

**To:** Lisa Estrin, Multnomah County Land Use and Planning Division

**From:** Charles Ciecko C'ko

**Date:** June 28, 2023

**Subject:** Testimony in opposition to T-3-2022-16220 Portland Water Bureau

My name is Charles Ciecko. My address is 3630 SE Hosner Ter., Gresham, Or.97080.

I have lived in rural east Multnomah County for 48 years. My 34 year career was in parks and natural resource management. My experience includes: Regional Park Supervisor at Oxbow Regional Park; Director, Multnomah County Park Services Division; Director, Metro Regional Parks and Greenspaces Department; Director, North Clackamas Park and Recreation District. I'm currently serving my third term as a member of the Board of Directors for Rural Fire Protection District 10 (RFPD10)

Having raised a family here along with my work and volunteer experience provides a unique perspective regarding the PWB's proposal to construct and operate an industrial scale water filtration plant and associated raw and finished water pipelines in this rural community.

## INTRODUCTION

It's a noteworthy coincidence that 2023 marks the 50th anniversary of Senate Bill 100, the landmark legislation that provided the foundation of Oregon's Land Use System. As noted by historian Carl Abbott, "The initial impulse for state land-use legislation came from the farms rather than the cities." Then Governor Tom McCall led the call to action when he proclaimed:

"There is a shameless threat to our environment and to the whole quality of life . . . the unfettered despoiling of the land. Sagebrush subdivisions, coastal condomania, and the ravenous rampage of suburbia in the Willamette Valley all threaten to mock Oregon's status as the environmental model for the nation. We are in dire need of a state land use policy, new subdivision laws, and new standards for planning and zoning by cities and counties. The interest of Oregon for today and in the future must be protected from the grasping wastrels of the land."

Much of the leadership for crafting our pioneering land use laws is credited to Hector MacPherson, a dairy farmer. Oregon's land use laws have been challenged 3 separate times at the ballot box. Each effort was handily defeated. And yet, efforts continue today to chip away the bedrock foundation first established in 1973. However, it's not citizen initiatives this time, it's our own government. Our legislators just gave the Governor the ability to take prime farm

land out of production to build micro-chip factories. There's growing momentum for expedited additions to UGBs for affordable housing development, and then....

There's this proposal from the Portland Water Bureau (PWB) to **take high value farmland out of production** for the construction of an industrial water filtration plant despite the fact that the **PWB owns sufficient land they found suitable for this plant inside the Urban Growth Boundary**. In their own words, **this application is before you now only because the land use and environmental regulations in the City were too onerous, and the likelihood of citizen push back would create “additional monetary costs, approval delays and political scrutiny for the project and for PWB.”**

Well over \$100 million of rate payer funds had already been spent on this misdirected effort even before submitting a land use application to Multnomah County. A general contractor and construction manager have been retained, sub-contractors are being selected, building materials secured, land taken by eminent domain and they claim construction will begin in the fall of this year.

Is the PWB unbelievably arrogant or do they know something that those of us who oppose this incredible intrusion on our rural community don't?

We are looking to you to undertake your evaluation of the evidence with a commitment to objectivity and the unambiguous provisions of Multnomah County's Zoning Code and Comprehensive Land Use Plan as they relate to the West of the Sandy River Rural Plan.

#### I. “§ 39.7015 CONDITIONAL USE APPROVAL CRITERIA.

(A) A Conditional Use shall be governed by the approval criteria listed in the base zone under which the conditional use is allowed. If no such criteria are provided, the approval criteria listed in this section shall apply. In approving a Conditional Use listed in this section, the approval authority shall find that the proposal:

- (1) Is consistent with the character of the area;
- (2) Will not adversely affect natural resources;
- (3) The use will not:
  - (a) Force a significant change in accepted farm or forest practices on surrounding lands devoted to farm or forest use; nor
  - (b) Significantly increase the cost of accepted farm or forest practices on surrounding lands devoted to farm or forest use.
- (4) Will not require public services other than those existing or programmed for the area;

- (5) Will be located outside a big game winter habitat area as defined by the Oregon Department of Fish and Wildlife or that agency has certified that the impacts will be acceptable;
- (6) Will not create hazardous conditions; and
- (7) Will satisfy the applicable policies of the Comprehensive Plan.
- (8) For uses in the West of Sandy River Planning Area, the use is limited in type and scale to primarily serve the needs of the rural area.”

This testimony will focus on 3 of the criteria noted above.

**1. “Is consistent with the character of the area.”**

In reviewing the PWB's Conditional Use Narrative regarding “character of the area”, the first thing that strikes me (or anyone that is actually familiar with the area) is the area selected by the Applicant to study. The boundaries were clearly “gerrymandered” with the sole intent of capturing several large warehouses associated with agricultural activities. Agriculture is a primary use that is allowed outright in all zones in rural east county. In fact, agricultural activities and high quality farm land, both large and small, are the foundation of our robust rural economy. The applicant claims that because their proposed massive filtration plant might be designed to somewhat resemble an agricultural warehouse, it is consistent with the character of the area. It is not. Neither is the permanent loss of 100 acres of prime farmland.

It is noteworthy what was intentionally not included in the selected study area....

Our most prominent natural feature, the Sandy River, is a treasure that's been recognized nationally by its designation as a “wild and scenic” river and the State of Oregon as a Scenic Waterway owing to its outstandingly remarkable fish, wildlife and recreational values. Few, (if any) places in such close proximity to a large urban area support the full range of native wildlife including elk, bear, bobcat, and cougar, along with hundreds of bird species, and listed salmon/ steelhead stocks. Each year hundreds of thousands of visitors seek out the Sandy River to fish, boat, bike, hike, and camp while taking a break from busy urban lives.

However, nature doesn't stop at edge of the Sandy River Gorge. Its presence is evident throughout our entire rural community. Whether it's a coyote stalking a vole in a pasture; a Red Tail Hawk circling above; a chorus of frogs near a wetland or a raucous flock of Canada Geese landing in a lush cover crop, nature

is part of the fabric of everyday life here yet conspicuously absent from Applicant's narratives.

Small and large woodlands are prevalent throughout the area as well as the headwaters of both Johnson and Beaver Creeks. Both of these streams provide habitat for listed salmonids. Their riparian corridors provide important habitat for numerous species of mammals, birds, reptiles, amphibians and insects. Both of these streams have seen significant public investments in restoration and land acquisition and the future health of both streams depends on protecting headwater areas. Applicant has either ignored these features or glossed over them.

Our community is fortunate to have quiet nights. We value the experience of hearing the calls of a variety of owls, the howl of coyotes or the sound of white water rising from the Sandy River Gorge. The Applicant tells us that all we will hear is sound equivalent to a diesel tractor, the same as regularly used in the commercial nurseries. But they fail to address the sound of “back-up alarms”; the metallic clatter of large valves, chemical feed equipment, the hum of large electrical components and the thousands of chemical deliveries and loads of sludge to be hauled away on a daily basis. Unlike the occasional noise associated with agriculture, Applicant's noise will go on 24/7/365 days a year.

Our community is fortunate to have dark skies. We value the experience of witnessing comets, shooting stars, and lunar eclipses. Applicant's assessment is based on a daytime drive-by of some properties that assumes photographed fixtures are on at night, and not equipped with low watt or yellow bulbs. Applicant also relies on a distorted aerial photograph that provides no useful detail or context. Realistically, an enormous industrial development that will operate 24/7 will require sufficient light for operations and security purposes. The best mitigation measures will not prevent negative impacts to our rural night skies.

“Character” is defined as: “a set of qualities that make a place or thing different from other places or things”. Neither the Applicant or their many consultants live here or know the character of this area from anything more than a “drive-by” or aerial photographs. Applicant's slick narratives are merely an attempt to homogenize this rural community's character in an obvious effort to make their proposed industrial development seem like it is a perfect fit. Applicant fails miserably. **This criterion is not met.**



## 2. “Will not adversely affect natural resources”

### Air Quality

Construction of Applicant’s proposed plant and pipelines are anticipated to take 5 years or longer to complete. The Applicant’s own Construction Traffic Impact Analysis (CTIA) estimates that 308,000 heavy truck trips will be required to haul in all the building materials and haul away upwards of 2,000,000 cu.yds. of excavation spoils. Applicant also estimates some 700,000+ “work force” trips to the site. Add to this traffic, the many thousands of hours of heavy equipment operation that will be required for site grading, excavation, tunneling and pipeline trenches and the impact on air quality is significant. Not surprisingly, this issue is not addressed anywhere in the 3,000+ pages submitted to date by the Applicant.

Applying average emissions data (2008) and average miles per gallon of diesel fuel from the EPA to the Applicant’s estimate of 308,000 heavy truck trips with each trip consisting of an average of 10 miles within this rural community (5 miles in and 5 miles out) results in the following emissions estimate:

<u>POLLUTANT</u>	<u>CLASS 8A TRUCK</u>	<u>CLASS 8B TRUCK</u>
VOC	3,021 lbs.	3,621 lbs.
CO	15,908 lbs.	21,462 lbs.
NOx	61,055 lbs.	73,005 lbs.
PM 2.5	1,428 lbs.	1,582 lbs.
PM 10	1,547 lbs.	1,719 lbs.
CO2*	52.36 metric tons	52.36 metric tons

\*Environmental Defense Fund, “The Green Freight Handbook”, pg. 13

It’s important to underscore that **these numbers only address a fraction of the actual emissions** that the construction of the proposed project will be

responsible for. Not included are the emissions from the heavy truck trips, all of which originate **outside** of this rural community, or any of the emissions from the hundreds of thousands work force trips, or the thousands of hours of emissions resulting from the operation of non-road heavy equipment.

Not only are emissions from the combustion of fossil fuels a primary contributing factor to the accelerating and unchecked pace of climate change, diesel emissions, in particular, pose a serious risk to public health.

“The World Health Organization (WHO) classifies diesel exhaust as carcinogenic to humans, and ample research demonstrates that its components, which include PM 2.5 and NOx, a ground-level ozone precursor, are **harmful for human health even at low concentrations and through short-term exposures.**”\*

Source: Diesel Engines and Public Health; published 7/15/2005; updated 2/11/2022

In a July 9, 2020 memorandum to the Oregon Environmental Quality Commission, DEQ director Richard Whitman states:

“...exposure to diesel engine exhaust is associated with a variety of effects, including:

- Increased risk of certain cancers, including lung and bladder cancers.
- Cardiovascular effects including an increased risk of heart attacks.
- Pulmonary effects, such as upper respiratory system irritation and decreased lung functions.
- Neurodevelopmental effects including decreased cognitive function and decreased birthweight.”

The July 9, 2020 memorandum further states:

“A 2005 analysis conducted by the Clean Air Task Force, a research and advocacy organization, used EPA emissions data to estimate that diesel emissions result in the following annual impacts in Oregon:

Adults:

176 Premature Deaths  
145 Non-Fatal Heart Attacks  
25,910 Work Loss Days  
151,520 Minor Restricted Activity Days

## Children:

119 Asthma Emergency Department Visits  
250 Acute Bronchitis  
3,203 Lower Respiratory Symptoms  
2,449 Upper Respiratory Symptoms  
5,376 Asthma Exacerbation”

The memorandum goes on to note that in Oregon (2017) Non-Road Equipment and On-road Heavy-Duty Vehicles accounted for 80% of all PM 2.5 emissions and: “While heavy-duty trucks and buses, which typically are fueled by diesel, **only account for four percent of vehicles on the road** nationally, **they are responsible for nearly 25 percent of total transportation sector greenhouse gas emissions nationally, and 23 percent in Oregon.** Emissions from trucks are one of the fastest growing sources of greenhouse gas emissions....”

If the proposed plant is permitted, there will be an estimated 50,000 gallons of diesel stored on site to power several large generators in case of emergency. Diesel has a storage life of 6-12 months so it is expected that the diesel generators will be run on regular basis to prevent fuel degradation. In fact, Applicants own Project Definition Report, October, 2020, suggests that the filtration plant generators be considered for PGE’s Dispatchable Standby Generation Program (see page 305). Emissions from these diesel generators in combination with diesel emissions from over 1,000 chemical deliveries and removal of hundreds of loads of sludge every year supports a conclusion that air quality impacts will be a significant and ongoing contributor to climate change and a public health risk for residents, agricultural workers, pedestrians and bicyclists in this rural community.

## Wildlife

Applicant CU Narrative Pipelines (see Exhibit A.8; 2.A pg.23) states: “The natural resources protected by MCC 39.5500-5860 are identified as areas of Significant Environmental Concern (SEC) and protections are implemented by applicable SEC overlay zones.” Applicant Narrative exclusively addresses areas subject to an SEC overlay and concludes: “Thus, the project will not adversely affect natural resources.....”

This is a false narrative. The Conditional Use Approval criterion makes no such distinction for natural resources. It does not exclude natural resources outside of SEC overlay zones. MCC39.705 (A)(2) states: “**will not adversely affect natural resources.**” The criterion is clearly and unequivocally stated. As

detailed below, the installation of the Raw and Finished Water Pipelines will have undeniable adverse impacts on natural resources as explained below.

- A. Finished Water Pipelines are proposed to be located in the Right Of Way (ROW) of Dodge Park Blvd. for a distance of .87 mile. Section 2.A Pipelines- Conditional Use Application Narrative page 12 states: "Road side vegetation includes grasses, blackberry brambles with shrubs and trees along the edges of the ROW in some sections."

Nowhere in the narrative does the Applicant address the fact that their proposed project will eliminate 324 coniferous and deciduous trees.

See Exhibit A. 214, Appendix A.2; A. Site Plans (pipelines)  
Sheet LU 102- Existing Conditions (Dodge Pk Blvd going east from Cottrell Rd to pipeline project boundary....all in ROW)  
48 surveyed conifers on the north-side of the pavement  
165 surveyed deciduous on the south-side of the pavement  
10 surveyed conifers on the south-side of the pavement

Sheet LU 102 and Sheet 103- Existing Conditions (Dodge Pk Blvd going west from Cottrell Rd. to pipeline project boundary....all in ROW)  
40 surveyed conifers  
61 surveyed deciduous

"Proposed Conditions" are shown on LU-201 and LU-202. These drawings show all the trees noted above eliminated and replaced with "roadside seeding"  
**That's 324 trees eliminated as well as an undetermined number of shrubs.**

As shown below a diverse list of tree and shrub species currently occupy the area to be impacted:

CIECKO TREE AND SHRUB FIELD SURVEY  
SOUTH SIDE OF DODGE PARK BLVD.  
COTTRELL RD TO EKSTROM NURSERY EASEMENT AREA  
(APPROX. .6MI.)  
MAY 6, 2023  
3:00pm

DOUGLAS FIR  
WESTERN RED CEDAR  
BIG LEAF MAPLE  
HOLLY

BITTER CHERRY  
HAWTHORN  
2 PINUS SP.  
ELDER BERRY  
OCEAN SPRAY  
CASCARA  
EASTERN RED CEDAR (HEDGE)  
CALIFORNIA HAZEL  
MOCK ORANGE  
PACIFIC SNOW BERRY  
OREGON ASH

Although this ROW may not constitute an “anchor habitat”, this type of habitat (commonly referred as a “hedgerow”) is, nonetheless, important for the following reasons:

- provides habitat for a variety of avian species for cover, foraging and nesting.
- provides travel corridors for variety of avian and small mammal species.
- provides habitat for many native species of pollinators.

Regarding Pollinators, Mace Vaughan, Xerces Society writes:

“ More than 75 percent of plant species require insects to successfully move pollen between plants. The non-native European honey bee (*Apis mellifera*) is the most well-known insect pollinator, yet North America is home to more than 4,000 species of native bees, along with countless other pollinators such as butterflies, various beetles, flies, solitary wasps, hummingbirds, and other animals. Of these species, bees are considered among the most important to temperate North American terrestrial ecosystems. Pollinators are essential to our environment and economy. The ecological service that pollinators provide is necessary for the reproduction of nearly 75 percent of the world’s flowering plants. Fruits and seeds that are derived from insect pollination are a major part of the diet of approximately 25 percent of birds and mammals, from red-backed voles to bears. In addition, insect pollinators are direct food for other wildlife species; for example, more than 90 percent of bird species require insects as a primary food source during at least one stage of their life.” And, “Located at the north end of the Willamette Valley and the south end of Puget Trough, the greater Portland-Vancouver region is home to at least 250 native bee species.”

source: The Intertwine Biological Diversity Guide, pg.114

The Multnomah County Comprehensive Plan (Chapter 12; Policy 16, Strategy C) recognizes the importance of “hedgerows” by stating:



“c) **Review internal protocols related to road and right-of-way maintenance, including roadside hedgerow trimming and weed eradication.** Work with the Soil & Water Conservation Districts, ODFW and wildlife conservation organizations to protect wildlife and manage invasive plant species to ensure that habitat and water resource restoration projects are coordinated with County road maintenance and drainage control programs.”

In addition to their significant value to wildlife, hedgerows sequester CO<sub>2</sub>, provide shade that helps attenuate excessive heat episodes, and absorbs, filters and slows storm runoff.

Hedgerows are an important natural resource that Applicant has failed to even mention and undeniably fails to protect.

B. See Exhibit A 214, Appendix A.2; A. Site Plans (pipelines). Sheet LU100 (existing conditions raw water pipelines) shows 7 surveyed coniferous and 38 surveyed deciduous trees. Sheet LU200 (proposed conditions raw water pipelines) shows 3 of the surveyed conifers and 21 of the surveyed deciduous trees will be eliminated. **That’s an additional 24 trees eliminated.**

C. Reference is made to Exhibit A.67, G1, Raw Water Pipeline Wildlife Conservation Plan.

This document purports to provide evidence that the proposed raw water pipeline project protects wildlife. However, it does not address potential impacts to wildlife at all. Instead, the “Wildlife Conservation Plan” focuses solely on the premise that boring massive tunnels under an SEC-h zone provides adequate proof that the actual wildlife that utilizes the habitat is protected. There is no evidence to support this premise.

It is noteworthy that the “Wildlife Conservation Plan”(the plan) is based on aerial photo interpretation and **one site visit** conducted on October 19, 2020 where the “study area included portal location, construction access and staging locations and existing cleared areas.” Apparently, applicant saw no value in actually physically inspecting the SEC-h area along the proposed tunnel route beyond the proposed tunnel portal site.

Conspicuously absent from “the plan” are:

- any semblance of an inventory to document which wildlife species (e.g. mammals, birds, amphibians etc.) likely utilize the habitat either year round or seasonally.
- an evaluation of potential impacts on wildlife related to extended exposure to significant construction noise from heavy trucks, tunneling equipment, pipe installation etc.\*
- an evaluation of impacts to wildlife from extended exposure to harmful diesel emissions.
- an evaluation of the impacts to wildlife from extended exposure to ground vibrations related to tunneling equipment or potential blasting.
- any discussion of the value of the the “cleared areas” (i.e. “edge habitat”) described in “the plan” as “...degraded and consist of disturbed vegetation (e.g. pasture grasses) with no trees.”\*\*

\* significant research documents impacts to avian species from exposure to construction noise. Impacts include but are not necessarily limited to: “.... changes in foraging location and behavior; interference with acoustic communicate between conspecifics; failure to recognize other important biological signals, such as sounds of predators and/or prey; decreasing hearing sensitivity temporarily or permanently; and/or increasing stress and altering steroid hormone levels. Any of these effects could have long-term consequences and enduring impacts that include interference with breeding by individuals and populations, thereby threatening the survival of individuals or species.”(Caltrans, 2016)

\*\*the value of edge habitat in proximity to forested areas is well established and generally contributes to diversity of both mammal and avian species.

In reference to the SEC-h area, the “plan” states: “The wildlife functions provided by the forest are moderate in quality.” By contrast, “The Intertwine Biological Diversity Guide for the Greater Portland-Vancouver Region” (2012) describes the Sandy River and the area where the raw water pipelines are proposed as “high-value lands in the greater Portland-Vancouver region” due to their “type, location and size of their habitat. In short, **these areas represent regional priority lands within our nearly 3,000 square-mile region.**” See pg.174 of the Biological Diversity Guide for a map showing the “Top 30% of High-Value Habitat” which includes the Sandy River and areas to be impacted by the proposed raw water pipeline project.

A literature review in conjunction with personal observations over the course of nearly 5 decades show that the project area and surrounding habitat support a considerable list of mammals, birds and amphibians worthy of full analysis of all potential impacts.

The Oregon Conservation Strategy (2016, Oregon Dept. of Fish and Wildlife) maps below document “crucial habitat” for mammals, birds, amphibians and

federally listed threatened and endangered species that are located within or in close proximity to the proposed raw and finished water pipelines.

Figure 1-Mammals



Distribution of mammalian species "Crucial Habitat" identified under the Oregon Conservation Strategy (OCS) by ODFW within the Johnson Creek and Sandy River watersheds. Habitat designations for resident species are denoted by the purple layers. White and gray outlines denote City property where white is proposed facility site. Select mammalian species are listed in Table 1. Source: <https://dfw.state.or.us/maps/compass>



Figure 2-Birds



Distribution of avian species "Crucial Habitat" identified under the Oregon Conservation Strategy (OCS) by ODFW within the Johnson Creek and Sandy River watersheds. Habitat designations for resident and migratory species are denoted by the purple and orange layers, respectively. White and gray outlines denote City property where white is proposed facility site. Select avian species are listed in Table 1. Source: <https://dfw.state.or.us/maps/compass>

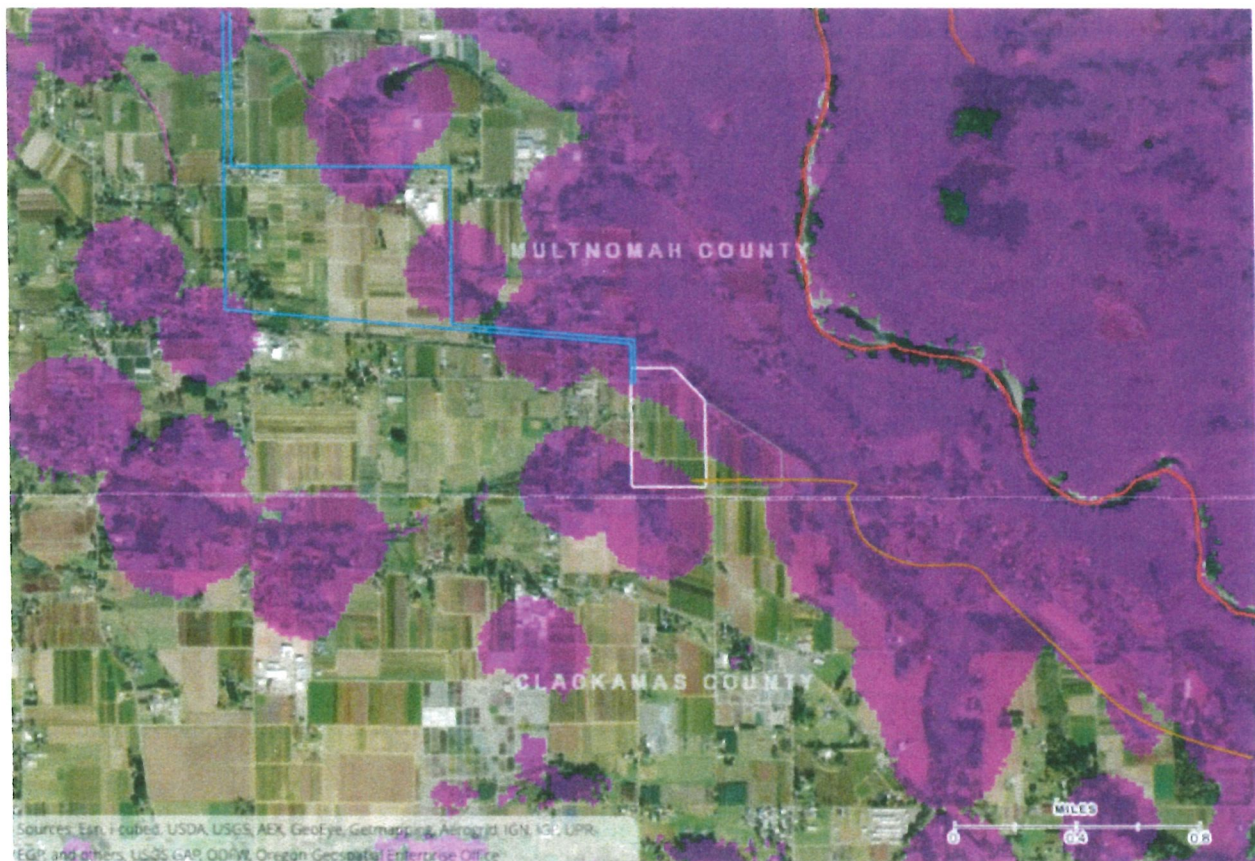
Figure 3-Amphibians



Distribution of amphibian species "Crucial Habitat" identified under the Oregon Conservation Strategy (OCS) by the ODFW within the Johnson Creek and Sandy River watersheds. Purple denotes crucial habitat designations for strategy species. White and gray outlines denote City property where white is proposed facility site. Select amphibian species are listed in Table 1. Source: <https://dfw.state.or.us/maps/compass>



Figure 4 Listed Species



State designated "Crucial Habitat" of federally threatened or endangered Northern Spotted Owl (*S.o. caurina*), Columbia white-tailed deer, Coho Salmon, and Steelhead trout under the Oregon Conservation Strategy (OCS) by the ODFW. Purple denotes crucial habitat designations within the Johnson Creek and Sandy River watersheds for resident species. Species are listed in Table 1.

Source: <https://dfw.state.or.us/maps/compass>

White and gray lines = City property, proposed facility site.

Red, purple lines = salmonid habitat.

Yellow lines = raw water pipeline

Blue lines = finished/treated pipeline

**Table 1. Identified habitats for select native species associated with the upper Johnson Creek watershed (JCW) and Sandy River watershed**

	COMMON NAME	SPECIES	MIGRATION CORRIDOR	UPPER JCW*	SANDY RIVER WATERSHED**	FEDERAL, STATE PROTECTION STATUS
SALMONID	Coastal cutthroat trout	<i>O. clarkii</i>	✓	✓		Sensitive - ODFW; OCS
	Steelhead trout	<i>O. mykiss</i>	✓	✓	✓	ESA-Threatened - NMFS
	Coho Salmon	<i>O. kisutch</i>	✓	✓	✓	ESA-Threatened - NMFS
	Chinook Salmon	<i>O. tshawytscha</i>	n/a		✓	ESA-Threatened - NMFS
AMPHIBIAN	Cascade torrent salamander	<i>R. cascadae</i>	n/a	✓	✓	Sensitive - ODFW; OCS
	Cascades frog	<i>R. cascadae</i>	n/a		✓	Sensitive - ODFW; OCS
	ClouDED salamander	<i>A. ferreus</i>	n/a	✓	✓	Sensitive - ODFW; OCS
	Coastal tailed frog	<i>A. truei</i>	n/a	✓	✓	Sensitive - ODFW; OCS
	Copes giant salamander	<i>D. copei</i>	n/a		✓	Sensitive - ODFW; OCS
	Larch Mountain salamander	<i>P. larselli</i>	n/a	✓	✓	Sensitive-Critical - ODFW; OCS
	Western toad	<i>A. boreas</i>	n/a		✓	Sensitive - ODFW; OCS
	Western red-backed salamander	<i>P. vehiculum</i>	n/a	✓	✓	Sensitive, ODFW
	Ensatina salamander	<i>E. eschscholtzii</i>	n/a	✓	✓	Sensitive, ODFW
	Oregon slender salamander	<i>B. wrighti</i>	n/a	✓	✓	Sensitive - ODFW; OCS
	Long-toed salamander	<i>A. macrodactylum</i>	n/a	✓	✓	Sensitive, ODFW
	Northwestern salamander	<i>A. gracile</i>	n/a	✓	✓	Sensitive, ODFW
	Columbia torrent salamander	<i>R. kezeri</i>	n/a	✓	✓	Sensitive, ODFW; OCS
	Pacific tree frog	<i>P. regilla</i>	n/a	✓	✓	Sensitive - ODFW
	Northern Red-legged frog	<i>R. aurora</i>	n/a	✓	✓	Sensitive - ODFW; OCS
AVIAN	Bald Eagle	<i>H. leucocephalus</i>	n/a	✓	✓	Protected, Threatened USFWS
	Acorn Woodpecker	<i>M. formicivorus</i>	n/a	✓	✓	Sensitive - ODFW; OCS
	Chipping sparrow	<i>S. passerina</i>	✓	✓	✓	Sensitive - ODFW; OCS
	Great horned owl	<i>B. virginianus</i>	n/a	✓	✓	
	Canada Goose	<i>B. canadensis</i>	✓	✓	✓	Sensitive - ODFW; OCS
	Pileated woodpecker	<i>D. pileatus</i>	n/a	✓	✓	Sensitive - ODFW; OCS
	Great blue heron	<i>A. herodias</i>	n/a	✓	✓	
	Purple martin	<i>P. s. arboricola</i>	✓	✓	✓	Sensitive-Critical - ODFW; OCS
	Short-eared owl	<i>A. flammeus</i>	n/a	✓	✓	Sensitive - ODFW; OCS
	Northern spotted owl	<i>S.o. caurina</i>	n/a	✓	✓	Threatened, ESA
	Olive-sided flycatcher	<i>C. cooperi</i>	✓	✓	✓	Sensitive - ODFW; OCS

	Common nighthawk	<i>C. minor</i>	✓	✓	✓	Sensitive-Critical - ODFW; OCS
	White-breasted nuthatch		n/a	✓	✓	Sensitive - ODFW; OCS
	Willow flycatcher	<i>E. traillii</i>	✓		✓	
	Yellow-breasted chat	<i>I.v. auricollis</i>	✓	✓	✓	Sensitive-Critical - ODFW; OCS
	Columbia white tailed deer	<i>O.v. leucurus</i>		✓	✓	Threatened - ODFW; OCS Endangered - USFWS
	Black tailed deer	<i>O. columbianus</i>	✓	✓	✓	
	American black bear	<i>E. americanus</i>	✓	✓	✓	
	Coyote	<i>C. latrans</i>	n/a	✓	✓	Sensitive, ODFW
	Cougar	<i>P.c. concolor</i>	✓	✓	✓	
	Elk	<i>C. canadensis</i>	✓	✓	✓	
	Bobcat	<i>L. rufus</i>	✓	✓	✓	
	Beaver	<i>C. canadensis</i>	n/a	✓	✓	
	River otter	<i>L. canadensis</i>	n/a	✓	✓	
	Townsend's Big-eared bat	<i>C. townsendii</i>	n/a	✓	✓	Sensitive-Critical - ODFW; OCS
	Silver-haired bat	<i>L. noctivagans</i>	n/a	✓	✓	Sensitive - ODFW; OCS
	Pallid bat	<i>A. pallidus</i>	n/a	✓	✓	Sensitive - ODFW; OCS
	Long-legged myotis	<i>M. volans</i>	n/a	✓	✓	Sensitive - ODFW; OCS
	California myotis	<i>M. californicus</i>	n/a	✓	✓	Sensitive - ODFW; OCS
	Fringed myotis	<i>M. thysanodes</i>	n/a	✓	✓	Sensitive - ODFW; OCS
	Silver-haired bat	<i>L. noctivagans</i>	n/a	✓	✓	Sensitive - ODFW; OCS
	Winged floater mussels	<i>A. nuttalliana</i>	n/a	✓	✓	Threatened - ODFW
	Pacific lamprey	<i>E. tridentatus</i>	✓		✓	Sensitive - ODFW; OCS
OTHER						

Adapted from <https://www.norlandoregon.gov/hes/article/214247>

ODFW- Oregon Department of Fish & Wildlife; ESA- Endangered Species Act; NMFS- National Marine Fisheries Service; USFWS- U.S. Fish & Wildlife Service; OCS- Oregon Conservation Strategy (<https://compass.dfw.state.or.us/visualize/>)

\*Proposed Project site location is in Upper watershed. Upper watershed presence is based on existing studies and community observations

\*\*Species marked under the Sandy River column refer to those documented to be present in the area most proximate (directly east) of the proposed filtration site.

The US Fish and Wildlife Service “Birds of Conservation Concern”, 2021 states:

“The 1988 amendment to the Fish and Wildlife Conservation Act mandates the U.S. Fish and Wildlife Service (USFWS) **to identify species**, subspecies and populations (hereafter taxa) of all migratory nongame birds **that without additional conservation action are likely to become candidates for listing under the Endangered Species Act (ESA)** of 1973. The Birds of Conservation Concern 2021 (BCC 2021) is the most recent effort to carry out this mandate. The overall goal of this report is to identify those bird taxa (beyond those already designated as federally threatened or endangered) that **represent the highest conservation priorities of the USFWS. The BCC 2021 is intended to stimulate coordinated, collaborative and proactive conservation actions among international, federal, state, tribal and private partners.**”

Listed below are the common names of species included on the list for Bird Conservation Region 5 which includes the proposed filtration site and raw and finished water pipelines. **Note: all of these species have been observed historically utilizing habitat in or proximate to the project sites.**

- Vaux’s Swift
- Rufous Hummingbird
- Allen’s Hummingbird
- Western Screech-Owl
- Olive-sided Flycatcher
- Chestnut-backed Chickadee
- White-breasted Nuthatch
- Evening Grosbeak
- Vesper Sparrow

The Applicant’s CU Narrative and “Wildlife Conservation Plan” fail to acknowledge the existence or provide any evaluation of impacts to the species noted by the Oregon Conservation Strategy or the USFWS-Birds of Conservation Concern, 2021. Applicant failed to even undertake an inventory. Applicant materials fail to provide any documentation of efforts to consult with USFWS or ODFW on these sensitive species.

D. Applicant relies on correspondence from ODFW and an ODFW map (see Appendix E.8a, E.8b) that states/shows the project areas are deemed to be “impacted habitat” with regard to black-tail deer and elk. Applicant draws attention to a quote from the ODFW correspondence that states the site is “...in

impacted habitat, not in winter range or even year-round range.” However applicant has taken the quote out of context. The ODFW correspondence goes on to state, “Although, **these areas may support substantial numbers of deer and elk**, traditional proactive management actions are often not possible or effective....” and, “**Impacted areas may still provide habitat functions and values for other fish and wildlife species.....**”

Applicant misrepresents the reality of “on the ground” facts as they relate to deer and elk in the proposed project areas. Both black-tail deer and elk are present in substantial numbers throughout the proposed project area especially the proposed filtration plant site, raw water pipeline area, and Cottrell Road pipeline area. These species are present throughout the entire year. Anyone who resides in the area, pursues agricultural activities, or maintains vegetable or ornamental gardens will attest to this un-refutable fact. Evidence of the presence of these species is commonly observed by the existence of deer and elk fencing installed to deter damage from browsing animals. Even the proposed filtration plant site (high quality agricultural land) has elk fencing installed along the north property line. The ODFW map referenced (Appendix E.8b) actually shows “Impacted Habitat” extending all the way to the banks of the Sandy River including major portions of the River that have been designated as a Scenic Waterway by the State of Oregon and a National Wild and Scenic River by Congress. The ODFW map is inaccurate and misleading. Its veracity should be considered with great skepticism.

Notwithstanding the facts above, neither the Applicant materials or the ODFW correspondence make any effort to reconcile the significant conflicts with other sources that have identified this area as “high value habitat” or “crucial habitat” Examples include:

- State Scenic Waterway and Federal Wild and Scenic River Management Plan (BLM/Oregon State Parks,1993) that documents the “outstanding fish, wildlife, and recreation” resources that the designations are intended to protect. An excerpt from the Plan describes one of several “outstandingly remarkable values” as follows: “Wildlife values within the river corridor are outstandingly remarkable because of the regional significance of habitat diversity and number of species present. The Sandy River Gorge offers one of the greatest levels of diversity in both wildlife species and habitat of any river in the region. In addition, the educational and scientific values are correspondingly varied and significant. The river is used extensively for local wildlife and natural history educational and interpretive programs. The Sandy River Gorge and vicinity provides a diversity of habitat for the full complement of wildlife species



typical of a low elevation site in the north Cascade Range of Oregon as well as provides habitat for species typical of the Willamette Valley. The Gorge is especially valuable because the area is relatively isolated and undisturbed, is located within 30 minutes of the largest metropolitan area in the state. The habitats bordering the river and major tributaries provide critically important travel corridors for wildlife movement along the river and to and from the Larch Mountain area to the east especially for important big game species such as Roosevelt elk.” (pg.19)

- ODFW’s own “Oregon Conservation Strategy”(2016) that repeatedly shows this area as high value habitat for federally listed species, mammals, avian species, and amphibians.
- “The Intertwine Biological Diversity for the Greater Portland-Vancouver Region”\* (2012) which identified this area as “high value” and “a regional priority.”

\*The Intertwine Alliance consists of dozens of government and non-profit groups that have worked cooperatively to develop the Biological Diversity Guide and its companion document, “Regional Conservation Strategy. Member examples include, but are not limited to: Metro, City of Portland, The Portland Audubon Society, The Nature Conservancy, US Fish and Wildlife Service.

- Multnomah County’s own maps that show the same areas that Applicant strives to portray as “impacted habitat” identified as “Significant Environmental Concern-Habitat” overlay zones.

Applicant’s materials are in direct conflict with multiple expert sources. Applicant has failed to provide any evidence that their proposed projects will not adversely impact a wide variety of wildlife resources that are known to utilize important habitats in or in close proximity to the proposed filtration and pipeline sites.

### Water/Wetlands

A. See Exhibit A 214, Appendix A.2; A. Site Plans (pipelines).

Sheet LU100 (existing conditions raw water pipelines) shows the location of 2 ponds. The CU narrative fails to provide any evaluation of their ecological value or condition. The Applicant has apparently failed to conduct a wetland delineation to determine the location or extent of jurisdictional wetlands within this area or other proposed project areas. Instead, the Applicant’s CU narrative assumes that auger boring the 2 large pipelines under one of the ponds is sufficient evidence that adverse impacts are avoided. Lacking a wetland

delineation and a full inventory of mammals, avian and amphibian species, it is impossible for the Applicant to make any such conclusion.

Figure 5 (pg.22) shows extensive areas (mapped by NRCS) of wetlands included in the National Wetlands Inventory, hydric soils, and partially hydric soils located within and immediately proximate to the proposed raw/finished water pipeline construction areas as well as the proposed filtration plant site.

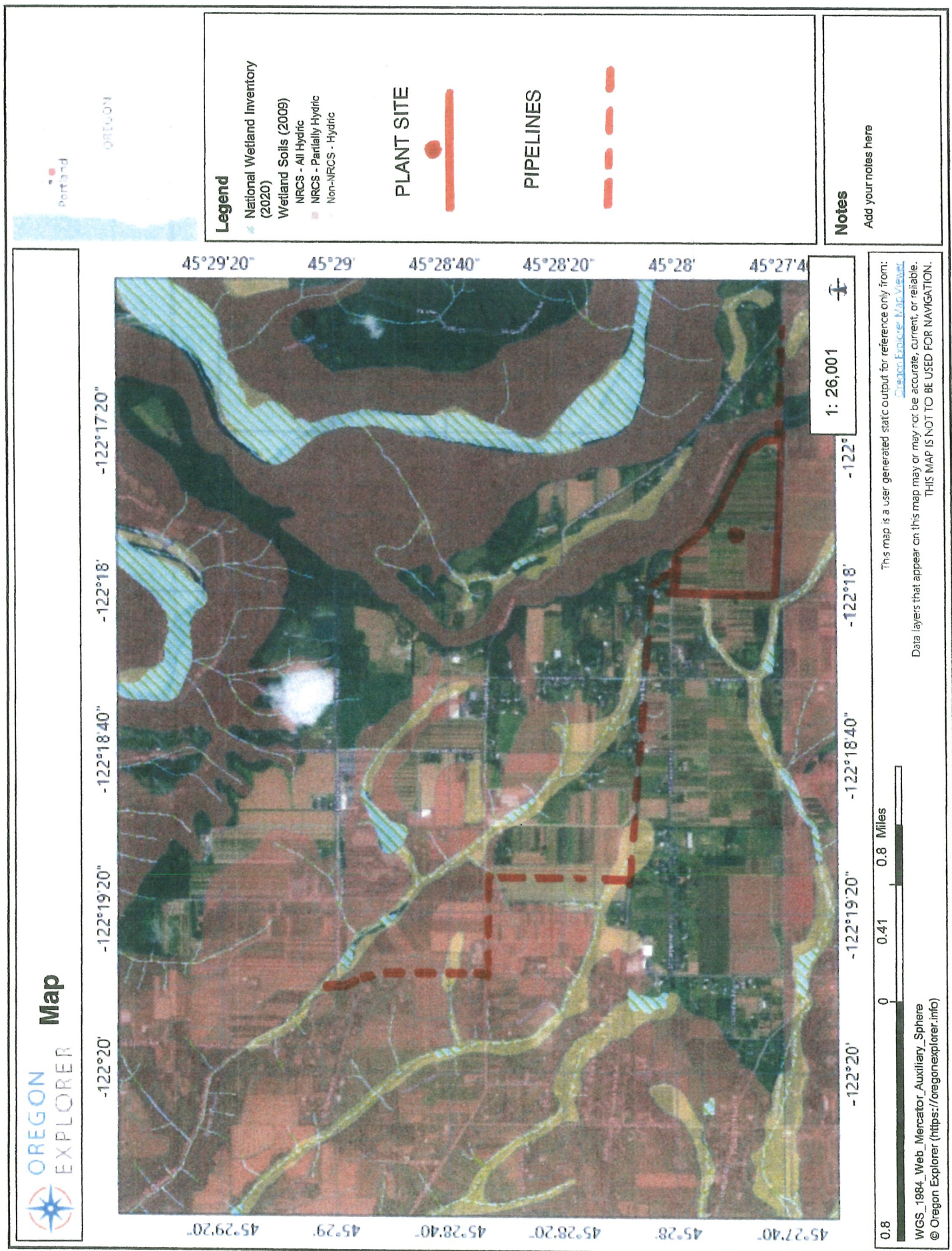
An excerpt from an email from Melinda Butterfield, Division of State Lands (DSL) to Multnomah County Planning staff dated 2/27/2023 states:

“ When a local agency receives an application for a project with wetlands mapped within or near the project area, or thinks there could possibly be wetlands or waterways near the project area, then local planners should submit a “Wetland Land Use Notification” (WLUN) to DSL.

DSL staff review the WLUN information and maps submitted and within 30 days **respond to the local government, applicant and landowner** providing clarification of removal/fill permit requirements for the project area.”

Applicant/Landowner has submitted no documentation in their CU narrative, the “Wildlife Conservation Plan” or other application materials to indicate that any wetland delineations have been completed for either the pipeline elements or the filtration facility site or that the required consultation with DSL has occurred.

FIGURE 5



B. Applicant has submitted no information/plan or documented consultation with Oregon Dept. of Environmental Quality (DEQ) regarding stormwater or groundwater management during the massive construction project that will last 5 or more years. Proposed raw/finished water pipelines and the proposed filtration plant will be within or adjacent to SEC-wr areas (including waters that are already listed by DEQ listed as "water quality limited\*"), and/or areas included on the NRCS map shown in Figure 5 above.

\* Beaver Creek, Johnson Creek, Sandy River

It would appear that a DEQ 1200-C Construction Permit is required for this project. The DEQ document regarding the 1200-C permit states:

"Permit coverage is required under this General Permit if the following activities have the potential to discharge to surface waters or to a conveyance system that leads to surface waters of the state in Oregon and do not have coverage under another NPDES permit:

- a. Any construction activity and materials or equipment staging and stockpiling that will disturb one or more acres of land; or
- b. Any construction activity and materials or equipment staging and stockpiling that will disturb less than one acre of land but is part of a common plan of development or sale that will ultimately disturb one or more acres of land; or
- c. Any construction activity that results in the disturbance of less than one acre of land that is a necessary and required component (e.g. utilities, structure, or infrastructure) of a final project that will ultimately disturb one or more acres of land; or
- d. Any construction activity that may discharge stormwater to surface waters of the state that may be a significant contributor of pollutants to waters of the state or may cause an exceedance of a water quality standard."

Applicant's proposed project appears to meet all the criteria listed above. Lacking any formal determination that a 1200-c permit is required and Applicant is likely able to secure said permit, this Land Use Application is premature and should therefore be rejected..

C. Applicant materials specify "pipeline drains" in both raw and finished water pipelines.

It is assumed that these drains are utilized when pipelines must be emptied for the purpose of repair or maintenance activities. Applicant provides no information about either the quantity or chemical content of water that will be discharged or how the discharged water will be managed. In the case of the the raw water pipelines, 2 @72" pipes will extend 1200 feet and then rise approximately 230 ft



to the surface at the proposed filtration plant site. Assuming only the water from the tunneled pipes is drained, 604,908 gallons of water will be discharged under pressure of 230 ft. of head. This volume has the capacity to cause localized ponding, erosion or run-off into local drainage swales and protected watercourses.

Applicant's failure to identify or assess issues related to pipeline drains creates the likelihood of impacts to natural resources and potential damage to adjacent private property.

D. Two tunnels for the proposed raw water pipelines will have diameters of 9'. Raw water pipes will be 6' in diameter. The shaft that will bring the 2 raw water pipelines to the surface will be 30-35' in diameter. According to PWB staff (10/5/2022), the significant voids around the pipes "will be filled with either lightweight cellular concrete or grout".

Applicant materials fail to evaluate the potential for the concrete or grout to contaminate or otherwise interfere with ground water that supplies nearby residential/agricultural wells or natural seeps/springs that may be important for the many forms of wildlife known to utilize the area. Applicant has provided no evidence to document groundwater resources within the area or geologic formations that may permit migration of the concrete or grout causing adverse impacts to groundwater resources.

Conclusion: The information provided above related to air, wildlife, water/ wetlands demonstrate how the proposed project will adversely affect natural resources (and public health) and documents Applicant's reliance on incomplete or misleading information. The Applicant fails to meet its burden in significant areas that would support a conclusion that its proposal "will not adversely affect natural resources". **This criterion is not met.**

### **3. "Will not create hazardous conditions"**

Rural Fire Protection District 10 (RFPD10) has submitted thorough and compelling testimony regarding hazardous conditions (and other relevant criteria) in the "Portland Water Bureau Proposed Water Treatment and Filtration Plant and Associated Pipelines Background, Findings, Conclusion and Recommendation", December 2022, and RFPD10 Supplemental Testimony submitted in late June, 2023.



This portion of testimony is intended to support and supplement RFPD10 submissions.

1. Reference is made to Exhibit A.55, E.6 Hazardous Materials Management Plan (HMMP)

A. The very existence of the HMMP is evidence of the fact that hazardous conditions will be created at the proposed plant if constructed. The Emergency Response Plan (ERP) (pg.12-13) specifically identifies "leaks, pressure build-up, gas generation, ruptures in valves, pipes, or other equipment, fires, explosions, releases..." as potential events.

B. Notwithstanding the above, the ERP is rife with errors, and omissions. For example:

- Abbreviations,(pg. iv) incorrectly shows "ERP" as "Gresham Fire and Emergency Services"
- 2 site plans mis-label the Chemical Storage Bldg. as the Inlet Structure....(see figure 2, pg. 4 and Attachment B, Figure 2)
- Although it is not noted in the HMMP, Carbon Dioxide (CAS 124-38-9) is considered hazardous by OSHA (simple asphyxiant).
- Although not noted HMMP, Ammonium Sulphate Solution (CAS 7783-20-2) is classified hazardous (corrosive).
- 9 hazardous materials are listed with no storage amounts or hazard classification information provided.
- The HMMP fails to address hazardous materials that will be stored/utilized during the lengthy construction period both at the proposed filtration plant site and at raw/finished water pipeline sites. Examples include but are not limited to: fuels, lubricants, oils, hydraulic fluids, thinner, solvents, acetylene, oxygen etc.
- If the plant is constructed, the HMMP fails to address the massive amount of contaminated water that will be created during the initial startup. PWB Basis of design (pg. 4-164) states: "Construction, startup, and commissioning will require additional considerations outside of the normal operation of the Facility. For example, filter media requires rinsing and washing that will generate a large quantity of water during initial installation. Additionally, the water used for leak testing of pipelines and structures will likely have high pH due to chemical leaching from the concrete and cement mortar. Temporary facilities may be required to equalize, neutralize, and recycle these flows through the Facility. There may also be requirements to discharge or haul these liquid residuals offsite."

C. It is worthy of note that the firm responsible for the HMMP and other significant elements of the design of the proposed filtration plant is Carollo Engineering. Carollo Engineering is currently one of the firms subject of a law suit brought by the City of Fresno, Ca. alleging “negligence and breach of contract” for their work related to “design plans and construction documents for the future surface water treatment plant...” “The company was paid \$9.1million for its work that also included overseeing the engineering aspects of the project, specifying the equipment used, and ensuring that proper materials were installed.” Subsequent to Carollo’s work, two city employees were overcome by ozone, a highly toxic chemical that will be generated and utilized in large quantities at the proposed filtration plant. **See Exhibit 1.**

PWB states in a Project Update, 3/31/23: “All treatment chemicals currently used, and those proposed for future use, are commonly and safely used at drinking water facilities nationwide.”

This statement is not an accurate representation of actual experience. In reality, accidental releases of the same chemicals that are proposed for use in large quantities at their industrial scale treatment plant are more common than the PWB cares to acknowledge. These releases have caused serious injury, fatalities and environmental damage. **See Exhibit 1 for a few examples.**

'2. The materials submitted by the Applicant fail to address the hazards related to transport of hazardous materials to or from the proposed project site on narrow rural roads that provide no paved or graveled shoulders for pedestrians, bicyclists etc.. These same roads are regularly utilized by large farm implements, school buses, farm workers and local residents. **Exhibit 2** includes photographic documentation showing examples of existing conditions related to farm equipment, pedestrian, bicyclists and school bus utilization of these rural roads. PWB states in a Project Update, 3/31/23: “Chemical delivery truck drivers are trained and follow strict industry standards to ensure safe and effective delivery and transfer of chemicals.”

However, “training and strict industry standards” **do not eliminate hazards** related to the transport of hazardous materials. **Exhibit 3** provides just a few examples of accidents involving the same hazardous materials that will be transported to this proposed facility on poorly maintained, narrow rural roads in all weather conditions nearly 1,000 times per year.

Finding 17, page 23 of the RFPD10 Report/Recommendation, December, 2022 states: "Budget and staffing limitations in Multnomah County Road Maintenance budget have negatively impacted snow and ice removal in RFPD 10's primary service area. Snow and ice frequently persist considerably longer in this area due to its proximity to the Columbia Gorge. Heavy trucks operating on snow and ice covered roads exacerbates hazardous conditions for local traffic, farm traffic and non-vehicular traffic and will likely contribute to increased call loads at Station 76."

If the proposed plant is approved, when the inevitable accident comes to pass, there's recent evidence demonstrating what kind of response this rural community will get from the PWB.

Following is a transcript from PWB's 1/12/2023 Neighbor update meeting:

Natalie (rural area citizen): "During the recent ice storm we had a tanker fuel truck slide off the road into our front yard. He was attempting to deliver fuel to the PWB location on Lusted. The truck was facing the wrong direction on Dodge Park for over 5 hours causing a huge traffic hazard. How will you prevent this from continuing to happen?"

Michelle Cheek (PWB, Engineering Supervisor): "Yeah, I can attempt to answer that. That's, uh, obviously a very unfortunate event that, um, did happen. And, um, it sounds like nobody was hurt and there wasn't any fuel spilled which was, um, good, but obviously we can't control the weather and, um, you know, have to just trust that truck drivers are doing their best to drive safely to deliver fuel to our site or any site out in the area."

All can agree with Ms. Cheek on one point: "it's good no one was hurt and no fuel spilled" but with this important caveat: THIS TIME! If this plant gets approved, there will be more incidents and there will be incidents when the result will not be good. Once this genie is out of the bottle, there will be no going back, no accountability, no acceptance of responsibility and no consequences.

RFPD10 Supplemental Testimony summarizes questions related to hazardous materials best: "The reality is that even with all the existing codes, state and federal regulations, human error and mechanical failures frequently result in the release of hazardous materials that harm the environment, workers, first responders and general citizenry."

Conclusion: As documented here and in testimony submitted by RFPD10, Applicant materials have overlooked, misrepresented or intentionally omitted important information and thereby fails to meet their burden to demonstrate their proposed industrial scale filtration plant will not create hazardous conditions.”  
**This criterion is not met.**

As a final comment, it would appear that Application T-3-2022-16220 should have never been deemed “complete” by Multnomah County Land Use and Planning staff as all elements related to the proposed project are not included in the Land Use application. Specifically missing are:

- Decommissioning of segments of existing pipeline that will no longer remain in use if the proposed filtration plant and related raw/finished pipelines are constructed. An email from Bonita Oswald, PWB staff, to Constance Diack, 11/18/2022 states:  
“Once the Filtration Facility is online, the conduits on your property will no longer be in service. At this time, the Water Bureau is planning to decommission the conduits by filling them with a lightweight cellular concrete (LWCC).” And, “Most of our design has been focused on the new infrastructure, but conversations about the decommissioning design around the area are just getting started.” And, “It will also minimize the number and size of the trenches needed to access the pipe and vaults “
- Additionally, PWB staff have indicated in the past that their Lusted Hill Facility will become obsolete if the proposed filtration plant is constructed thereby making decommissioning necessary. This decommissioning is not addressed in any of the Applicant’s submitted materials.

Both of these project elements are directly related to this application. Both will be significant undertakings that will involve additional heavy truck trips, additional ground disturbance, potential adverse impacts to SEC resource areas, potential adverse impacts to natural resources and potential hazardous conditions.

These decommissioning projects are directly related to and part of the project covered in T-3-2022-16220. The fact that they are not included in this application makes a full evaluation of the cumulative impacts of the entire project impossible.

Consequently, this application should be denied or set aside until the applicant provides specific information showing these elements to be in conformance with the applicable provisions of the Multnomah County Planning Code.

**In summary:** Applicant materials have failed to adequately represent the true character of this rural community by omitting significant details and features. Applicant has failed to provide substantial evidence showing how their proposal is consistent with the true character other than their claim that the proposed industrial scale filtration and treatment plant may be designed to resemble a large agricultural warehouse.

Applicant has failed to fully disclose, totally omitted or failed to adequately address important information related to their proposed plant and raw/finished water pipelines adverse impacts to air quality, wildlife, water and wetland resources (natural resources). Additionally, Applicant has failed to demonstrate that they have undertaken any consultation with the Division of State Lands or provide evidence that they have secured (or are likely able to secure) the requisite 1200-C Construction Permit from the Department of Environmental Quality. Applicant has made no apparent effort to identify or reconcile stark conflicts between their submitted information and other reliable sources related to the quality of the habitat or the federally listed or sensitive species that are known to utilize that habitat within or proximate to their proposed project impact areas.

Applicant has failed to fully disclose, overlooked, misrepresented or intentionally omitted important facts and specific information related to the many hazards that the lengthy construction and subsequent operation of their proposed industrial scale Filtration and Treatment Plant will bring to this rural community.

Applicant has failed to fully disclose all the elements of the proposed Filtration Plant and related raw/finished water pipelines which make a full and complete evaluation of all impacts of the project impossible.

Consequently, **Application T-3-2022-16220 should be denied.**

Thank you for your consideration of this testimony.

## **EXHIBIT 1**



**Builder faces lawsuit after Fresno workers injured by ozone leak at water treatment plant** BY ROBERT RODRIGUEZ NOVEMBER 29, 2021 5:00 AM

The City of Fresno is suing a building contractor and an engineering firm for allegedly doing faulty work on the Southeast Surface Water Treatment Facility that caused injuries to two city employees. In the lawsuit, filed on Nov. 18 in Fresno County Superior Court, the city accuses Carollo Engineering of Walnut Creek and W.M. Lyles Co. of Fresno of negligence and breach of contract. The city is seeking damages to be determined at trial. Neither company or city officials could be reached for comment Friday. Carollo Engineering of Walnut Creek was hired in 2014 for engineering services and to design plans and construction documents for the future surface water treatment plant in southeast Fresno. The company was paid \$9.1 million for its work that also included overseeing the engineering aspects of the project, specifying the equipment used, and ensuring that the proper materials were installed.

In 2015, the Fresno-based W.M. Lyles Co. was awarded \$158 million to build the surface water treatment plant that converts water from the Kings River into drinking water for city residents. The plant at 6395 E Floradora Ave., west of Temperance Avenue, was completed in 2018. As part of the water treatment process, ozone is generated on site and injected into the water to kill harmful bacteria. But problems would arise from ozone leaks, according to the lawsuit.

City employee Caesar Sierras entered the basin area of the plant on June 26, 2019, and immediately experienced a pungent odor in the air. "Mr. Sierras used his handheld ambient ozone analyzer and discovered the ozone level was nearly eight times above the permissible exposure limits," according to the lawsuit. "As a result of being exposed to these hazardous levels of ozone, Mr. Sierras suffered pulmonary issues and sought medical treatment of those injuries." After Sierras' exposure, city workers discovered that the wrong ozone monitors were installed at the water basin areas. They also found that there was a large ozone leak coming from a pipe coupling. The piece of pipe was replaced and the system was placed back online, the lawsuit states. About a year later, on February 21, 2020, city employee Randy Clifton entered the water basin area of the plant to inspect the ozone injector. "Mr. Clifton approached the ozone injector and was hit with what he described as a "massive cloud of ozone", which came from the injector area," the lawsuit states. "The hazardous levels of ambient ozone immediately caused the ozone generator to shut down and the City discovered there was a leak on the pressure regulator located around the injector line." Clifton experienced respiratory and pulmonary issues and sought medical treatment for those injuries, according to the lawsuit. The city's lawsuit blames W.M. Lyles Co. and Carollo Engineering for the worker's injuries, alleging the incidents were a result of a combination of things, including "the improper installation of the ozone injection system and the installation of unsuitable and substandard parts of an ozone injection and monitoring system."

E1A

## **DEP investigating chemical spill that reached nearby stream**

August 01, 2017 at 6:21 pm  
Murrysville, Pa.

The Department of Environmental Protection is investigating the spill of approximately 1,300 gallons of sodium hypochlorite, similar to chlorine bleach, from the Cloverleaf Pump Station.

Inspectors on site Monday noticed a strong smell of chlorine and saw dead plants near the site of the spill.

Some of the odor control agent did leak into a nearby stream, which is a tributary to Beaver Run.

Environmental agents, along with the Fish and Boat Commission, saw fish upstream, but not downstream of the spill. DEP has recommended that Franklin Township Municipal Sanitary Authority hire a remediation contractor to remove contaminated soils.

E1.B



# MS POWER DANIEL PLANT Sodium Hypochlorite Spill

**Site Contact:**

Dean Ullock  
On-Scene Coordinator  
(ullock.dean@epa.gov)

**Site Location:**

Mississippi Power Plant Daniel  
MOSS POINT, MS  
response.epa.gov/MSPOWERDANIELBLEACHSPILL  
NRC#: 910930

At approximately 0830 hrs. on 07/08/09, OSC Ullock rec'd NRC Report #910930, and a call from MS DEQ informing him of a 4800 gallon release of 15% Sodium Hypochlorite (RQ 10# @ 15%) at the Mississippi Power Daniel Plant located in Moss Point, MS. OSC Ullock in coordination with the R4 TEL, deployed to the scene to assist MS DEQ with clean up oversight, documentation and additional EPCRA compliance requirements. This is the second significant Sodium Hypochlorite spill from this AST within a year. This spill was caused by a combination of human error and faulty hardware associated with the 5000 gallon AST sight glass. The hose clamp attaching the sight glass tube to the AST bottom nipple became corroded and failed, causing the subsequent release of concentrated bleach to escape into the unsecured, secondary containment. The secondary containment drain valve had been inadvertently left opened by the facility chemist during routine rounds conducted during the previous 24hrs. The concentrated bleach travelled in a wide swath, overland-West, approximately 600' into a stormwater drain located upon Mississippi Power property. Clean crews hired by MS Power were directed by MS DEQ and EPA on where to focus clean up operations which include the use of a vac truck and the manual application of pelletized citric acid to lower pH in impacted soil. Response complete.

E1.C

# 4,000 gallons of powerful bleach spills inside wastewater treatment building

## Concord Monitor (Concord, New Hampshire)

Published: 3/25/2021 5:00:30 PM

A failed valve released about 4,000 gallons of cleaning solution three times as strong as bleach inside Concord's Hall Street Wastewater Treatment Facility on Thursday morning, leading to a cleanup.

The spill was collected in a tanker truck and removed.

According to the city, the spill was 15% sodium hypochlorite and 85% water, whereas laundry bleach is typically 5.25% sodium hypochlorite. The Hall Street Wastewater Treatment Facility typically uses 150 gallons daily to disinfect wastewater effluent before being discharged into the Merrimack River, the city said. The spill was contained by protective barriers inside of the building. An employee was splashed who was wearing protective gear, and they were not seriously injured.

A licensed contractor was hired to clear up the spill and dispose of the solution off-site. The New Hampshire Department of Environmental Services was notified and the Concord Fire Department responded.

Monitor staff

E1.D

## Two Wrentham water treatment plant workers injured during chemical leak

• By David Linton [dlinton@thesunchronicle.com](mailto:dlinton@thesunchronicle.com) Jul 21, 2020

WRENTHAM — Fire officials are investigating the cause of a chemical accident at the town water treatment plant on Franklin Street Tuesday morning that sent two workers to the hospital.

The workers, ages 23 and 40, were taken by medical helicopter to Massachusetts General Hospital with injuries described as not life-threatening, Fire Chief Antonio Marino said in a press release.

An initial investigation indicates that the two employees were conducting routine maintenance when a pressurized hose began to leak and sprayed potassium hydroxide on them, Marino said.

The 40-year-old employee was sprayed in the face and eyes with the chemical and seriously injured. Both were wearing protective eye equipment at the time, according to the fire chief.

The chemical is used to adjust the pH level of the water, according to Michael Lavin, the public works director.

The accident, categorized as a Tier 1 hazardous material incident, occurred about 9:20 a.m. at the plant at 655

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E1.E



## Almost 2,000-gallons diesel spills onto farm, in Dead, Willamette rivers

• Maddie Pfeifer May 11, 2022 Updated Aug 25, 2022 0

Nearly 2,000 gallons of diesel spilled from a Linn County farm's above-ground storage tank in late April, some of it flowing into the nearby rivers.

Stahlbush Island Farms reported to the Oregon Department of Environmental Quality on April 25 that one of its storage tanks had spilled diesel, according to Dylan Darling, public affairs specialist with the agency. While the source of the spill is known, what caused the leak is yet to be determined, he said.

The Dead River, a short tributary of the Willamette River east of Corvallis, was impacted.

Cleanup started the day it was reported, Darling said. While the DEQ oversees the cleanup, the farm hired a contractor to conduct the cleanup.

"All government agencies were notified immediately," Debbie Cozzetto, chief operating officer for Stahlbush Island Farms said in an email. "NWFF Environmental Consultants were hired to assist in the process. We are working with these groups to guide us in meeting all regulations and requirements."

E1.F



Water Online

News Feature | March 4, 2019

## Chlorine Mishap Sends 50 Water Treatment Workers To Hospital

By Peter Chawaga

A rare incident at an Alabama drinking water treatment plant had scary results for workers last week.

The combination of treatment chemicals at the plant led to a dangerous release, sending 50 people to the hospital.

“An accidental mix of sodium hypochlorite (which is essentially bleach) and ferric sulfate caused a chlorine off gas at our Shades Mountain Filter Plant,” the Birmingham Water Works wrote on Twitter, per ABC 7. “We use these components to treat water as our normal practice, however they are not meant to be mixed together.”

Initially, only 14 contractors and one Water Works employee were taken to the hospital, but then 40 more people who had been close to the gas were sent as well.

“Authorities say exposure to the chemicals can cause respiratory problems, nausea and headaches,” according to *Insurance Journal*. “The water system says none of the injuries [were] believed to be life-threatening.”

While the immediate health concerns revolved around those working in the plant, a gas release like this could have had an impact on the surrounding community as well.

“The chemicals gave off gas as well as a strong odor at the plant,” ABC 7 reported. “Residents were asked to shelter in place for an hour as Highway 280 near the plant was closed.”

However, it appeared that the incident posed no threat to the drinking water supply and, ultimately, consumers were safe.

E1.9

“The water supply has not been contaminated,” Birmingham Water Works said, per ABC 7. “The chemicals have been contained to the building at the facility where the accident occurred.”

More details about how the treatment chemicals became mixed were gathered by WBRC FOX6 News:

“‘What happened was they were delivered to the wrong site,’ said Rick Jackson, spokesperson for the Birmingham Water Works Board.

“The mix-up led to the combining of two chemicals, which in turn caused a chlorine gas to be released,” the station reported.

Luckily, it appears that despite their exposure, the plant’s workers will be fine and that the local water supply was protected.

To read about preparing for similar incidents at treatment plants, visit Water Online’s Resiliency Solutions Center.

# Camelford water pollution incident

From Wikipedia, the free encyclopedia

Camelford shown within Cornwall.

The **Camelford water pollution incident** involved the accidental contamination of the drinking water supply to the town of Camelford, Cornwall, in July 1988. Twenty tonnes of aluminium sulphate was inadvertently added to the water supply, raising the concentration to 3,000 times the admissible level. As the aluminium sulphate broke down it produced several tonnes of sulphuric acid which "stripped a cocktail of chemicals from the pipe networks as well as lead and copper piping in people's homes."<sup>[1][2]</sup> Many people who came into contact with the contaminated water experienced a range of short-term health effects,<sup>[3]</sup> and many victims suffered long-term effects whose implications remained unclear as of 2012. There has been no rigorous examination or monitoring of the health of the victims since the incident, which is Britain's worst mass poisoning event.<sup>[4][5][6]</sup> Inquests on people who died many years later found very high levels of aluminium in the brain. Dame Barbara Clayton led a Royal Commission on Environmental Pollution enquiry into the incident.<sup>[7]</sup>

Immediately after the contamination the authorities said that the water was safe to drink, possibly with juice to cover the unpleasant taste. In an inquest in 2012 into the death of one of the victims, the coroner stated that South West Water Authority had been "gambling with as many as 20,000 lives" when they failed to inform the public about the poisoning for 16 days, a delay he called unacceptable.<sup>[5]</sup> In the aftermath of the contamination the public were reassured that there was no risk to health. There were allegations of a cover-up and West Somerset Coroner Michael Rose stated: "I found there was a deliberate policy to not advise the public of the true nature until some 16 days after the occurrence of the incident."<sup>[8]</sup>

Following an investigation by the government's Committee on Toxicity of Chemicals in Food, Consumer Products and the Environment, Michael Meacher, the former Environment Minister, claimed that "various associated bodies tried to bury the inquiry from the start." Meacher told one newspaper: "This has become a tug of war between the truth and an attempt to silence the truth."<sup>[9][10]</sup>



An April 2013 report by the Lowermoor subgroup of the Committee on Toxicity of Chemicals in Food, Consumer Products and the Environment concluded that exposure to the chemicals was unlikely to cause "delayed or persistent harm" and was also unlikely to cause future ill health.<sup>[11][12]</sup> In September 2013 the government admitted that there had been a "manifest failure to give prompt appropriate advice and information to affected consumers" and offered an unreserved apology.<sup>[13]</sup>

## **EXHIBIT 2**





5-19-23 SBHS

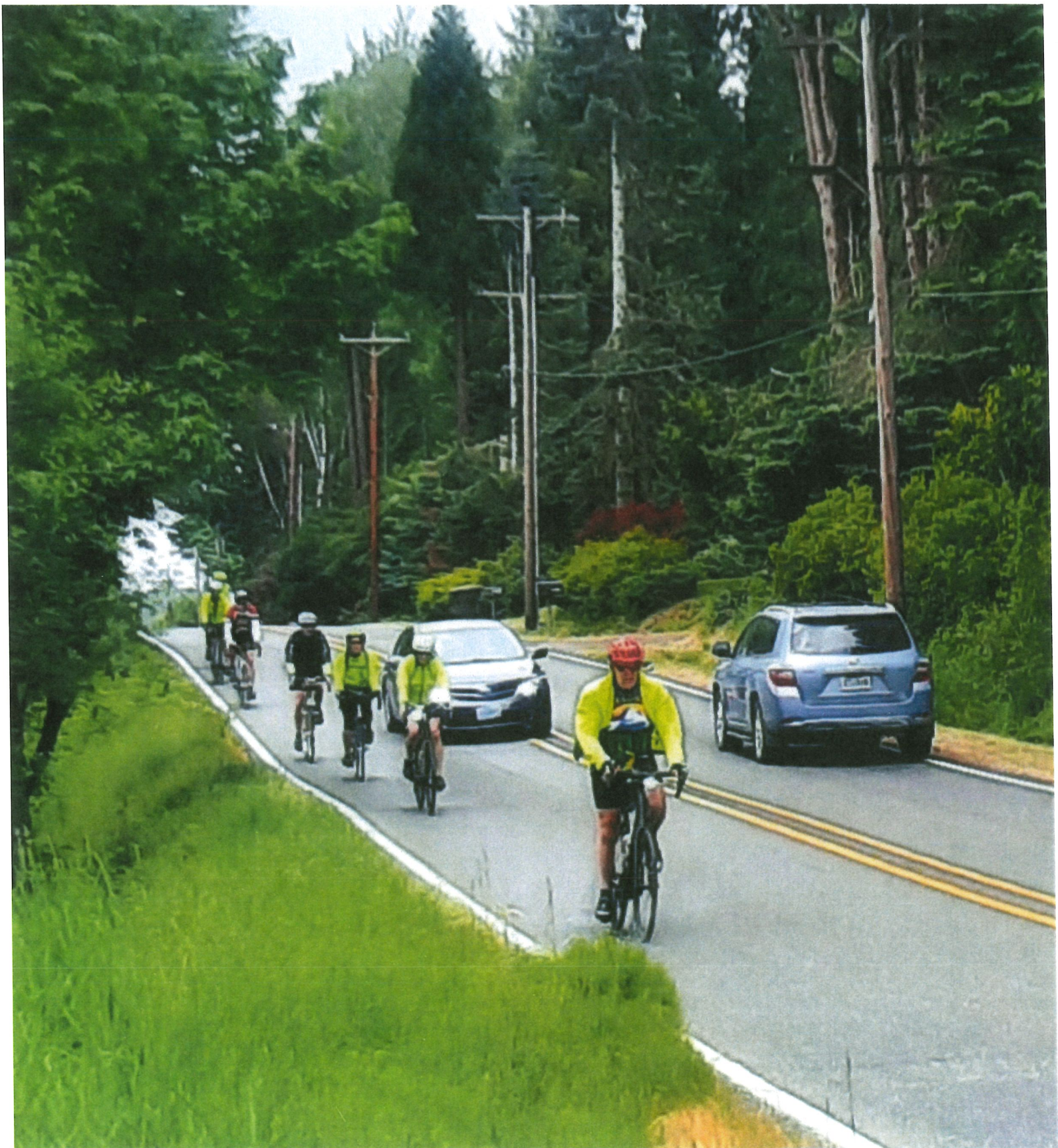
E2.A





7-21-22 Lusted Rd.





5-24-23 Division Dr.

Ed.C





4-16-22 Oxbow Dr.

END





4-16-22 Oxbow Dr.

E2.E





9-21-22 Oxbow Dr.

E2.F





7-4-22 Lusted Rd.

E2.4





5-26-22 Lusted Rd.

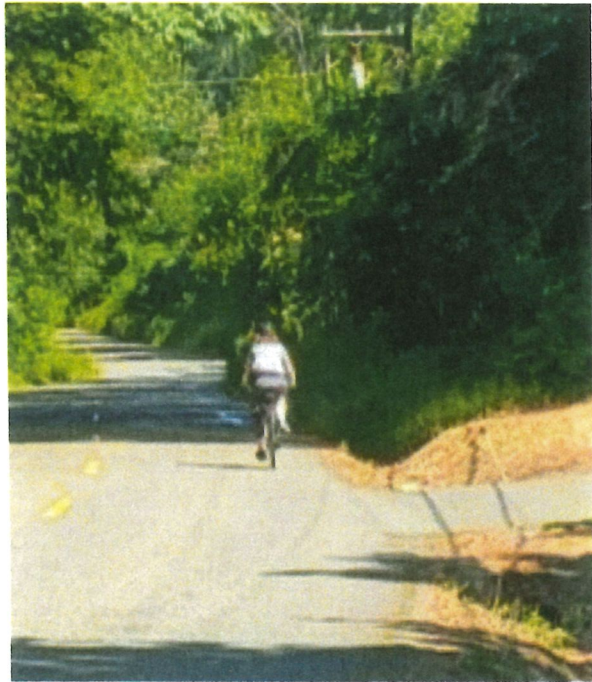
E2.H





5-19-23 SBHS

E2.I



7-19-22

E2J





1-27-22 Oxbow Dr.

E2.K



6-1-23 Dodge Park Blvd.

## **EXHIBIT 3**

LA Times

Head-on crash triggers tanker truck explosion in downtown L.A.

BY JOSEPH SERNA

JUNE 20, 2016 6:20 AM PT

A head-on collision between a car and a tanker truck hauling carbon dioxide triggered a huge explosion that damaged a nearby building and shut down a downtown intersection early Monday, according to local media reports.

The crash occurred about 3:30 a.m. in the 1500 block of South Central Avenue, near where the street meets the 10 Freeway, and closed down the intersection with East 16th Street, KTLA reported.

The tanker burst into flames after the crash but its 61-year-old driver managed to escape and was taken to a hospital, where he was listed in fair condition, KTLA reported. The driver of the car that hit the truck was taken to the hospital and was listed in critical condition, according to KABC.

The fire damaged the exterior of a nearby building but didn't cause interior damage, KABC reported.

Authorities said the car that collided with the truck was driving in the wrong direction on 16th Street, KABC reported.

E3.A

# Tanker spills CO2 liquid following crash north of Pueblo

By Lindsey Grewe

*Published: Feb. 24, 2022 at 9:20 AM PST | Updated: Feb. 24, 2022 at 12:57 PM PST*

Share on FacebookEmail This LinkShare on TwitterShare on PinterestShare on LinkedIn  
PUEBLO COUNTY, Colo. (KKTV) - Hazmat crews have finished cleaning up CO2 liquid from the roadway after a crash involving a small tanker Thursday morning.

State Patrol tells 11 News a pickup driver inadvertently caused the Hazmat situation when they fell asleep and rear-ended the tanker on I-25 north of Pueblo. The tanker began leaking and pulled off onto the Young Hollow exit ramp (114).

The crash did not affect traffic outside of blocking the exit. No injuries were reported.

Hazmat crews wrapped up just after 11 a.m.



## CDL LIFE

# Truck driver delivering liquid CO2 dies from carbon dioxide poisoning

By Molly Gibson -  
November 23, 2018

According to the Anoka County Sheriff's Office, the incident occurred in the McDonald's parking lot around 9:30 am off Highway 65 in Spring Lake Park.

The police were called onto the scene after a 9-11 call came in about a seemingly unconscious man in the cargo area of his truck. When they arrived the CO2 was still pouring out of the back, and the driver was deceased.

Initially, the leak was thought to have been caused by a mechanical failure in the truck's distribution system. Dave Eide witnessed the incident and told local news he saw it differently.

Eide stated that that it appeared as though the truck driver must have attempted to drive off with the liquid CO2 hose still attached to a fitting. He says he saw the hose outside the vehicle and described it as the hose 'going wild'.

According to KARE11, a Eide had stopped at the McDonald's for breakfast and noticed that something was going on with the truck. He tried to help the man, but apparently it was too late.

In a statement he gave to the news source he said, "I hopped out, went over...(thought) 'something ain't right.' I opened the door of the truck, a bunch of smoke came at me...there was nothing I could do at that point. You couldn't get in there to shut it off."

The owner of the delivery company refused to speak on camera but did say that a driver "error" was the cause of the accident.

E3.C

# Seattle Shuts Down I-5 as Oxygen Tanks Explode in Truck Fire

BY JAKE THOMAS ON 7/28/22 AT 8:22 PM

Fumes and smoke wafted across central Seattle after a truck carrying liquid oxygen tanks caught fire and exploded, slowing traffic on a busy highway that traverses the city.

Emergency crews responded to the fiery scene on a southbound stretch of Interstate 5 in downtown Seattle Thursday afternoon. While authorities haven't released details on the cause of the explosion, traffic on I-5 remains snarled.

"Tanks are exploding," the Seattle Fire Department said on Twitter shortly before 2 p.m. "Please avoid the area."

The truck caught fire just after 1 p.m. and burned for over an hour, with some of the liquid oxygen tanks exploding and flying off the freeway, reports KOMO News. Emergency crews shut down both the north and southbound lanes of I-5 for over an hour, according to the station.

The city's emergency alert system advised nearby residents to close their doors and windows to avoid smoke exposure.

Washington State Patrol Trooper Rick Johnson told *The Seattle Times* that the truck's driver was able to get away and was uninjured. The truck was also carrying propane tanks, according to the paper.

The Seattle Fire Department said in a tweet sent after 4 p.m. that the fire on the flatbed truck was under control and no injuries were reported.

A video of the fire posted to Twitter shows the black mass of the truck engulfed in flames as tanks continue to detonate. *(This video includes strong language that not all readers may find appropriate.)*

The truck's liquid oxygen tanks continued exploding for at least 30 minutes before firefighters were able to extinguish it with foam, reports local Fox affiliate

KCPQ. A video of the fire obtained by the station shows thick fumes pouring from the truck obscuring the highway, causing traffic to slow.

Fire crews are monitoring the truck, which burned for over an hour, and are waiting for it to cool enough to secure the remaining liquid oxygen tanks, KOMO reports. After the truck is cleared, state Department of Transportation (DOT) workers will inspect the roadway for signs of fire damage to the highway, according to the station. Despite the fire being quelled, transportation officials have warned that traffic is expected to be delayed for hours.

The DOT said in a tweet shortly before 4 p.m. that all southbound lanes on I-5 remain blocked, except for the express lanes. The department advised travelers to take alternative routes or the train.

"Expect some delays on alternate routes as well," the department said.  
"Consider postponing your travels."

DOT spokesman James Poling told *Newsweek* in an email that I-5 southbound was closed for six hours on Thursday. Two overhead signs above the burned vehicle were removed, according to Poling.

## **Crews clearing out soil, fuel after tanker truck crash on Highway 22**

The tanker truck spilled fuel and diesel in the crash 10 miles east of Detroit. ODOT hopes to have the highway open by Friday evening.

Author: KGW Staff

Published: 11:52 AM PST February 19, 2020

Updated: 11:59 AM PST February 19, 2020

IDANHA, Ore. — A 30-mile stretch of Highway 22 will be closed until at least Friday evening after a semi hauling double tankers with fuel overturned Sunday morning. The truck was carrying 6,500 gallons of gasoline and 4,100 gallons of diesel, according to the Oregon Department of Environmental Quality. About 7,800 gallons of fuel and diesel spilled along the North Santiam River.

The river supplies drinking water to Salem and other communities. The Department of Environmental Quality told KGW on Sunday night that any contamination will dissipate before it reaches Salem or any community.

The crash happened about 10 miles east of Detroit and the highway is closed between the town of Idanha and the highway's junction with U.S. 20.

So far, cleanup crews have recovered about 2,800 gallons of fuel and excavators have dug up about 737 cubic yards, nearly 150,000 gallons, of contaminated soil. Trucks are hauling the soil to a landfill in Eugene.

It's unclear what caused the crash. The driver of the semi was taken to the hospital with minor injuries.

The tanker is owned by Space Age Fuel.

U.S. 20 and OR 126E are the alternative routes for most traffic traveling between the Willamette Valley and Central Oregon, transportation officials said.



**9/21/2015**

## **Tractor trailer flips down embankment in Greenfield**

Published in the Greenfield Recorder:

By CHRIS CURTIS

Recorder Staff

Monday, September 21, 2015

A truck driver was in critical condition and firefighters and hazardous material crews worked all day to clean up a spill of acidic aluminum sulfate after a tractor-trailer tanker left the road and crashed down the Factory Hollow embankment by Fall Brook early Monday morning.

The driver, identified by police as Leo Murphy, 58, of Billerica, was in critical condition Monday night at UMass Memorial Medical Center in Worcester.

The section of highway between Adams Road in Greenfield and the Gill-Montague Bridge in Gill remained closed until about 7 a.m. today. Both lanes were reopened in time for morning commuting although work was expected to continue, which might cause delays, police said.

At 7:20 p.m. Monday, Greenfield Deputy Police Chief Mark Williams said the drained tank had been hauled up the bank onto the road.

Greenfield Police Lt. William Gordon said a passerby called 911 at 3:57 a.m. and police and firefighters found a tanker truck rolled over the embankment at the curve, the driver trapped inside.

The driver remained trapped for about two hours as firefighters worked to free him with "every piece of rescue equipment that we own," said Greenfield Fire Chief Robert Strahan. Strahan said the tanker was on its side and heavily damaged.

The driver was alert during the extrication. He was brought back up to Route 2 with a Stokes rescue basket and ropes as a helicopter ambulance circled overhead.

E3.F



Gordon said the driver's injuries were serious and he was taken to a Worcester hospital by Life Flight helicopter once freed.

Monday night, Gordon confirmed the driver was still alive and was expected to be transferred to Mass General Hospital.

"We have multiple things going on right now, the first thing is we had a rescue to perform, ... there is an ongoing small leak of a hazardous material, aluminium sulfate, it has a high acid concentration. We have it contained but we have not stopped the leak," Strahan said at 9:30 a.m.

Strahan said the material is dangerous if touched, but is not an inhalation danger and nobody in the area was in danger or had to be evacuated.

Aluminum sulfate is a chemical compound used chiefly in papermaking, water purification and sewage treatment. Williams said the truck, owned by Billerica-based Roy Brothers, was hauling the acid from Adams to another Massachusetts town east of Greenfield for wastewater treatment.

Some of the material made it into the nearby Fall Brook, Strahan said. Strahan said the state hazardous material team was helping with the removal of the truck and product, with environmental clean-up companies Clean Harbors Environmental Services and Western Mass. Environmental, the state Department of Environmental protection and the federal Environmental Protection Agency.

Strahan said stopping the leak and removing the tanker from the embankment alone should take 12 hours. The crash also shattered a utility pole and took down phone and power lines. Power had been restored in the area by 9 a.m., but Verizon phone and Eversource power crews were waiting to finish repairs.

Greenfield police are in charge of the accident investigation, assisted by state police. Gordon said there was no immediate sign of the cause. "Not even brake marks. It appears the truck drove directly into the guardrail without being able to maneuver," he said.

Another tractor-trailer rolled over in the same spot Sept. 4, also in the early morning hours. The driver in that accident was trapped by power lines for about 90 minutes, but reportedly escaped with an injured hand.

Police diverted westbound truck traffic aiming for Interstate 91 up Main Road in Gill to Route 10 in Northfield and over to Route 63, Gordon said.

Traffic backed up down the Turners Falls Road hill into Turners Falls at rush hour, drivers evidently bound for Route 2 east.

Factory Hollow Road was open for residents of the road only Monday, with residents asked to check in with the police at the Adams Road and Route 2 intersection.

An unrelated accident added to the scene Monday morning on the Gill end, where a tractor trailer leaked what firefighters said was nonhazardous red ink.

# **Overtaken tractor trailer spills liquid oxygen, prompts I-83 to be closed**

**Madeline Crocenzi**

York Daily Record

Dec 2, 2017

A northbound tractor-trailer hauling liquid oxygen overturned on Interstate 83 early Saturday morning, prompting an evacuation and closure of the highway for much of the day.

**UPDATE: Driver charged in I-83 liquid oxygen Hazmat spill, police say**

The tanker truck was just approaching the Glen Rock exit of the interstate when for some unknown reason the driver lost control and swerved to the right. The truck took out about 50 feet of guardrail before hitting an embankment on the side of the exit ramp and rolling over.

The driver suffered minor injuries and was released after being treated at York Hospital, authorities said.

The crash, reported shortly after 6 a.m., prompted emergency officials to evacuate the area around the exit, which is not heavily developed. The highway was closed between the Loganville and Shrewsbury exits for much of the day and was finally reopened completely at about 6:30 p.m.

Earlier today, state police said the spill involved liquid nitrogen. However, they clarified that the substance was liquid oxygen around noon.

Loganville Fire Chief Brian Ream said, "We've had accidents here before. But it's been a long time since we had something of this magnitude."

The crash snarled traffic from Loganville to Shrewsbury as traffic was diverted from the interstate.

Liquid oxygen is a cryogenic liquid that is extremely cold according to University of Florida Environmental Health and Safety. Exposure to liquid oxygen can lead to severe burns because of its cold temperature.

E3.H



## **Crash on I-40 causes diesel tanker truck to go up in flames**

By Jacob Gallant

*Published: Aug. 22, 2022 at 2:07 PM PDT*

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ST. FRANCIS CO., Ark. (WMC) - A tanker truck went up in flames after a crash on I-40 Monday.

The crash happened in St. Francis County, Arkansas, near Madison, around 3:15 p.m.

Arkansas Department of Transportation says a tanker truck caught on fire while hauling diesel fuel.

One confirmed fatality was reported.

There's no word on what caused the crash, but there were heavy downpours in the area Monday afternoon.

Traffic is stopped westbound and slowed eastbound.

Traffic is being diverted at exit 256 as workers deal with the wreckage.

# Fuel Tanker Plows Into Highway Median, Igniting 14,000 Gallons Of Fuel Into A Fireball

It's a crash that looks like it was ripped straight from Hollywood.

By Mercedes Streeter

7/13/21 11:27AM

Comments (182)

A fuel tanker truck veered into a highway median in Troy, Michigan, on Monday. Shortly after impact, the tanker's 14,000 gallons of diesel and gasoline ignited into a fireball like a scene out of Hollywood.

At around 1:15 p.m. on Monday, according to Troy Police Department reports, a tanker hauling 14,000 gallons of fuel veered into the median of I-75. A car hauler just behind the tanker caught the crash on video and it looks intense. The truck doesn't turn for the curve, nearly taking out a Honda CR-V on its way to the median. It appears that the driver of the truck doesn't attempt to turn or even brake before the crash.

Thankfully, the semi's driver was able to escape the wreck with only minor injuries and no other vehicles were involved in the crash. If you ever wondered just how strong those concrete barriers are, here's your answer. The barriers kept the truck safely in the northbound lanes, preventing a worse crash.

As Fox 2 Detroit reports, the crash caused quite the mess for crews to clean up. Detroit Free Press notes that the fuel load consisted of 10,000 gallons of gasoline and 4,000 gallons of diesel. The tanker

burned for two hours and the fire left it in an unrecognizable state.

While most of the fuel is believed to have burned up, gasoline and diesel flowed into drains and ditches. Dirt was hauled in and dumped into the ditches in an effort to contain the spill. But it gets worse from there, as the heat from the fire may have damaged the road surface, which was only recently rebuilt.