-24 feet, North American Vertical Datum 1988 (NAVD88). Enhancement of the wetlands located in the northern portion of the site required excavation to 3 to 4 feet below surface, removal of invasive pasture grasses and seeding/planting of native herbaceous and woody species. The south mitigation area has an OHW elevation of 17 feet and was to be the largest of the four new mitigation areas with a flow-through channel. Enhancement of the wetlands in this area included reducing the ground elevation by 0.5 to 2 feet, construction of Sundial Channel, removal of

invasive pasture grasses and seeding/planting of native herbaceous and woody species. The channel has a water control structure at the downstream end to meter flow into the forebay managed by FSD.

West Sundial Wetlands consists largely of scrub-shrub and forested wetlands with smaller patches of herbaceous emergent wetlands and depressional ponds. This scrub-shrub-dominant design helps to minimize the attractiveness of the wetlands to species that can be hazardous to aviation, such as Canada geese and other flocking waterfowl. Alternatively, the design provides valuable habitat for a suite of wildlife species of less concern for aviation safety such as neo-tropical migrants, small mammals, reptiles, and amphibians. The northern wetlands were to be shallow depressions, similar to preexisting conditions, but much larger, vegetated with native species, and with a much greater scrub-shrub component than prior to project development. The large, southern wetland is somewhat flat with areas of higher and lower elevations to add topographic complexity and plant diversity. This area includes the Sundial Channel and the FSD water control structure which allows for some control of water levels. Large woody material was placed in the mitigation wetlands to further enhance use by wildlife while at the same time disrupting line of sight to further deter Canada geese, a species of concern for TTD.

The Salmon Creek realignment converted upland areas to wetland and riparian habitat and meandered 2,475 feet of Salmon Creek from NW Sundial Road westward to the diversion into Sundial Channel, which is just east of where Salmon Creek leaves the project area boundary. The creek “V” channel has a depth of approximately 8 feet, with a bottom width that vary from 4 to 8 feet. Side slopes are approximately 2:1. The Salmon Creek realignment provides a low flow channel with widened wetland benches. The low flow channel has a 2 ft. flat bottom, 2 ft. depth, and 3:1 side slope to the south and 6:1 side slope to the north. At 1 ft. above the average inundation level of 2 ft. depth, slopes flatten to accommodate wetland benches. In-channel floodplain storage is located within the widened wetland benches beside the meandering channel.

Sundial Channel is designed for a depth of 2 ft., has a flat bottom width of 2 ft., and 3:1 side slope to the south and 6:1 side slope to the north. At 1 ft. above the average inundation level of 2 ft. depth, side slopes flatten to provide wetland benches. The elevation at the downstream end of Sundial Channel, where it outfalls into the FSD forebay, is 10.60 feet (NAVD88). The elevation of the upstream end is 12.19 ft. at the graded diversion from Salmon Creek. An access road for Port and utility use parallels Salmon Creek and Sundial Channel on the north side.

The mitigation site is buffered from adjacent development lots with vegetated buffers averaging 50 feet in width. The buffers include a 10-foot vegetated setback on the development lots from top of bank and an average of 40 feet into the wetland from the top of bank. The 40-foot average includes vegetated upland slope and created and enhanced wetland within the buffer zone. All created and enhanced wetland within the buffer is not included in the wetland credit calculation. The placement of herbaceous and scrub-shrub buffer communities corresponds with power line constraints (i.e. different height restrictions may apply to different utilities). Buffer plantings on the slope and wetland were planted at a higher density than the overall site to provide more effective buffering from adjacent development (2,400 stems/acre versus 1,600 stem/acre).

Mitigation Results and Site Conditions

Successful mitigation of project impacts was contingent on the success of the West Sundial Wetlands key performance standards expressed in the DSL Permit No. 54848-RF and USACE Permit No. NWP-2007-889(1). DSL released the Port of further obligation in November 2024 (see Appendix E, Supporting Documents). Upon site release, DSL approved 1.04 credit/acres of Advanced Mitigation and 245 linear feet of waterway credits (see Table 2).

Based on the 2023 delineation and further adjustments in 2024, the site now provides approximately 66 acres of palustrine scrub-shrub, 12.7 acres of palustrine emergent, 3.6 acres of palustrine forest wetland (including non-credit wetland buffer), and 3.8 acres of upland buffer communities. Common species in the emergent community include common rush (*Juncus effusus*), tufted hairgrass (*Deschampsia cespitosa*), spike bentgrass (*Agrostis exarata),* meadow barley (*Hordeum brachyantherum*), and swamp smartweed (*Polygonum hydropiperoides*). The most common species in the scrub-shrub and forest communities include common rush, spike bentgrass, slough sedge (*Carex obnupta*), native willows (*Salix* sp.), and Douglas' spirea (*Spiraea douglasii*). Species dominant in the upland buffers include *Juncus effusus, Populus balsamifera spp. trichocarpa* (black cottonwood)*, Salix sitchensis*, *Spiraea douglasii*, and *Symphoricarpos albus* (common snowberry).

Through annual amphibian egg mass surveys and other observations, Port staff have confirmed the presence of the northern red-legged frog, a state-listed Sensitive species and federal Species of Concern. This species breeds in the site's emergent wetlands and forages in the forested and scrub-shrub habitats. In addition, the site provides valuable nesting and foraging habitat for a wide array of wetland-associated bird species.

Conservation and Management Strategy

The goal for long-term management of West Sundial Wetlands is to conserve and maintain natural conditions through continued monitoring and management of on-site natural resources. Long-term management is intended to be adaptive; therefore, adaptive management should be implemented, as defined in the federal mitigation rule 33 Code of Federal Regulations 2.332 (2008):

Adaptive management *means the development of a management strategy that anticipates likely challenges associated with compensatory mitigation projects and provides for the implementation of actions to address those challenges, as well as unforeseen changes to those projects. It requires consideration of the risk, uncertainty, and dynamic nature of compensatory mitigation projects and guides modification of those projects to optimize performance. It includes the selection of appropriate measures that will ensure that the aquatic resource functions are provided and involves analysis of monitoring results to identify potential problems of a compensatory mitigation project and the identification and implementation of measures to rectify those problems.*

Most permit requirements specify that mitigation sites are monitored for 5 years; however, after such a short period of time, the functions and values of mitigation sites rarely match those of natural sites. With the objective of achieving a site that is sustainable, the Port's stewardship over West Sundial Wetlands will continue until it is passed to the Steward, who will continue monitoring and managing the site beyond the immediately foreseeable future even after there is no regulatory requirement to do so.

Long-term maintenance will help to ensure that habitat integrity continues to improve, and the site sustains its enhanced condition with minimal intervention.

Permanent Protection Instrument

The West Sundial Wetlands is protected in perpetuity under the recorded Declaration of Restrictive Covenant (Appendix E) for Troutdale Reynolds Industrial Park Phases 2 and 3 Subdivision with the State of Oregon as the grantee. This restrictive covenant also protects forested wetlands located east of Sundial Road adjacent to the USACE levee and Lots 3 and 4.

Financing for continued management of the site would be negotiated between the Steward and DSL upon transfer of ownership. While the Port may provide an initial endowment, the Port would not be responsible for continued financing of the site.

Limits of Responsibility

The Steward will not be responsible for any potential failure of the West Sundial Wetlands mitigation sites attributed to natural catastrophes such as flood, drought, disease, regional pest infestation, and others that are beyond their reasonable control. Active management is not expected to prevent events of natural ecological change that come about as a result of processes such as climate change, sedimentation due to flooding, excessive drought, and other naturally occurring events that were not caused by or that could not have been prevented by on-site management activities. Over time, natural processes could occur that may reduce wetland function or reduce the current wetland habitat acreage. For example, deposition of sediments during high flows and flooding in parts of the wetlands could result in a natural filling of some areas. Management activities to prevent this natural filling are unnecessary.

Public Use and Access

Given that the mitigation site is located adjacent to a highly developed area dominated by industrial and transportation infrastructure, vandalism and unauthorized access are issues that affect the maintenance of and public access to the West Sundial Wetlands. In addition, the mitigation site is in proximity to the publicly accessible Ch'ak Ch'ak Trail, and trail users venturing off the trail and into sensitive areas will continue to be an issue requiring management attention. To protect the West Sundial Wetlands to the best degree possible from vandalism, unauthorized camping, trail users, weeds, and disturbances to wildlife, public access is currently restricted by fencing, locked gates, and signage. In the future, the site will continue to be protected with a combination of fencing, locked gates, and signage maintained by the Steward. Future public access may include limited access for research and educational opportunities, such as bird watching or plant identification, if the Steward determines that these uses will not conflict with the long-term management objectives of the site and the terms of the restrictive covenant. The site is intended to remain a natural area with no development of infrastructure including access roads. Aside from the Ch'ak Ch'ak Trail and other areas that are accessible to the public, remaining portions of the West Sundial Wetlands are intended to remain in natural condition with development limited to the existing infrastructure and publicly accessible trails, as well as minimally invasive trails needed to access portions of the sites for monitoring and maintenance.

Long-Term Monitoring and Research

Monitoring

The West Sundial Wetlands site has been monitored for regulatory compliance since 2019 by Port staff and its contractors. Since then, the site was interplanted annually to maintain stem densities; native seeding occurred in areas where invasive species were treated. Monitoring efforts were focused on these key aspects of site characteristics:

- Hydrology, groundwater and ponding
- Invasive species presence and cover
- Vegetation quality (species richness, cover, stem density, etc.)
- Amphibian presence/absence and egg mass surveys
- Wildlife observations (birds, reptiles, mammals, fish, and invertebrates)

A complete list of monitoring and other reports can be found in the West Sundial Wetlands Document List in Appendix F. The Port also provides periodic site management updates in the Mitigation Management Program Site Status Report available on the Port's public website: https://www.portofportland.com/Environment/Mitigation

Once the site has been released from regulatory compliance, the Port will continue regular site inspections for invasive species and other maintenance needs to ensure conservation of habitat and wetland functionality. Monitoring activities by the Port and in partnerships with others would likely continue into the future and may include amphibian egg mass surveys, monitoring of wildlife use and site conditions, ecological succession, water quality, and diversity of wildlife usage of the site. Future hydrology monitoring on the site could involve continued surface water level observation, as well as new types of monitoring, which could study site-specific characteristics or be a part of a larger watershed study. Other possible monitoring activities could include monitoring plant growth and changes over time (herbaceous productivity, tree/shrub growth, etc.) and avian use of the site.

Amphibian monitoring at West Sundial Wetlands should continue, especially regarding the vulnerable northern red-legged frog population. Winter egg mass surveys should continue to both monitor northern red-legged frog population and the relative health of amphibian populations on-site. Monitoring of on-site amphibians can provide insights into the health of the local ecosystem.

Future Restoration

Continued enhancement of on-site natural resources could increase ecological functions and habitat diversity within the West Sundial Wetlands to benefit both the local community and natural environment. Future restoration programs could involve enhancement of one or more functions, such as improving habitats for breeding amphibians and passerine birds, and continued enhancement of upland buffers by increasing native plant diversity. Other restoration opportunities may present themselves in the future and could be pursued in conjunction with other monitoring and research efforts.

Opportunities for Research

Long-term management of West Sundial Wetlands could allow for multiple research opportunities. Many research ideas could be implemented in conjunction with regular management activities with minimal cost. Information resulting from research conducted on the site would help to inform future management actions. Understanding the effectiveness of conservation strategies could help inform future wetland mitigation programs. Select research studies may be eligible for additional funding from outside sources to aid in implementation. The research opportunities discussed below are just some of the possible ideas for long-term research that could be conducted at this site.

Vegetation and Invasive Species

- Test efficacy of invasive species removal and planting or recruitment of native plants to out-compete large infestations.
- Vegetation growth and succession for habitat types (PEM, PSS, PFO) and the response of volunteer recruitment of native species.

Hydrology

- An extended study of the relationship between Columbia River levels and mitigation site inundation as it relates to the establishment of palustrine forest.
- Research could be conducted on surface water levels of the mitigation areas with respect to river level manipulation at the Bonneville Dam.

Wildlife

- Amphibian studies could be conducted that analyze their use of the site and population dynamics. In addition, habitat suitability for the northern red-legged frog should be studied and occurrences monitored throughout the life of the site, including studies on the interactions between water levels and egg mass attachment and success rate.
- Mammal studies such as vole use, black tailed deer, coyotes, and other urban wildlife
- Passerine bird use

Long-Term Management Actions

Long-term management actions will need to be taken to ensure continued enhanced wetland and habitat functions. These actions should be based on results of regular site inspections and specific monitoring and may change over time in response to changes in site conditions. Management activities at a minimum, should include trash removal, hydrologic management, invasive species management and restoration of areas where invasive species have displaced native vegetation or where other disturbance has occurred. Other management activities that would ensure habitat functions over time may include replanting or reseeding areas of native plant diversity decline, continued restoration of buffers with native species that support pollinators and repairing or installing wildlife structures, such as logs, root wads, bird nest boxes/gourds, or other habitat features. Details of preferred best management practices (BMPs), vegetation management, and site maintenance are described in this section.

The long-term vision of management actions should be based on the following key parameters:

- Providing wetland and riparian habitat for wildlife

- Through management actions, strive to achieve sites that are more sustainable
- Protecting the site from incompatible land uses
- Support community outreach, research, and education opportunities

Best Management Practices

BMPs should be implemented for all management actions, including ground disturbance, herbicide application, seed application, and planting. BMPs are especially important when handling and applying herbicides on-site, because misuse of these chemicals can cause negative impacts to native plants, wildlife, and water quality. The Port's Vegetation Management Plan discusses herbicide application and includes a detailed list of invasive species commonly encountered at West Sundial Wetlands, the types of herbicides to use, and handling and operation of relevant equipment. BMPs pertaining to the prevention of invasive species reestablishment, invasive species monitoring, wildlife considerations, general equipment cleaning, and long-term herbicide use considerations are discussed as well. The latest version is available online at: https://www.portofportland.com/Environment/Mitigation.

An invasive species control plan is important to establish before implementation of new methods or use of new applications. The plan should include the species that will be controlled by the measures and the strategies that will most efficiently control them. These strategies should attempt to integrate the use of mechanical, chemical, and biological methods of controlling the target species, as opposed to relying on one single method of control. Herbicides should always be applied according to their labels and the BMPs described in the most recent Port Vegetation Management Plan.

The West Sundial Wetlands supports many wildlife species and site management practices can potentially interfere with critical life cycles or endanger animals in other ways. BMPs provided in the Port's Vegetation Management Plan help minimize impacts to wildlife by avoiding certain management activities during critical life cycle stages, cleaning boots and other equipment to prevent the spread of amphibian disease and minimizing the use of herbicides.

One of the primary goals of the site is to establish a diverse, native wetland plant community. Given this, it is very important to use chemicals selectively on the target species to avoid contact and harm to native plants. In general, herbicides will be applied by spot spraying or wicking rather than broadcast spraying to avoid harming native plants. All herbicide applicators must be certified and licensed by the Oregon Department of Agriculture.

On-going Vegetation Management

Prior to the creation of the West Sundial Wetlands, the property contained numerous invasive and non-native species primarily pasture grasses and broadleaf weeds. Through restoration, enhancement and ongoing maintenance by the Port, these invasive species have been largely reduced. Established buffers adjacent to the wetland mitigation site should continue to be managed for invasive species to prevent encroachment and possible reintroduction from unmanaged areas of the open space.

The best management strategy to prevent the colonization of invasive species is to maintain a healthy, diverse native plant community. Plant communities that have a complex and diverse composition are typically more resilient in the face of invasive and non-native species encroachment. However, if

invasive species manage to become established within the site, then the following guidelines can help control them.

An adaptive management strategy is the best approach for developing long-term management actions to prevent the establishment and spread of non-native and invasive species. Management actions should be tailored to the specific situation and conditions whenever possible to achieve the best results. These actions should entail identifying weeds on the site, mapping the distribution of these weeds, researching currently accepted methods for control, implementing weed control plans for each species, and monitoring the efficacy of control efforts.

Periodic tree maintenance, such as pruning or removal of dead trees that pose a safety hazard, may be required. Removal of mature trees within the site must be coordinated with the City of Troutdale or Fairview. Trees growing below power lines may require periodic maintenance such as treatment or removal. Trees cannot be planted or encouraged to become established below power lines. Other maintenance activities may include habitat enhancement like native planting or seeding to maintain site integrity.

Specific objectives to be achieved through adaptive non-native and invasive species management include:

- Protect and maintain healthy plant communities by minimizing unnatural ground disturbance that promotes the invasion of non-native/invasive species.
- Prevent the establishment of new non-native/invasive infestations. Conduct regular surveillance for nonnative/invasive species infestations – practice Early Detection Rapid Response[3]
- Reduce the vigor of existing non-native/invasive populations and limit their spread.
- Eliminate non-native/invasive plant populations or portions of populations.
- Exhaust the non-native/invasive seed bank: prevent seed production and eradicate established plants.
- Monitor efficacy of control methods.
- As infestations decrease in size, locate and monitor isolated patches.
- Reevaluate species and control methods.
- Seed areas that have been disturbed or treated for invasive species with native species to establish native plant communities able to compete with invasive species.

These guidelines are circular and reflect an adaptive management approach to controlling non-native and invasive species. The intensity of the monitoring and management actions should depend on the relative threat the invasive species pose to the site's integrity and ecosystem and the speed at which the species can become established and spread within the site. A comprehensive Site Activity Record is provided in Appendix G.

Vegetation Succession

Vegetation succession is a constant driver upon the landscape. In most situations, given a lack of human or natural controls, vegetation in the Willamette Valley will trend towards becoming a mature forested

[3] More information on Early Detection and Rapid Response prevention efforts is available at: https://www.usgs.gov/ecosystems/invasive-species-program/science/early-detection-and-rapid-response

community. While the intent of the West Sundial Wetlands is to establish a complex of palustrine scrub-shrub, palustrine emergent and palustrine forest, some areas of creation and enhancement may transition from palustrine emergent to palustrine scrub-shrub. Even with the goal of creating self-sustaining and self-managing natural processes at West Sundial Wetlands, continued vegetation management will likely be required in perpetuity to protect the existing habitat diversity on the site. Site constraints such as power utility use will also remain a factor in vegetation management.

Hydrology Management & Monitoring

To sustain wetland hydrology over the long-term, the Steward will coordinate with FSD for adjustments to the water control structure and other flood management needs. Other needs may include vegetation management in Salmon Creek, beaver dams, large rainfall or flooding events, etc.

Additionally, OWRD Certificate #98140 (see Appendix E) requires ongoing monthly monitoring and annual reporting of water levels in the channel at the water control structure. This data is to be reported to OWRD in December of each year.

General Site Maintenance

In addition to vegetation maintenance, the Steward will be responsible for general maintenance of the site. The Steward will maintain the existing fences and gates surrounding West Sundial Wetlands. The current signage associated with the mitigation site, and any signs erected in the future, will also be maintained by the Steward. The Steward will remove trash from the site and work to correct any damage resulting from trespassing or vandalism.

Long-Term Management Considerations

Surrounding Land Use and Constraints

Long-term management of West Sundial Wetlands is limited to the project area and Port property boundaries. Surrounding properties are associated with other protected open space and the Troutdale Reynolds Industrial Park which could potentially affect conditions within the site. The condition of the surrounding properties, their land uses, and management practices could potentially be threats to the continued conservation of natural resources within the site. Current zoning designations, landscape positions, easements, constraints and potential threats to natural resources associated with surrounding properties are described below.

Troutdale Reynolds Industrial Park

TRIP is a 700-acre former brownfield that was transformed by the Port and other partners into a job center for the community. The industrial park is located adjacent to and east of the mitigation site. TRIP supports mainly shipping and distribution which benefit from proximity to Interstate 84. Possible threats to the long-term ecological objectives of West Sundial Wetlands would include air pollutants, introduction of invasive species, noise and light disturbance to wildlife, shipping trash, people and dogs and collision risk for wildlife on nearby roadways. Undeveloped parcels are still available for build-out and pose an unknown potential threat to the ecological objectives of the enhancement areas.

Superfund

TRIP is a Superfund site under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and, although decontaminated to the extent that it can be used as an industrial park, has limits on what can be done with site soils and groundwater, along with certain liabilities that will extend many years, or indefinitely, into the future. For example, soils cannot be removed from the site without prior testing and the contaminated groundwater remediation program, based in the northeast quadrat of the site, east of Sundial Road, is being managed by Alcoa and will need to continue indefinitely.

Utility Corridors and Easements

BPA, PGE and Pacificorps all hold easements for transmission towers, lines and access at West Sundial Wetlands. These utilities prohibit tree, and sometimes tall shrub, planting within their easements due to the potential for electrical arcing if anything is allowed to extend to certain distances from these high voltage lines. Forested wetland enhancement was focused only in a particular area outside of the utility corridor at the west end of the site. Some areas of the site, particularly within the utility corridor, may require active management and control of volunteer tree species for safety reasons. If not managed proactively, utility contractors may conduct vegetation management, typically in a less selective manner.

The FSD has obligations to control flooding in the basin. This responsibility means that the mitigation area must be designed to allow FSD access to Salmon Creek and Sundial Channel across the mitigation area to remove soil or vegetative blockages. FSD must be able to temporarily raise water levels in the mitigation area as flood storage to avoid overwhelming the capacity of the pump station at the base of the levee in the forebay west of the site during major storm events. To accommodate FSD's mission, a 20-foot-wide gravel road was constructed north of, and parallel to, Sundial Channel through the mitigation site to allow for mechanized periodic clean-out of the channel. The Port and FSD have an Intergovernmental Agreement (IGA) for hydrologic management of the mitigation site.

Federal Aviation Administration

The Federal Aviation Administration (FAA) guidance (Advisory Circular 150/5200-33) and State guidance recommend limiting the amount and length of time open water persists around airports. FAA guidance recommends that wetland mitigation be sited outside of the 5,000-foot separation criteria (for piston powered aircraft) due to the risk of attracting hazardous wildlife and creating a safety concern. The West Sundial Wetlands mitigation plan was developed with input from the Port Airport Certified Wildlife Manager to ensure that a hazardous wildlife attractant was not created or enhanced. As a result, the mitigation site is primarily scrub-shrub habitat with limited open water. Other design features intended to reduce the open-water appearance and be less attractive to large waterfowl, such as geese, include anchored large woody material and high plant density.

Water Rights

In December 2024 the Port obtained a certified beneficial use water right (permit R-15553, cert. 98140) with the Oregon Water Resources Department (OWRD) which requires monthly data collection at a staff gage located in Sundial Channel near the water control structure and annual reporting to OWRD.

Columbia River Management

On-site hydrology could be affected by changes in Columbia River water level management associated with the Bonneville Dam and negotiation of the Columbia River Treaty. The U.S. Department of State is currently leading the effort to negotiate with Canada to modernize the Treaty regime under the following key objectives: continued, careful management of flood risk; ensuring a reliable and economical power supply; and improving the ecosystem in a modernized Treaty regime (2025 US Department of State).

Human Influence

Human influences could occur on the West Sundial Wetlands in multiple forms, including vandalism, unauthorized habitation, trespassing, and littering. Regular site visits and maintenance are necessary to address these issues. Regular site clean-ups could be implemented as part of a community volunteer program or non-profit organization's operations. During regular site visits, the site can be inspected for the presence of unauthorized camping and vandalism.

Catastrophic Events

Catastrophic events could be naturally driven, or human caused, including climate-driven events. Possible catastrophic events may include fires, massive floods, new species invasions, diseases, excessive long-term drought, etc. Other than the flooding potential, these rare events seldom occur in the area but could cause drastic changes to the West Sundial Wetlands. However, with consideration of the regional effects of climate change on natural systems, the frequency and magnitude of certain catastrophic events such as flooding, wildfires, and drought, is expected to increase over time (Dalton and Fleishman, 2021). If any of the events were to occur, they may affect the ability to meet the biological goals and objectives in the future at which time the ecological function of the site should be documented and analyzed to determine future management goals. The management plan could then be revised based on the new site conditions and environmental/human drivers.

Literature Cited

Dalton, M., and E. Fleishman, editors. 2021. Fifth Oregon Climate Assessment. Oregon Climate Change Research Institute, Oregon State University, Corvallis, Oregon. https://blogs.oregonstate.edu/occri/oregon-climate-assessments/.

Hayes, M.P., and M.M. Miyamoto. 1984. Biochemical, behavioral and body size differences between RANA AURORA AURORA and R. A. DRAYTONI. Copeia 1984:1018-1022.

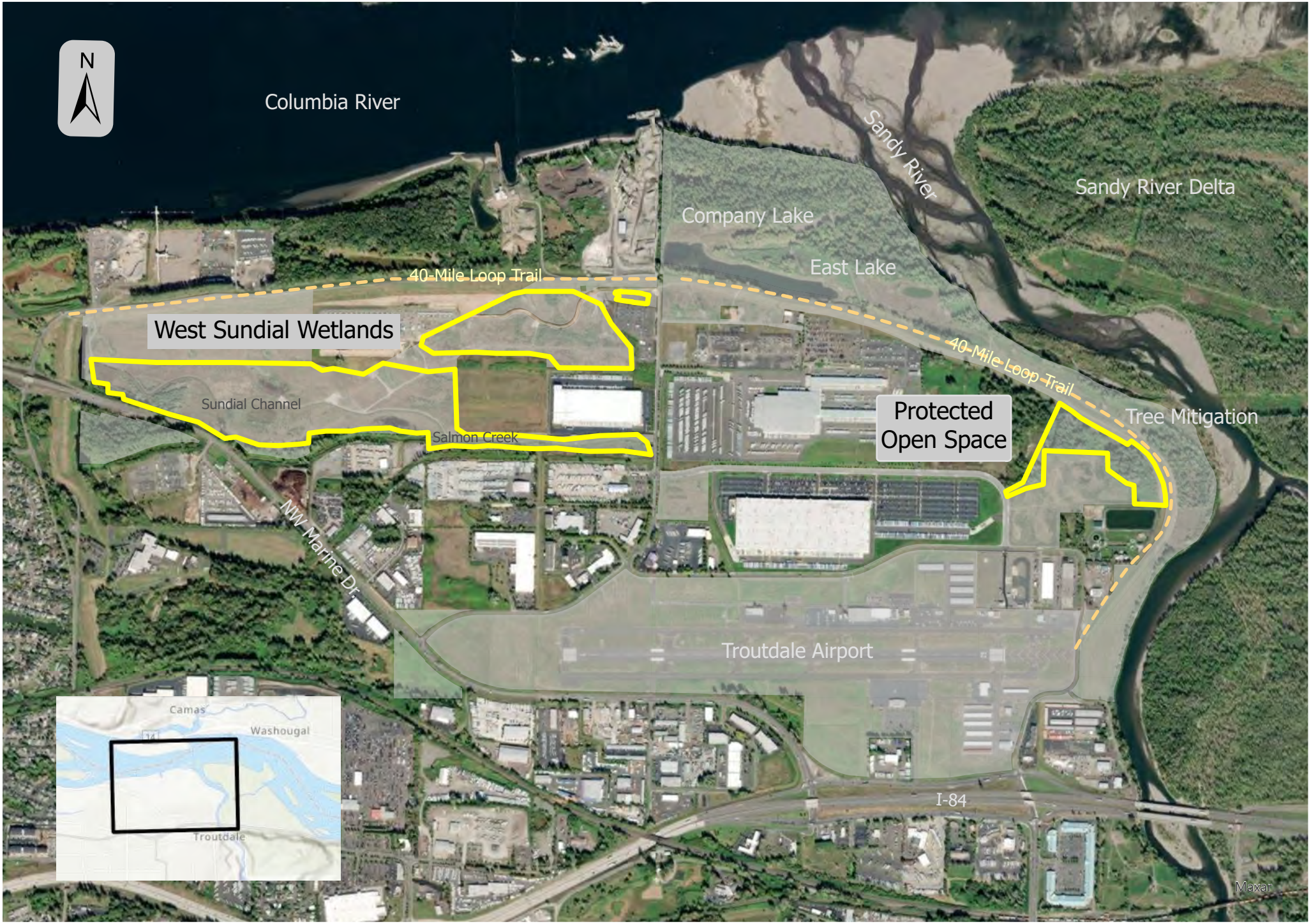
Rathbun, G.B.; Jennings, M.R.; Murphey, T.G.; Siepel, N.R. 1993. Status and ecology of sensitive aquatic vertebrates in lower San Simeon and Pico Creeks, San Luis Obispo County, California: ix, 103 p.

Schaub, M.F., and M.A. St. Pierre. 2010. Memorandum: Site Investigation and Ground Water Monitoring – Final. TRIP Wetland Mitigation and Ground Water Level Monitoring. January 29, 2010. Foundation Engineering, Inc. FEI # 2072030

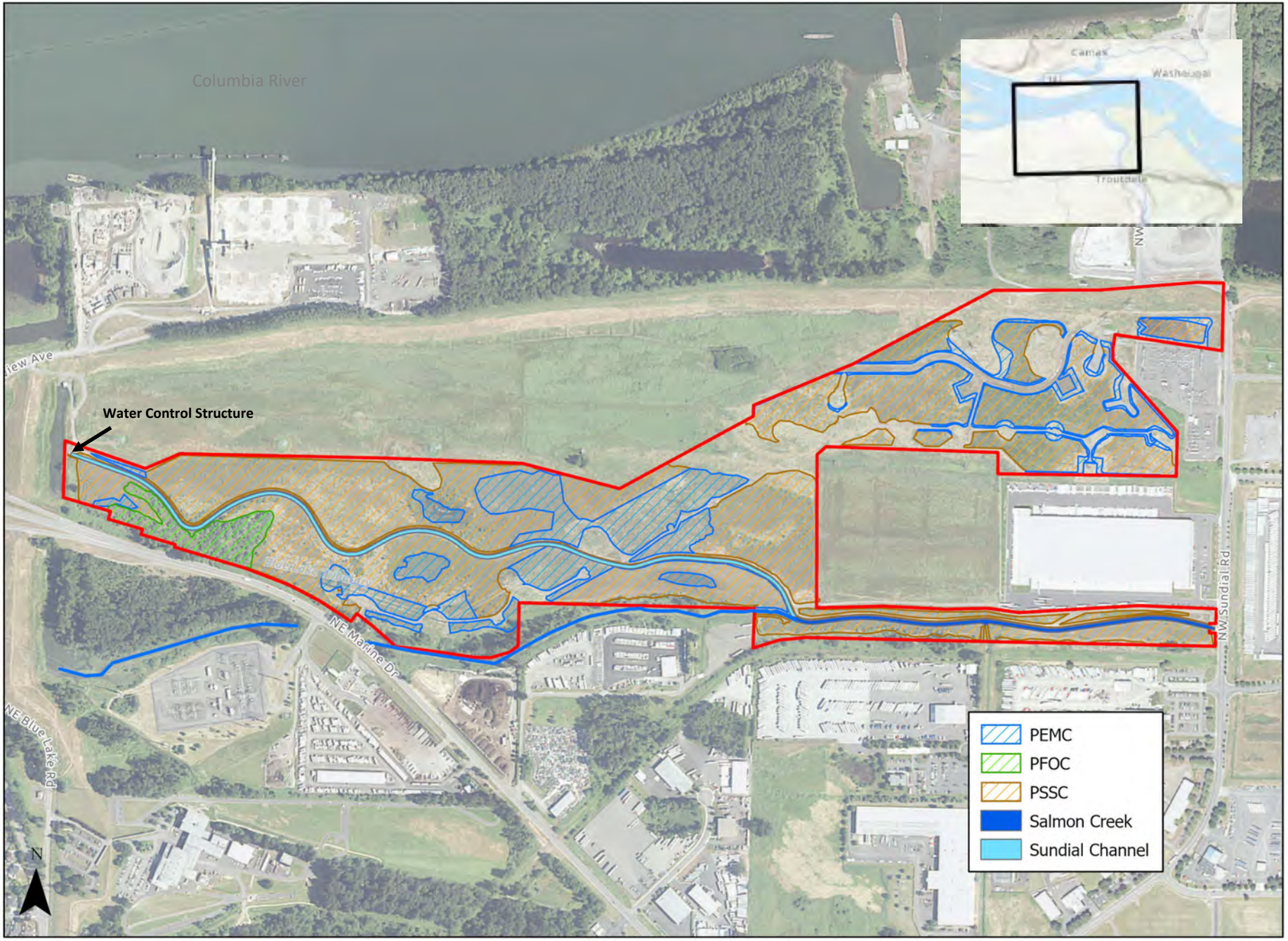
US Department of State. 2025. https://www.state.gov/columbia-river-treaty/

APPENDIX A

SITE FIGURES

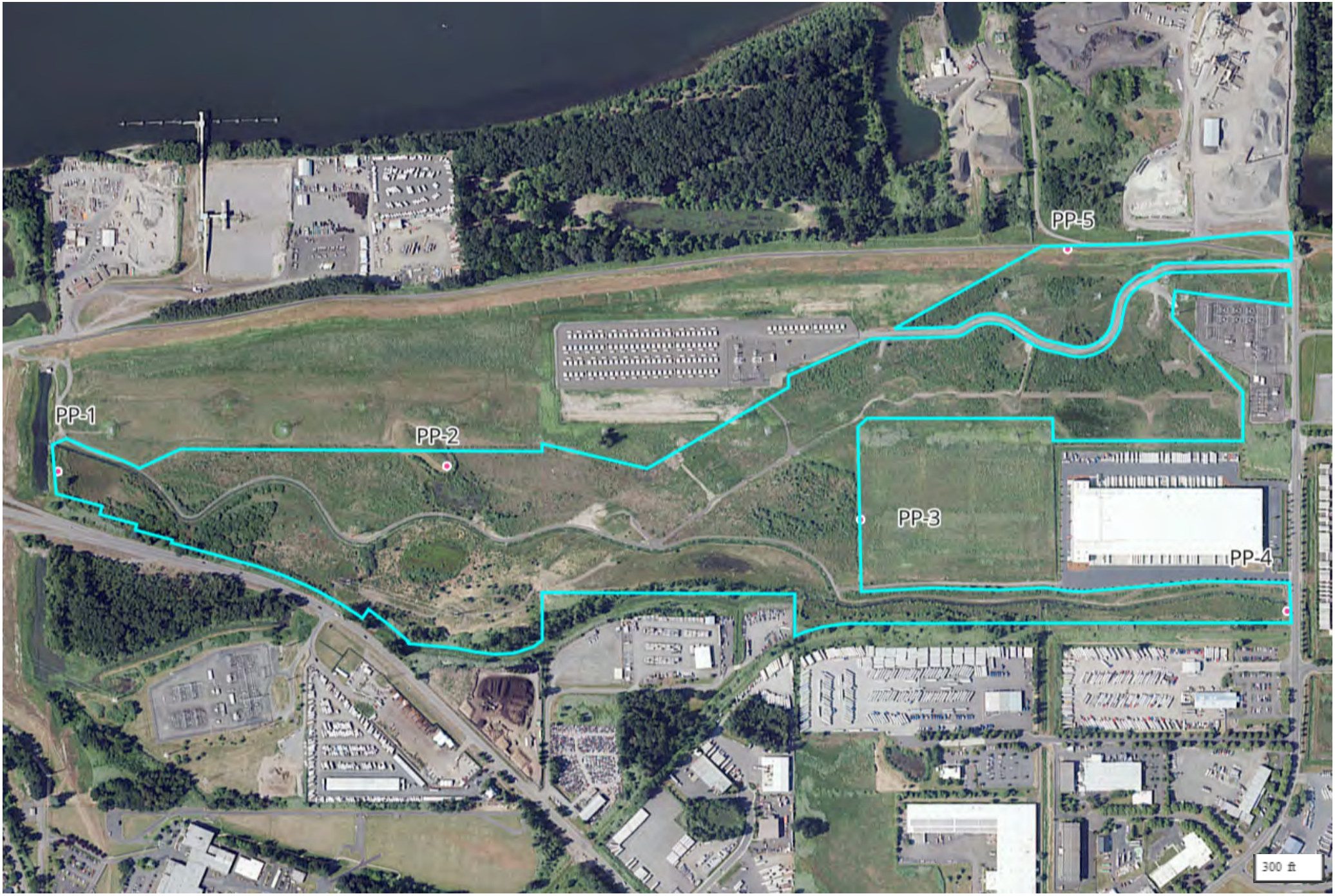


West Sundial Wetlands Site Overview and Vicinity Map



Port of Portland

West Sundial Wetlands Habitat Map



West Sundial Wetlands - 2025 Aerial and Photo Point Locations

APPENDIX B

SITE PHOTOS

PP-1

PP-1 East. Taken from the west end looking east.

PP-1 NE. Taken from the west end looking northeast.

PP-1 SE. Taken from the west end looking southeast.

Sundial Channel. Looking east from the west end.

PP-2

PP-2 S. Looking south

PP-2 E. Looking east

PP-2 W. Looking west

Wet depression located north of Sundial Channel - *Eleocharis palustris, Juncus effusus, Spirea douglasii, Sagittaria latifolia, Salix* sp.

PP-3

PP-3 W. Looking west from upland buffer.

PP-3 S. Looking south from upland buffer.

PP-3 N. Looking north from upland buffer.

PP-4

PP-4 W. Looking west from Sundial Road.

PP-4 SW. Looking southwest from Sundial Road.

PP-3 NW. Looking northwest from Sundial Road.

Salmon Creek, looking west from Sundial Road

PP-5

PP-5 S. Looking south from levee.

PP-5 SE. Looking southeast from levee.

PP-5 SW. Looking southwest from levee.

Beaver dam on Salmon Creek

Polygonum hydropiperoides and *Sagittaria latifolia* community

Bird nest in PFO community

Red-legged frog egg mass

Grindelia integrifolia and small bee

APPENDIX C

CUMULATIVE PLANT SPECIES LIST

Appendix C: Cumulative Plant Species Lists for West Sundial Wetlands

KEY: P=Planted, S=Seeded, O=Observed

Botanical Name	Common Name	Native/Introduced	Planted, Seeded and/or Observed
Achillea millefolium	yarrow	N	S, O
Agrostis capillaris	colonial bentgrass	I	O
Agrostis exarata	spike bentgrass	N	S, O
Agrostis gigantea	redtop	I	O
Agrostis stolonifera	creeping bentgrass	I	O
Aira caryophyllea	silver hairgrass	I	O
Alisma triviale	northern water plantain	N	S, O
Alnus rubra	red alder	N	P, O
Alopecurus aequalis	shortawn foxtail	N	O
Alopecurus pratensis	meadow foxtail	I	O
Anagallis arvensis	scarlet pimpernel	I	O
Amaranthus retroflexus	redroot amaranth	N	O
Amelanchier alnifolia	western serviceberry	N	P, O
Anthemis cotula	stinking chamomile	I	O
Anthoxanthum odoratum	sweet vernalgrass	I	O
Apocynum cannabinum	hemp dogbane	N	O
Arabidopsis thaliana	mouseear cress	I	O
Arrhenatherum elatius	tall oatgrass	I	O
Avena fatua	wild oat	I	O
Azolla filiculoides	Pacific mosquitofern	N	O
Azolla sp.	mosquito fern	unknown	O
Beckmannia syzigachne	slough grass	N	S, O
Betula papyrifera	paper birch	N	O
Bidens cernua	nodding beggars-tick	N	O
Brassica rapa	field mustard	I	O
Bromus carinatus	California brome	N	S, O
Bromus hordeaceus	soft brome	I	O
Callitriche heterophylla	twoheaded water-starwort	N	O
Cadamine hirsuta	hairy bittercress	I	O
Carduus pycnocephalus	Italian thistle	I	O
Carex aperta	Columbia sedge	N	P
Carex densa	dense sedge	N	S
Carex deweyana	Dewey sedge	N	O
Carex laeviculmis	smoothstem sedge	N	O
Carex obnupta	slough sedge	N	P, S, O
Carex pachystachya	chamisso sedge	N	O
Carex stipata	sawbeak sedge	N	O
Ceanothus thyrsiflorus	blueblossum	N	P, O
Centaurium erythraea	European centaury	I	O
Cerastium glomeratum	sticky chickweed	I	O
Chamaesyce maculata	spotted sandmat	N	O
Chenopodium album	lambsquarters	I, N	O
Cirsium arvense	Canada thistle	I	O
Cirsium vulgare	bull thistle	I	O
Clarkia ameona	farewell-to-spring	N	S, O
Collinsia grandiflora	giant blue eyed Mary	N	S, O
Conyza canadensis	Canadian horseweed	N	O
Cornus sericea	red-osier dogwood	N	P, O
Crataegus douglasii	black hawthorn	N	P, O

Botanical Name	Common Name	Native/Introduced	Planted, Seeded and/or Observed
Crepis capillaris	smooth hawksbeard	I	O
Cytisus scoparius	Scotch broom	I	O
Danthonia californica	California oatgrass	N	S, O
Daucus carota	Queen Anne's lace	I	O
Deschampsia cespitosa	tufted hairgrass	N	S, O
Deschampsia elongata	slender hairgrass	N	S, O
Dianthus armeria	Deptford pink	I	O
Dipsacus fullonum	Fuller's teasel	I	O
Echinochloa crus-galli	barnyardgrass	I	O
Echinochloa muricata	rough barnyardgrass	N	O
Eleocharis obtusa	blunt spikerush	N	S, O
Eleocharis palustris	common spikerush	N	S, O
Elymus glaucus	blue wildrye	N	S, O
Epilobium ciliatum	fringed willowherb	N	O
Equisetum arvense	common horsetail	N	O
Equisetum telmateia	giant horsetail	N	O
Eriophyllum lanatum	Oregon sunshine	N	S, O
Euthamia occidentalis	Western goldentop	N	O
Festuca rubra rubra	native red fescue	N	S, O
Frangula purshiana	cascara	N	O
Fraxinus latifolia	Oregon ash	N	P, O
Galium aparine	stickywilly	N	O
Geum macrophyllum	largeleaf avens	N	S, O
Geranium dissectum	cutleaf geranium	I	O
Gilia capitata	bluefield gilia	N	S
Glyceria occidentalis	Northwestern mannagrass	N	S, O
Gnaphalium uliginosum	marsh cudweed	I	O
Gratiola neglecta	clammy hedgehyssop	N	O
Grindelia integrifolia	Puget Sound gumweed	N	S, O
Grindelia stricta	Oregon gumweed	N	O
Holcus lanatus	velvet grass	I	O
Holodiscus discolor	ocean spray	N	P, O
Hordeum brachyantherum	meadow barley	N	S, O
Hypericum perforatum	common St. Johnswort	I	O
Hypochaeris radicata	hairy cat's ear	I	O
Impatiens capensis	jewelweed	N	O
Jacobaea vulgaris	stinking willie	I	O
Juncus bufonius	toad rush	N	O
Juncus effusus	common rush	N	O
Juncus ensifolius	dagger-leaf rush	N	S, O
Juncus patens	spreading rush	N	S
Juncus oxymeris	pointed rush	N	S, O
Juncus tenuis	slender rush	N	S, O
Kickxia elatine	sharpleaf cancerwort	I	O
Lactuca serriola	prickly lettuce	I	O
Leersia oryzoides	rice cutgrass	N	S, O
Lemna minor	common duckweed	N	O
Linaria vulgaris	butter and eggs	I	O
Lindernia dubia	yellowseed false pimpernel	N	O
Lolium perenne	perenial ryegrass	I	O
Lonicera involucrata	black twinberry	N	P, O
Lotus corniculatus	bird's-foot trefoil	I	O
Lotus unifoliolatus	American bird's-foot trefoil	N	O

Botanical Name	Common Name	Native/Introduced	Planted, Seeded and/or Observed
Ludwigia palustris	marsh seedbox	N	O
Lythrum portula	spatulaleaf loosestrife	I	O
Madia glomerata	mountain tarweed	N	S, O
Mahonia aquilifolium	tall Oregon grape	N	P, O
Mahonia nervosa	dull Oregon grape	N	P, O
Malva neglecta	common mallow	I	O
Matricaria discoidea	disc mayweed	I	O
Mentha pulegium	pennyroyal	I	O
Mimulus moschatus	muskflower	N	O
Myosotis discolor	changing forget-me-not	I	O
Myosotis scorpioides	true forget-me-not	I	O
Nasturtium officinale	watercress	I	O
Oemleria cerasiformis	Indiam plum	N	O
Oenothera biennis	common evening primrose	N	O
Onopordum acanthium	Scotch cottonthistle	I	O
Panicum capillare	witchgrass	N	O
Papaver somniferum	opium poppy	I	O
Parentucellia viscosa	yellow glandweed	I	O
Phacelia tanacetifolia	lacy phacelia	N	O
Phalaris arundinacea	reed canarygrass	I	O
Physocarpus capitatus	Pacific ninebark	N	P, O
Pinus ponderosa	Ponderosa pine	N	O
Plagiobothrys sp.	popcornflower	N	O
Plantago lanceolata	narrowleaf plantain	I	O
Plantago major	common plantain	I	O
Plectritis congesta	shortspur seablush	N	S, O
Poa compressa	Canada bluegrass	I	O
Poa pratensis	Kentucky bluegrass	I, N	O
Poa sp.	bluegrass sp.	unknown	O
Polygonum amphibium	water knotweed	N	O
Polygonum cespitosum	Oriental lady's thumb	I	O
Polygonum hydropiperoides	swamp smartweed	N	O
Polygonum persicaria	spotted ladysthumb	I	O
Populus balsamifer ssp. trichocarpa	black cottonwood	N	P, O
Potentilla gracilis	slender cinquefoil	N	O
Potentilla recta	sulphur cinquefoil	I	O
Potentilla sp.	cinquefoil	unknown	O
Prunella vulgaris var lanceolata	lance selfheal	N	S, O
Prunus emarginata	bitter cherry	N	O
Pseudognaphalium luteoalbum	Jersey cudweed	I	O
Pseudognaphalium stramineum	cottonbatting plant	N	O
Pseudotsuga menziesii	Douglas-fir	N	O
Quercus garryana	Oregon white oak	N	O
Ranunculus repens	creeping buttercup	I	O
Ranunculus sceleratus	cursed buttercutp	N	O
Raphanus sativus	cultivated radish	I	O
Ribes divaricatum	wax current	N	P, O
Ribes sanguineum	red flowering currant	N	P, O
Rorippa curvisiliqua	curvepod yellowcress	N	O
Rosa gymnocarpa	dwarf rose	N	P
Rosa nutkana	Nootka rose	N	P, O
Rosa pisocarpa	swamp rose	N	P, O
Rubus ameniacus	Himalayan blackberry	I	O

Botanical Name	Common Name	Native/Introduced	Planted, Seeded and/or Observed
Rumex crispus	curly dock	I	O
Sagittaria latifolia	wapato	N	S, O
Salix exigua	narrowleaf willow	N	O
Salix fluviatilis	Columbia river willow	N	P, O
Salix hookeriana	Hooker Willow	N	P, O
Salix lucida sp. lasiandra	Pacific willow	N	P, O
Salix piperi	Piper's willow	N	P
Salix scouleriana	Scouler willow	N	P, O
Salix sitchensis	Sitka willow	N	P, O
Salix sp.	willow species	N	P
Schedonorus arundinaceus	tall fescue	I	O
Schedonorus pratensis	meadow fescue	I	O
Schoenoplectus acutus	hardstem bulrush	N	O
Schoenoplectus tabernaemontani	softstem bulrush	N	P, S, O
Scirpus microcarpus	panicled bulrush	N	S, O
Senecio vulgaris	old-man-in-the-Spring	I	O
Sidalcea campestris	meadow checkermallow	N	S, O
Sidalcea sp.	checkerbloom	unknown	O
Silene latifolia	bladder campion	I	O
Sisymbrium altissimum	tall tumblemustard	I	O
Solanum nigrum	black nightshade	I	O
Sonchus asper	spiny sowthistle	I	O
Sparganium emersum	European bur-reed	N	O
Sparganium eurycarpum	broadfruit bur-reed	N	P, O
Spergularia rubra	red sandspurry	I	O
Spiraea douglasii	Douglas' spirea	N	P, O
Silybum marianum	milk thistle	I	O
Symphoricarpos albus	snowberry	N	P, O
Tragopogon dubius	yellow salsify	I	O
Trifolium dubium	suckling clover	I	O
Trifolium hybridum	alsike clover	I	O
Trifolium pratense	red clover	I	O
Trifolium repens	white clover	I	O
Triteleia hyacinthina	white brodiaea	N	O
Tsuga heterophylla	western hemlock	N	O
Typha latifolia	broadleaf cattail	N	O
Urtica dioica	stinging nettle	N	O
Verbascum blattaria	moth mullein	I	O
Verbascum thapsus	common mullein	I	O
Veronica americana	American speedwell	N	O
Veronica scutellata	skullcap speedwell	N	O
Vicia americana	American vetch	N	O
Vicia tetrasperma	lentil vetch	I	O
Vulpia myuros	rat-tail fescue	I	O
Sterile wheat	wheat x wheat hybrid	I	S

Note: Naming conventions and native status from the PLANTS Database

USDA, NRCS. 2022. The PLANTS Database (http://plants.usda.gov, 04/20/2022). National Plant Data Team, Greensboro, NC USA.

USDA, NRCS. 2026. The PLANTS Database (http://plants.usda.gov, 01/14/2026). National Plant Data Team, Greensboro, NC USA.

APPENDIX D

CUMULATIVE WILDLIFE OBSERVATIONS

Appendix D: Cumulative Wildlife Observations at West Sundial Wetlands 2018-2025

Observations collected by Carrie Butler and Sarah Wilson (Port), Tim Walters (Haley & Aldrich), Christie Galen (PHS), Taya MacLean and Jim DeStaebler with SWCA.

		Compliance Period/Maintenance						
		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
Common Name	**Scientific Name**	**2018/2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**
BIRDS								
accipiter, unidentified	unidentified					X		X
American coot	*Fulica americana*	X						
American crow	*Corvus brachyrhynchos*	X	X	X	X	X	X	X
American goldfinch	*Carduelis tristis*	X	X	X	X	X	X	X
American kestrel	*Falco sparverius*	X	X	X	X	X	X	X
American robin	*Turdus migratorius*	X	X	X		X	X	X
American wigeon	*Anas americana*	X						
Anna's hummingbird	*Calypte anna*	X		X	X	X	X	
bald eagle	*Haliaeetus leucocephalus*	X	X	X		X	X	X
barn owl	*Tyto alba*		X					
barn swallow	*Hirundo rustica*	X	X	X	X			
belted kingfisher	*Ceryle alcyon*	X	X	X	X	X	X	
Bewick's wren	*Thryomanes bewickii*				X			
black-capped chickadee	*Poecile atricapillus*	X	X	X	X		X	X
black-headed grosbeak	*Pheucticus melanocephalus*				X			X
brown-headed cowbird	*Molothrus ater*			X	X		X	
bufflehead	*Bucephala albeola*	X						
Bullock's oriole	*Icterus bullockii*				X			X
cackling goose	*Branta canadensis minima*	X		X	X			
California scrub-jay	*Aphelocoma californica*	X	X	X	X	X	X	X
*Canada goose	*Branta canadensis*	X	X	X	X	X		
cedar waxwing	*Bombycilla cedrorum*	X	X	X	X	X	X	
cliff swallow	*Petrochelidon pyrrhonota*	X	X	X	X	X		X
*common yellowthroat	*Geothlypis trichas*	X	X	X	X	X	X	X
Cooper's hawk	*Accipiter cooperii*				X			
double-crested cormorant	*Phalacrocorax auritus*	X		X	X	X	X	
downy woodpecker	*Picoides pubescens*	X				X		X
Eurasian collared dove	*Steptopelia decaocto*				X			
European starling	*Sturnus vulgaris*	X	X	X	X	X	X	X
golden-crowned sparrow	*Zonotrichia atricapilla*	X		X				
great blue heron	*Ardea herodias*	X	X	X	X	X	X	X

Common Name	Scientific Name	2018/2019	2020	2021	2022	2023	2024	2025
great egret	*Ardea alba*	X		X	X	X	X	X
green heron	*Butorides virescens*	X			X	X	X	
green-winged teal	*Anas crecca*	X						
hairy woodpecker	*Picoides villosus*					X		
hooded merganser	*Lophodytes cucullatus*	X		X				X
house finch	*Carpodacus mexicanus*	X			X	X	X	
*killdeer	*Charadrius vociferus*	X		X	X	X		X
*Lazuli bunting	*Passerina ameona*		X	X	X	X		
least sandpiper	*Calidris minutilla*	X						
lesser scaup	*Aythya affinis*			X				
marsh wren	*Cistothrus palustris*	X	X	X	X	X	X	X
mallard	*Anas platyrhynchos*	X	X	X	X	X	X	X
mourning dove	*Zenaida macroura*	X	X		X	X	X	X
northern flicker	*Colaptes auratus*	X	X	X	X	X	X	X
northern harrier	*Circus cyaneus*	X						
northern pintail	*Anas acuta*	X						
northern rough-winged swallow	*Stelgidopteryx serripennis*	X			X			
northern shoveler	*Anas clypeata*	X						
osprey	*Pandion haliartus*	X	X	X	X	X	X	X
peregrine falcon	*Falco peregrinus*	X						
pied-billed grebe	*Podilymbus podiceps*	X						
pileated woodpecker	*Dryocopus pileatus*	X						
purple martin	*Progne subis*	X		X		X		X
red-tailed hawk	*Buteo jamaicensis*	X	X	X	X	X	X	X
red-winged blackbird	*Agelaius phoeniceus*	X	X	X	X	X	X	X
rock pigeon	*Columba livia*		X	X				
rufous hummingbird	*Selasphorus rufus*						X	
Savannah sparrow	*Passerculus sandwichensis*	X	X	X	X	X	X	X
song sparrow	*Melospiza melodia*	X	X	X	X	X	X	X
sora	*Porzana carolina*	X	X					
spotted sandpiper	*Actitis macularia*	X		X				X
spotted towhee	*Pipilio maculatus*		X		X			
Swainson's thrush	*Catharus ustulatus*				X			
*tree swallow	*Tachycineta bicolor*	X	X	X	X	X	X	X
turkey vulture	*Cathartes aura*	X	X	X	X	X	X	X
Vaux’s swift	*Chaetura vauxi*	X	X		X			X
violet-green swallow	*Tachycineta bicolor*	X	X		X	X		
Virginia rail	*Rallus limicola*		X	X	X			X
western kingbird	*Tyrannus verticallis*	X				X		
western meadowlark	*Sturnella neglecta*	X	X	X		X		

Common Name	Scientific Name	2018/2019	2020	2021	2022	2023	2024	2025
western tanager	*Piranga ludoviciana*							
western wood-peewee	*Contopus sordidulus*	X		X	X			
white-crowned sparrow	*Zonotrichia leucophrys*	X	X		X	X	X	
willow flycatcher	*Empidonax traillii*	X	X	X	X	X		X
Wilson's snipe	*Gallinago delicata*	X	X	X	X	X		X
wood duck	*Aix sponsa*	X	X	X				
yellow warbler	*Dendoica petechia*						X	X
MAMMALS								
beaver	*Castor canadensis*				X			X
*coyote	*Canis latrans*	X		X			X	X
*North American river otter	*Lontra canadensis*	X						
long-tailed weasel	*Mustela frenata*	X						
nutria	*Myocastor coypus*					X		
black-tailed deer	*Odocoileus hemionus*	X	X	X	X	X		X
muskrat	*Ondatra zibethicus*	X				X		
Townsend mole	*Scapanus townsendii*			X		X		
raccoon	*Procyon lotor*							X
red fox	*Vulpes vulpes*			X				
vole		X			X			X
striped skunk	*Mephitis mephitis*					X		
tree squirrel	*Scurius* sp.					X		X
cottontail rabbit	*Sylvilagus floridanus*					X		X
HERPTILES								
*long-toed salamander	*Ambystoma macrodactylum*	X	X	X	X			
*Pacific chorus frog	*Pseudacris regilla*	X	X	X	X	X	X	X
*northern red-legged frog	*Rana aurora*	X	X	X	X		X	X
bullfrog	*Rana catesbeiana*	X		X	X	X	X	X
garter snake	*Thamnophis* sp.				X		X	X
northwestern garter snake	*Thamnophis ordinoides*	X						
common garter snake	*Thamnophis sirtalis*	X						
turtle unidentified	unidentified			X				
FISH								
common carp	*Cyprinus carpio*							X
banded kilifish	*Fundulus diaphanus*							X
mosquito fish	*Gambusia affinis*					X		X
three-spine stickleback	*Gasterosteus aculeatus*							X
bullhead	*Ictalurus* sp.							X

Common Name	Scientific Name	2018/2019	2020	2021	2022	2023	2024	2025
pond loach	*Misgurnus anguilicaudatus*							X
lamprey unidentified	unidentified							X
sculpin unidentified	*Cottus* sp. unidentified							X
fish unidentified	unidentified							X
OTHER (by taxonomic order)								
Order Coleoptera								
variegated lady beetle	*Hippodamia variegata*	X						
common red soldier beetle	*Rhagonycha fulva*	X						
Cucujiform beetle	Infraorder Cucujiformia			X				
Order Lepidoptera								
scarlet tiger moth	*Calimorpha dominula*							X
sulphur butterfly	*Colias sp.*				X			
forage looper moth	*Caenurgina erechtea*							
white-tipped Ctenucha	*Ctenucha rubroscapus*	X	X	X				X
typical blue	*Genus Icaricia*							
western tiger swallowtail	*Papilio rutulus*			X				X
cabbage white	*Pieris rapae*			X	X			X
Order Odonata								
eight-spotted skimmer	*Libellula forensis*				X			X
meadowhawk	*Sympetrum* sp.				X			
variegated meadowhawk	*Sympetrum corruptum*	X						
damselfly	unidentified							X
darner dragonfly	unidentified							X
Miscellaneous								
willow bead gall mite	*Aculus tetanothrix*			X				
clear-winged grasshopper	*Camnula pellucida*	X						
European mantis	*Mantis religiosa*	X						
signal crayfish	*Pacifastacus leniusculus*							X
cluster flies	Genus Pollenia			X				
slender crab spider	Genus Tibellus	X						

*Observed nest or young on site

Note: data is based (primarily) on incidental observation of a species or evidence of species presence; intentional amphibian egg mass surveys were conducted annually beginning in 2018. Intentional bird surveys were conducted along the levee from 2012-2019 but the data is not incorporated here due to the much larger study area.

Note: Fish data from 2025 provided by UFSWQD. Seine sampling, salvage and relocation (to Sundial Channel) was conducted during dredging activities in the forebay.

APPENDIX E

SUPPORTING DOCUMENTS

Oregon
Tina Kotek, Governor

Department of State Lands
775 Summer Street NE, Suite 100
Salem, OR 97301-1279
(503) 986-5200
FAX (503) 378-4844
www.oregon.gov/dsl

November 14, 2024

MB600/54848
PORT OF PORTLAND
ATTN: CARRIE BUTLER
7200 NE AIRPORT WAY
PORTLAND OR 97208

Re: DSL Removal-Fill Permit 58816 & 54848, TRIP Phase II/III,
West Sundial Mitigation Site
58816-RF: T. 1N, R. 3E, Section 22, Tax Lot 303 (previously Tax Lot 300)
54848-RF: See attached Figures
Troutdale, Multnomah County
Final Year Monitoring Report Approval

Dear Carrie Butler:

We have reviewed the final monitoring report for this project. The Department of State Lands wishes to commend you for achieving the goals and success criteria for the mitigation site. The mitigation area and advanced mitigation credits remaining are as shown in Attachments A and B.

Please be advised the wetlands, waterway, and buffer designated as compensatory mitigation areas under this permit are subject to protection under the State of Oregon's Removal-Fill Law. Permits are required for any alterations to wetland mitigation areas. Under OAR 141-085-0690(4), mitigation ratios may be doubled for any allowable impacts to the mitigation site.

In conclusion, this letter constitutes formal notice from the Oregon Department of State Lands that you are in compliance with your Removal-Fill Permit conditions. You are released from further obligations under this permit. Thank you for your good stewardship and concern for Oregon's environment.

Sincerely,

Brandy McClay
Operations Manager
Aquatic Resource Management
Oregon Department of State Lands

MB:hsk

Enclosure

cc: Carrie Butler, Port of Portland carrie.butler@portofportland.com
Sarah Wilson, Port of Portland Sarah.Wilson@portofportland.com
Multnomah County
Alexandra Holeček, USACE Alexandra.Holecek@usace.army.mil
Haley Teach, DEQ Haley.TEACH@deq.oregon.gov

ATTACHMENT A

Table 1. Advanced Credits Remaining

	Acres	Linear Feet
Wetland Mitigation Credits Remaining	**1.04**	
Wetland Mitigation Credits Created	38.39	
Wetland Mitigation Credits Used	37.348	
Waterway Mitigation Credits Remaining		**245**
Waterway Mitigation Created		8,460
Waterway Mitigation Used		

Table 2. Summary of Impacts

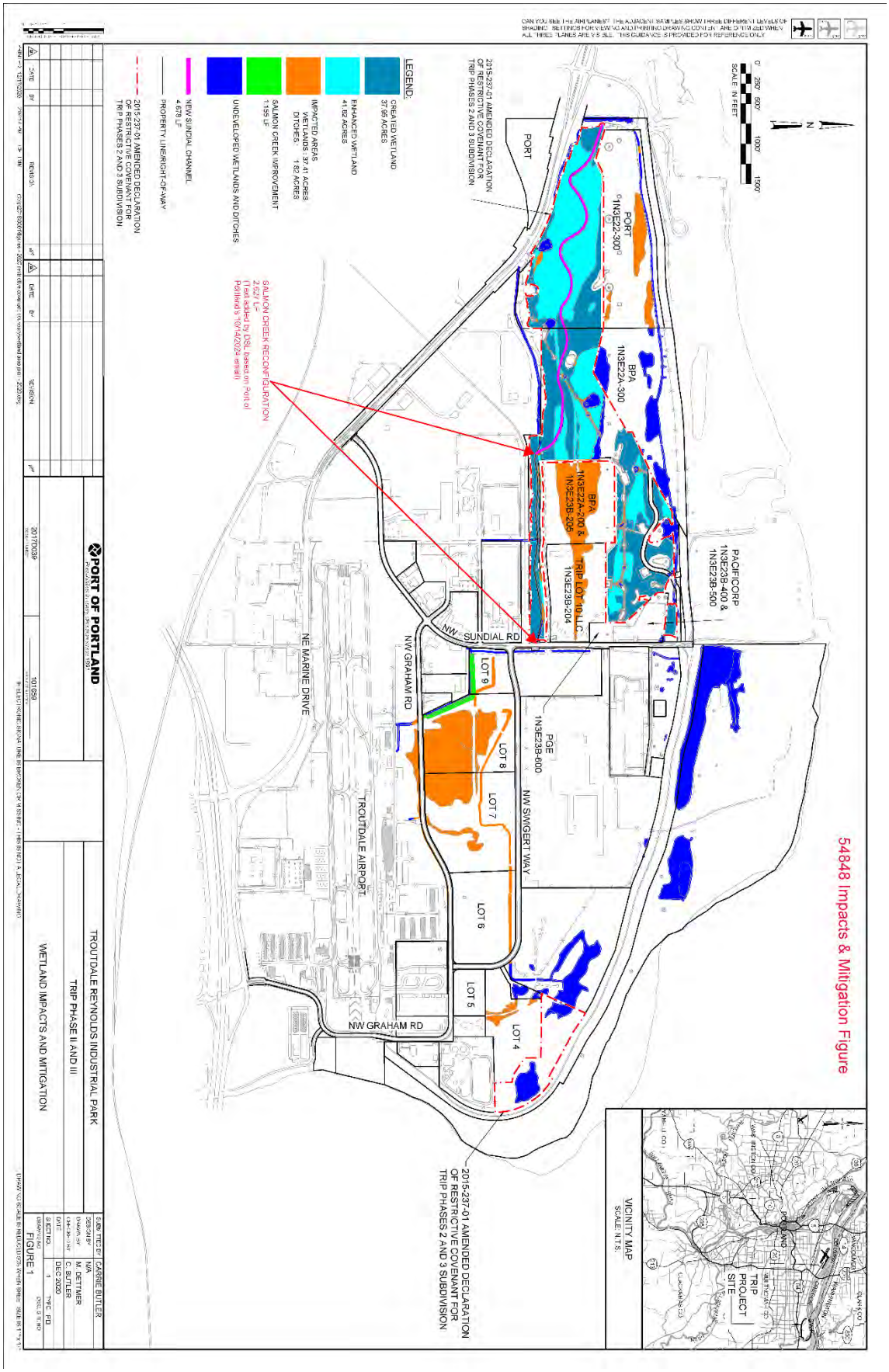
	Acre	Linear Feet
DSL# 54848-RF (USACE# 2007-889)		
Wetland Impacts	37.34	4,180
PEM / slope	*16.50*	
PEM / flat	*6.55*	
PEM / depressional	*13.59*	
PFO / flat	*0.70*	
Waterway Impacts[1]	1.82	4,180
Ditch 1: Lots 6, 7, 8		*2,823.5*
Ditch 2: Lots 8, 9		*579.0*
Ditch 3: New culvert at Graham Road		*75.0*
Ditch 6: Grading for Graham Road		*88.5*
Ditch 7: Grading for Graham Road		*614.0*
DSL# 58816-RF (USACE# 2016-099)		
Wetland Impacts	0.008	
PEM / riverine impounding	*0.008*	
Waterway Impacts[2]		19
Salmon Creek		*19*

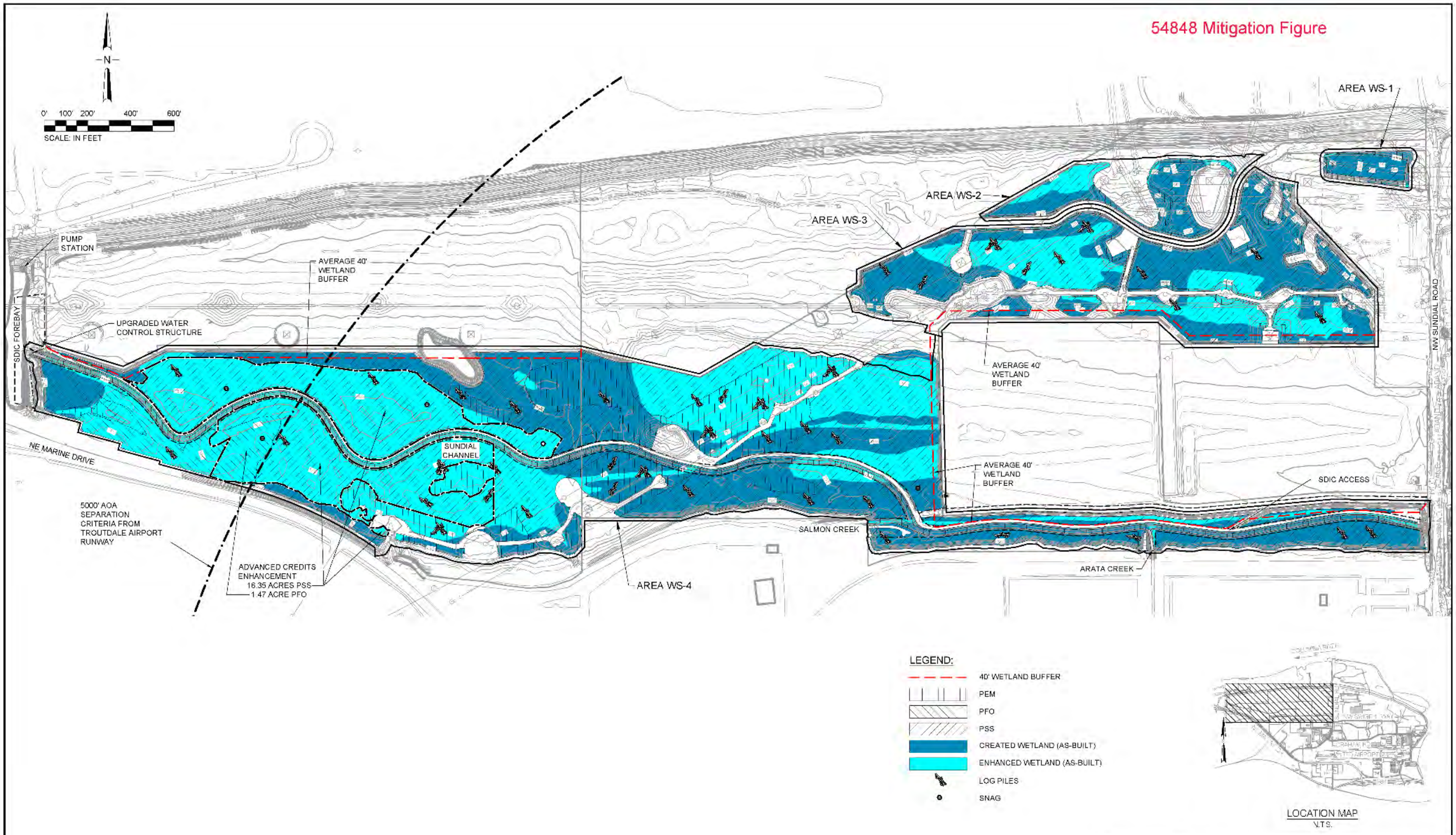
[1] DSL's permit 54848 required 8,215 linear feet of mitigation for 4,180 linear feet of impacts.
[2] DSL permit 58816 did not require stream mitigation for the 19 linear feet of impacts.

Table 3. DSL Compensatory Mitigation Summary

	Acre	Linear Feet	Credits
DSL# 54848 (USACE# 2007-889)			
Total Mitigation Area, Including Buffers	**85.98**	**8,460**	**38.39**
Wetland Creation (1.5:1 ratio)	37.13		24.75
Creation – PEM / depressional	*7.53*		*5.02*
Creation – PSS / depressional	*29.57*		*19.71*
Creation – PFO / depressional	*0.03*		*0.02*
Wetland Enhancement (3:1 ratio)	*40.92*		*13.64*
Enhancement – PEM / depressional	*4.79*		*2*
Enhancement – PSS / depressional	*32.57*		*10.86*
Enhancement – PFO / depressional	*3.56*		*1.19*
Buffers	7.93		0
Wetland buffer – PEM / depressional	*0.34*		*0*
Wetland buffer – PSS / depressional	*3.83*		*0*
Upland (or Wetland) shrub buffer (slope)	*2.21*		*0*
Upland (or Wetland) shrub buffer (10-ft setback on lots 10, 11, 13)	*1.55*		*0*
Waterway (DSL required 8,215 linear fee)		8,460	
Salmon Cr East of Sundial Rd – Channel improvement: Mitigation Plan, Figures F-11D and F-8A thru F-8L		*1,155*	
Salmon Cr West of Sundial Rd – Channel reconfig.: Figures F-11B, F-11C, and F-8A thru F-8L		*2,627*	
New Sundial Channel – Channel creation: Figures F-11A and F-8A thru F-8L		*4,678*	

ATTACHMENT B





Port of Portland

TRIP PHASE II AND III

WEST SUNDIAL WETLANDS DELINEATED SITE PLAN

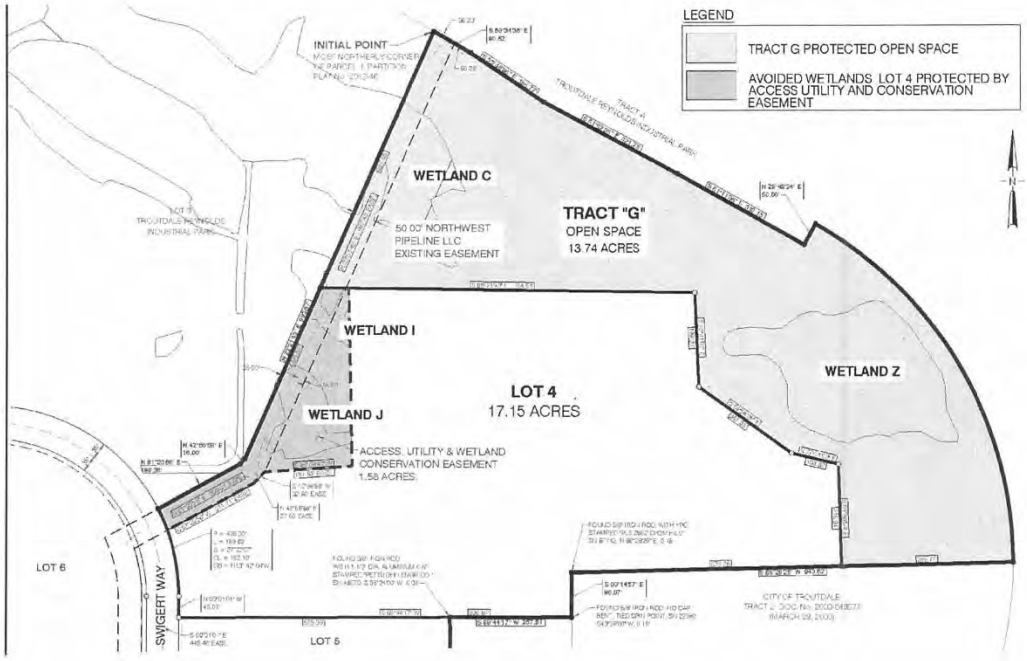
DESIGN BY	N/A
DRAWN BY	M. DETTMER
CHECKED BY	C. BUTLER
DATE	APRIL 2024
SCALE	1" : 200'
SHEET NO.	1 / 1

FIGURE - 8

PRINTED 4/24/2024 11:05:17 AM DETTMM \\trip\201\figures - 2024\figure - delineation panel with wetlands.dwg

DRAWING SCALE IS REDUCED 50% WHEN SHEET SIZE IS 11 x 17

EXHIBIT B
MITIGATION LAND
EAST OF SUNDIAL ROAD



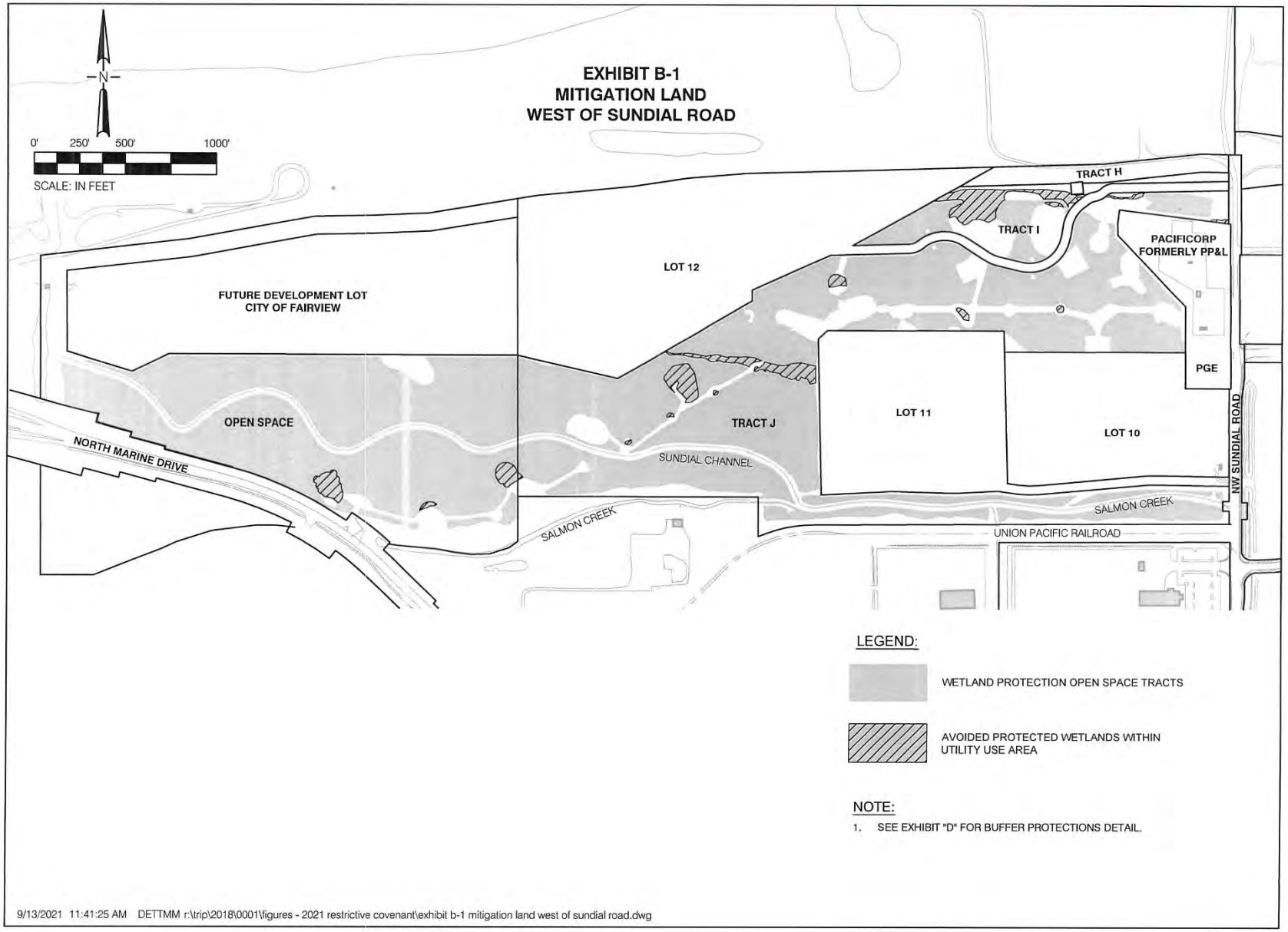
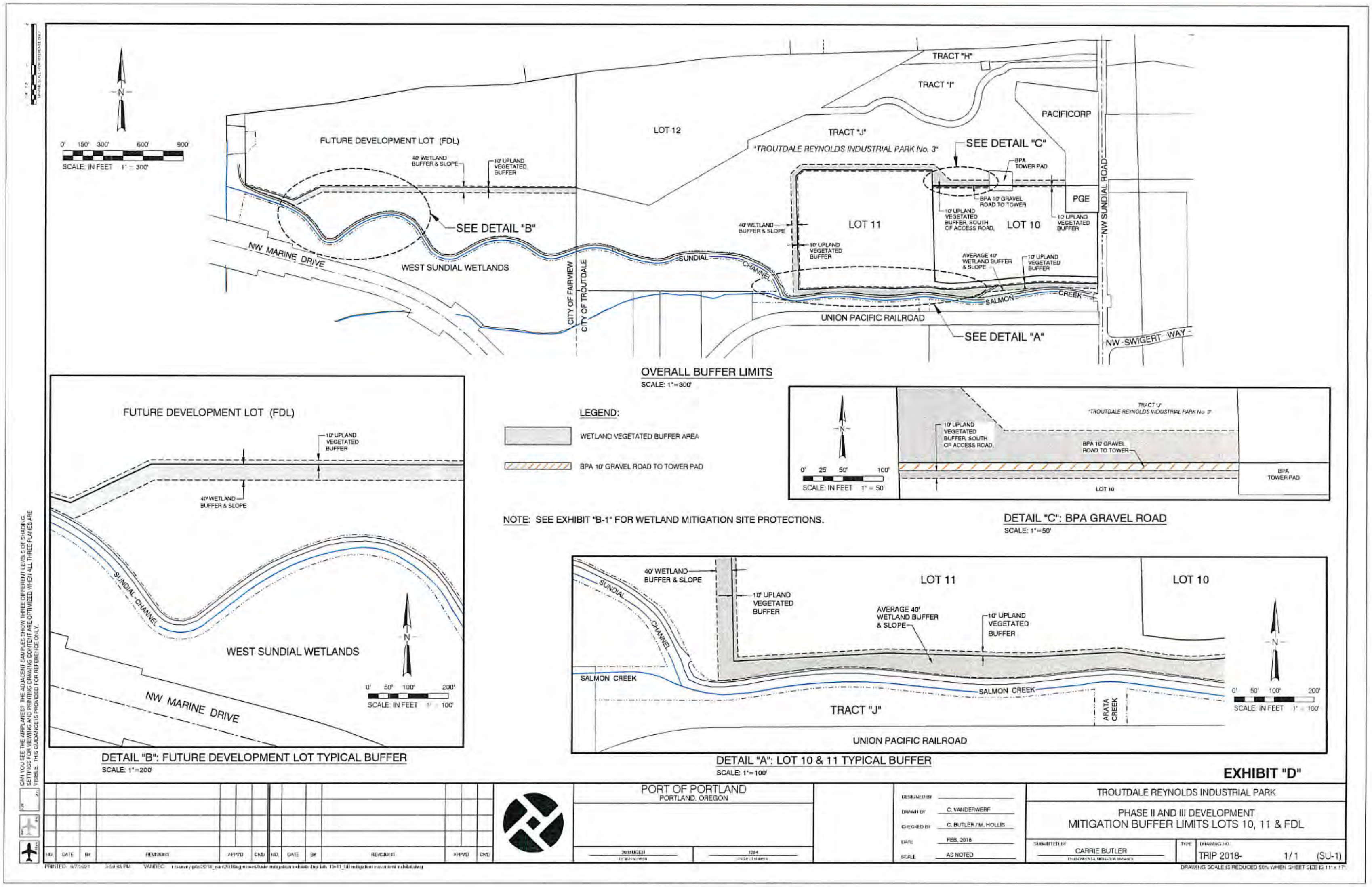
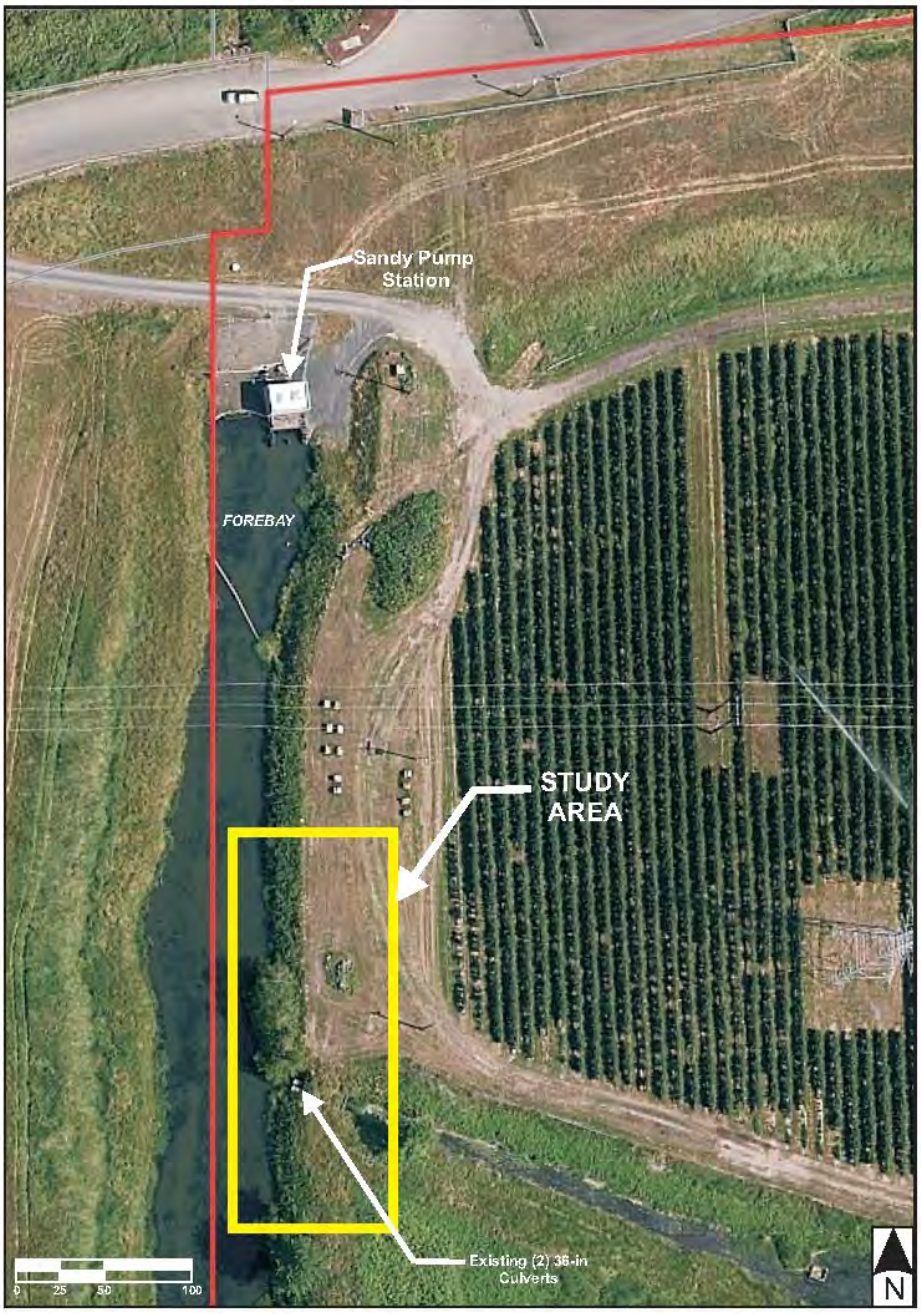


EXHIBIT B-1
MITIGATION LAND
WEST OF SUNDIAL ROAD
N
0'
250'
500'
1000'
SCALE: IN FEET
TRACT H
TRACT I
PACIFICORP
FORMERLY PP&L
LOT 12
FUTURE DEVELOPMENT LOT
CITY OF FAIRVIEW
PGE
OPEN SPACE
TRACT J
LOT 11
LOT 10
NW SUNDIAL ROAD
NORTH MARINE DRIVE
SUNDIAL CHANNEL
SALMON CREEK
SALMON CREEK
UNION PACIFIC RAILROAD
LEGEND:
WETLAND PROTECTION OPEN SPACE TRACTS
AVOIDED PROTECTED WETLANDS WITHIN
UTILITY USE AREA
NOTE:
1. SEE EXHIBIT "D" FOR BUFFER PROTECTIONS DETAIL.
9/13/2021 11:41:25 AM DETTMM r:\trip\2018\0001\figures - 2021 restrictive covenant\exhibit b-1 mitigation land west of sundial road.dwg

Declaration of Restrictive Covenant Figure 3 of 3



58816 Project Figure



Source: Metro Data Resource Center. gis.oregonmetro.gov/metromap.

Image Date: 2013

Environmental Science & Assessment, LLC	Aerial Photo SDIC - TRIP Flow Control Structure Fairview, Oregon	Figure 2

58816 Impact Figure

CONSTRUCTION NOTES

1. APPLY STANDARD LEVEE SEED MIX NO. 1 TO DISTURBED AREAS ABOVE EL. 15'.
2. INSTALL WETLAND SHRUBS AND SEED MIX NO. 2 TO DISTURBED AREAS BETWEEN ELEVATIONS 13' AND 17'.
3. INSTALL NON-WOVEN COIR FABRIC OVER DISTURBED AREAS FROM CHANNEL BOTTOM TO TOP OF 2:1 SLOPE.
4. INSTALL WETLAND PLUGS AND SHRUBS TO DISTURBED AREAS BETWEEN ELEVATIONS 11' AND 13'.

LEGEND

- STANDARD LEVEE SEED MIX NO. 1
- WETLAND SEEDING (SEED MIX NO. 2) AND SHRUBS
- NON-WOVEN COIR FABRIC
- WETLAND PLUGS
- PHOTOGRAPH POINTS

TRIP FLOW CONTROL STRUCTURE SEEDING/PLANTING

SEED MIX NO. 1, LEVEE (SDIC 250 LBS./ACRE)

FESTUCA RUBRA VAR. 'CARNET'	CARNET CREEPING RED FESCUE	42.65
FESTUCA BREVIPILA VAR. 'SPARTAN'	SPARTAN HARD FESCUE	33.97
FESTUCA OVINA VAR.	AZAY BLUEAZAY BLUE FESCUE	28.23
FESTUCA RUBRA SPP. FALLAX VAR. 'WINDWARD'	WINDWARD CHEWINGS FESCUE	45.16
TRITICUM AESTIVUM X ELYTRIGIA ELONGATA	REGREEN	100.0

SEED MIX NO. 2, WETLAND (POP PSS MIX+REGREEN 35 LBS./ACRE)

AGROSTIS EXARATA	SPIKE BENTGRASS	3.67
BECKMANNIA SYZIGACHNE	AMERICAN SLOUGHGRASS	7.35
CAREX OBNUPTA	SLOUGH SEDGE	3.06
DESCHAMPSIA CAESPITOSA	TUFTED HAIRGRASS	3.67
HORDEUM BRACHYANTHERUM	MEADOW BARLEY	12.24
TRITICUM AESTIVUM X ELYTRIGIA ELONGATA	REGREEN	5.0

WETLAND PLUGS (1,280 TOTAL, 1' O.C. IN GROUPS OF 20, TRIANGULAR SPACING)
CAREX OBNUPTA 60% – 768 EA
BECKMANNIA SYZIGACHNE 0%* PLUGS WERE NOT AVAILABLE AT TIME OF PLANTING
DESCHAMPSIA CESPITOSA 40% – 512 EACH

WETLAND SHRUBS, NO. 1 CONTAINER (13 TOTAL)
DOUGLAS SPIREA (SPIREA DOUGLASII) 5
SWAMP ROSE (ROSA PISOCARPA) 8
WAX CURRANT (RIBES DIVERICATUM) 0* RIBES DIVERICARTUM WAS NOT AVAILABLE AT TIME OF PLANTING.
NOTE: PLANT DOUGLAS SPIREA LOWEST IN ELEVATION, SWAMP ROSE MIDDLE, AND WAX CURRANT THE HIGHEST.

GENERAL NOTES

1. NON-WOVEN COIR FABRIC SHALL BE NORTH AMERICAN GREEN (NAG) STYLE SC150 100% BIODEGRADABLE MATTING OR APPROVED EQUAL. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
2. FILL VOIDS OF RIPRAP WITH SOIL FROM EXCESS MATERIALS BEFORE SEEDING.

otak
HanmiGlobal Partner
808 SW 3rd Ave., Ste. 300
Portland, OR 97204
Phone: (503) 287-6825
Fax: (503) 415-2304
www.otak.com

SDIC Flood Protection
1880 NE ELROD DRIVE
PORTLAND, OR 97211
P (503) 281-5675
F (503) 281-0392
WWW.SCDD.ORG

NO.	DATE	BY	REVISION COMMENTS

Design	Drawn	Checked	Date	Initial Issue Date
SWB	AMC	SWB	05/16	

TRIP FLOW CONTROL STRUCTURE

FINAL SITE STABILIZATION PLAN

"AS BUILT DRAWING"
DATE NOV. 2017 BY AMC

Datum: NAVD 88
SDIC: 4-7743-10047-01-10
OTAK PROJ # 17487C
Project No.
C03
Drawing No.

Multnomah County Official Records
E Murray, Deputy Clerk
2018-043831
04/25/2018 11:43:57 AM
1R-AMMODCCRPgs=4 Stn=25 ABELLER
$20.00 $11.00 $6.00 $20.00
$57.00

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FIRST AMENDMENT TO DECLARATION OF RESTRICTIVE COVENANT FOR TROUTDALE REYNOLDS INDUSTRIAL PARK PHASES 2 AND 3 SUBDIVISION DSL PERMIT NO. 54848-RF, COE PERMIT NO. NWP-2007-889

This FIRST AMENDMENT TO DECLARATION OF RESTRICTIVE COVENANT FOR TROUTDALE REYNOLDS INDUSTRIAL PARK PHASES 2 AND 3 SUBDIVISION DSL PERMIT NO. 54848-RF, COE PERMIT NO. NWP-2007-889 ("Amendment"), effective April 19, 2018 ("Effective Date"), is made by and between **THE PORT OF PORTLAND** ("Port"), a port district of the State of Oregon, and THE STATE OF OREGON, DEPARTMENT OF STATE LANDS ("Grantee").

RECITALS

A. The Port and Grantee are parties to a *Declaration of Restrictive Covenant for Troutdale Reynolds Industrial Park Phases 2 and 3 Subdivision, DSL Permit No. 54848-RF, COE Permit No. NWP-2007-889*, effective December 21, 2015 (Port Agreement No. 2015-237) ("Declaration") for the purpose of protecting wetlands located at Troutdale Reynolds Industrial Park ("TRIP").

B. DSL Permit No. 54848-RF was amended by Department of State Lands Removal/Fill Permit 54848-RF Modified issued May 11, 2015 ("Modified DSL Permit"). The Corps Permit and the Modified DSL Permit require through Appendix F TRIP Phases II and III Compensatory Mitigation Plan (Revised March 30, 2015) ("Mitigation Plan") a ten (10) foot vegetated buffer on certain boundaries of TRIP Lot 10 and 11 and the Fairview lot, now known as the Future Development Lot, as illustrated on Mitigation Plan Figures F-1A, F-1B, F-1C, F-1D, F-1E, F-11A, F-11B, and F-11C (the "Buffer Areas").

C. The Port and Grantee desire to amend the Declaration to require the identification of the Buffer Areas adjacent to certain boundaries of TRIP Lots 10 and 11 and the Future Development Lot, as depicted and legally described on the attached **Exhibit D,** and to impose certain use and maintenance restrictions on such Buffer Areas, including but not limited to stormwater management.

D. The parties intend these Corps Permit and the Modified DSL Permit Buffer Areas and associated use and maintenance restrictions to be binding on Lots 10, 11 and the Future Development Lot, run with the land, be binding on Declarant's successors in interest, and remain enforceable by the Port and the Grantee after any transfer of any property interests at TRIP.

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FIRST AMENDMENT TO DECLARATION OF RESTRICTIVE COVENANT FOR TROUTDALE REYNOLDS INDUSTRIAL PARK PHASES 2 AND 3 SUBDIVISION DSL PERMIT NO. 54848-RF, COE PERMIT NO. NWP-2007-889

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D. The parties intend these Corps Permit and the Modified DSL Permit Buffer Areas and associated use and maintenance restrictions to be binding on Lots 10, 11 and the Future Development Lot, run with the land, be binding on Declarant's successors in interest, and remain enforceable by the Port and the Grantee after any transfer of any property interests at TRIP.

NOW THEREFORE, in consideration of the mutual promises and covenants contained in this Amendment, the parties agree as follows.

AMENDMENT

1. RECITALS

The Recitals above are true and are incorporated into and are a part of this Amendment.

2. SECTION 5.1 USE RESTRICTIONS

Section 5.1 of the Declaration is amended to add the following use restrictions:

(h) Pursuant to the Corps Permit and the Modified DSL Permit, the use and maintenance of the Buffer Areas depicted and legally described on **Exhibit D** shall be as described in the Corps Permit and the Modified DSL Permit and Mitigation Plan Figures F-1A, F-1B, F-1C, F-1D, F-1E, F-11A, F-11B, and F-11C.

(i) Any activities in the Buffer Areas shall also comply with the stormwater management requirements of the Corps Permit and the Modified DSL Permit.

3. EXHIBITS

The attached **Exhibit D** is added as an exhibit to the Declaration.

4. WARRANTY OF AUTHORITY

The individuals executing this Amendment warrant that they have full power and authority to execute this Amendment on behalf of the entity for which they are signing.

5. MISCELLANEOUS PROVISIONS

Except as expressly provided in this Amendment, all of the terms and conditions of the Declaration shall remain in full force and effect. All capitalized terms used in this Amendment shall have the same meaning given such terms in the Declaration unless specifically defined herein.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

IN WITNESS HEREOF, the parties have subscribed their names hereto effective as of the year and date first written above.

THE PORT OF PORTLAND

By: _____

for Print Name: CURTIS ROBINHOLD

As Its: EXECUTIVE DIRECTOR

Date: 04/25/18

STATE OF OREGON)
) ss:
County of Multnomah)

This instrument was acknowledged before me on April 25, 2018 by CYNTHIA NICHOL, as CFO of the Port of Portland, a port district of the State of Oregon.

OFFICIAL STAMP
CINZIA CORIO-HOLMAN
NOTARY PUBLIC - OREGON
COMMISSION NO. 940157
MY COMMISSION EXPIRES JULY 01, 2019

_____
Signature of Notarial Officer
My Commission Expires: July 1, 2019

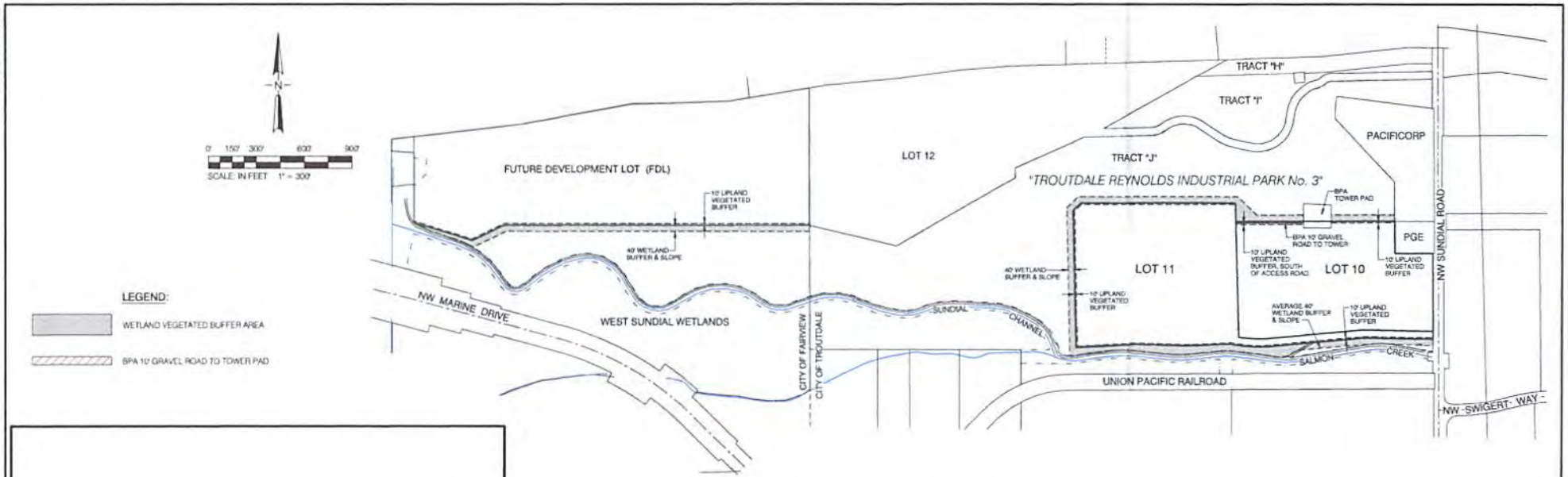
GRANTEE: The State of Oregon, Department of State Lands, approves Declarant's conveyance of an easement in favor of the Department.

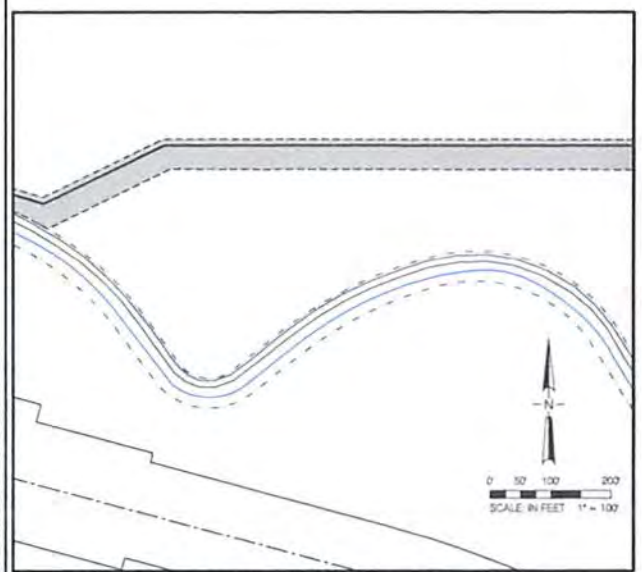
THE STATE OF OREGON,
DEPARTMENT OF STATE LANDS

By: Melda Butterfield

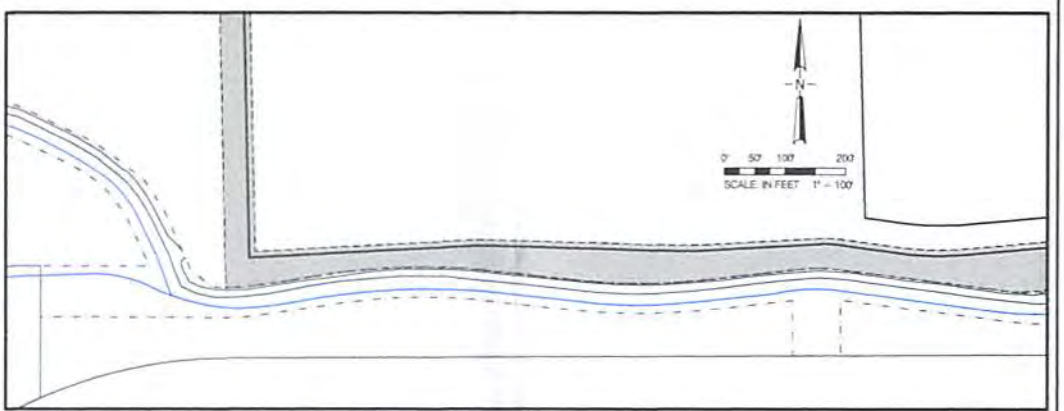
Title: Aquatic Resource Coordinator

Date: 4/19/2018





DETAIL: FUTURE DEVELMENT LOT TYPICAL BUFFER
SCALE: 1"=200'



DETAIL: LOT 10 & 11 TYPICAL BUFFER
SCALE: 1"=100'

EXHIBIT "D"

PORT OF PORTLAND PORTLAND, OREGON	TROUTDALE REYNOLDS INDUSTRIAL PARK
DESIGNED BY:	PHASE II AND III DEVELOPMENT MITIGATION BUFFER LIMITS LOTS 10, 11 & FDL
DRAWN BY: C. VANDERWERF	SUBMITTED BY: CARRIE BUTLER
CHECKED BY: C. BUTLER / M. HOLLIS	TYPE: TRIP 2018- 1/1 (SU-1)
DATE: FEB. 2018	
SCALE: AS NOTED	

DRAWING SCALE IS REDUCED 50% WHEN SHEET SIZE IS 11" x 17"

Multnomah County Official Records
R Weldon, Deputy Clerk

2015-161893

12/29/2015 11:53:39 AM

1R-COVNT Pgs=12 Stn=36 ATKSM
$60.00 $11.00 $10.00 $20.00

$101.00

After recording return to:

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Portland, OR 97218

2015-237

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DECLARATION OF RESTRICTIVE COVENANT FOR TROUTDALE REYNOLDS INDUSTRIAL PARK PHASES 2 AND 3 SUBDIVISION DSL PERMIT NO. 54848-RF, COE PERMIT NO. NWP-2007-889

DECLARANT **THE PORT OF PORTLAND**, a port district of the State of Oregon, whose address is 7200 N.E. Airport Way, 8th Floor, Portland, OR 97218

GRANTEE/ DEPARTMENT **THE STATE OF OREGON**, Oregon Department of State Lands, whose address is 775 Summer St. NE, Salem, OR 97301

RECITALS

A. Declarant is the fee simple owner of Troutdale Reynolds Industrial Park ("TRIP") property which is located within the Cities of Troutdale and Fairview in Multnomah County, Oregon as depicted and more particularly described on the attached **Exhibit A** ("TRIP Property"). The Port is developing TRIP to help satisfy the need for industrial land in the region. In connection with this development the Port has designated those portions of the Property depicted on the attached **Exhibits B and B-1** as protected and avoided compensatory wetland mitigation sites in accordance with Removal-Fill Permit # 54848-RF ("DSL Permit") approved by the Oregon Department of State Lands ("Department"), and the Department of the Army permit #NWP-2007-889 ("Corps Permit") (DSL Permit and Corps Permit collectively "Permit") approved by the US Army Corps of Engineers ("Corps") (collectively, "Mitigation Land").

B. Declarant desires and intends to provide for the perpetual protection and conservation of the wetland and waterway functions and values of the Mitigation Land and for the management of the Mitigation Land and improvements thereon, and to this end desires to subject the Mitigation Land to the covenants, restrictions, easements and other encumbrances set forth in this Declaration of Restrictive Covenant for TRIP ("Declaration"), each and all of which is and are for the benefit of the TRIP Property and the Mitigation Land. On the west side of Sundial Road the Mitigation Lands will be protected within Open Space Tracts as shown on **Exhibit B-1**. Avoided wetlands on Lot 4 with the access, utility and wetland conservation easement and the Open Space Tract G, including wetlands C and Z as depicted on **Exhibit B** will be protected under this Declaration. The Cities of Troutdale and Fairview require the plat to reflect the Open Space tract designations. The open space tracts designations and wetland conservation easement on Lot 4 will be dedicated as part of the Subdivision Plat recordation

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No Changes

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approval process. These lands will be protected in accordance with applicable city, State and Federal Regulations as described in this Declaration of Restrictive Covenant.

C. The Department has accepted the mitigation plan for the Mitigation Lands under ORS 196.800 et seq., and the Corps has likewise accepted the mitigation plan under Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act.

NOW, THEREFORE, in consideration of the mutual promises and covenants contained herein and for the consideration stated herein, the receipt of which is hereby acknowledged, the parties agree as follows.

1. RECITALS

The Recitals above are true and are incorporated into and are a part of this Declaration.

2. DEFINITIONS

2.1 Declaration

Declaration shall mean the covenants, restrictions, easement, and all other provisions set forth in the Declaration of Covenants and Restrictions.

2.2 Declarant

Declarant shall mean and refer to the Port, the owner of the Property, and the Port's successors, and assigns.

2.3 DSL Permit

DSL Permit shall mean the final document approved by the Department that includes the mitigation plan and which formally establishes the mitigation site and stipulates the terms and conditions of its construction, operation and long-term management. A copy of the DSL Permit may be obtained at the Department of State Lands, 775 Summer St. NE, Salem, OR 97301; phone 503-986-5200.

2.4 Corps Permit

Corps Permit shall mean the final document approved and issued by the Corps which includes the mitigation plan describing where and how the compensatory mitigation will be completed, monitored, managed, and maintained. A copy of the Corps Permit associated with this Declaration may be obtained at the office of the US Army Corps of Engineers, Regulatory Branch, 333 SW First Ave., Portland, OR 97208; Phone 503-808-4373.

2.5 Permit

Permit shall mean collectively the DSL Permit and the Corps Permit.

2.6 Property

Property shall mean and refer to all TRIP Property as set forth in **Exhibit A.**

2.7 Mitigation Land

Mitigation Land shall mean and refer to those portions of the TRIP Property which are Open Space Tract that are subject to this Declaration of Covenants and Restrictions, as more particularly depicted on **Exhibits B and B-1.**

2.8 Mitigation Land Hydrology Plan

Hydrology Plan shall mean the final document provided as set forth in **Exhibit C**.

3. PROPERTY SUBJECT TO THIS DECLARATION

The Mitigation Land located on the Property and depicted on **Exhibits B and B-1** is and shall be held, transferred, sold, conveyed and occupied subject to this Declaration. Declarant affirms that the Property is free and clear of any and all liens, claims, restrictions, easements and encumbrances that would interfere with the ability to protect and conserve the Property.

4. GENERAL DECLARATION

4.1 Permitted Uses

Declarant, in order to discharge in part its obligations under the DSL Permit and the Corps Permit, declares that the Property shall be held, transferred, sold, conveyed and occupied subject to the covenants, restrictions, easements and other encumbrances in this Declaration, in order that it shall remain substantially in its restored, enhanced, preserved, open and natural condition, in perpetuity. The terms and conditions of this Declaration shall be both implicitly and explicitly included in any subsequent transfer, conveyance, or encumbrance affecting all or any part of the Property. No modification or release of this Declaration will be effective unless authorized in writing by the Department and by the Corps. Any amendments must be signed by the Department and must be recorded in the official records of Multnomah County, Oregon.

5. USE RESTRICTIONS, MANAGEMENT RESPONSIBILITIES, AND RESERVED RIGHTS

This Declaration is subject to any and all easements, covenants and restrictions of record affecting the Property.

5.1 USE RESTRICTIONS

Except as necessary to conduct, remediate or maintain the Mitigation Lands consistent with the Permit, the actions prohibited by this covenant include:

(a) There shall be no removal, destruction, cutting, trimming, mowing, alteration or spraying with biocides of any native vegetation in the Mitigation Lands, nor any disturbance or change in the natural habitat of the Mitigation Lands unless it promotes the mitigation goals and objectives established for the Mitigation Lands. Hazard trees that pose a specific threat to existing structures including fences or pedestrian trails may be felled and left on site. Dry grass only may be mowed after July 1 to abate fire hazard. New plantings and vegetation shall be selected and maintained in accordance with the aviation needs of adjacent property and in accordance with applicable Federal Aviation Administration requirements.

(b) No domestic animals shall be allowed on the Mitigation Lands with the exception of up to two working domestic dogs for the non-lethal hazing of waterfowl from the Mitigation Lands and surrounding open lots. The primary purpose is aviation safety due to the proximity of TRIP to the TTD. The use of dogs in the Mitigation Lands will be limited to the first three seasons after site completion. Hazing will primarily occur on an as-needed basis during the fall and winter seasons.

(c) There shall be no new filling, excavating, dredging, mining or drilling; no removal of topsoil, sand, gravel, rock minerals or other materials, nor any storage nor dumping of ashes, trash, garbage, or of any other material, and no changing of the topography of the land of the Mitigation Lands in any manner once the wetlands are constructed unless approved in writing by the Department and by the Corps.

(d) There shall be no construction of buildings, mobile homes, advertising signs, billboards or other advertising material, vehicles or other permanent structures not otherwise permitted by this Declaration, on the Mitigation Lands.

(e) No new roads or rights of way may be constructed after construction of the Mitigation Lands, nor existing roads onto the Mitigation Lands be widened, except as permitted by the Department with respect to existing or future development rights.

(f) In the absence of an emergency, approved maintenance or prior approval of the Grantee, the use of motorized vehicles is prohibited in the Mitigation Lands except on existing and planned access roads for purposes directly associated with existing utility easements.

(g) There shall be no major changes to the hydrologic regime as set forth in **Exhibit C** to support the ecological goals of the Mitigation Lands later than five (5) years after the wetlands have been constructed to ensure that the hydrologic regime supports and does not degrade wetland habitat through prolonged drought or inundation.

5.2 MANAGEMENT RESPONSIBILITIES

Declarant shall take all reasonable action to prevent the unlawful entry and trespass by persons whose activities may degrade or harm the mitigation purposes of the Mitigation Lands or that are otherwise inconsistent with this Declaration.

5.3 PERMITTED USES

(a) The Superfund Remedial Plan must be maintained as required by its terms. Nothing in this Declaration is intended to restrict access to, or the monitoring, maintenance, or (if permitted) the future demolition of the monitoring wells or other features of the Superfund Remedial Plan.

(b) Nothing in this Declaration is intended to subordinate or restrict access or to restrict the operation and maintenance of facilities in pre-existing easements.

(c) The Declarant expressly reserves the right for itself and its assigns to access and use the Premises or to grant easements for the purpose of installing, maintaining, repairing, replacing, removing and accessing new or existing utilities related to the operation or use of the Property, provided that any incidental disturbance associated with routine maintenance within the Mitigation Lands are completely restored upon completion of the work, or are mitigated through State and Federal permitting.

(d) Declarant reserves all other rights accruing from Declarant's ownership of the Property including but not limited to the exclusive possession of the Property, the right to transfer or assign Declarant's interest in the same; the right to take action necessary to prevent erosion on the Property, to protect the Property from losing its wetland or waterway functions and values, or to protect public health or safety; and the right to use the Property in any manner

not prohibited by this Declaration and which would not defeat or diminish the conservation purpose of this Declaration.

(e) The Declarant specifically reserves the right to use and to continue to use portions of the Mitigation Lands for electric power line transmission and distribution purposes, which reserved rights are deemed to be consistent with the purposes enumerated in this Declaration and the Permit.

(f) The Declarant reserves the right to apply the Hydrology Plan set forth in **Exhibit C**, to the Mitigation Lands.

(g) The SDIC is charged with the protection of the Columbia River floodplain which includes the Mitigation Lands. In the case of a large storm event, SDIC shall have the authority to respond by providing more flood capacity by opening or closing the water control structure and pumping excess water out of the hydrologic system.

(h) Protection area for the Compensatory Wetland Mitigation Site as illustrated in Exhibit B-1 has a future permitting threshold of 0 cubic yards. Protection area for the avoided wetlands as illustrated in Exhibit B has a future permitting threshold of 50 cubic yards.

6. EASEMENT (RIGHT OF ENTRY)

Declarant hereby grants to the Department of State Lands an easement and right of entry on the Property for the purpose of physically accessing the Mitigation Lands at all reasonable times to inspect the Mitigation Lands in order to monitor and to ascertain whether there has been compliance with this Declaration and the DSL Permit. In the event that the Mitigation Lands lack access via a public road or other common area, Declarant grants to the Department of State Lands an easement over and across any of the Property, the use of which is necessary to access the Mitigation Lands. The Declarant hereby grants to the Corps a right of entry to ascertain compliance with the Corps Permit and this Declaration. Corps shall give Declarant or its successor three (3) calendar days advance notice of its intent to access the Mitigation Lands.

7. GENERAL PROVISIONS

7.1 NOTICE

The Department and the Corps shall be provided with a 60-day advance written notice of any legal action concerning this Declaration, or of any action to extinguish, void or modify this Declaration, in whole or in part. This Declaration, and the covenants, restrictions, easements and other encumbrances contained herein, are intended to survive foreclosure, tax sales, bankruptcy proceedings, zoning changes, adverse possession, abandonment, condemnation and similar doctrines or judgments affecting the Mitigation Lands. A copy of this recorded Declaration shall accompany said notice.

7.2 VALIDITY

If any provision of this Declaration, or the application thereof to any person or circumstance, is found to be invalid, the remainder of the provisions of this Declaration, or the application of such provisions to persons or circumstances other than those as to which it is found to be invalid, as the case may be, shall not be affected thereby.

IN WITNESS WHEREOF, the undersigned being Declarant herein, has executed this instrument this 9th day of November, 2015.

THE PORT OF PORTLAND

By: _____
Bill Wyatt, Executive Director

Date: 11/9/15

STATE OF OREGON)
) ss:
County of Multnomah)

This instrument was acknowledged before me on November 9, 2015 by Bill Wyatt, Executive Director of the Port of Portland of Multnomah County, Oregon.

_____
Signature of Notarial Officer
My Commission Expires: 8-4-2018

OFFICIAL STAMP
DAVID MITCHELL
NOTARY PUBLIC-OREGON
COMMISSION NO. 931108
MY COMMISSION EXPIRES AUGUST 04, 2018

GRANTEE: The State of Oregon, Department of State Lands, approves Declarant's conveyance of an easement in favor of the Department.

THE STATE OF OREGON,
DEPARTMENT OF STATE LANDS

By: Melda Butterfield

Title: Aquatic Resource Coordinator

Date: 12/21/2015

Attachments:
Exhibit A, Legal description of the TRIP Property
Exhibit B, Map of the Mitigation Land east of Sundial Road
Exhibit B-1, Map of the Mitigation Land west of Sundial Road
Exhibit C, TRIP Phase 2 and 3 Mitigation Land Hydrology Plan

EXHIBIT A
TRIP PROPERTY

"TROUTDALE REYNOLDS INDUSTRIAL PARK PHASE 2" SUBDIVISION PLAT – EAST OF SUNDIAL ROAD

ALL OF PARCEL 1, PARTITION PLAT NO. 2012-46, MULTNOMAH COUNTY PLAT RECORDS.

"TROUTDALE REYNOLDS INDUSTRIAL PARK PHASE 3" SUBDIVISION PLAT – WEST OF SUNDIAL ROAD

A TRACT OF LAND SITUATED IN SECTION 22 AND 23, TOWNSHIP 1 NORTH, RANGE 3 EAST, WILLAMETTE MERIDIAN, CITY OF TROUTDALE, MULTNOMAH COUNTY, OREGON, BEING ALL OF TRACT "A" OF THAT PROPERTY DESCRIBED IN DEED TO THE PORT OF PORTLAND, RECORDED DECEMBER 21, 2007 IN DEED FEE No. 2007-216750, MULTNOMAH COUNTY DEED RECORDS, DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHWEST CORNER OF THE EAST HALF OF THE FEZETT DONATION LAND CLAIM NO. 47 IN TOWNSHIP 1 NORTH, RANGE 3 EAST, WILLAMETTE MERIDIAN; THENCE EASTERLY ALONG THE NORTH LINE OF SAID DLC SOUTH 89°53'17" EAST, 1,320.38 FEET TO THE WEST LINE OF THE EAST ONE-HALF OF THE EAST ONE-HALF OF SAID DLC; THENCE SOUTHERLY ALONG SAID DIVISION LINE SOUTH 00°11'29" EAST, 218.52 FEET TO THE NORTHERN RIGHT-OF-WAY OF THE OREGON WASHINGTON RAILROAD & NAVIGATION SPUR AND A POINT OF NON-TANGENT CURVATURE WITH A 766.34 FEET RADIUS CURVE FROM WHICH A RADIAL LINE BEARS SOUTH 23°54'11" EAST; THENCE ALONG SAID RIGHT-OF-WAY CURVE, BEING 50.00 FEET NORTHERLY OF CENTERLINE WHEN MEASURED AT RIGHT-ANGLES THERETO, THROUGH A CENTRAL ANGLE OF 23°38'43" (THE CHORD BEARS NORTH 77°55'11" EAST, 314.02 FEET) AN ARC DISTANCE OF 316.26 FEET TO A POINT OF TANGENCY; THENCE CONTINUING ALONG SAID RIGHT-OF-WAY LINE NORTH 89°44'32" EAST, 2,285.62 FEET TO THE WESTERN RIGHT-OF-WAY LINE OF NW SUNDIAL ROAD BEING 25.00 FEET WESTERLY OF THE CENTERLINE WHEN MEASURED AT RIGHT-ANGLES THERETO; THENCE NORTHERLY ALONG SAID RIGHT-OF-WAY LINE NORTH 00°16'42" WEST, 749.18 FEET TO THE SOUTHERN LINE OF THAT PROPERTY DEEDED TO PORTLAND GENERAL ELECTRIC (PGE) DATED MAY 17, 1948 AS RECORDED ON BOOK 1265, PAGE 229 DEED RECORDS OF MULTNOMAH COUNTY; THENCE ALONG SAID SOUTHERN LINE SOUTH 89°43'17" WEST, 250.00 FEET; THENCE ALONG THE WESTERN LINE OF SAID PGE PROPERTY AND ITS EXTENSION NORTH 00°16'42" WEST, 450.00 FEET TO THE SOUTHWESTERN LINE OF THAT PROPERTY DEEDED TO PACIFIC POWER AND LIGHT (PP&L) ON BOOK 637 PAGE 1597 DEED RECORDS OF MULTNOMAH COUNTY; THENCE ALONG SAID SOUTHWESTERN LINE NORTH 43°16'43" WEST, 540.76 FEET; THENCE ALONG THE WESTERN LINE OF SAID PP&L PROPERTY NORTH 02°14'57" EAST, 62.63 FEET TO A POINT 62.50 FEET NORTHERLY, WHEN MEASURED AT RIGHT-ANGLES THERETO, OF THE CENTERLINE OF THAT

TRANSMISSION LINE EASEMENT RECORDED ON BOOK 1960, PAGE 517, DEED RECORDS OF MULTNOMAH COUNTY, OREGON; THENCE PERPENDICULAR TO THE SOUTHERN LINE OF THAT BONNEVILLE POWER ADMINISTRATION TRANSMISSION LINE EASEMENT RECORDED ON BOOK 704, PAGE 367, DEED RECORDS OF MULTNOMAH COUNTY, OREGON, NORTH 07°06'03" EAST, 80.40 FEET TO A POINT ON SAID LINE BEING 107.45 SOUTHEASTERLY FROM AN ANGLE POINT ON SAID LINE; THENCE ALONG SAID EASEMENT LINE SOUTH 82°53'57" EAST, 615.73 FEET TO THE SAID WESTERN RIGHT-OF-WAY LINE OF NW SUNDIAL ROAD; THENCE ALONG SAID RIGHT-OF-WAY LINE NORTH 00°16'42" WEST, 380.98 FEET TO THE CENTERLINE OF A DRAINAGE DIKE; THENCE ALONG THE CENTERLINE OF SAID DRAINAGE DIKE THE FOLLOWING COURSES; THENCE NORTH 89°07'07" WEST, 157.40 FEET; THENCE SOUTH 83°52'53" WEST, 544.17 FEET; THENCE SOUTH 88°11'56" WEST, 649.79 FEET; THENCE SOUTH 88°13'17" WEST, 706.60 FEET; THENCE SOUTH 88°21'34" WEST, 392.14 FEET; THENCE SOUTH 85°14'34" WEST, 334.20 FEET; THENCE SOUTH 81°40'34" WEST, 299.90 FEET; THENCE SOUTH 84°22'04" WEST, 529.10 FEET; THENCE SOUTH 80°43'34" WEST, 599.51 FEET; THENCE SOUTH 87°25'04" WEST, 301.36 FEET; THENCE SOUTH 88°52'34" WEST, 326.20 FEET; THENCE SOUTH 79°34'34" WEST, 699.00 FEET; THENCE SOUTH 83°22'34" WEST, 819.52 FEET TO THE CENTERLINE OF VACATED NW CAMPBELL ROAD; THENCE LEAVING THE SAID DIKE ALONG THE CENTERLINE OF CAMPBELL ROAD SOUTH 00°10'23" EAST, 1,755.02 FEET TO A POINT IN A DRAINAGE FEATURE; THENCE CONTINUING IN SAID DRAINAGE FEATURE NORTH 89°49'27" EAST, 291.16 FEET; THENCE CONTINUING IN SAID DRAINAGE FEATURE NORTH 68°41'27" EAST, 300.00 FEET TO A POINT IN THE CENTER OF SALMON CREEK; THENCE ALONG THE CENTERLINE OF SALMON CREEK THE FOLLOWING COURSES; THENCE NORTH 69°15'27" EAST, 92.00 FEET; THENCE NORTH 65°49'27" EAST, 100.00 FEET; THENCE NORTH 72°07'27" EAST, 200.00 FEET; THENCE NORTH 82°49'27" EAST, 252.00 FEET; THENCE SOUTH 89°23'33" EAST, 102.00 FEET; THENCE SOUTH 83°46'33" EAST, 102.00 FEET; THENCE SOUTH 86°36'33" EAST, 100.00 FEET; THENCE SOUTH 70°06'33" EAST, 100.00 FEET; THENCE SOUTH 75°11'33" EAST, 100.00 FEET; THENCE SOUTH 80°54'33" EAST, 100.00 FEET; THENCE SOUTH 84°54'33" EAST, 100.00 FEET; THENCE SOUTH 82°20'33" EAST, 87.00 FEET; THENCE SOUTH 84°52'33" EAST, 200.00 FEET; THENCE SOUTH 79°09'33" EAST, 100.00 FEET; THENCE SOUTH 83°09'33" EAST, 100.00 FEET; THENCE NORTH 87°09'27" EAST, 100.00 FEET; THENCE NORTH 71°51'27" EAST, 110.00 FEET; THENCE NORTH 53°49'27" EAST, 58.00 FEET TO THE WESTERN LINE OF THE EAST ONE-HALF OF THE FEZETT DLC LINE; THENCE ALONG SAID WESTERN LINE NORTH 00°15'03" WEST, 249.50 FEET TO THE POINT OF BEGINNING.

EXCEPTING THEREFROM THE FOLLOWING:

COMMENCING AT THE NORTHWEST CORNER OF THE EAST HALF OF THE FEZETT DONATION LAND CLAIM NO. 47 IN TOWNSHIP 1 NORTH, RANGE 3 EAST, WILLAMETTE MERIDIAN; THENCE EASTERLY ALONG THE NORTH LINE OF SAID DLC SOUTH 89°53'17" EAST, 1,320.38 FEET TO THE WEST LINE OF THE EAST ONE-HALF OF THE EAST ONE-HALF OF SAID DLC; THENCE NORTH 45°38'31" EAST, 2,393.77 FEET TO THE TRUE POINT OF BEGINNING; THENCE NORTH 05°41'05" WEST, 65.00 FEET; THENCE NORTH 84°18'55" EAST, 65.00 FEET; THENCE SOUTH 05°41'05"

EAST, 65.00 FEET; THENCE SOUTH 84°18'55" WEST, 65.00 FEET TO THE POINT OF BEGINNING.

ALSO EXCEPTING THEREFROM ALL OF THAT LAND FALLING WITHIN THE RIGHT-OF-WAY OF NORTH MARINE DRIVE, SAID TRACT CONTAINS 258.592 ACRES MORE OR LESS.

EXHIBIT B
MITIGATION LAND
EAST OF SUNDIAL ROAD

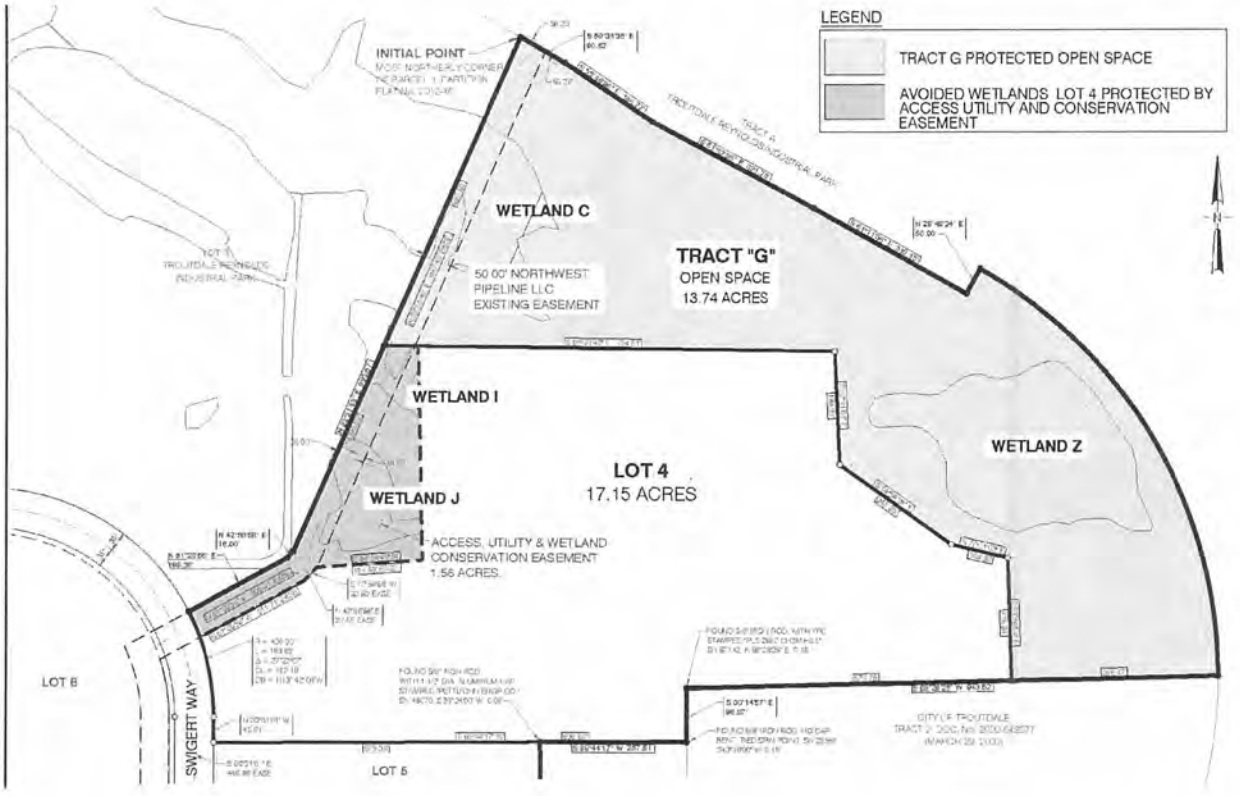


EXHIBIT B-1
MITIGATION LAND
WEST OF SUNDIAL ROAD

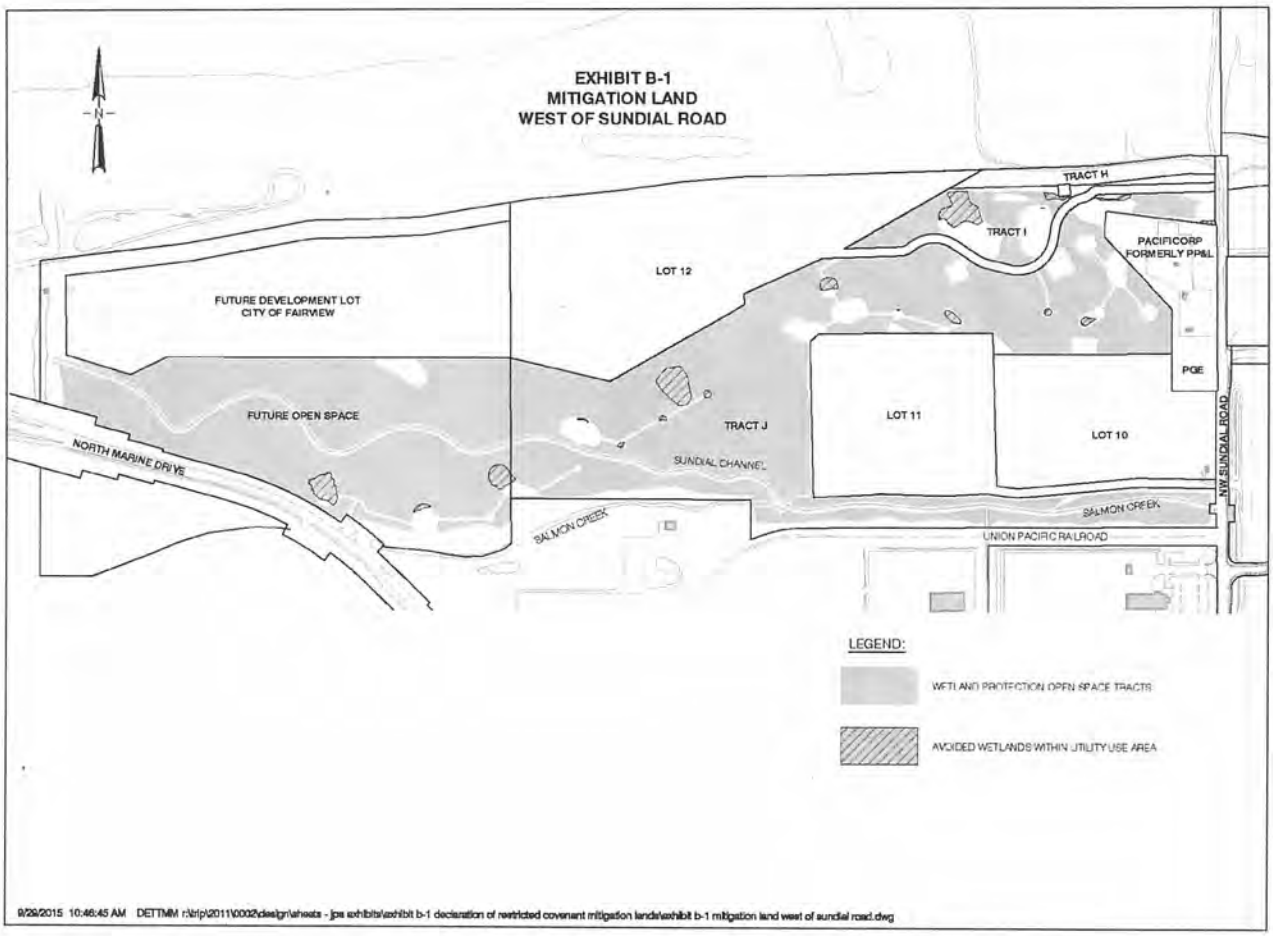


EXHIBIT C
TRIP PHASE 2 AND 3 MITIGATION LAND HYDROLOGY PLAN

It is expected that monitoring and adaptive management along with close coordination with SDIC will be essential in determining the appropriate water levels for the mitigation site.

In the case of a large storm event, SDIC has the authority to respond by providing more flood capacity by opening or closing the water control structure and increasing pumping. This could affect the mitigation site hydrology on a temporary basis. Guidelines for hydrologic management associated with the mitigation site follow:

During site establishment, years 0-5:

- Hydrology shall be managed cooperatively with SDIC in such a way as to minimize the appearance of open water while allowing for soil saturation to support plant establishment. Port will provide direction on appropriate water levels to let the plants establish. SDIC is not responsible for the success of the plants.

- Water level at weir gate could be held at 12.5 to 14.5 feet NAVD 88 but ideal elevation will be determined by the second season. Port and SDIC will work together to identify the ideal elevation for plant establishment and flood capacity.

Once site is established, after Year 5:

- Hydrology shall be managed cooperatively with SDIC to provide water levels 0.5 to 1 feet deep in the PSS wetland, deeper in the PEM-OBL depressions where depth could reach 3 feet under managed conditions during the wet season. This would mean the surface water elevation could reach up to 17 feet NAVD 88.

- Water levels shall be managed in such a manner as to support and sustain the ecological functions of the Compensatory Wetland Mitigation site in perpetuity as permitted by the Department of State Lands and the U.S. Army Corps of Engineers.

- During the dry season (July-Sep), weir gates are open allowing water to discharge with a bottom elevation of 10.5 feet however to provide saturation, water level could be held at a greater elevation as determined during establishment period.

- Wetland depressions shall be completely dry by August so as not to support invasive species such as bullfrogs.

Flood Conditions

- When flood conditions occur, specifically if the surface water elevation exceeds 13.0 feet NAVD 88 (9.5-feet NGVD 29), the weir will be closed for flood storage.

- The weir may be closed for up to 2 weeks to allow the pump station to evacuate water.

- The weir may be opened for pre-storm draw down if the forecast calls for at least 2.2 inches of precipitation in a 24 hour time period.

STATE OF OREGON

COUNTY OF MULTNOMAH

CERTIFICATE OF WATER RIGHT

THIS CERTIFICATE ISSUED TO

PORT OF PORTLAND
7200 NE AIRPORT WAY
PORTLAND OR 97218

confirms the right to store water perfected under the terms of Permit R-15553. The amount of water used to which this right is entitled is limited to the amount used beneficially, and shall not exceed the amount specified, or its equivalent in the case of rotation, measured at the point of diversion from the source. The specific limits and conditions of the use are listed below.

APPLICATION FILE NUMBER: R-89127

SOURCE OF WATER: RUNOFF, TRIBUTARY TO SALMON CREEK

STORAGE FACILITY: WEST SUNDIAL WETLAND

MAXIMUM VOLUME: 71.1 ACRE-FEET

PURPOSE OR USE OF THE STORED WATER: WETLAND ENHANCEMENT

WATER MAY BE APPROPRIATED FOR STORAGE DURING THE PERIOD: JANUARY 1 THROUGH DECEMBER 31

DATE OF PRIORITY: JUNE 11, 2021

DAM LOCATION/POINT OF DIVERSION:

Twp	Rng	Mer	Sec	Q-Q	DLC	Measured Distances
1 N	3 E	WM	22	SW NW	40	CENTER OF BERM - 1610 FEET SOUTH AND 325 FEET EAST FROM NW CORNER, SECTION 22

THE AREA SUBMERGED BY THE RESERVOIR:

Twp	Rng	Mer	Sec	Q-Q	DLC
1 N	3 E	WM	22	SW NE	40
1 N	3 E	WM	22	SW NE	47
1 N	3 E	WM	22	SE NE	40
1 N	3 E	WM	22	SW NW	40
1 N	3 E	WM	22	SE NW	40
1 N	3 E	WM	22	SE NW	47

NOTICE OF RIGHT TO PETITION FOR RECONSIDERATION OR JUDICIAL REVIEW

This is an order in other than a contested case. This order is subject to judicial review under ORS 183.484 and ORS 536.075. Any petition for judicial review must be filed within the 60-day time period specified by ORS 183.484(2). Pursuant to ORS 183.484, ORS 536.075 and OAR 137-004-0080, you may petition for judicial review and petition the Director for reconsideration of this order. A petition for reconsideration may be granted or denied by the Director, and if no action is taken within 60 days following the date the petition was filed, the petition shall be deemed denied. In addition, under ORS 537.260 any person with an application, permit or water right certificate subsequent in priority may jointly or severally contest the issuance of the certificate within three months after issuance of the certificate.

Failure to comply with any of the provisions of this right may result in action including, but not limited to, restrictions on the use, civil penalties, or cancellation of the right.

Water Use Measurement, Recording and Reporting:

A. The water user shall maintain, in good working order, a staff gage that measures the entire range and stage between full reservoir level and dead-pool storage. If no dead-pool, the gage must measure the full depth of the reservoir.

B. The water user shall allow the watermaster access to the device; provided however, where any device is located within a private structure, the watermaster shall request access upon reasonable notice.

C. The water user shall keep a complete record of the volume of water stored each month and shall submit a report which includes water-storage measurements to the Department annually (or more frequently as may be required by the Director). Further, the Director may require the water user to report general water-use information, including the place and nature of use of water under the right.

D. The Director may provide an opportunity for the water user to submit alternative measuring and reporting procedures for review and approval.

Water Quality:

All water use under this right shall comply with state and federal water quality laws. The water user shall not violate any state and federal water quality standards, shall not cause pollution of any waters of the state, and shall not place or cause to be placed any wastes in a location where such wastes are likely to escape or be carried into the waters of the state by any means. The use may be restricted if the quality of source stream or downstream waters decrease to the point that those waters no longer meet existing state or federal water quality standards.

On-Channel Reservoir:

The water user shall operate the water storage facility such that all waters within and below the reservoir meet water quality criteria. The reservoir operator shall maintain a copy of the reservoir operations plan, that details how water quality criteria and standards will be met, and make it available for review upon request.

The storage of water allowed herein is subject to the installation and maintenance of an outlet pipe (with a minimum diameter of 8' for any in-channel reservoir). This requirement may be waived if the Department determines other means have been provided to evacuate water when necessary.

The water user shall pass all live flow outside the storage season described above.

This right allows an annual appropriation (not to exceed the specified volume). This right does not provide for the appropriation of water for out-of-reservoir uses, the maintenance of the water level or maintaining a suitable freshwater condition. If any water is to be used for out-of-reservoir purposes, a secondary water right is required. If any additional live flow is to be appropriated to maintain either the water level or a suitable freshwater condition, an additional water right is required.

This right is for the beneficial use of water without waste. The water user is advised that new regulations may require the use of best practical technologies or conservation practices to achieve this end.

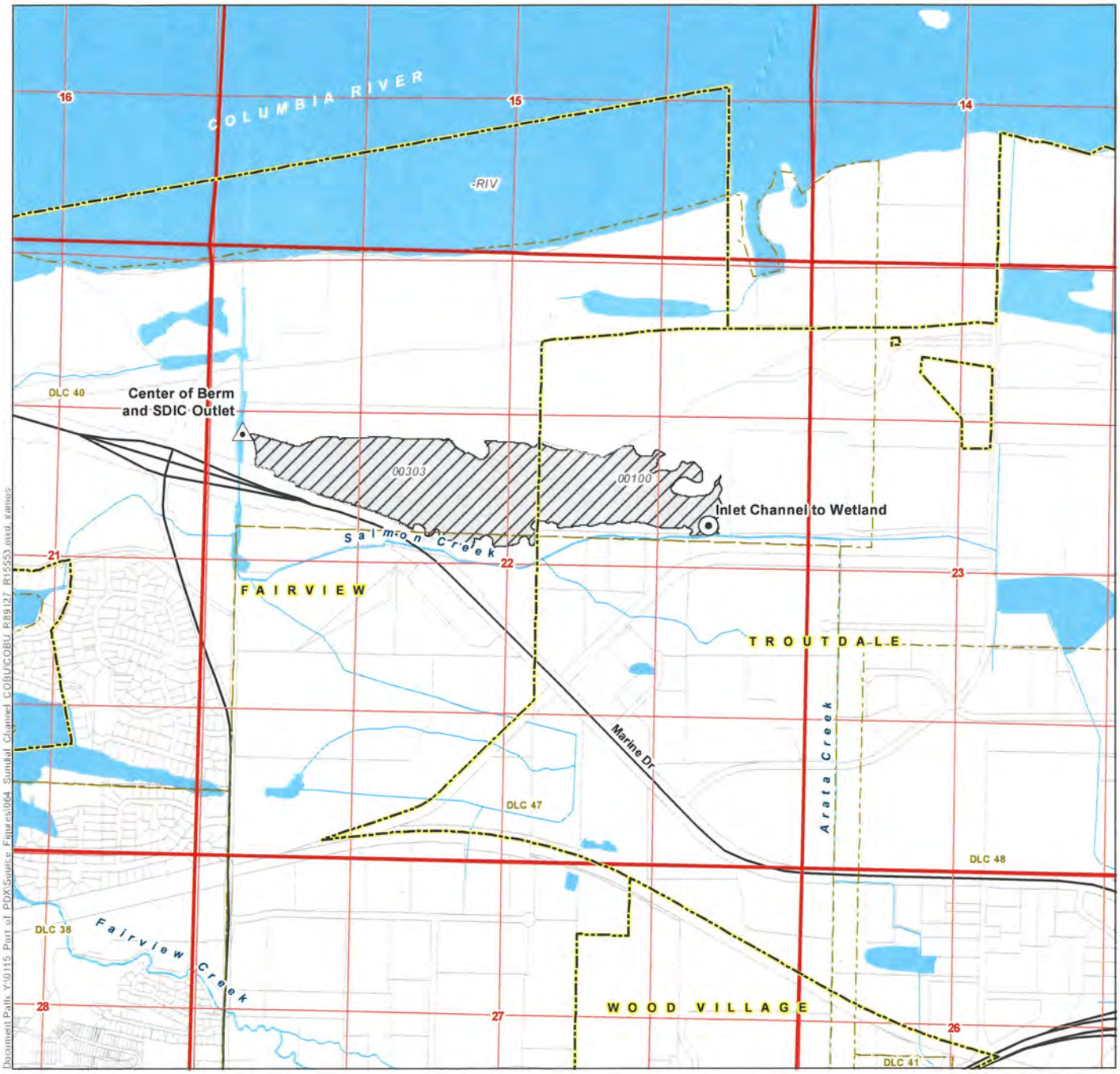
By law, the land use associated with this water use must be in compliance with statewide land-use goals and any local acknowledged land-use plan.

The use of water allowed herein may be made only at times when sufficient water is available to satisfy all prior rights, including prior rights for maintaining instream flows.

The right to store water for the above purpose is restricted to beneficial use at the place of use described.

Issued DEC 03 2024.

Dwight French
Water Right Services Division Administrator, for
Ivan Gall, Director
Oregon Water Resources Department



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LEGEND

- Center of Berm and SDIC Outlet (POD)
- Inlet Channel to Wetland
- Place of Use (POU)

All Other Features

- City Boundary
- Tax Lot
- Donation Land Claim (DLC)
- Major Road
- Watercourse
- Waterbody

Claim of Beneficial Use
Place of Use and Point of Diversion
Application R-89127; Permit R-15553

Port of Portland

Multnomah County, Oregon
Township 1 North, Range 3 East (W.M.), Section 22

CERTIFIED WATER RIGHTS EXAMINER STAMP

Certified Water Rights Examiner
#78208WRE
Bruce Brody-Heine
Bruce Brody-Heine
June 29, 2007
STATE OF OREGON
EXPIRES: 12-31-2025

LOCATION DESCRIPTIONS

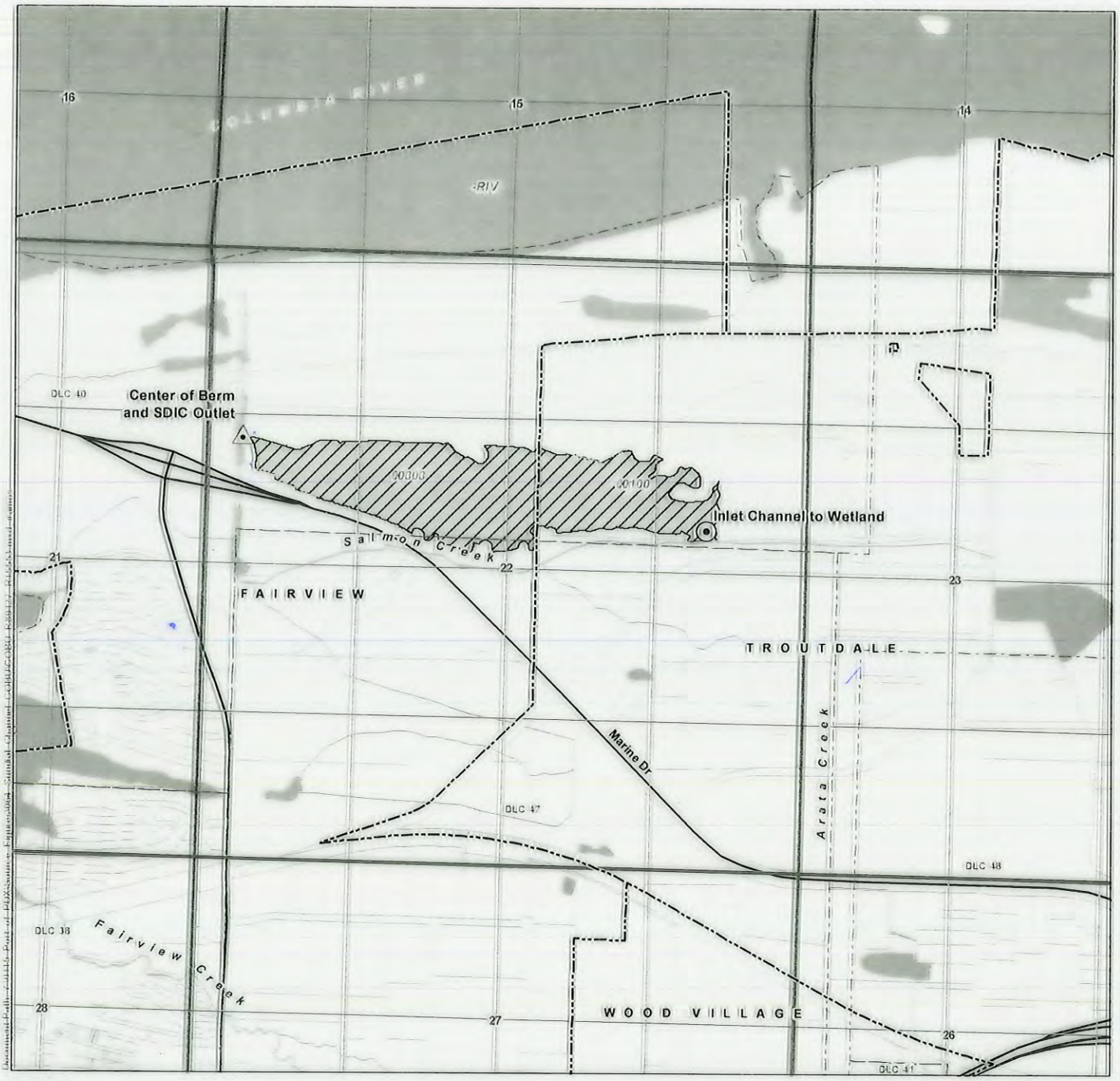
Center of Berm and SDIC Outlet
Located 1,610 feet South and 325 feet East from the NW corner of Section 22, Township 1 North, Range 3 East (W.M.)
Staff Gage Location: Located 20 east of the center of the SDIC Outlet on the leading edge of the debri grates

DISCLAIMER
This map was prepared for the purpose of identifying the location of a water right only and it is not intended to provide legal dimensions or location of property ownership lines.

Date: May 30, 2024
Data Sources: BLM, ESRI, OWRD, USGS

N
0 660 1,320
1 inch = 1,320 feet

GSI Water Solutions, Inc.



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Port of Portland

Multnomah County, Oregon
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#78208WRE
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June 29, 2007
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EXPIRES: 12-31-2025

Received
JUN 24 2024
OWRD

LOCATION DESCRIPTIONS

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N
0 660 1,320
1 inch = 1,320 feet

GSI Water Solutions, Inc.

APPENDIX F

DOCUMENT LIST

Appendix F: West Sundial Wetlands Document List

Reports and Documents	Author	Date
TRIP Wetland Mitigation and Ground Water Monitoring	Foundation Eng., Inc.	Jan-10
Troutdale Reynolds Industrial Park Phase II/III Project Completion Report	POP	Dec-10
As-built Report: TRIP Phase II/III West Sundial Wetlands Mitigation Site and Other Enhancements	POP	Dec-18
West Sundial Wetlands Annual Monitoring Report Year 1	Hart Crowser	Dec-19
West Sundial Wetlands Annual Monitoring Report Year 2	Hart Crowser	Dec-20
West Sundial Wetlands Annual Monitoring Report Year 3	Hart Crowser	Dec-21
West Sundial Wetlands Annual Monitoring Report Year 4 (includes delineation)	Hart Crowser	Dec-22
West Sundial Wetlands Annual Monitoring Report Year 5 (includes revised delineation and ORWAP)	Haley & Aldrich/POP	Apr-24
West Sundial Wetlands Annual Monitoring Report Year 7	Wolf Water Resources/POP	Dec-25
Permits & Correspondence	**Author**	**Date**
USACE Permit NWP-2007-889(1)	USACE	Jan-15
DSL Permit Modification 54848-RF	DSL	May-15
DSL Permit SDIC Weir 58816-RF	DSL	May-17
Technical Memorandum: Permit Compliance - TRIP Flow Control (COE NWP-2016-99/DSL 58816-RF)	ES&A	Nov-17
2015-237 Declaration of Restrictive Conenant w/amendments	DSL/POP	Dec-21
DSL Release Letter for permits 58816-RF and 54848-RF	DSL	Nov-24
OWRD Certificate of Water Right 98140, Permit R-15553	OWRD	Dec-24

APPENDIX G

SITE ACTIVITY RECORD

APPENDIX G: WEST SUNDIAL WETLANDS SITE ACTIVITY RECORD

DATE	ACTIVITY	PERFORMED BY	ADDITIONAL COMMENTS
10/18/2012	Mowed field & removed fencing	C&R	
11/1/2012	Sprayed field w/glyphosate	C&R	
5/31/2013	Field spraying w/ATV boom as directed	C&R	160 acres of field sprayed and 8 acres of blackberry spraying
7/28/2013	Field mowing	C&R	145 hours
9/10/2013	Field spraying w/ATV boom as directed	C&R	185 acres of field spraying and 8 acres blackberry spraying
8/8/2014	Field mowing	C&R	
2/2/2015	Amphibian Egg Mass Survey	SW, CB	Pacific treefrog and LT salamander egg masses found in irrigation ditch.
2/3/2015	Amphibian Egg Mass Survey	SW, CB	Adult pacific treefrog seen. Long toed salamander egg masses found in irrigation ditch.
4/16/2015	Obtained ODFW CHTR Permit #15-03	ODFW	Allowed Port staff to legally capture and safely relocate turtles and frogs during construction.
05/12/2015 - 05/21/2015	Turtle trapping surveys	SW	Survey to determine presence/absence of turtles before construction of WSW.
7/20/2015	Construction begins	GBI	Goodfellow Brothers
7/21/2015	Nesting Bird Survey	SW, CB	Nesting bird survey on the construction site.
8/13/2015	Red-legged frog salvage - Salmon and Arata creeks; damn installed at mouth of Arata Creek for construction purposes	SW	Re-located 3 RLF (2 Juv. 1 adult) to Company Lake. 2 Pacific treefrogs also caught and re-located (to Company Lake).
8/17/2015	Red-legged frog salvage - Salmon and Arata creeks	SW, CC	Re-located 1 RLF to Company Lake
8/18/2015	Red-legged frog salvage - Salmon and Arata creeks	SW, MM	Re-located 1 RLF to Company Lake
8/18/2015	Maintenance Crew Work - 1290 trees	SW	Blackberry at 1290 trees was treated with Tryclopur.
8/20/2015	Red-legged frog salvage - Salmon and Arata creeks	SW, MM, MP	Re-located 1 RLF to East Lake
9/8/2015	1290 tree area inspection	SW	Checked on BB treatment - treatment effective
9/16/2015	Maintenance Crew Work - 1290 trees	SW	Dead blackberry was mowed down throughout the site.
10/16/2015	Maintenance Crew Work - 1290 trees	SW	Spot sprayed any re-growth of blackberry at 1290 trees.
11/3/2015	Jute matting applied to Salmon Creek	GBI	Jute applied to prevent erosion during excessive rain storms
12/21/2015	LKE began installing willow cuttings at Salmon Creek	LKE	LKE was subcontractor to GBI
12/23/2015	Maintenance Crew Work - 1290 trees	ME	Seeded "tough and Tenacious" mix from heritage seedlings at the 1290 trees site. Vermiculite used.
1/29/2016	Site Inspection	SW	General site inspection for maintenance needs and wildlife.
2/4/2016	Red-legged frog salvage - Along Swigert Way	SW	Relocated 1 RLF and one PCF.
2/5/2016	Red-legged frog salvage - Along Swigert Way	SW	Relocated 4 PCFs, 1 RLF, 1 Long toed salamander.
2/9/2016	Red-legged frog salvage - Along Swigert Way	SW	No amphibians seen along the silt fences.

DATE	ACTIVITY	PERFORMED BY	ADDITIONAL COMMENTS
2/12/2016	Received report from Jim brown about 3 dead treefrogs on Swigert Way.	SW	
2/17/2016	Red-legged frog salvage - Along Swigert Way	SW	3:30-4:15pm - searched silt fences off of Swigert Way - no amphibians seen.
2/23/2016	Red-legged frog salvage - Along Swigert Way	SW	1:30pm-2:15pm - Checked both sides of the silt fences along Swigert way and north side of silt fence at lot 1 - no amphibian. seen.
3/2/2016	Red-legged frog salvage - Along Swigert Way	SW	1 adult RLF and 1 adult LT Sally re-located. Both gravid.
3/7/2016	Maintenance Crew Work - 1290 trees	ME	Site was planted.
3/7/2016	Red-legged frog salvage - Along Swigert Way	JB	Jim Brown checked silt fences and did not find any amphibians.
3/8/2016	Red-legged frog salvage - Along Swigert Way	SW	Checked silt fences along lot 1 and Swigert way and no amphibians were seen.
4/11/2016	Maintenance Crew Work - 1290 trees	Mosaic Ecology	Spot sprayed blackberry, thistle etc. in the planting area.
4/25/2016	Maintenance Crew Work- West Sundial Wetlands	Mosaic Ecology	Scanned for nesting birds and then treated all blackberry and broadleaf weeds on top of the archeological site. Treated all reed canary grass/thistle 2ft on the north side of the silt fence and weeds on the south side/buffer area of the north mitigation area. Treated all reed canary grass/thistle/blackberry on the north side of the silt fence of the south buffer. Treated a 2-3ft “path” along the south side of the silt fence. Treated all “utility islands” for all weeds.
4/27/2016	Site Inspection - 1290 Trees	SW	General site inspection for maintenance needs and wildlife.
5/5/2016	Maintenance Crew Work - 1290 trees	Mosaic Ecology	Spot sprayed blackberry, thistle etc. in the planting area.
5/10/2016	Site Inspection - 1290 Trees	SW	General site inspection for maintenance needs and wildlife.
5/24/2016	Maintenance Crew Work- West Sundial Wetlands	Mosaic Ecology	Expanded the south buffer 20ft out from the silt fence. Treated a 20ft buffer on the western edge of the site and the entire buffer area on the far eastern side of Salmon Creek. Treated the utility islands for weeds.
5/25/2016	Maintenance Crew Work - 1290 trees	Mosaic Ecology	Treated all non-native grass throughout the site (prep for re-seed this fall). Also treated any remaining blackberry.
6/6/2016	Maintenance Crew Work- West Sundial Wetlands	Mosaic Ecology	Weedwacked utility islands at the TRIP II/III site (will treat re-growth later). Walked transects throughout the entire planted wetland area and spot sprayed invasive species (Target: reed canary grass, thistle/teasel, velvet grass, hemlock).
6/13/2016	Avian Survey - Northern Mitigation Area	SW, CB	Avian survey before work began in the north mitigation area.
6/17/2016	Red-legged frog survey - Salmon creek (east side of sundial road)	SW	Searched for red legged frogs in the ditch before work began on the ditch.
6/23/2016	Site Inspection - 1290 Trees	SW	General site inspection for maintenance needs and wildlife.
6/30/2016	Maintenance Crew Work - 1290 trees	Mosaic Ecology	Installed "Wildlife Habitat Area" sign. Spot sprayed blackberry, velvet grass, prickly lettuce etc. in areas that were not highly vegetated with native (i.e. open areas). Removed common toadflax. Removed old fence and fence posts (recycled metal).
7/5/2016	Site Inspection - West Sundial Wetlands	SW	General site inspection for maintenance needs and wildlife.
7/13/2016	Site Inspection - West Sundial Wetlands	SW	General site inspection for maintenance needs and wildlife.
7/20/2016	Site Inspection - 1290 Trees	SW	General site inspection for maintenance needs and wildlife. Presented wildlife protocol to construction crew.

DATE	ACTIVITY	PERFORMED BY	ADDITIONAL COMMENTS
7/21/2016	Maintenance Crew Work- West Sundial Wetlands	Mosaic Ecology	Northern Buffer from the western parking lot to the archeological site: Cut down (close to the base of the plant) and bag Wild radish (SAPSAT and maybe some RAPRAP too) along the buffer and within the adjacent wetland mitigation area (a couple of plants here and there in this area), spot sprayed reed canary grass, blackberry (not a lot) and birds-foot trefoil (not a lot – in bloom) in the buffer areas. NW Wetland areas: Treated reed canary grass (cut and bagged inflorescences before treating mature plants), birds foot trefoil (LOTCOR – in bloom), spiny sow thistle (SONASP = FACU – may not be a problem but it is tall and widespread), blackberry and Wild Radish (RAPSAT and RAPRAP – Cut down and bag plants in seed/flower, treat smaller plants). SW Wetland areas: Targeted all reed canary grass growing in wetland area. Archeological Site: Spot sprayed Black Nightshade (just a few plants), blackberry re-growth (not a lot), Canada Thistle (throughout the top of the site). Northern Buffer just east of the archeological site and west of the big tree: Treated Birds-foot trefoil – There were a couple of areas where this was carpeting the ground near the utility islands and also midway along the north buffer (in front of the “big tree”). Weedwacked/Cut flowerheads of mature Canada thistle in buffer area and treat smaller plants – There is an area in the adjacent field (near the tree) that has a lot of Canada thistle (in bloom) that is coming down into the buffer area there. Treated creeping buttercup (RANREP) in that area as well. Southern buffer: Treated blackberry, thistle and reed canary grass re-growth. Southern wetland areas: This area is drier – targeted spiny sow thistle (In bloom – see below), reed canary grass and blackberry. Northern Buffer east of the big tree: The adjacent (undeveloped) field is covered in reed canary grass, Canada thistle and some velvet grass/meadow foxtail. Targeted/treated reed canary grass (cut and bag inflorescences before treating mature plants where feasible/small populations), velvet grass, meadow foxtail and Canada thistle in the buffer and adjacent wetland area. Also treat large patches of birdsfoot trefoil in the wetland area. Salmon Creek: Treated blackberry, thistle and reed canary grass along Salmon Creek buffers/slopes and wetlands areas. Eastern and Western Buffers: Treated any reed canary grass, velvet grass, meadow foxtail, thistle and blackberry in sloped buffer areas.
7/27/2016	Site Inspection - West Sundial Wetlands	SW	General site inspection for maintenance needs and wildlife.
8/1/2016	Maintenance Crew Work - 1290 trees	Mosaic Ecology	Cut and stump treated blackberry. Treated all non-native grass/forbs growing between native forbs.
8/2/2016	Maintenance Crew Work- West Sundial Wetlands	Mosaic Ecology	Treated re-growth on the utility islands:
8/11/2016	Maintenance Crew Work- West Sundial Wetlands	Mosaic Ecology	Treated reed canary grass, clover, birdsfoot trefoil and blackberry in areas throughout the site.
8/17/2016	Site Inspection - 1290 Trees	SW	General site inspection for maintenance needs and wildlife.
8/26/2016	Archeological site slopes repaired	GBI	
9/8/2016	Salmon Creek/Sundial Channel dam removed	GBI	
9/15/2016	Site Inspection - 1290 Trees	SW	General site inspection for maintenance needs and wildlife.
9/23/2016	Maintenance Crew Work - 1290 trees	Mosaic Ecology	Treated all remaining blackberry and thistle throughout the site. Seeded "bald patches" throughout the site with pollinator seed mix.

DATE	ACTIVITY	PERFORMED BY	ADDITIONAL COMMENTS
9/29/2016	Maintenance Crew Work- West Sundial Wetlands	Mosaic Ecology	Treated blackberry in the buffer and utility islands at the north mitigation site.
9/30/2016	Site Inspection - West Sundial Wetlands	SW	General site inspection for maintenance needs and wildlife.
10/23/2016	Maintenance Crew Work- West Sundial Wetlands	Mosaic Ecology	Planted collected willow stakes
10/28/2016	Site Inspection - 1290 Trees	SW	General site inspection for maintenance needs and wildlife.
11/2/2016	Maintenance Crew Work - 1290 trees	Mosaic Ecology	Re-treated blackberry throughout the site.
12/5/2016	Maintenance Crew Work- West Sundial Wetlands	Mosaic Ecology	Mowed down blackberry etc. that was treated in the buffer areas of the northern mitigation area.
3/29/2016	LKE completed the lower mitigation area planting.	LKE	
2/14/2017	Amphibian Egg Mass Survey	SW,MM	None seen.
4/20/2017	Maintenance Crew Work - West Sundial Wetlands	Mosaic Ecology	Planted live stakes in the north mitigation area.
9/29/2017	Archeological site slopes repaired; jute applied; seeded; native willow poles installed	Mosaic Ecology	
March	West Sundial Wetlands	Mosaic Ecology	Planted the Archeological site.
4/5/2017	1290 Trees	Mosaic Ecology	Hand pulled scotch broom throughout the planted area. Brush cut treated and some untreated blackberry through northern forested edge. Small amount of cut stump treatment for blackberry. Have been spraying surrounding blackberry hedges to increase buffer size each time we have been out at site to treat blackberry. The north forest dye is responding well with rose, snowberry and tall Oregon grape moving into planted area. Will continue with cutting and blackberry treatments to encourage shrub layer to move in.
4/24/2017	West Sundial Wetlands	Mosaic Ecology	Additional stakes were added to the NE buffer of the south mitigation portion, as well as to the corners where the dam was removed which used to be covered in black plastic. Stakes also added to the pond that spans section 5 and 7, focusing on the areas heavily infested with reed canary grass.
Mid April thru May 22	1290 Trees	Mosaic Ecology	Completed grass treatments across entire site. Treated blackberry and other broadleaf's through 1290 trees, treated sweet vernal and velvet grass through 300 trees. Broadcast entire Salmon Creek channel for all weeds listed. Installed 12 bee boxes at 1290 trees. Clover treatments will likely be ready to begin following Memorial Day.
5/15/2017	West Sundial Wetlands	Mosaic Ecology	Completed work on archeological site. Thistle treatments completed. All "Wildlife" signs except for gate sign installed. Site still wet.
5/22/2017	1290 Trees	Mosaic Ecology	Spot sprayed blackberry, thistle/teasel and prickly lettuce (Lactuca serriola) and non-native grass throughout the site.
06/14/2017 and 06/15/2017	West Sundial Wetlands and 1290 trees	Mosaic Ecology	Grasses were treated at West Sundial Wetlands. Non-native cherries were treated at 1290 trees.

DATE	ACTIVITY	PERFORMED BY	ADDITIONAL COMMENTS
July	West Sundial Wetlands	Mosaic Ecology	Sprayed clover/trefoil with Transline throughout sections 11 and 9. The upland buffer and north Creekside of section 13. Portions of section 12, 8, and 3 where the clover/trefoil was particularly dense. Both sides of the created Salmon Creek Channel. Treated velvet grass along the buffers of the northern mitigation ponds. Treated thistle/teasel/grasses on all power tower "islands". Completed a thorough sweep of invasive grasses and clover/trefoil through sections 2,4,6,8 and 10 west of the power lines. Treated section 14 for clover/trefoil as well as its southern buffer. Completed on July 28.For the week of July 24.
8/25/2017	West Sundial Wetlands	Mosaic Ecology	Scanned and treated all pond bottoms for reed canary grass. Retreated power tower islands for foxtail and blackberry.
Early October	West Sundial Wetlands	Mosaic Ecology	The entire south portion of West Sundial Wetlands had been gridded at least twice by early October.
10/4/2017	1290 Trees	Mosaic Ecology	Treated blackberry and velvet grass throughout 1290 trees.
10/9/2017	West Sundial Wetlands	Mosaic Ecology	Finished gridding through areas 4,6,8,10,12 for the season. Unable to get another spray on clover due to ponded water.
1/17/2018	West Sundial Wetlands - Maintenance	Mosaic Ecology	Removed trash from the site.
1/17/2018	West Sundial Wetlands - Site Inspection	SW	General site inspection for maintenance needs and wildlife.
1/25/2018	West Sundial Wetlands - Planting	Mosaic Ecology	Installed 250 Salix sp. in buffer areas of 1,3 and 5. 100 red-osier dogwood, 50 twinberry and 25 ninebark on the Archeological site. 50 twinberry, 25 ninebark and 50 red-osier dogwood at the SE corner of area 12.
2/26/2018	Amphibian egg mass survey	SW,CB	Pacific treefrog, long-toed salamander and northern red-legged frog egg masses seen.
2/26/2018	West Sundial Wetlands - Terrestrial Amphibian Surveys	SW,CB	Pacific treefrog and long toed salamanders seen.
2/27/2018	West Sundial Wetlands - Planting	Mosaic Ecology	Installed 200 Amelanchier alnifolia, 200 Holodiscus discolor, 200 ribes sanguinum, 200 Mahonia aquifolium and 200 Symphocarpus albus in upland buffers - Eastern edge of area 12 and north buffer of area 13. 4X4 spacing.
2/28/2018	West Sundial Wetlands - Planting	Mosaic Ecology	Installed 500 Cornus sercea, 500 Roas pisocarpa,500 Spirea douglasii, 500 Salix fluviatalis, 500 Salix sitchensis, 500 Salix hookeriana in wetland buffer of areas 4 and 6 to the Archeological site and the east edge of area 12.
3/14/2018	West Sundial Wetlands - Maintenance	Mosaic Ecology	Removed BMPs from around the construction and mitigation site.
4/3/2018	West Sundial Wetlands - Site Inspection	SW	General site inspection for maintenance needs and wildlife.
4/19/2018	West Sundial Wetlands - Maintenance	Mosaic Ecology	Began treating south upland buffer along Salmon Creek. Reed canarygrass, perennial rye grass, poison hemlock, blackberry, bull thistle, Canada thistle and ragwort.
4/20/2018	West Sundial Wetlands - Maintenance	Mosaic Ecology	Treated southern buffer of area 11 and 14. Poison hemlock, Himalayen blackberry, Canada thistle, bull thistle, meadow foxtail, perennial rye grass, reed canarygrass, birdsfoot trefoil, field mustard, sweet clover, barnyard grass.
5/1/2018	West Sundial Wetlands - Maintenance	Mosaic Ecology	Completed treatments in areas 13 and 14. for poison hemlock, Himalayen blackberry, Canada thistle, bull thistle, meadow foxtail, perennial rye grass, reed canarygrass, birdsfoot trefoil, field mustard, sweet clover, barnyard grass.
5/2/2018	West Sundial Wetlands - Maintenance	Mosaic Ecology	Completed treatments in areas 5 and 7 from west of the powerline access road to the western willow patch. Mostly reed canarygrass, meadow foxtail and birdsfoot trefoil.

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5/7/2018	West Sundial Wetlands - Maintenance	Mosaic Ecology	Completed treatments in areas 1,3 and 5 (including lower portion of the western levee). Completed treatments in area 2 and 4 and worked through the western half of area 6. Reed canarygrass and meadow foxtail were main targets.
5/14/2018	West Sundial Wetlands - Maintenance	Mosaic Ecology	Completed treatments of the eastern half of area 6 and the majority of areas 8 and 10. Target species were: Reed canarygrass, meadow foxtail and perennial ryegrass.
5/15/2018	West Sundial Wetlands - Maintenance	Mosaic Ecology	Finished treatments in areas 8 and 10.
5/22/2018	West Sundial Wetlands - Maintenance	Mosaic Ecology	Treated area 12 for reed canarygrass, meadow foxtail and perennial rye grass. Began working in the western pond (Area 15 and 17) for reed canarygrass, thistle and trefoil.
5/24/2018	West Sundial Wetlands - Maintenance	Mosaic Ecology	Continued treatments in the western pond. Reed canarygrass and curly dock in the pond. Foxtail and poison hemlock in edges of pond.
5/24/2018	West Sundial Wetlands - Site Inspection	SW	General site inspection for maintenance needs and wildlife.
5/30/2018	West Sundial Wetlands - Maintenance	Mosaic Ecology	Brush cut areas in order to find reed canarygrass. Water in ponds. Reed canarygrass in bloom.
5/31/2018	West Sundial Wetlands - Maintenance	Mosaic Ecology	Completed treatment in the western pond. Reed canarygrass, velvet grass and curly dock.
6/5/2018	West Sundial Wetlands - Maintenance	Mosaic Ecology	Treated buffers and power tower islands for reed canarygrass, velvet grass, thistles, blackberry, teasel, clover, trefoil, curly dock, poison hemlock, perennial rye grass and soft brome.
6/15/2018	West Sundial Wetlands - Site Inspection	SW	General site inspection for maintenance needs and wildlife.
6/28/2018	West Sundial Wetlands - Maintenance	Mosaic Ecology	Treated the north mitigation area for reed canarygrass, pennyroyal and barnyard grass.
7/2/2018	West Sundial Wetlands - Maintenance	Mosaic Ecology	Continued to treat the north mitigation area for reed canarygrass, teasel, trefoil, barnyard grass, prickly lettuce and sow thistle. Began to treat clover and trefoil in the western portion of the south mitigation area.
7/5/2018	West Sundial Wetlands - Maintenance	Mosaic Ecology	Spot sprayed trefoil, clover, curly dock and sow thistle in area 6 and the north side of area 8.
7/6/2018	West Sundial Wetlands - Site Inspection	SW	General site inspection for maintenance needs and wildlife.
7/6/2018	West Sundial Wetlands - Maintenance	Mosaic Ecology	Spot sprayed area 8 for thistle, teasel, trefoil, prickly lettuce etc.
7/9/2018	West Sundial Wetlands - Maintenance	Mosaic Ecology	Spot sprayed areas 10 and 12 for black nightshade, thistle, teasel, trefoil, prickly lettuce etc.
7/11/2018	West Sundial Wetlands - Site Inspection	SW	General site inspection for maintenance needs and wildlife.
7/12/2018	West Sundial Wetlands - Maintenance	Mosaic Ecology	Spot sprayed areas 5,9 and 11 (north of sundial channel) for barnyard grass, pennyroyal (in large grassy patch east of the pond), black nightshade, thistle, teasel, trefoil, prickly lettuce etc.
7/18/2018	West Sundial Wetlands - Maintenance	Mosaic Ecology	Spot sprayed clover and birdsfoot trefoil in the SW quadrant. Treated blackberry, thistle, teasel and prickly lettuce within the willows and in the upland areas.
7/19/2018	West Sundial Wetlands - Maintenance	Mosaic Ecology	Spot sprayed reed canarygrass, bull thistle, Canada thistle, teasel, tansy, clover, trefoil, barnyard grass and meadow foxtail throughout the "bathtub" in the north mitigation area.
7/20/2018	West Sundial Wetlands - Maintenance	Mosaic Ecology	Spot sprayed clover, birdsfoot trefoil, thistles, teasel and tansy throughout the SW quadrant east of the willow patch.
7/23/2018	West Sundial Wetlands - Site Inspection	SW	General site inspection for maintenance and wildlife needs.
7/24/2018	West Sundial Wetlands - Maintenance	Mosaic Ecology	Spot sprayed clover, birdsfoot trefoil, thistle throughout the SW Quadrant of the willow patch and also targeted pennyroyal in the middle pond and blackberry in the higher elevation areas.

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7/25/2018	West Sundial Wetlands - Maintenance	Mosaic Ecology	Spot sprayed areas north and south of Salmon Creek channel, east of the Archeological site. Reed canarygrass, barnyard grass, meadow foxtail, broadleaf weed through the wetlands and along the creek banks. Clover and birdsfoot trefoil throughout the wetlands.
8/3/2018	West Sundial Wetlands - Site Inspection	SW	General site inspection for maintenance needs and wildlife.
8/3/2018	West Sundial Wetlands - Maintenance	Mosaic Ecology	Spot sprayed pennyroyal throughout the pond near the BPA entrance.
8/9/2018	West Sundial Wetlands - Maintenance	Mosaic Ecology	Spot sprayed along the creek edges. Spot sprayed throughout section 8 for reed canarygrass, barnyard grass, blackberry, thistle, birdsfoot trefoil, clover and watercress growing in Salmon Creek.
8/17/2018	West Sundial Wetlands - Site Inspection	SW	General site inspection for maintenance needs and wildlife.
8/23/2018	West Sundial Wetlands - Site Inspection	SW	General site inspection for maintenance needs and wildlife.
8/27/2018	West Sundial Wetlands - Maintenance	Mosaic Ecology	Spot sprayed throughout the NW pond (dry) in the north mitigation area. Targeted reed canarygrass and pennyroyal and also treated thistles, groundsel, blackberry, velvet grass, teasel and mullein.
9/4/2018	West Sundial Wetlands - Site Inspection	SW	General site inspection for maintenance needs and wildlife.
9/14/2018	West Sundial Wetlands - Maintenance	Mosaic Ecology	Spot sprayed throughout the two westernmost ponds and western buffer area for thistles, blackberry, teasel, tansy, sow thistle and barnyard grass.
9/18/2018	West Sundial Wetlands - Site Inspection	SW	General site inspection for maintenance needs and wildlife.
9/20/2018	West Sundial Wetlands - Maintenance	Mosaic Ecology	Spot sprayed throughout the south ponds and buffers of the north mitigation area for reed canarygrass, velvet grass, thistles, blackberry, teasel, tansy, sow thistle, barnyard grass and poison hemlock.
9/21/2018	West Sundial Wetlands - Maintenance	Mosaic Ecology	Spot sprayed through remaining ponds of the north mitigation area for reed canarygrass, velvet grass, thistles, blackberry, teasel, tansy, sow thistle, barnyard grass, poison hemlock, nightshade, clover and birdsfoot trefoil.
9/25/2018	West Sundial Wetlands - Site Inspection	SW	General site inspection for maintenance needs and wildlife.
9/25/2018	West Sundial Wetlands - Maintenance	Mosaic Ecology	Spot sprayed select areas of sections 10 and 12 for reed canarygrass, pennyroyal, trefoil and clover.
9/27/2018	West Sundial Wetlands - Maintenance	Mosaic Ecology	Spot sprayed section 8, first for reed canarygrass and again for trefoil and clover.
10/1/2018	West Sundial Wetlands - Site Inspection	SW	General site inspection for maintenance needs and wildlife.
10/2/2018	West Sundial Wetlands - Maintenance	Mosaic Ecology	Spot sprayed select sections of areas 1,3 and 5 south of the channel for reed canarygrass, blackberry (mainly in willow area), clover, trefoil, thistle and teasel.
10/4/2018	West Sundial Wetlands - Maintenance	Mosaic Ecology	Spot sprayed select sections of 5,7 and 9. Pennyroyal in pond, reed canarygrass, birdsfoot trefoil, clover, barnyard grass and blackberry in buffers.
10/5/2018	West Sundial Wetlands - Maintenance	Mosaic Ecology	Mowed sections of the north mitigation area to clear areas for planting 1-gallon plants.
10/9/2018	West Sundial Wetlands - Maintenance	Mosaic Ecology	Spot sprayed north buffer of the north mitigation area for reed canarygrass, Canada thistle, and blackberry. Also treated some velvet grass, bull thistle and teasel.
10/10/2018	West Sundial Wetlands - Maintenance	Mosaic Ecology	Spot sprayed the southern buffer of section 13 for blackberry, reed canarygrass, Canada thistle, nightshade, velvet grass, scotch broom, clover and trefoil.
10/15/2018	West Sundial Wetlands - Site Inspection	SW	General site inspection for maintenance and wildlife needs.
10/17/2018 - 11/09/2018	West Sundial Wetlands - Planting	Mosaic Ecology	Delivery, placement and installation of 27,089 potted plants in the north mitigation area. 1,487 Salix sitchensis, 222 Salix fluviatalis, 1,464 Salix scouleriana,8,259 Rosa pisocarpa, 11,932 Spirea douglasii, 1530 Cornus sericea, 195 Physocarpos capitatus, 2,000 Lonicera involucrata (120 installed in south mitigation).

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10/23/2018	West Sundial Wetlands - Site Inspection	SW	General site inspection for maintenance needs and wildlife.
10/29/2018	West Sundial Wetlands - Site Inspection	SW	General site inspection for maintenance needs and wildlife.
11/9/2018	West Sundial Wetlands - Planting	Mosaic Ecology	Installation of 500 twinberry along the buffer of lot 11 and the south buffer near the Archeological site in the south mitigation area.
11/13/2018	West Sundial Wetlands - Site Inspection	SW	General site inspection for maintenance needs and wildlife.
11/21/2018	West Sundial Wetlands - Planting	Mosaic Ecology	North mitigation area "bathtub" and SW pond was seeded with 75lbs of PSS 1,2,3,PFO seed mix. Sloped buffers to the north mitigation was seeded with 18lbs of Deschampsia elongata and Deschampsia cespitosa seed mix. 500 Sparganium eurycarpum planted throughout the north mitigation area.
11/27/2018	West Sundial Wetlands - Site Inspection	SW	General site inspection for maintenance needs and wildlife.
11/28/2018	West Sundial Wetlands - Planting		Open area where Sundial Channel drains into Salmon Creek was planted with 500 Carex obnupta. Open wetlands areas throughout the southern mitigation area including Salmon Creek was seeded with 60lbs of PSS 1,2,3 PFO mix. North mitigation area buffers were seeded with 30lbs of Deschampsia elongata and Deschampsia cespitosa mix. Sloped buffer of Salmon Creek with seeded with 80 lbs. of upland buffer mix.
12/7/2018	West Sundial Wetlands - planting	Mosaic Ecology	Supplemental planting with collected cuttings and plugs.
3/20/2019	Planting (bareroot/gallon)	Mosaic Ecology	Planted 1,000 *Cornus sericea* and 275 *Spirea douglasii* on the eastern side of the south mitigation area.
4/1/2019	Trash removal	Mosaic Ecology	Picked up trash blown in from across the street.
4/24/2019	Spot treatment (backpack)	Mosaic Ecology	Treated *Lotus corniculatus* , *Trifolium pratense, Trifolium repens, Senicio vulgaris, Dipsacus fullonum, Verbascum thapsus, Conium maculatum, Cirsium vulgare* and *Cirsium arvense* in the north mitigation area.
5/2/2019	Spot treatment (backpack)	Mosaic Ecology	Treated *Lotus corniculatus, Trifolium pratense, Trifolium repens, Dipsacus fullonum, Rubus armeniacus, Alopecurus pratensis, Verbascum blattaria, Solanum dulcamara, Dactylis gloerata, Leucanthemum vulgare, Conium maculatum, Lactuca serriola, Daucus carota, Phalaris arundinacea, Tragopogon dubius, Anthoxanthum odoratum, Festuca arundinacea, Arrhenatherum elatius, Tanacetum vulgare, Cirsium vulgare, Cirsium arvense, Linaria vulgaris* and *Holcus lanatus* along upland sloped buffers of Salmon Creek and the archaeological site.
5/6/2019	Spot treatment (backpack)	Mosaic Ecology	Treated *Lotus corniculatus, Trifolium pratense, Trifolium repens, Dipsacus fullonum, Rubus armeniacus, Alopecurus pratensis, Verbascum thapsus, Dactylis glomerata, Lolium perenne, Conium maculatum, Lactuca serriola, Phalaris arundinacea, Anthoxanthum odoratum, Festuca arundinacea, Cirsium vulgare, Cirsium arvense* and *Holcus lanatus* in the north mitigation area.
5/7/2019	Spot treatment (backpack)	Mosaic Ecology	Treated *Lotus corniculatus, Trifolium pratense, Trifolium repens, Senecio vulgaris, Brassica rapa, Dipsacus fullonum, Alopecurus pratensis, Verbascum blattaria, Conium maculatum, Lactuca serriola, Vulpia myuros, Phalaris arundinacea, Sonchus asper, Tanacetum jacobaea, Cirsium vulgare, Cirsium arvense and Holcus lanatus* in the north mitigation area.
5/13/2019	Spot treatment (backpack)	Mosaic Ecology	Treated *Alipecurus pratensis, Lolium perenne, Phalaris arundinacea, Festuca arundinacea and Holcus lanatus* in PEM and PSS areas of the south mitigation area.

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5/22/2019	Spot treatment (backpack)	Mosaic Ecology	Treated *Lotus corniculatus, Trifolium pratense, Trifolium repens, Dipsacus fullonum, Rubus armeniacus, Alopecurus pratensis, Lolium perenne, Lactuca serriola, Phalaris arundinacea, Tanacetum vulgare* and *Holcus lanatus* in the south mitigation area and along Salmon Creek.
5/22/2019	Spot treatment (backpack)	Mosaic Ecology	Treated *Lotus corniculatus, Trifolium pratense, Trifolium repens, Dipsacus fullonum, Rubus armeniacus, Alopecurus pratensis, Phalaris arundinacea, Sonchus asper, Cirsium vulgare* and *Cirsium arvense* in the south mitigation area.
5/23/2019	Spot treatment (backpack)	Mosaic Ecology	Treated *Lotus corniculatus, Trifolium pratense, Trifolium repens, Dipsacus fullonum, Rubus armeniacus, Alopecurus pratensis, Phalaris arundinacea, Sonchus asper, Cirsium vulgare* and *Cirsium arvense* in the south mitigation area.
5/24/2019	Spot treatment (backpack)	Mosaic Ecology	Cut back *Phalaris arundinacea* in the north mitigation area and treated other invasive species in the same area.
6/4/2019	Spot treatment (backpack)	Mosaic Ecology	Treated *Runus armeniacus, Alopecurus pratensis, Mentha pulegium, Lolium perenne, Vulpia myuros, Phalaris arundinacea* and *Holcus lanatus* in the north mitigation area.
7/1/2019	Spot treatment (backpack)	Mosaic Ecology	Treated *Lotus corniculatus, Trifolium pratense, Trifolium repens, Dipsacus fullonum, Solanum dulcamara* and *Cirsium arvense* in the south mitigation area.
7/2/2019	Spot treatment (backpack)	Mosaic Ecology	Treated *Echinochloa crus-galli, Lotus corniculatus, Trifolium pratense, Trifolium repens, Dipsacus follonum, Alopecurus pratensis, Verbascum thapsus, Solanum dulcamara, Mentha pulegium, Lactuca serriola, Phalaris arundinacea, Cirsium vulgare* and *Cirsium arvense* in the south mitigation area.
7/8/2019 and 7/9/2019	ATV broadcast and Spot treatment (backpack)	Mosaic Ecology	ATV broadcast treatment of a section of the north mitigation area and spot treatment of the south mitigation area. Target species in the spot treatment included *Lotus corniculatus, Trifolium pratense, Trifolium repens, Dipsacus fullonum, Cirsium vulgare* and *Cirsium arvense* . Target species of the broadcast treatment included *Lotus corniculatus, Trifolium pratense, Trifolium repens, Senecio vulgaris, Dipsacus fullonum, Alopecurus pratensis, Verbascum thapsus, Conium maculatum, Phaslaris arundinacea, Sonchus asper, Festuca arundinacea, Tanacetum vulgare, Senecio jacobaea, Cirsium vulgare. Cirsium arvense* and *Holcus lanatus* .
7/10/2019	Spot treatment (backpack)	Mosaic Ecology	Treated *Lotus corniculatus, Trifolium pratense, Trifolium repense, Cirsium vulgare* and *Cirsium arvense* along Salmon creek and in the south mitigation area.
7/15/2019	Spot treatment (backpack)	Mosaic Ecology	Treated invasive grass species in the south mitigation area and Salmon Creek. Target species included *Echinochloa crus-galli, Alopecurus pratensis, Lolium perenne, Phalaris arundinacea, Festuca arundinacea* and *Holcus lanatus* .
7/17/2019	Spot treatment (backpack)	Mosaic Ecology	Treated invasive grass species in the south mitigation area and Salmon Creek. Target species included *Echinochloa crus-galli, Alopecurus pratensis, Lolium perenne, Phalaris arundinacea, Festuca arundinacea* and *Holcus lanatus* .
7/18/2019	Spot treatment (backpack)	Mosaic Ecology	Treated invasive grass species throughout the south mitigation area. Target species included *Echinochloa crus-galli, Alopecurus pratensis, Lolium perenne, Festuca arundinacea, Arrhenatherum elatius and Holcus lanatus* . Treated invasive forbs throughout the south mitigation area. Target species included *Lotus corniculatus, Trifolium pratense, Trifolium repens, Dipsacus fullonum, Rubus armeniacus, Verbascum thapsus, Solanum nigrum, Mentha pulegium, Lactuca serriola, Sonchus asper, Circium vulgare, Circium arvense* and *Linaria vulgaris* .

DATE	ACTIVITY	PERFORMED BY	ADDITIONAL COMMENTS
7/19/2019	Spot treatment (backpack)	Mosaic Ecology	Mowed the western buffer to the northern mitigation area, treated invasive species in the north buffer of the south mitigation area and within the northern mitigation area. Species targeted included *Rubus armeniacus, Verbascum thapsus* and *Mentha pulegium* .
7/25/2019	ATV broadcast and Spot treatment (backpack)	Mosaic Ecology	Treated *Rubus armeniacus* and *Mentha pulegium* in the SW area of the site and broadcast (ATV) treated *Trifolium pratense, Trifolium repens, Senecio vulgaris, Daucus carota, Cirsium arvense and Lotus corniculatus* within the north mitigation area. Spot treated *Echinochloa crus-galli, Lotus corniculatus, Trifolium pratense, Trifolium repens, Senecio vulgaris, Dipsacus fullonum, Rubus armeniacus, Alopecurus pratensis, Verbascum thapsus, Solanum nigrum, Dactylis glomerata, Mentha pulegium, Lolium perenne, Lactuca serriola, Phalaris arundinacea, Festuca arundinacea, Cirsium vulgare* and *Cirsium arvense* throughout the north mitigation area.
9/10/2019	Brush cutting	Mosaic Ecology	Cut back *Rubus armeniacus, Verbascum thapsus* and *Cirsium arvense* in the buffer areas of the north mitigation area.
9/18/2019	Brush cutting	Mosaic Ecology	Cut back *Rubus armeniacu* s and *Cirsium arvense* in the buffer areas of the north mitigation.
10/9/2019	Spot treatment (backpack)	Mosaic Ecology	Treated *Lotus corniculatus, Trifolium pratense, Trifolium repens, Senecio vulgaris, Dipsacus fullonum, Solanum nigrum, Conium maculatum, Sonchus asper, Senecio Jacoaea, Cirsium vulgare* and *Cirsium arvense* in the north mitigation area.
10/11/2019	Spot treatment (backpack)	Mosaic Ecology	Treated buffers of the north mitigation area for non-native grasses and *Rubus armeniacus* . Treated *Rubus armeniacus, Mentha pulegium, Lotus corniculatus, Trifolium pratense, Trifolium repens, Senecio vulgaris, Dipsacus follonum, Verbascum thapsus, Verbascum blattaria, Solanum nigrum, Solanum dulcamra, Conium maculatum, Lactuca serriola, Daucus carota, Sonchus asper, Tanacetum vulgare, Cirsium vulgare* and *Cirsium arvense* throughout the north mitigation area.
10/14/2019	Spot treatment (backpack)	Mosaic Ecology	Treated the north mitigation area for *Phalaris arundinacea, Lolium sp, Holcus lanatus* and *Agrostis sp* . Treated the southern buffer of the north mitigation area for *Echinochloa crus-galli, Lotus corniculatus, Trifolium pratense, Trifolium repense, Dipsacus fullonum, Alopecurus pratensis, Verbascum thapsus, Verbascum blattaria, Solanum nigrum, Dactylis glomerata, Lolium perenne, Conium maculatum, Lactuca serriola, Daucus carota, Vulpia myuros, Sonchus asper, Festuca arundinacea, Tanacetum vulgare, Senecio jacobaea, Circium vulgare* and *Cirsium arvense* .
10/23/2019	Spot treatment (backpack)	Mosaic Ecology	Treated *Alopecurus pratensis, Lolium perenne, Phalaris arundinacea, Festuca arundinacea* and *Holcus lanatus* on the east side of the south mitigation area. Treated *Rubus armeniacus* growing on the powerline access road in the south mitigation area.
10/24/2019	Spot treatment (backpack)	Mosaic Ecology	Treated the sloped buffers of the north mitigation area for *Lotus coniculatus, Trifolium pratense, Trifolium repens, Brassica rapa, Dipsacus fullonum, Rubus armeniacus, Alopecurus pratensis, Verbascum thapsus, Berbascum blattaria, Solanum nigrum, Dactylis glomerata, Lolium perenne, Conium maculatum, Lactuca serriola, Phalaris arundinacea, Sonchus asper, Festuca arundinacea, Tanacetum vulgare, Senecio jacobaea, Cirsium vulgare, Cirsium arvense* and *Holcus lanatus* .

DATE	ACTIVITY	PERFORMED BY	ADDITIONAL COMMENTS
10/28/2019	Spot treatment (backpack)	Mosaic Ecology	Treated the north buffer of the south mitigation area and the area between the north and south mitigation areas for *Echinochloa crus-galli, Trifolium pratense, Trifolium repens, Brassica rapa, Dipsacus fullonum, Rubus armeniacus, Alopecurus pratensis, Solanum nigrum, Lolium perenne, Conium maculatum, Vulpia myuros, Phalaris arundinacea, Festuca arundinacea, Tanacetum vulgare, Senecio jacobaea, Cirsium vulgare, Cirsium arvense* and *Holcus lanatus* .
11/6/2019	Spot treatment (backpack)	Mosaic Ecology	Treated tower islands and buffer areas of the north mitigation area for *Lotus corniculatus, Trifolium pratense, Trifolium repens, Senecio vulgaris, Brassica rapa, Dipsacus fullonum, Cardamine hirsuta, Rubus armeniacus, Alopecurus pratensis, Verbascum thapsus, Verbascum blattaria, Solanum nigrum, Dactylis glomerata, Leucanthemum vulgare, Lolium perenne, Conium maculatum, Daucus carota, Vulpia myuros, Phalaris arundinacea, Geranium lucidum, Sonchus asper, Festuca arundinacea, Tanacetum vulgare, Senecio jacobaea, Cirsium vulgare, Cirsium arvense, Linaria vulgaris* and *Holcus lanatus* .
11/21/2019	Planting (bareroot herbaceous)	Mosaic Ecology	2,350 *Carex aperta* in the wetland areas on the west side of the south mitigation area and 450 *Carex aperta* on the east side of the south mitigation area.
1/28/2020	Hand cutting (brush), Weedwack (herbaceous)	Mosaic Ecology	Cut back vegetation in preparation for planting in the south mitigation area.
1/29/2020	Hand cutting (brush)	Mosaic Ecology	Cut back vegetation in preparation for planting in the south mitigation area.
2/19/2020	Planting (bareroot/gallon)	Mosaic Ecology	Planted 150 *Alnus rubra,* 200 *Crataegus douglasii* , 200 *Fraxinus latifolia* , 200 *Populus balsamifera* , 200 *Salix lucida lasiandra* and 150 *Salix scouleriana* in the PFO. Planted 200 *Amelanchier ainifolia* , 800 *Holodiscus discolor* , 500 *Mahonia aquilifolium* , 500 *Mahonia nervosa* , 600 *Ribes sanguineum* and 600 *Symphoricarpos albus* in the shrub buffer. Planted 400 *Cornus sercea* , 600 *Salix fluviatilis* , 300 *Salix hookeriana* , 400 *Salix sitchensis* , 400 *Spirea douglasii* and 200 *Rosa pisocarpa* in the PSS-2 area. Planted 200 *Cornus sercea* , 200 *Lonicera involucrata* and 500 *Spirea douglasii* in the PSS-1 area. Planted 100 *Cornus sercea* , 200 *Lonicera involucrata* , 200 *Spirea douglasii* and 100 *Rosa pisocarpa* in the PSS-3 area.
2/20/2020		Mosaic Ecology	
2/21/2020		Mosaic Ecology	
3/9/2020	Amphibian Egg Mass Survey	SW & CB	Egg masses of Northern Red-legged Frog, Pacific Chorus Frog and Long-toed Salamander observed
3/10/2020		Mosaic Ecology	Planting continued
3/12/2020		Mosaic Ecology	
3/13/2020		Mosaic Ecology	
3/16/2020		Mosaic Ecology	
3/20/2020		Mosaic Ecology	
3/27/2020	Cut and stump treat, Seeding (purchased seed)	Mosaic Ecology	Seeded 100lbs of *Hordeum brachyantherum, Bechmannia syzigachne* and *Deschampsia caespitosa* on tower islands and buffer slopes in the north mitigation area. Cut and stump treated tree saplings growing under powerlines.
5/8/2020	Spot treatment (backpack)	Mosaic Ecology	Treated *Cirsium vulgare* , *C. arvense* , *Dipsacus fullonum* , *Lotus corniculatus* , *Senecio vulgaris* , *Sonchus asper* , *Trifolium pratense* , *T. repens* , *Senecio vulgaris* , *Sonchus asper* , Senecio jacobaea in the north mitigation area.

DATE	ACTIVITY	PERFORMED BY	ADDITIONAL COMMENTS
5/15/2020	Spot treatment (backpack)	Mosaic Ecology	Treated *Alopecurus pratensis, Vulpia myuros, Phalaris arundinacea* and *Holcus lanatus* in the PFO area of the south mitigation area.
5/19/2020	Spot treatment (backpack)	Mosaic Ecology	Treated *Alopecurus pratensis, Phalaris arundinacea* and *Holcus lanatus* in PSS areas of the middle of the south mitigation area (both sides of the channel).
5/26/2020	Spot treatment (backpack)	Mosaic Ecology	Treated *Cirsium vulgare, C. arvense, Lotus corniculatus, Trifolium pratense* , *Trifolium repens* , *Alopecurus pratensis, Lolium perenne, Conium maculatum, Vulpia myuros* , *Phalaris arundinacea* , *Anthoxanthum odoratum* , *Festuca arundinacea* , *Senecio jacobaea* , and *Holcus lanatus* along Salmon Creek.
5/28/2020	Spot treatment (backpack)	Mosaic Ecology	Treated *Dipsacus fullonum* , *Rubus armeniacus* , *Alopecurus pratensis* , *Verbascum thapsus* , *Lolium perenne* , *Vulpia myuros, Phalaris arundinacea* , *Festuca arundinacea* , *Senecio jacobaea* , *Cirsium vulgare* , *Cirsium arvense* and *Holcus lanatus* along Salmon Creek and on the Arch site.
6/1/2020	Spot treatment (backpack)	Mosaic Ecology	Treated *Alopecurus pratensis* , *Lolium perenne* , *Vulpia myuros* , *Phalaris arundinacea* and *Holcus lanatus* in the north mitigation area.
6/3/2020	Spot treatment (backpack)	Mosaic Ecology	Treated *Alopecurus pratensis* , *Phalaris arundinacea* , *Cirsium arvense* and *Holcus lanatus* in the north mitigation area.
6/4/2020	Spot treatment (backpack)	Mosaic Ecology	Treated *Alopecurus pratensis* , *Lolium perenne* , *Vulpia myuros* , *Phalaris arundinacea* , *Cirsium arvense* and *Holcus lanatus* in the north mitigation area.
6/5/2020	Spot treatment (backpack)	Mosaic Ecology	Treated *Alopecurus pratensis* , *Vulpia myuros* , *Phalaris arundinacea* , *Cirsium arvense* and *Holcus lanatus* in the north mitigation area.
6/10/2020	Spot treatment (backpack)	Mosaic Ecology	Treated *Lotus corniculatus* , *Trifolium pratense* , *T. repens* , *Dipsacus fullonum* , *Rubus armeniacus* , *Alopecurus pratensis* , *Verbascum thapsus* , *Mentha pulegium* , *Lolium perenne* , *Conium maculatum* , *Lactuca serriola* , *Vulpia myuros* , *Phalaris arundinacea* , *Cirsium vulgare* , *C. arvense* and *Holcus lanatus* in the north mitigation area.
6/24/2020	Spot treatment (backpack)	Mosaic Ecology	Treated *Lotus corniculatus* , *Trifolium pratense* , *T. repens* , *Rubus armeniacus* , *Alopecurus pratensis* , *Mentha pulegium* , *Lolium perenne* , *Phalaris arundinacea* and *Holcus lanatus* in the north mitigation area.
6/25/2020	Spot treatment (backpack)	Mosaic Ecology	Treated *Alopecurus pratensis* , *Phalaris arundinacea,* and *Holcus lanatus* in the north mitigation area.
7/1/2020	Broadcast treatment (ATV),Spot treatment (backpack)	Mosaic Ecology	Treated *Lotus corniculatus* , *Trifolium pratense* , *T. repens* , *Dipsacus fullonum* , *Alopecurus pratensis* , *Lolium perenne* , *Lactuca serriola* , *Phalaris arundinacea* , *Senecio jacobaea* , *Cirsium vulgare* , *C. arvense* and *Holcus lanatus* in PEM and PSS areas of the entire northern half (north of the channel) of the south mitigation area.
7/2/2020	Broadcast treatment (ATV),Spot treatment (backpack)	Mosaic Ecology	Treated *Lotus corniculatus* , *Trifolium pratense* , *T. repens* , *Senecio vulgaris* , *Dipsacus fullonum* , *Rubus armeniacus* , *Alopecurus pratensis* , *Verbascum thapsus* , *Mentha pulegium* , *Lolium perenne* , *Conium maculatum* , *Lactuca serriola* , *Phalaris arundinacea, Senecio jacobaea* , *Cirsium vulgare* , *Cirsium arvense* , *Holcus lanatus* , *Phytolacca americana* , *Echinochloa crus-galli* , *Convolvulus arvensis* , *Verbascum blattaria* , *Solanum nigrum* , *Solanum dulcamara* , *Dactylis glomerata* , *Lolium perenne* , *Conium maculatum* , *Lactuca serriola* , *Daucus carota* , *Sonchus asper* , *Hypericum perforatum* , *Anthoxanthum odoratum* , *Festuca arundinacea* , *Linaria vulgaris* , *Holcus lanatus* and *Bellardia viscosa* in PEM and PSS areas of the entire northern half (north of the channel) of the south mitigation area.

DATE	ACTIVITY	PERFORMED BY	ADDITIONAL COMMENTS
7/6/2020	Spot treatment (backpack)	Mosaic Ecology	Treated *Lotus corniculatus* , *Trifolium pratense* , *T. repens* , *Dipsacus fullonum* , *Rubus armeniacus* , *Alopecurus pratensis* , *Verbascum thapsus* , *Solanum dulcamara, Lolium perenne* , *Phalaris arundinacea* , *Senecio jacobaea* , *Cirsium vulgare* , *C. arvense* , *Holcus lanatus* , *Echinochloa crus-galli* , *Convolvulus arvensis* , *Conium maculatum* , *Lactuca serriola* , *Vulpia myuros* , *Tragopogon dubius* , *Sonchus asper* , *Hypericum perforatum* , *Anthoxanthum odoratum* , *Festuca arundinacea* , *Linaria vulgaris* , *Holcus lanatus* and *Bellardia viscosa* along Salmon Creek.
7/9/2020	Spot treatment (backpack)	Mosaic Ecology	Treated *Lotus corniculatus* , *Trifolium pratense* , *T. repens* , *Dipsacus fullonum* , *Rubus armeniacus* , *Alopecurus pratensis* , *Verbascum thapsus* , *Solanum dulcamara* , *Mentha pulegium* , *Lolium perenne* , *Lactuca serriola* , *Phalaris arundinacea* , *Sonchus asper* , *Senecio jacobaea, Cirsium vulgare, C. arvense, Holcus lanatus* and *Bellardia viscosa* in PEM, PFO and PSS areas of the entire southern half (south of the channel) of the south mitigation area.
7/10/2020	Broadcast treatment (ATV),Spot treatment (backpack)	Mosaic Ecology	Treated *Lotus corniculatus* , *Trifolium pratense* , *T. repens* , *Dipsacus fullonum* , *Rubus armeniacus* , *Phalaris arundinacea* , *Cirsium vulgare* , *C. arvense* and *Holcus lanatus* along Salmon Creek.
7/24/2020	Spot treatment (backpack)	Mosaic Ecology	Treated *Echinochloa crus-galli* , *Calystegia sepium* , *Lotus corniculatus* , *Trifolium pratense* , *Trifolium repens* , *Dipsacus fullonum* , *Rubus armeniacus* , *Alopecurus pratensis* , *Verbascum thapsus* , *V. blattaria* , *Mentha pulegium* , *Lolium perenne* , *Conium maculatum* , *Lactuca serriola* , *Daucus carota* , *Phalaris arundinacea* , *Sonchus asper* , *Festuca arundinacea* , *Tanacetum vulgare* , *Senecio jacobaea* , *Cirsium vulgare* , *C. arvense* , *Holcus lanatus* and *Bellardia viscosa* in PSS and PEM areas of the mid-south section (south of the channel) of the south mitigation area.
8/12/2020	Mowed	Mosaic Ecology	North mitigation area.
8/14/2020	Hand cutting (brush), Weedwack (herbaceous)	Mosaic Ecology	Brushcut dead weedy material to provide easier access for planting maintenance. Treated *Phytolacca americana* , *Senecio vulgaris* , *Brassica rapa* , *Alopecurus pratensis* , *Verbascum thapsus* , *V. blattaria* , *Lolium perenne* , *Lactuca serriola* , *Sonchus asper* , *Festuca arundinacea* and *Senecio jacobaea* in the north mitigation area.
8/27/2020	Hand cutting (brush), Weedwack (herbaceous)	Mosaic Ecology	Brush cut sections of the north mitigation area.
8/31/2020	Hand cutting (brush)	Mosaic Ecology	Brush cut sections of the north mitigation area.
9/2/2020	Mow, Spot treatment (backpack)	Mosaic Ecology	Treated *Lotus corniculatus* , *Senecio vulgaris* , *Dipsacus fullonum* , *Solanum nigrum* , *Lactuca serriola* , *Sonchus asper* , *Tanacetum vulgare* , *Senecio jacobaea* , *Cirsium vulgare* and *C. arvense* in the north mitigation area.
9/15/2020	Spot treatment (backpack)	Mosaic Ecology	Treated *Dipsacus fullonum* , *Rubus armeniacus* , *Mentha pulegium* , *Sonchus asper* , *Senecio jacobaea* , *Cirsium vulgare* and *C. arvense* in the PSS areas of the NE section of the south mitigation area.
9/21/2020	Spot treatment (backpack)	Mosaic Ecology	Treated *Lotus corniculatus* , *Trifolium pratense* , *T. repens* , *Rubus armeniacus* , *Mentha pulegium* , *Cirsium vulgare* and *C. arvense* in the PSS areas of the NE section of the south mitigation area and along the channel and access road edges.
9/22/2020	Spot treatment (backpack)	Mosaic Ecology	Treated *Lotus corniculatus* , *Trifolium pratense* , *T. repens* , *Rubus armeniacus* , *Mentha pulegium* and *Cirsium arvense* in the north mitigation area.
9/23/2020	Cut and stem treat	Mosaic Ecology	

DATE	ACTIVITY	PERFORMED BY	ADDITIONAL COMMENTS
10/6/2020	Broadcast treatment (ATV),Spot treatment (backpack)	Mosaic Ecology	Treated *Echinochloa crus-galli, Lotus corniculatus, Trifolium pratense, T. repens, Mentha pulegium, Phalaris arundinacea,* and *Cirsium arvense* in PEM and PSS areas of the mid-south (north side of channel) section of the south mitigation area.
10/16/2020	Spot treatment (backpack)	Mosaic Ecology	Treated *Echinochloa crus-galli* , *Calystegia sepium, Lotus corniculatus, Trifolium pratense, T. repens, Dipsacus fullonum, Rubus armeniacus, Alopecurus pratensis, Verbascum thapsus, V. blattaria, Solanum nigrum, Lolium perenne, Phalaris arundinacea, Sonchus asper, Festuca arundinacea, Senecio jacobaea, Cirsium vulgare, C. arvense, Linaria vulgaris* and *Holcus lanatus* in PEM and PSS areas of the mid-south (north side of channel) section of the south mitigation area. Primarily focused on areas of *Alopecurus pratensis* under the powerlines.
12/17/2020	Spot treatment (backpack)	Mosaic Ecology	Cut and stump treated trees growing under the powerlines.
1/13/2021	Cutting collection (willow etc.), Planting (collected cuttings), Seeding (purchased seed)	Mosaic Ecology	Collected 1200 willow cuttings from mature willow forested area. Seeded 65 lbs of HOBR/ELGL under power towers, along upland buffers and area between North and South mitigation areas.
1/21/2021	Planting (collected cuttings)	Mosaic Ecology	Installed 600 willow cuttings in wetland buffers.
2/24/2021	Planting (bareroot/gallon)	Mosaic Ecology	Planted 600 *Symphoricarpos alba* along upland buffer. Planted 300 *Spiraea douglasii* in the wetland buffer.
3/2/2021	Planting (bareroot/gallon)	Mosaic Ecology	Planted buffers on North and South sides of Salmon Creek with 400 *Cornus sericea ssp. sericea* , 400 *Salix hookeriana* , 400 *Salix sitchensis* , 400 *Rosa pisocarpa* , 400 *Salix fluviatilis* , 300 *Amelanchier alnifolia* , 400 *Holodiscus discolo* r, 300 *Mahonia aquilifolium* , 300 *Mahonia nervosa* and 500 *Ribes sanguineum* along the wetland buffer and upland buffers/wetland areas of Salmon Creek.
3/9/2021	Planting (bareroot/gallon)	Mosaic Ecology	Installed 100 *Spiraea douglasii* at the wetland buffers.
3/15/2021	Amphibian Egg Mass Survey	SW & CB	Egg masses of Northern Red-legged Frog, Pacific Chorus Frog and Long-toed Salamander observed
3/15/2021	Planting (collected cuttings) Spot treatment (backpack)	Mosaic Ecology	Made and installed stakes from and around existing willow patch in the NE section of the south mitigation area. Circle sprayed plantings in buffer areas and archeological site.
4/2/2021	Spot treatment (backpack)	Mosaic Ecology	Circle sprayed around plantings in buffer. Treated non-native grasses in higher dry areas. Circle sprayed plantings in all buffer slopes.
4/20/2021	Spot treatment (backpack)	Mosaic Ecology	Treated non-native grasses throughout the north ponds.
5/5/2021	Spot treatment (backpack)	Mosaic Ecology	Treated *Lotus corniculatus* , *Trifolium pratense* , *Trifolium repens* , *Alopecurus pratensis* , *Lactuca serriola* , *Phalaris arundinacea* , *Sonchus asper* , *Cirsium vulgare* and *Cirsium arvense* throughout PEM areas of the south mitigation area.
5/12/2021	Spot treatment (backpack)	Mosaic Ecology	Treated *Holcus lanatus* and *Alopecurus pratensis* in PEM and PSS areas throughout the mid-south mitigation area.
5/18/2021	Spot treatment (backpack)	Mosaic Ecology	Treated *Mentha pulegium, Alopecurus pratensis, Phalaris arundinacea* and *Holcus lanatus* in PEM areas throughout the south mitigation area.
5/28/2021	Spot treatment (backpack)	Mosaic Ecology	Continued to treat non-native grasses: *Alopecurus pratensis* , *Phalaris arundinacea* and *Holcus lanatus* in the north migitation area.
6/7/2021	Spot treatment (backpack)	Mosaic Ecology	Continued to treat non-native grasses: *Alopecurus pratensis* , *Phalaris arundinacea* , *Arrhenatherum elatius* and *Holcus lanatus* in the north migitation area.

DATE	ACTIVITY	PERFORMED BY	ADDITIONAL COMMENTS
6/23/2021	Spot treatment (backpack)	Mosaic Ecology	Treated *Lotus corniculatus* , *Trifolium pratense* , *Trifolium repens* , *Dipsacus fullonum* , *Rubus armeniacus, Alopecurus pratensis* , *Mentha pulegium* , *Lactuca serriola* , *Phalaris arundinacea* , *Sonchus asper* , *Cirsium vulgare* , *Cirsium arvense* and *Holcus lanatus in PSS and PEM areas of the SE section of the south mitigation area* .
6/24/2021	Spot treatment (backpack)	Mosaic Ecology	Treated *Lotus corniculatus* , *Trifolium pratense* , *Trifolium repens* , *Dipsacus fullonum* , *Lactuca serriola* , *Cirsium vulgare* and *Cirsium arvense* in PSS and PEM areas of the SE section of the south mitigation area.
6/30/2021	Spot treatment (backpack)	Mosaic Ecology	Treated *Lotus corniculatus* , *Trifolium pratense* , *Trifolium repens* , *Dipsacus fullonum* and *Mentha pulegium* in PEM and PSS areas of the NE section of the south mitigation area.
7/2/2021	Spot treatment (backpack)	Mosaic Ecology	Treated *Phalaris arundinacea* , *Lotus corniculatus* , *Trifolium pratense* and *Trifolium repens* in PEM and PSS areas of the NE section of the south mitigation area.
7/12/2021	Spot treatment (backpack)	Mosaic Ecology	Spot treatments through all dried ponded areas of the north mitigation - mainly focused on *Rubus armeniacu* s and *Mentha pulegium* . Other species treated included *Dipsacus fullonum* , *Verbascum thapsus* and *Silybum marianum* .
7/13/2021	Spot treatment (backpack)	Mosaic Ecology	Treated *Echinochloa crus-galli* , *Lotus corniculatus* , *Trifolium pratense* , *Trifolium repens* , *Dipsacus fullonum* , *Lactuca serriola* , *Sonchus asper* , *Tanacetum vulgare* , *Senecio jacobaea* , *Cirsium vulgare* and Cirsium arvense in PSS and PEM areas of the NW corner of the south mitigation area.
9/7/2021	Spot treatment (backpack)	Mosaic Ecology	Treated *Phalaris arundinacea* and *Cirsium arvense* throughout the north ponds.
9/8/2021	Spot treatment (backpack)	Mosaic Ecology	Treated *Phalaris arundinacea* and *Cirsium arvense* in the north mitigation area.
9/13/2021	Spot treatment (backpack)	Mosaic Ecology	Treated *Alopecurus pratensis* , *Phalaris arundinacea* and *Holcus lanatus* with grass specific herbicide. Treated *Lotus corniculatus* , *Trifolium pratense* , *Trifolium repens* , *Dipsacus fullonum, Cirsium vulgare* and *Cirsium arvense* . Both within PSS and PEM areas of the NW corner of the south mitigation area.
9/16/2021	Spot treatment (backpack)	Mosaic Ecology	Treated *Rubus armeniacus* , *Alopecurus pratensis* , *Mentha pulegium and Phalaris arundinacea* in PSS and PEM areas of the NW corner and north-middle area of the south mitigation area.
9/17/2021	Spot treatment (backpack)	Mosaic Ecology	Treated *Lotus corniculatus, Trifolium pratense* , *Trifolium repens* , *Dipsacus fullonum* , *Rubus armeniacus* , *Mentha pulegium* , *Conium maculatum* , *Sonchus asper* , *Cirsium vulgare* , *Cirsium arvense* and *Linaria vulgaris* in PSS and PEM areas of the NW corner of the south mitigation area.
9/9/2021	Spot treatment (backpack)	Mosaic Ecology	Treated *Rubus armeniacus, Conium maculatum, Cirsium vulgare* and *Cirsium arvense* along Salmon Creek.
11/22/2021	Planting (collected cuttings)	Mosaic Ecology	Installed 300 cottonwood poles (~5' large live stakes) in the PFO area.
11/23/2021	Planting (collected cuttings)	Mosaic Ecology	Installed 200 cottonwood poles (~5' large live stakes) in the PFO area.
11/30/2021	Planting (collected cuttings) Spot treatment (backpack)	Mosaic Ecology	Planted Salix sitchensis, Salix hookeriana and Spiraea douglasii along the wetland buffer. Treated upland buffers in in the south migitation area in preparation for seeding. Treated species included: *Lotus corniculatus, Trifolium pratense, Trifolium repens, Senecio vulgaris, Rubus armeniacus, Alopecurus pratensis, Lolium perenne, Lactuca serriola* and *Sonchus asper* .

DATE	ACTIVITY	PERFORMED BY	ADDITIONAL COMMENTS
12/1/2021	Planting (collected cuttings) Spot treatment (backpack)	Mosaic Ecology	Planted *Salix sitchensis, Salix hookeriana* and *Spiraea douglasii* along the wetland buffer. Treated upland buffers in in the south migitation area in preparation for seeding. Treated species included: *Lotus corniculatus, Trifolium pratense, Trifolium repens, Senecio vulgaris, Rubus armeniacus, Alopecurus pratensis, Lolium perenne, Lactuca serriola* and *Sonchus asper* .
12/6/2021	Hand cutting (brush) Seeding (purchased seed)	Mosaic Ecology	Brushcut natvie herbaceous vegetation in the wetland buffers in preparation for planting . Seeded 24lbs of native pollinator species in the upland buffers of the entire south mitigation area.
12/7/2021	Hand cutting (brush) Planting (collected cuttings) Seeding (purchased seed)	Mosaic Ecology	Planted Salix sitchensis, Salix hookeriana and Spiraea douglasii along the wetland buffer. Seeded the upland buffers along Salmon Creek with pollinator mix.
12/23/2021	Planting (collected cuttings)	Mosaic Ecology	Planted Hookers willow, sitka willow, red-osier dogwood, spirea, swamp rose along the wetland buffer.
1/5/2022	Planting (collected cuttings)	Mosaic Ecology	Planting (collected cuttings); Salix sp., *Cornus sericea* and *Spiraea douglasii* along the wetland buffer.
1/6/2022	Planting (collected cuttings)	Mosaic Ecology	Planting (collected cuttings),Cutting collection (willow etc.); *Salix sitchensis, Salix hookeriana* and *Spiraea douglasii* along the wetland buffer.
1/12/2022	Planting (collected cuttings)	Mosaic Ecology	Planting (collected cuttings); *Spiraea douglasii, Salix sp., Cornus sericea* along the wetland buffer.
1/13/2022	Planting (collected cuttings)	Mosaic Ecology	Planting (collected cuttings); *Spiraea douglasii, Cornus sericea, Salix sp.* along the wetland buffer.
2/22/2022	Planting (bareroot/gallon)	Mosaic Ecology	Planted 800 *Lonicera involucrata* , 450 *Spiraea douglasii* , 400 *Crataegus gaylussiaca* , 500 *Fraxinus latifolia* , 625 *Rosa pisocarpa* , 1050 *Amelanchier alnifolia* , 300 *Mahonia aquifolium* , 300 *Ribes*
2/25/2022	Planting (bareroot/gallon)	Mosaic Ecology	
3/7/2022	Amphibian Egg Mass Survey	SW & CB	Egg masses of Northern Red-legged Frog, Pacific Chorus Frog and Long-toed Salamander observed
4/1/2022	Spot treatment (backpack)	Mosaic Ecology	Spot treatment of *Phalaris arundinacea* in the PSS areas of the NW corner of the south mitigation area.
5/2/2022	brushcut	Mosaic Ecology	Brushcut large area of *Alopecurus pratensis* to prep for spraying.
5/23/2022	Spot treatment (backpack)	Mosaic Ecology	Spot treatment w/grass-specific herbicide of *Vulpia myuros, Anthoxanthum odoratum, Festuca arundinacea* and *Holcus lanatus* along Salmon Creek.
6/3/2022	Weedwack (herbaceous)	Mosaic Ecology	Weedwacked *Phalaris arundinacea* in the PSS area in the mid-southern area of the south mitigation area in preparation for treatment with a grass specific herbicide.
6/6/2022	Weedwack (herbaceous)	Mosaic Ecology	Weedwacked Phalaris arundinacea in the PSS area in the mid-southern area of the south mitigation area in preparation for treatment with a grass specific herbicide.
6/10/2022	Weedwack (herbaceous)	Mosaic Ecology	Weedwacked *Alopecurus pratensis* and *Holcus lanatus* and hand pulled *Mentha pulegium* in the PEM herbaceous wetland areas under the powerlines.
6/16/2022	Spot treatment (backpack)	Mosaic Ecology	Treated *Alopecurus pratensis, Phalaris arundinacea* and *Holcus lanatus* in the buffers around Salmon Creek.
6/23/2022	Spot treatment (backpack)	Mosaic Ecology	Treated *Alopecurus pratensis* and *Phalaris arundinacea* throughout the PSS areas of the NW section of the south mitigation area.
6/28/2022	Spot treatment (backpack)	Mosaic Ecology	Treated *Alopecurus pratensis, Phalaris arundinacea* and *Holcus lanatus* in the PSS areas of the NE section of the south mitigation area.

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7/1/2022	Spot treatment (backpack)	Mosaic Ecology	Treated *Rubus armeniacus* in the PSS area just west of the Arch site. Treated *Alopecurus pratensis, Phalaris arundinacea* and *Holcus lanatus* in the PSS/PEM areas of the SE section of the south mitigation area.
7/8/2022	Spot treatment (backpack)	Mosaic Ecology	Treated *Lotus corniculatus, Alopecurus pratensis, Phalaris arundinacea* and *Cirsium arvense* in PSS/PEM and PFO areas in the SW section of the south mitigation area.
7/13/2022	Spot treatment (backpack)	Mosaic Ecology	Treated *Phalaris arundinacea* in the PEM/PSS areas of the SE section of the south mitigation area and in the western sections of the north mitigation area.
7/15/2022	Spot treatment (backpack) Weedwack (herbaceous)	Mosaic Ecology	Treated *Phalaris arundinacea* in the PEM (herbaceous wetland) areas under the powerlines in the south mitigation area and in the PEM/PSS areas of the mid-southern areas of the south mitigation area. Treated *Lotus corniculatus, Trifolium pratense, Trifolium repens, Dipsacus fullonum, Alopecurus pratensis, Phalaris arundinacea, Cirsium arvense* and *Holcus lanatus* in PSS/PEM and PFO areas of the entire western half of the south mitigation area.
7/18/2022	Spot treatment (backpack)	Mosaic Ecology	Treated *Lotus corniculatus, Trifolium pratense* and *Trifolium repens* along Salmon Creek.
7/21/2022	Spot treatment (backpack)	Mosaic Ecology	Treated *Lotus corniculatus, Trifolium pratense, Trifolium repens, Dipsacus fullonum* and *Cirsium arvense* in PSS and PEM areas of the entire northern half of the south mitigation area.
7/22/2022	Spot treatment (backpack)	Mosaic Ecology	Treated *Lotus corniculatus, Trifolium pratense* and *Trifolium repens* in the PSS areas of the SE corner of the south mitigation area.
8/4/2022	Spot treatment (backpack)	Mosaic Ecology	Spot treatment of *Lotus corniculatus* , *Trifolium pratense* , *Trifolium repens* , *Dipsacus fullonum* , *Rubus armeniacus* , *Mentha pulegium* , *Sonchus asper* , *Cirsium arvense* and *Cirsium vulgare* .
8/5/2022	Spot treatment (backpack)	Mosaic Ecology	Spot treatment of *Lotus corniculatus* , *Trifolium pratense* , *Trifolium repens* and *Dipsacus fullonum.*
8/11/2022	Spot treatment (backpack)	Mosaic Ecology	Hand cutting (brush) and Spot treatment (backpack) of *Phalaris arundinacea, Alopecurus pratensis* and *Holcus lanatus* .
8/12/2022	Spot treatment (backpack)	Mosaic Ecology	Treated *Lotus corniculatus* , *Rubus armeniacus, Phalaris arundinacea* and *Alopecurus pratensis* PSS-2 and PEM areas in the NE side of the south mitigation area.
8/24/2022	Spot treatment (backpack)	Mosaic Ecology	Treated *Lotus corniculatus, Trifolium pratense and Trifolium repens* in the PSS2 and PEM areas in the NE side of the south mitigation area.
9/1/2022	Mow, Spot treatment (backpack)	Mosaic Ecology	Mowed sections of the north mitigation area. Treated *Lotus corniculatus, Trifolium pratense* and *Trifolium repens* in PSS areas in the NW corner of the south mitigation area.
9/2/2022	Mow, Spot treatment (backpack), Weedwack (herbaceous)	Mosaic Ecology	Mowed PSS areas in preparation for seeding. Weedwacked Phalaris arundinacea within the North mitigation area ponds. Applied grass specific herbicide to non-native grass within upland buffers of the north mitigation. Treated Mentha pulegium in the dried ponded area near the Arch site. Treated Rubus armeniacus throughout the north mitigation area.
9/6/2022	Mow, Spot treatment (backpack), Weedwack (herbaceous	Mosaic Ecology	Mowed PSS areas in preparation for seeding. Weedwacked Phalaris arundinacea within the North mitigation area ponds. Applied grass specific herbicide to non-native grass within upland buffers of the north mitigation. Treated *Mentha pulegium* in the dried ponded area near the Arch site. Treated *Rubus armeniacus* throughout the north mitigation area.
9/14/2022	Weedwack (herbaceous)	Mosaic Ecology	Cut *Holcus lanatus* along the upland sloped buffers in the north mitigation area.

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9/15/2022	Weedwack (herbaceous)	Mosaic Ecology	Cut *Holcus lanatus* along the upland sloped buffer on the SE side of the north mitigation area.
9/19/2022	Spot treatment (backpack)	Mosaic Ecology	Treated *Mentha pulegium* and *Phalaris arundinacea* in the herbaceous wetland habitat.
9/21/2022	Spot treatment (backpack)	Mosaic Ecology	Treated *Lotus corniculatus, Trifolium pratense, Trifolium repens* and *Cirsium arvense* on the north side of Salmon Creek.
9/23/2022	Spot treatment (backpack)	Mosaic Ecology	Treated Lotus *corniculatus, Trifolium pratense, Trifolium repens* and *Cirsium arvense* In the PSS area in the NW corner of the south mitigation area.
9/27/2022	Spot treatment (backpack)	Mosaic Ecology	Treated *Lotus corniculatus* , *Alopecurus pratensis* and *Phalaris arundinacea* in the PSS area in the NE corner of the south mitigation area.
9/28/2022	Stump cut	Mosaic Ecology	Stump cut *Rubus armeniacus* on upland buffer along Salmon Creek.
9/29/2022	Hand removal	Mosaic Ecology	hand pulled *Solanum dulcamara* within Salmon Creek.
9/30/2022	Spot treatment (backpack)	Mosaic Ecology	Treated *Phalaris arundinacea* in the PSS area south of the access road in the south mitigation.
10/18/2022	Spot treatment (backpack)	Mosaic Ecology	Spot treated *Phalaris arundinacea, Alopecurus pratensis* and *Holcus lanatus* in the north mitigation area.
10/20/2022	Spot treatment (backpack)	Mosaic Ecology	Spot treated *Phalaris arundinacea* and *Holcus lanatus* in the north mitigation area.
10/27/2022	Spot treatment (backpack)	Mosaic Ecology	Spot treated *Rubus armeniacus, Senecio jacobaea, Dipsacus fullonum* and *Holcus lanatus* in the north mitigation area
11/2/2022	Cutting collection (willow etc.), Seeding (purchased seed)	Mosaic Ecology	Collected 500 willow stakes from the north mitigation area. 35 pounds of native wetland seed was applied to approximately 5 acres where reed canarygrass was treated and 24 pounds of native forb mix was applied to 3 acres of upland slope buffer in multiple locations. Wetland mix: *Agrostis exarata, Carex densa, Carex obnupta, Carex stipata, Carex unilateralis, Grindelia integrifolia, Hordeum brachyantherum, Juncus ensifolius, Juncus patens* and *Scirpus microcarpus* .
11/8/2022	Spot treatment (backpack)	Mosaic Ecology	Treated *Holcus lanatus* in the upland buffers.
11/11/2022	Cutting collection (willow etc.)	Mosaic Ecology	Collected 1000 willow stakes from the north mitigation area.
11/21/2022	Spot treatment (backpack)	Mosaic Ecology	Treated *Holcus lanatus* in the upland buffers.
11/15/2022	Planting (collected cuttings)	Mosaic Ecology	Installed 1500 willow stakes in wetland buffer areas.
3/1/23 - 3/6/23	Planting (bareroot)	Mosaic Ecology	Planted 1250 *Amelanchier ainifolia* , 1000 *Cornus stolonifera* , 1000 *Holodiscus discolor* , 1250 *Mahonia aquilifolium* , 1250 *Ribes sanguineum* , 3600 *Rosa pisocarpa* , 3600 *Spirea douglasii* , 2500 *Symphoricarpos albus* and 1000 *Lonicera involucrata* in PSS areas in the North and South mitigation and in buffer areas in the North mitigation. Most plants went to the buffers in the North mitigation area.
4/14/2023	Spot treatment (backpack)	Mosaic Ecology	Treated *Phalaris arundinacea* and *Holcus lanatus* in the wetland buffers near the archaeological site.
5/10/2023	Spot treatment (backpack)	Mosaic Ecology	Treated *Phalaris arundinacea* and *Alopecurus pratensis* in the PSS and PEM habitat on south side of the road from western willows, east around the pond in the south mitigation area.
5/18/2023	Spot treatment (backpack)	Mosaic Ecology	Treated *Phalaris arundinacea* on the south side of salmon creek.
5/25/2023	Spot treatment (backpack)	Mosaic Ecology	Treated *Phalaris arundinacea* in the southeast quadrant of the PFO.
6/1/2023	Spot treatment (backpack)	Mosaic Ecology	Treated *Phalaris arundinacea* in PSS and PEM habitat in the SW section of the south mitigation area.

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6/2/2023	Spot treatment (backpack)	Mosaic Ecology	Treated *Phalaris arundinacea, Alopecurus pratensis* and *Holcus lanatus* in the PSS and PEM areas north of the channel and in the buffers of the south mitigation area.
6/23/2023	Spot treatment (backpack)	Mosaic Ecology	Treated *Alopecurus pratensis* and *Holcus lanatus* in PEM areas and planted buffers of the south mitigation area.
8/3/2023	Spot treatment (backpack)	Mosaic Ecology	Treated *Rubus armeniacus, Phalaris arundinacea* and *Lotus corniculatus* along Salmon Creek.
7/3/2023	Spot treatment (backpack)	Mosaic Ecology	Treated Alopecurus pratensis and *Holcus lanatus* in the southern-most pond buffer of the north mitigation area.
7/5/2023	Spot treatment (backpack)	Mosaic Ecology	Treated *Phalaris arundinacea* , *Lotus corniculatus, Alopecurus pratensis, Cirsium arvense* and weedy grass in the north ponds buffers and wetland areas.
7/6/2023	Spot treatment (backpack)	Mosaic Ecology	Treated *Phalaris arundinacea* in the Salmon Creek area and planted in the eastern buffer area of Salmon Creek.
7/7/2023	Spot treatment (backpack)	Mosaic Ecology	Treated *Phalaris arundinacea, Lotus corniculatus* and *Cirsium arvense* in PEM and PSS areas south of the access road in the south mitigation area.
7/10/2023	Spot treatment (backpack)	Mosaic Ecology	Treated *Lotus corniculatus* in the southeast ponds of the north mitigation area.
7/12/2023	Spot treatment (backpack)	Mosaic Ecology	Treated *Lotus corniculatus, Trifolium pratense, Senecio jacobaea, Dipsacus fullonum* and *Cirsium arvense* in PEM, PSS and PFO areas on both sides of the channel within the south mitigation area.
7/13/2023	Spot treatment (backpack)	Mosaic Ecology	Treated *Lotus corniculatus* in PEM and PSS areas throughout the entire south half of the south mitigation (south of the channel).
7/14/2023	Spot treatment (backpack)	Mosaic Ecology	Treated *Rubus armeniacus, Phalaris arundinacea, Alopecurus pratensis, Holcus lanatus* and *Mentha pulegium* throughout the entire north half of the south mitigation (north of the channel).
7/17/2023	Spot treatment (backpack)	Mosaic Ecology	Treated *Rubus armeniacus, Lotus corniculatus, Trifolium pratense* and *Mentha pulegium* in the north side of Salmon Creek and east of the access road toward the north ponds in the north mitigation area.
8/3/2023	Spot treatment (backpack)	Mosaic Ecology	Treated *Rubus armeniacus, Phalaris arundinacea* and *Lotus corniculatus* along the eastern side of Salmon Creek.
10/13/2023	Spot treatment (backpack)	Mosaic Ecology	Treated *Rubus armeniacus, Lotus corniculatus, Trifolium pratense, Dipsacus fullonum, Cirsium arvense* and *Ranunculus repens* in planted buffers and PSS and PEM areas NE section of the south mitigation.
11/3/2023	Spot treatment (backpack)	Mosaic Ecology	Treated *Rubus armeniacus, Phalaris arundinacea, Lotus corniculatus, Alopecurus pratensis, Convolvulus arvensis, Trifolium pratense, Cirsium arvense, Holcus lanatus* and *Ranunculus repens* throughout the PEM powerline corridor.
11/15/2023	Planting (herbaceous bareroot and plugs)	Mosaic Ecology	Planted 1600 *Carex densa* , 4000 *Carex obnupta* , 250 *Carex pachystachya* , 1100 *Carex stipata* , 400 *Carex unilateralis* and 250 *Carex utriculata* throughout the PEM habitat in the south mitigation area.
2/22/24, 2/23/2024	Planting (bareroot)	Mosaic Ecology	Planted 1,000 *Holodiscus discolor* , 2,000 *Symphoricarpos albus* (upland buffers) and 2,000 *Rosa nutkana* , 2,000 *Rosa pisocarpa* and 3,000 *Spirea douglasii* (PSS).
3/13/2024	Amphibian Egg Mass Survey	SW & CB	Egg masses of Northern Red-legged Frog and Pacific Chorus Frogobserved
7/2/2024	Spot treatment (backpack)	Mosaic Ecology	Treated *Phalaris arundinacea* north of channel and along the access road in the south mitigation area.

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7/3/2024	Spot treatment (backpack)	Mosaic Ecology	Treated *Rubus armeniacus, Lotus corniculatus, Cirsium arvense* and *Mentha pulegium* in the herbaceous wetland area under the powerlines.
7/9/2024	Spot treatment (backpack)	Mosaic Ecology	Treated *Lotus corniculatus, Trifolium pratense, Dipsacus fullonum, Senecio jacobaea* and *Cirsium arvense* in the NE quadrant of the south mitigation area.
7/12/2024	Spot treatment (backpack)	Mosaic Ecology	Treated *Lotus corniculatus, Senecio jacobaea, Dipsacus fullonum* and *Cirsium arvense* along the north side of Salmon Creek.
7/15/2024	Spot treatment (backpack)	Mosaic Ecology	Treated *Rubus armeniacus, Lotus corniculatus, Trifolium pratense, Dipsacus fullonum* and *Cirsium arvense* along the south side of Salmon Creek.
7/16/2024	Spot treatment (backpack)	Mosaic Ecology	Treated *Phalaris arundinacea* and *Rubus armeniacus* along Salmon Creek.
7/18/2024	Spot treatment (backpack)	Mosaic Ecology	Treated *Lythrum salicaria, Rubus armeniacus, Phalaris arundinacea, Dipsacus fullonum, Senecio jacobaea, Cirsium arvense* and *Mentha pulegium* throughout the entire site.
8/12/2024	Spot treatment (backpack)	Mosaic Ecology	Treated scotch broom in the SE area of the the south mitigation site.
9/23/2024	Brushcut invasive grasses	Mosaic Ecology	Cut all herbaceous vegetation to make velvet grass treatments easier in the center of the south mitigation area just north of the channel for regrowth and treatments before fall. Target: Velvet grass.
10/17/2024	Brushcut invasive grasses	Mosaic Ecology	Cut large areas of reed canary grass for future treatments in the PFO area of the south mitigation. Target: Reed canary grass.
12/5/2024	Brushcut invasive grasses	Mosaic Ecology	Brushcut areas for easier grass treatments in the fall south of the channel in the center of the south mitigation area. Target: Grasses (mainly RCG).
1/13/2025	Planting (shrubs)	Mosaic Ecology	Planted 100 *Salix hookeriana* , 100 *Spirea douglasii* and 100 *Cornus sericea* in wetland buffer area west of the Arch site. Installed pots in gaps, 2x2.
1/13/2025	Planting (shrubs)	Mosaic Ecology	Planted 175 *Salix hookeriana* , 175 *Spirea douglasii* and 150 *Cornus sercea* in wetland buffer east of the Arch site. Focused plantings on bare areas.
1/13/2025	Planting (herbaceous bareroot and plugs)	Mosaic Ecology	Planted bareroot herbaceous (sedges and rushes) species. Planted 100 *Juncus patens* , *100 Juncus tenuis* , 100 *Juncus effusus* , 100 *Carex stipata* , 200 *Carex densa* and 300 *Carex obnupta* in PEM area of the south mitigation (under the powerlines, north of the channel).
1/13/2025	Planting (herbaceous bareroot and plugs)	Mosaic Ecology	Planted 100 *Eriophyllum lanatum* in the upland buffer (east edge of south mitigation).
1/14/2025	Planting (shrubs)	Mosaic Ecology	Planted 75 *Salix hookeriana* , 75 *Spirea douglasii* and 50 *Cornus sercea* in upland buffer area north of Salmon Creek.
3/18/2025	Amphibian Egg Mass Survey	SW & CB	Amphibian egg mass survey by Port Natural Resources staff
4/11/2025	Spot treatment (backpack)	Mosaic Ecology	Sprayed north and east buffers of the south mitigation area with Transline and Vastlan. Treated thistle, teasel, birdsfoot trefoil and blackberry.
4/11/2025	Spot treatment (backpack)	Mosaic Ecology	Spot sprayed eastern buffer of the south mitigation area with Transline and Vastlan. Treated thistle, teasel, birdsfoot trefoil and blackberry.
4/11/2025	Spot treatment (backpack)	Mosaic Ecology	Treated reed canary grass and meadow foxtail (where flowering) in PEM area that were planted in 2024.
4/14/2025	Spot treatment (backpack)	Mosaic Ecology	Spot sprayed through PFO areas with Aquaneat in the south mitigation area. Treated reed canary grass.
4/24/2025	Brushcut invasive grasses	Mosaic Ecology	Brush cut reed canary grass in PFO area before treating.
4/24/2025	Spot treatment (backpack)	Mosaic Ecology	Sprayed reed canary grass through areas around the pond south of the channel across from the Arch site.

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4/24/2025	Spot treatment (backpack)	Mosaic Ecology	Spot sprayed invasive species throughout PFO area.
4/25/2025	Spot treatment (backpack)	Mosaic Ecology	Spot sprayed reed canary grass with Aquaneat just east of the center pond (south of the channel) in the south mitigation area.
5/16/2025	Spot treatment (backpack)	Mosaic Ecology	Spot sprayed with Aquaneat (for grasses) and Transline. Treated reed canary grass, meadow foxtail, birdsfoot trefoil and clover.
5/20/2025	Brushcut invasive grasses	Mosaic Ecology	Brush cut large area of meadow foxtail for future treatment in the SE corner of the southern mitigation site.
6/3/2025	Spot treatment (backpack)	Mosaic Ecology	Sprayed grasses with Aquaneat just east of the center pond (south of the channel) in the south mitigation area.Treated reed canary grass, meadow foxtail and velvet grass.
6/4/2025	Spot treatment (backpack)	Mosaic Ecology	Spot sprayed grasses with Aquaneat just east of the center pond (south of the channel) in the south mitigation area. Treated reed canary grass and meadow foxtail.
6/9/2025	Spot treatment (backpack)	Mosaic Ecology	Spot sprayed for grasses with Aquaneat in the PEM area that was planted in 2024 under the powerlines. Treated reed canary grass, meadow foxtail and velvet grass.
6/10/2025	Spot treatment (backpack)	Mosaic Ecology	Sprayed for grasses, trefoil and blackberry throughout, focused on penny royal around the pond adjacent to the Arch site. Treated blackberry, penny royal, trefoil and reed canary grass.
6/12/2025	Handpulled nightshade	Mosaic Ecology	Spent about 2.5 hours handpulling nightshade out of the channel and off vegetation in the channel.
6/13/2025	Vegetation Monitoring	Mosaic Ecology	Wolf Water Resources biologists and Port of Portland Senior Ecologist completed Year 7 Vegetation monitoring.
6/17/2025	Agency Site Tour	Mosaic Ecology	Port Natural Resources staff hosted a site tour for the USACE. Attendees included Trey Fraley and Michael Neal.
7/30/2025	Spot treatment (backpack)	Mosaic Ecology	Spot sprayed reed canary grass, blackberry and trefoil throughout entire NE corner of the south mitigation site.
7/30/2025	Spot treatment (backpack)	Mosaic Ecology	Treated reed canary grass, blackberry and Trefoil in PEM area that was planted in 2024.
7/30/2025	Spot treatment (backpack)	Mosaic Ecology	Spot sprayed reed canary grass along the channel (east side), this needs to be done again in the fall.
8/18/2025	Spot treatment (backpack)	Mosaic Ecology	Sprayed reed canary grass within the channel and Salmon creek.
9/2/2025	Spot treatment (backpack)	Mosaic Ecology	Spot sprayed reed canary grass, meadow foxtail, thistle, and blackberry throughout the NW corner of the south mitigation site.
9/3/2025	Spot treatment (backpack)	Mosaic Ecology	Spot sprayed reed canary grass and other weedy grasses around the pond and east of the archeological site and south of salmon creek in the projected planting area.
9/8/2025	Spot treatment (backpack)	Mosaic Ecology	Finished herbicide application in the NW quadrant west of the archeological site
10/15/2025	Spot treatment (backpack)	Mosaic Ecology	Herbicide application of weedy grasses to prep for planting in the new plantings polygon.
11/19/2025	Handcut tree and willows below powerlines; collected live cuttings	Mosaic Ecology	Cut all tree and willow species that will grow >10 feet beneath the power lines. There are a handful of willows that are not close enough to cut down but may grow within the guidelines that we chose not to cut down. They were perfect candidates to collect willow material and plant them along the buffers.
11/25/2025	Planting (herbaceous bareroot and plugs)	Mosaic Ecology	Planted bareroot herbaceous species in an area of reed canarygrass management south of Sundial Channel within the powerline corridor. Planted 2*000 Juncus tenuis* , 1000 *Carex densa,* 2000 *Carex obnupta, and 1000 Camassia leichtlinii* .

DATE	ACTIVITY	PERFORMED BY	ADDITIONAL COMMENTS
11/25/2025	Seeding	Mosaic Ecology	Seeded native species in an area of reed canarygrass management south of Sundial Channel within the powerline corridor. Species included: *Agrostis exarata, Deschampsia cespitosa, Deschampsia elongata, Eleocharis palustris* , and *Hordeum brachyantherum* .