

Basis of Design

The purpose of this section is to provide the guidelines for the development of specifications for projects in areas with site contamination.

Overview

Many locations on University of Washington property have the potential for soil and/or ground water contamination. Sources of contamination include industrial activities such as fuel storage or dispensing or hazardous material spills prior to University acquisition of the property. It is not uncommon to find soil and groundwater contamination where fuel stations, fuel storage tanks, heating oil tanks, emergency generator tanks, industrial activities and landfills are located.

The Model Toxics Control Act (MTCA) is a Washington State law that establishes environmental release discovery, investigation and cleanup requirements. The EH&S Environmental Programs Office (EPO) assists the University in compliance with MTCA requirements. The University typically relies on environmental contractors to aid University staff and project managers with the implementation of MTCA requirements.

Areas of environmental contamination

See the list of all known or suspected UW owned contaminated properties at the end of this document. The Montlake Landfill and the UW Tacoma campus have unique and complex environmental requirements. For additional guidance on the Montlake Landfill, see the [Montlake Landfill Project Guide](#). The UW Tacoma Project Guide is currently under development.

Contamination discovery

Contact EPO immediately at 206.616.0585 if environmental contamination is discovered or disturbed. EPO makes the appropriate regulatory notifications about environmental releases. Notifications of releases from an underground storage tank (UST) or associated piping are required within 24 hours of discovery. Other types of releases are reported to Ecology by EPO within 90 days of discovery.

Disposal of contaminated soil and water

Pre-plan for site contamination. Contact EPO at 206.616.0585 to discuss environmental assessments and historical information about the site. Hire an environmental consultant familiar with site assessment and cleanup issues. Pre-characterize soils and water for cost estimates; collect enough samples to adequately define the extent of the contamination. Address costs to sample, analyze, manage and dispose of contaminated soil, groundwater and storm water in the contract documents. Additional costs may include worker protection and environmental consulting.

All excavated materials must be contained or stockpiled on Visqueen and covered with Visqueen. Representative samples must be taken for waste designation and disposal at UW authorized disposal sites. Analytical test results must be transmitted to EH&S for waste determinations prior to disposal. If any of the wastes designate as hazardous waste, EH&S will manage the containment, transport and disposal of that waste through the state hazardous waste contract.

Petroleum-contaminated soils are not Hazardous Waste but must be disposed at solid waste handling facilities. Solid Waste Handling Facilities classify and manage petroleum-contaminated soils by the concentration of gas-, diesel- or heavy oil-hydrocarbons present in the waste. Petroleum contaminated soils above certain hydrocarbon concentrations must be thermally-treated at a cost of approximately \$32 per ton. One cubic yard of dry soil weighs approximately 1.5 tons.

Contain water that has been in contact with contaminated soils in Baker tanks. Contact EH&S for assistance with the proper treatment and disposal of potentially contaminated water. EH&S will assist with obtaining sanitary sewer discharge permits if appropriate.

Disposal costs vary depending on contents and volume of waste but can be quite expensive. The cost to dispose of soil that designates as Hazardous Waste can be as high as \$7000 per 20 cubic yard drop box. Contact EPO at 206.616.0595 for assistance with estimating disposal costs.

Work Plan and Training

Develop a Work Plan during the design phase to address site contamination issues. Allow enough time for EH&S and regulatory agencies to review the work plan. All site workers must have 40-hr HAZWOPER training to work in a contaminated site.

Cleanup Requirements

EH&S (206.616.0585) will assist project managers in determining the extent of MTCA cleanup requirements, based on pre- and post-assessment data. Cleanup requirements vary from site to site and depend on the extent and location of the contamination. In some cases, removal and offsite disposal of contaminated soils is necessary, while in other cases, the installation of groundwater treatment systems may be required. In some instances, there is no choice but to leave environmental contamination behind. When environmental contamination remains at a site, the University implements institutional controls to protect human health and the environment.

Institutional Controls

Contact EH&S at 206.616.0585 for guidance on protecting institutional controls that may already be in place at a known contaminated site. Institutional controls limit or prohibit activities that may result in human exposure to contamination. They may include protective asphalt or a concrete cap over a contaminated site, a restrictive deed or covenant on the property, a vapor barrier, a vapor collection system, groundwater monitoring wells, or a groundwater treatment system.

List of contaminated sites

Below is a list of all known contaminated sites on UW-owned properties.

Location	Description on known contamination
1303 NE Campus Parkway	Former underground storage tank for gasoline fueling operations located outside of garage door under sidewalk. Gasoline pump island found inside the garage. Heating fuel tank also suspected on site.
4247 53 rd Ave NE	Heating oil tank released. Tank removed. Heating oil contamination left under southeast corner of the structure and the front yard vegetated slope.
4545 15 th St NE	Heating oil tank.
Applied Physics Annex	Potential contamination from underground and above ground storage tanks.
Bagley Hall	Crawl space is former EPA cleanup site. Dirt crawl space beneath the building encapsulates asbestos.
Boat Street Marina	Former fuel storage tanks closed by previous owner. Petroleum contamination discovered in 2008 when UW installed water suppression line to new dock.
Bryant Building (Timmerman Marina site)	Contamination from underground and above ground storage tanks. Bioremediation operation terminated 1999. Petroleum contamination remains in soil and groundwater.
Bryant Building Annex	Closed in place underground storage tank used previously for heating purposes.

Clark Hall	Asbestos encapsulated beneath the north end of the building.
Commodore Duchess	Potential contamination from closed in place underground storage tank containing diesel fuel.
Conibear Shellhouse	Old creosote pilings supporting previous building were cut off and left remaining under the site of the new building in 2003. Soils within a few feet of each piling found to be contaminated with polycyclic aromatic hydrocarbons (PAHs).
Consolidated Laundry (2901 27 th Ave S)	Potential contamination from underground storage tank containing heating oil.
Drama Scene Shop Bldg (3941 University Way NE)	Potential contamination from underground storage tank thought to have been closed in place. Tank thought to be located inside of the building near garage door entrance on west side of the building.
Edmundson Pavilion	Temporary cleanup completed in Jan 1991. Area is still restricted. Asbestos insulation debris located in dirt. Enter from pool mechanical room.
Friday Harbor	Underground storage tanks with various fuels oils. Petroleum contamination left in place under maintenance building during tank closure. Temporary closure of 3 underground storage tanks that contained gasoline.
Grant and Contract Accounting Office (3935 University Way NE)	Heating oil tank found on west side of building. Status unknown.
Hanseer Hall	Asbestos encapsulated in soils underneath the building.
Husky Stadium	Lead paint used on stadium seating areas.
Hutchinson Hall	Asbestos found in dirt crawl spaces. Bulk samples confirmed presence of asbestos.
IMA	Portions of the building lie over the Montlake Landfill. Active and passive methane gas ventilation systems are installed.
Johnson Annex A	Asbestos found in dirt crawl spaces. Source is deteriorated asbestos pipe insulation. Area is secured.
Lewis Hall	Crawl space located next to the mechanical room contains asbestos-contaminated soils. Asbestos cleanup of the Mechanical room occurred in 1991. Dirt crawl space remains contaminated with restricted access.
Mechanical Engineering Annex	Potential contamination from closed in place heating oil underground storage tank on east side of building. Tank closed on 10/2003.
Merlino Property, UW Tacoma	TCE in groundwater. Lead in surface soil across entire site. (Not UW-owned.)
Montlake Landfill	Closed, capped former municipal landfill. Contaminated soil and water. Methane gas generation from the landfill. Protection of landfill methane monitoring wells , survey monuments, and parking lot methane mitigation systems.
Motor Pool	Underground storage tanks with gas, diesel and motor oil. Discovery of mineral spirit plume from unknown source. Requires further assessment.
Northlake Building	Potential contamination from underground and above ground storage tanks.
Pack Forest	Potential contamination from closed in place underground storage tanks. Heating oil tank closed in place near Scott Hall. Above ground fuel storage tanks at maintenance shop and near director's residence. Low levels of tritium documented in groundwater at Pack Forest Landfill located across the highway from the Pack Forest Building Complex.
Physics Astronomy Building	Hydraulic oil contamination left in place along building foundation after repairs were made to the southern hydraulic lift located in the loading dock.

Physical Plant Office Building	Dirt crawl space is asbestos-contaminated. Sample 0419901H (debris from crawl space) contained 25-50% amosite.
Power Plant	Potential contamination from underground storage tanks with various fuel oils. Known contamination left in place to protect foundation structures of nearby buildings.
Russian House (2104 NE 45 th St)	Closed heating oil tank when house converted to natural gas. Records indicate that the tank was closed in place.
Savery Hall	Lead paint soils remediation project underway in 2008.
UW President's Residence	Potential contamination from underground and above ground storage tanks.
UW Tacoma Campus (portions)	Under Agreed Order with Ecology. Remedial investigations and cleanup remedies documented and pending Ecology approval. Industrial activities with potential contamination from underground storage tanks with various fuel oils. Protect existing groundwater monitoring wells and treatment system in place at the Shaub-Ellison parcel (the staircase on the north side of the Walsh-Gardner Building.)
UW Tickets Office (4001 University Way NE)	Custom Laundry and Cleaners operated here through the mid-1960s.
West Campus Parking Garage	Former location of Cornwall Fuel Company. Petroleum contamination from underground storage tanks with various fuel oils and gasoline. Fuel tanks have been removed. Partial soil remediation. Groundwater wells on site to monitor groundwater conditions. Gasoline vapors documented beneath the site.
W.H. Foege Bioengineering Building	<p>Deep soil diesel and gasoline contamination discovered in geotechnical explorations and construction. Source is the former Cornwall Fuel Company located at West Campus Parking Garage site. Partial remediation of contaminated soils during construction. Institutional controls in place include capping the soil, three groundwater monitoring wells, and identification of contamination on final as built drawings.</p> <p>Heating oil tank installed on site in 2005.</p>