State of Oregon
Department of Environmental Quality Memorandum

Date: October 20, 2025

To: FILE

Through: Brad Shultz, Manager and Bruce Scherzinger, Lead Worker

From: Sarah Kingery
Western Region

Subject: OSU Graf Hall, LUST 02-21-1137; Staff Memorandum in support of a No Further Action determination

This document presents the basis for the Oregon Department of Environmental Quality's (DEQ's) recommended No Further Action (NFA) determination for the OSU Graf Hall, in Corvallis. As discussed in this report, contaminant concentrations in soil, groundwater and soil vapor are below acceptable risk levels.

The proposed NFA determination meets the requirements of Oregon Administrative Rules Chapter 340, Division 122, Sections 0205 to 0360; and ORS 465.200 through 465.455.

The proposal is based on information documented in the administrative record for this site. A list of key documents is presented at the end of this report.

1. BACKGROUND

Site location.
The site's location can be described as follows:
- Address: 1680 SW Monroe Ave, Corvallis, Benton County, Oregon.
- Latitude 44.5678º North, longitude -123.2748º West
- Tax lot 100, Township 11 South, Range 5 West, Section 34

Site setting.
This site is located on the Oregon State University (OSU) campus on the south side of SW Monroe Avenue. A former underground storage tank (UST) was located between SW Monroe Avenue and Graf Hall. Graf Hall is a large multi-story building that takes up most of the site. The remainder of the site is paved with some narrow strips of landscaping. This property is zoned for Oregon State University. Businesses and residences are located to the north across SW Monroe Avenue. The nearest residence is an apartment building approximately 200 feet north of the site.

Physical setting.

This site is flat and located in the city of Corvallis in the Willamette Valley and is surrounded by urban development. Groundwater generally flows to the west/northwest towards the Willamette River which is located approximately ¾ mile away. Shallow groundwater at the site was encountered at depths of 10 to 15 feet below ground surface (bgs).
Soils at this site are mapped as Willamette silt loam. Soils encountered during the site investigation included clay and silt units.

Site history.
Graf Hall, also known as the Engineering Laboratory, was built in 1920. It is part of the Oregon State University campus. It is used for classrooms and engineering and robotics laboratories.

2. BENEFICIAL LAND AND WATER USE DETERMINATIONS

Land use.
The site is located on property zoned for the Oregon State University as part of a public land grant. The site has been used for an engineering laboratory since 1920. Use and zoning is not expected to change.

Groundwater use.
Drinking water is supplied to Graf Hall and the surrounding area by the City of Corvallis. DEQ searched the Oregon Water Resources Department well reports and did not find records of drinking water wells within a ¼ mile radius of the site.

Surface water use.
The nearest surface water is the Willamette River located approximately ¾ of a mile to the southwest of the site. Stormwater from the site drains to SW Monroe Avenue where it is collected in the City of Corvallis stormwater system.

3. INVESTIGATION AND CLEANUP WORK

The area of investigation was a 250-gallon underground storage tank (UST) used to store gasoline (see Figure 2). The UST was discovered during sidewalk improvements and was decommissioned by removal in 2021.

During decommissioning approximately 9.5 tons of soil were removed and disposed of at Coffin Butte Landfill. Thirteen soil samples were obtained from the excavation prior to backfilling. Two initial samples were analyzed for gasoline, diesel, and oil-range hydrocarbons by methods NWTPH-Gx and NWTPH-Dx. These samples detected gasoline and diesel (identified as aged gasoline). Based on this information the remaining samples were analyzed for gasoline-range hydrocarbons and the diesel and oil-range analysis were discontinued. Five of these samples were also analyzed for volatile organic compounds (VOCs) by EPA Method 8260. Two samples were also analyzed for polycyclic aromatic hydrocarbons (PAHs) and RCRA 8 Metals.

In August 2023, one boring was advanced within the footprint of the former UST excavation. One groundwater grab sample was obtained from the boring and analyzed for gasoline-range

hydrocarbons, VOCs (risk-based decision-making manual (RBDM) list), dissolved lead, and naphthalene.

Additional borings were advanced in July 2024 to delineate the extent of groundwater contamination and to assess potential soil vapor contamination. Borings were located on the south and north sides of Graf Hall and to the east and west of the former UST excavation. Groundwater samples were analyzed for gasoline-range hydrocarbons.

Two soil vapor sampling probes were placed near the former UST excavation and advanced to 5 and 10 feet bgs. Clay was encountered at these locations from ground surface to final boring depths. Due to the tight, non-porous clay encountered soil vapor could not be extracted and analyzed.

In July 2025 indoor air samples were collected on the first floor of Graf Hall. One outdoor sample was also collected at the same time. Samples were analyzed for BTEX, naphthalene, and gasoline-range hydrocarbons by EPA method TO-15.

Nature and extent of contamination.
Contaminants of interest at this site are gasoline-range hydrocarbons, BTEX and naphthalene due to a release from a former gasoline UST. Soil and groundwater are contaminated in the vicinity of the former UST.

Soil in the vicinity of the former UST contained gasoline-range hydrocarbons and some VOCs. The greatest concentration of gasoline-range hydrocarbons detected was 3,380 mg/kg which exceeds the residential direct contact RBC. Contamination was found at depths ranging from 5.5 to 6.5 bgs. VOCs were detected at concentrations less than all applicable RBCs. PAHs and Metals were not detected.

One groundwater sample obtained beneath the former UST contained concentrations of gasoline-range hydrocarbons, ethylbenzene, naphthalene, Isopropylbenzene, n-Proplybenzene, 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, and total xylenes. Concentrations of gasoline and naphthalene exceeded the risk-based concentrations for ingestion and inhalation from tapwater for residential and occupational receptors. Gasoline also exceeded the residential and commercial groundwater vapor intrusion RBCs. Other contaminants detected were below all RBCs. Additional groundwater samples were obtained to delineate the vapor intrusion risk from groundwater. Gasoline-range hydrocarbons were not detected in these samples indicating that groundwater contamination is localized to the vicinity of the former UST.

Analysis of indoor air sample detected concentrations of BTEX. Concentrations were less than 1 µg/m³ and less than outdoor air detections. Gasoline-range hydrocarbons and naphthalene were not detected.

4. RISK EVALUATION

Conceptual site model.
The primary source of contamination was the gasoline UST which has been decommissioned by removal. Approximately 9.5 tons of soil were removed and disposed of at Coffin Butte Landfill. Soil and groundwater contamination remain in the vicinity of the former UST.
Because Graf Hall is a classroom building urban residential receptors are applicable.

To evaluate human exposure to residual chemical contamination requires an assessment of the type and extent of that exposure. This is based on current and reasonably likely future site use. DEQ publishes risk-based concentrations (RBCs) for contaminants commonly encountered, for different types of exposure scenarios. These RBCs are conservative estimates of protective levels of contaminants in soil, groundwater and air. Table 1 shows potential exposure pathways and receptors for this site. Based on this, applicable RBCs are identified and used for risk screening.

Table 1. Identification of applicable RBCs, based on pertinent pathways and receptors

	Pathway	Receptor	Is pathway complete?	Is RBC Exceeded?	Comments
Soil	Ingestion, Dermal Contact, and Inhalation	Residential and/or Urban Residential	No	Yes	Soil contamination is at depths greater than 3 feet therefore this pathway is not complete.
		Occupational	No	Yes	
		Construction Worker	Yes	No	
		Excavation Worker	Yes	No	
	Volatilization to Outdoor Air	Residential and/or Urban residential	Yes	No	
		Occupational	Yes	No	
	Volatilization to Indoor Air	Residential	--	--	See Note
		Commercial	--	--	
	Leaching to Groundwater	Residential and/or Urban residential	No	Yes	There is no potable use of shallow groundwater beneath the site. Tapwater is provided by the City of Corvallis.
		Occupational	No	Yes	
Groundwater	Ingestion & Inhalation from Tap Water	Residential and/or Urban residential	No	Yes	There is no potable use of shallow groundwater beneath the site. Tapwater is provided by the City of Corvallis.
		Occupational	No	Yes	
	Volatilization to Outdoor air	Residential	No	No	
		Urban residential	No	No	
		Occupational	No	No	
	Vapor Intrusion	Residential	Yes	No	Subsurface soil conditions

	into Buildings	Commercial	No	Yes	restrict vapor flow and samples of indoor air had concentrations of BTEX less than the RBCs.
	Groundwater in Excavation	Construction & excavation worker	Yes	No	
Air	Inhalation	Commercial	Yes	No	
Ecological		Terrestrial & Surface Water	No	No	

Note: DEQ does not have RBCs for volatilization to indoor air from soil. However, soil contaminated with greater than 500 ppm for diesel and 80 ppm for gasoline is considered a potential VI source.

Contaminant concentrations.
Gasoline was detected at a maximum concentration of 1080 µg/l in one groundwater sample obtained from the vicinity of the former UST. Subsequent water sampling next to Graf Hall and on the other side of the street did not detect gasoline. Some VOCs were detected in groundwater however, all concentrations were below all RBCs. Gasoline contamination in remaining in soil in the sidewalls of the former UST excavation had a maximum concentration of 3,380 mg/kg. This is below applicable RBCs for this site. Indoor air contained concentrations of BTEX below 1 µg/m³. These concentrations were below the RBCs and below concentrations observed outside the building.

Human health risk.
Soil contamination remaining is at depths greater than 3 feet therefore the soil ingestion, dermal contact and inhalation pathway is incomplete. Concentrations in soil do not exceed RBCs for this pathway for construction and excavation workers.

Groundwater contamination exceeds the pathway for ingestion and inhalation from tapwater. Tapwater to the site and surrounding properties is provided by the City of Corvallis. The ingestion and inhalation from tapwater pathway is incomplete.

Soil vapor could not be assessed due to soil conditions that restrict air flow. Restricted airflow in the subsurface is likely to prevent soil vapor from moving upwards into buildings. Groundwater analysis indicates that groundwater contamination exceeding the vapor intrusion RBCs is limited and does not extend beneath Graf Hall. Indoor air samples were below the RBCs and less than outdoor air detections. This provides additional evidence that vapors in the subsurface do not pose a risk to human health.

Ecological risk.
The site is fully paved. The contamination remaining at the site is between 5.5 and 6.5 feet bgs. Groundwater contamination is restricted to the site therefore discharge to surface water should not be a concern. There are, therefore, no unacceptable ecological risks identified for the site.

5. RECOMMENDATION

A No Further Action determination is recommended for this site based on the following:

- Removal of the former UST and 9.5 tons of soil has occurred.
- Sample results for soil and groundwater indicates that remaining contamination is isolated and below applicable RBCs.
- Subsurface soil conditions limit vapor movement making vapor intrusion risk unlikely.
- Indoor air samples were below the RBCs.

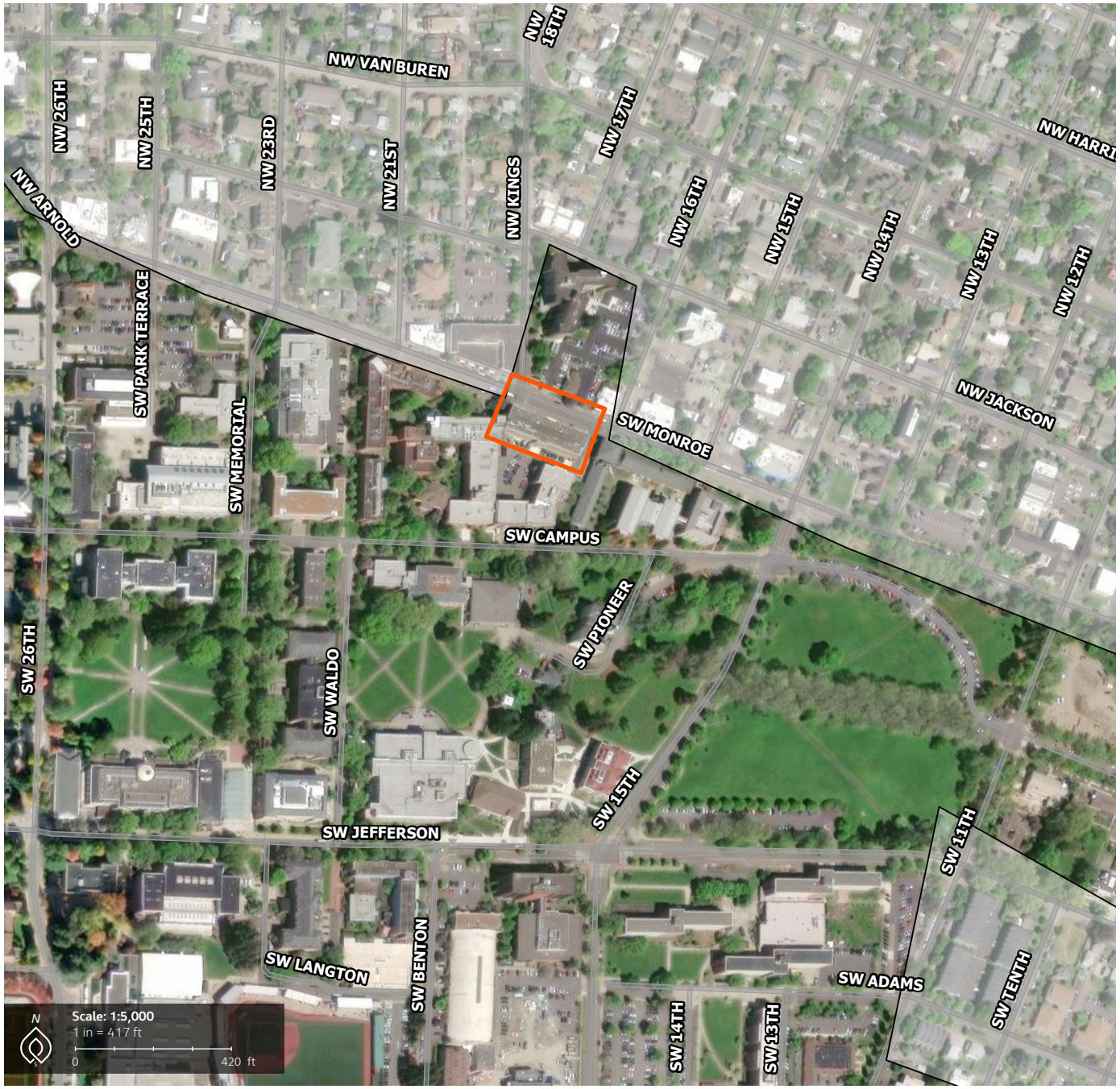
The No Further Action determination should be recorded in DEQ's environmental data management system also known as Your DEQ Online (YDO) under project number 02-21-1137.

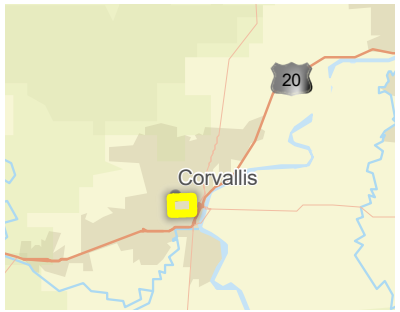
6. ADMINISTRATIVE RECORD

2023-06-07_02-21-1137_Groundwater_sampling_Workplan.pdf
2023-06-27_02-21-1137_ UST_Investigation_Workplan.pdf
2023-10-17_02-21-1137_Investigation Delineation WP FINAL
2024-09-26_02-21-1137_Final UST Report
2025-09-18_02-21-1137 Indoor_Air_Report

7. ATTACHMENTS

1. General Site Map (Jacobs)
2. Sampling Locations (Jacobs)





LEGEND

Project Area

OSU Campus

Note:

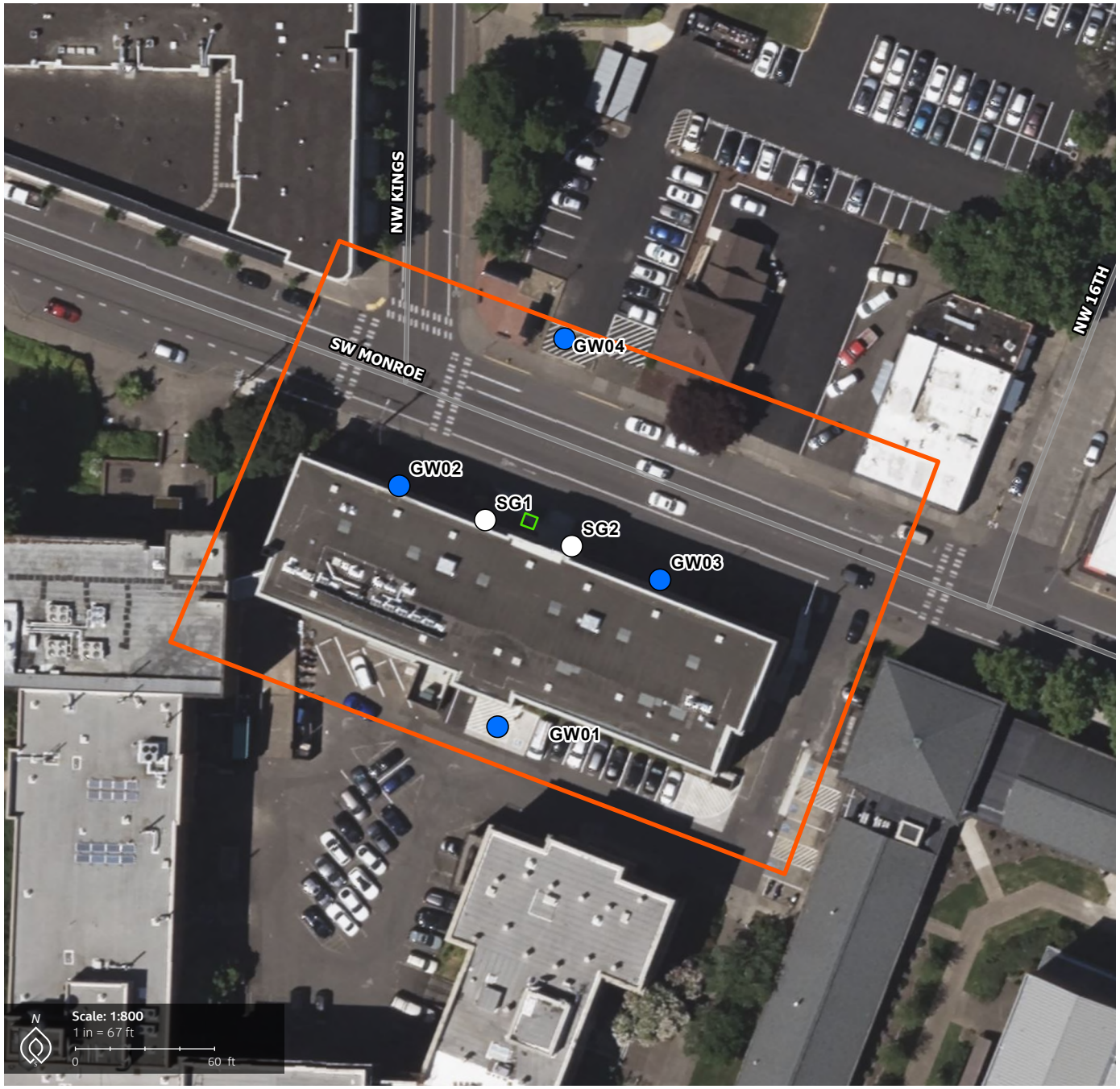
1. Coordinate System
Name: NAD 1983 NSRS2007 StatePlane Oregon North
FIPS 3601 Ft Intl
2. Samples collected 07/18/2024

Figure 1

General Site Map

Graf Hall UST Subsurface Investigation
LUST #02-21-1137
Corvallis, Oregon

Jacobs



LEGEND

- Groundwater Sampling Location
- Soil Gas Sampling Location
- Underground Storage Tank Footprint

Note:

1. Coordinate System
Name: NAD 1983 NSRS2007 StatePlane Oregon North FIPS 3601 Ft Intl
2. Samples collected 07/18/2024
3. Locations are approximate

Figure 2

Sampling Locations

Graf Hall UST Subsurface Investigation
LUST #02-21-1137
Corvallis, Oregon

Jacobs