INITIAL INVESTIGATION FIELD REPORT

WASHINGTON STATE DEPARTMENT OF ECOLOGY

ERTS Number: 668810
Parcel #(s): 2075240013
COUNTY: Pierce

SITE INFORMATION

Site Name (e.g., Co. name over door):	Site Address (including City and Zip+4):	Site Phone:
Amtrak Relocation Project Area (Freighthouse Square)	602 E. 25th Street Tacoma, WA 98421	none
Site Contact and Title: Olympic Region Environmental Manager (Jeff Sawyer)	Site Contact Address (including City and Zip+4): WSDOT, P.O. Box 47440 Olympia, WA 98504	Site Contact Phone: 360-570-6701
Site Owner: Time in Space LLC	Site Owner Address (including City and Zip+4): 2501 E D St 98 Tacoma, WA 98421	Site Owner Phone:
Site Owner Contact:	Site Owner Contact Address (including City and Zip+4):	Owner Contact Phone:
Alternate Site Name(s):	Comments:	
Previous Site Owner(s):	Comments:	

Latitude (Decimal Degrees): 47.24002
Longitude (Decimal Degrees): -122.42544

INSPECTION INFORMATION

Inspection Conducted? Yes ☒ No ☐	Date/Time: 11.09.16; 11 am	Entry Notice: Announced ☐	Unannounced ☒
Photographs taken?	Yes ☒	No ☐	
Samples collected?	Yes ☐	No ☒	If *Yes*, be sure to include a figure/sketch showing sample locations.

RECOMMENDATION

No Further Action (Check appropriate box below):		**LIST on Confirmed and Suspected Contaminated Sites List:** ☒
Release or threatened release does not pose a threat	☐	
No release or threatened release	☐	
Refer to program/agency (Name:)	☐	
Independent Cleanup Action Completed (i.e., contamination removed)	☐	

COMPLAINT (Brief Summary of ERTS Complaint):

Soil is contaminated with oil range hydrocarbons and carcinogenic PAHs; groundwater is contaminated with arsenic.

CURRENT SITE STATUS (Brief Summary of why Site is recommended for Listing or NFA):

TPCHD recommends including this site in ISIS due to detected contamination in both soil and groundwater.

Investigator: S. Bell	Date Submitted: 02.08.17

OBSERVATIONS

Description (please be sure to include the following: site observations, site features and cover, chronology of events, sources/past practices likely responsible for contamination, presence of water supply wells and other potential exposure pathways, etc.):

Issue: Groundwater contaminated with dissolved and total arsenic, and soil contaminated with total cPAHs and oil range hydrocarbons was discovered in the Amtrak Relocation Project (ARP) area footprint. The cPAH contamination found in soils spans multiple properties, probably associated with contamination discovered in an adjacent project area for the Sound Transit (ST) Tacoma Trestle Project (ERTS #665604), and likely indicates an area wide phenomenon. A separate II field report discusses the specific contamination issues involved with the ST Project. This report is limited to information related to the ARP area.

The ARP area encompasses the Freighthouse Square (FHS) building and parking lot as well as parcels to the south owned by Sound Transit (CPSRTA), WSDOT, City of Tacoma, and two private parties (Kessler and Bish). It is centered around the FHS property, in a commercial/industrial section of Tacoma located north of the Tacoma Dome and about 1000 feet south/southeast of the head of the Thea Foss Waterway. Freighthouse Square was in Ecology's VCP and received an NFA, effective 07.11.03; the FSID is 1351. The FHS property is subject to a restrictive covenant due to historical contamination found in soil and groundwater at the east end of the building.

A Phase II ESA was performed by Shannon & Wilson (SW), dated September 15, 2015, to evaluate the recognized environmental conditions identified in a preceding Phase I ESA, as well as in support of the ARP. The information provided below was distilled from the Phase II ESA.

SW conducted 27 borings across the project area from November 2014 to August 2015 and collected 88 soil samples and 11 groundwater samples. The borings were advanced to depths ranging from 10' bgs to 50' bgs, on property owned by several entities (see below). When encountered in the borings, groundwater was found over a wide range of depths (5 to 38 feet bgs). Borings were located in the following areas:

- north and south sides of FHS building
- west of FHS building, in parking lot across the street
- east end of FHS building
- in ST/Tacoma Rail ROW, south of the FHS building
- in COT street ROW on east end of building
- COT property, east end of project area, south of SR ROW
- Bish property, east end of project area, south of ST ROW

Soil and groundwater samples were collected and analyzed for gas, diesel and oil range hydrocarbons, VOCs, SVOCs, and metals. Some soil samples were also analyzed for PCBs. Not all samples were analyzed for all constituents. Diesel and oil range organics were detected in the soil at various locations, at depths ranging from 0.5 to 20 feet bgs; most lab results were below the 2000 mg/kg MTCA CULs. The only significant detection in this contaminant group was oil range organics found in a sample collected from 0.5' below the asphalt covered street parking on the north side of the FHS building. Carcinogenic PAHs were also commonly detected in soil over the same depth range; 7 samples from 6 boring locations exceeded the MTCA Method A CUL of 0.1 mg/kg.

Groundwater sample results showed the presence of diesel and oil range organics in concentrations below MTCA CULs. Total metal concentrations for arsenic, cadmium, chromium, lead and mercury were present above MTCA CULs, but corresponding results for dissolved metals showed only arsenic above the 5 µg/L CUL. MTCA exceedances for both the soil and groundwater results are tabulated below.

Boring/well	Depth	cPAHs (mg/kg)	Oil range organics (mg/kg)	Dissolved Arsenic (µg/L)
GP-4	1.2'	0.77		
GP-4	5'	0.22		
GP-7	0.5'	0.58		
GP-10	0.5'	15.0		
GP-14	6'	1.5		
GP-18	0.5'	0.19		
GP-20	0.5'	0.19		
SW-17-15	15'	1.15		
GP-19	0.5'		4300	
GP-35-15				7.5
FHS-1				13
MTCA Method A Soil CULs, Unrestricted Land Use		0.1	2000	
MTCA Method A CUL, Groundwater				5

Locations of detected contamination:

- Freighthouse Square (FHS) Property:
  GP-4, south side of building, west end
  GP-10, parking lot west of building
  GP-14, south side of building, middle of building property
  GP-20, south side of building, east end
  SW-17-15, south side of building, east end
  FHS-1, monitoring well, just west of GP-4

- Sound Transit/Tacoma Rail ROW, south of FHS Building
  GP-7, west end of project area
  GP-18, east end of project area

- Right-of-Way? FHS Property?
  GP-19, north side of building, east end, in street parking stall (FHS property per SW)
  GP-35-15, monitoring well, east of building, in center of E. G Street – COT ROW?

Summary: soil in this project area is contaminated locally with oil range hydrocarbons exceeding the MTCA CUL. Wide spread contamination of soil with cPAHs is similar to results obtained in sampling efforts at the adjacent Sound Transit Tacoma Trestle Project (see ERTS665604) and are likely related to historical events/uses. Groundwater is also contaminated with arsenic at concentrations above MTCA in monitoring wells located south and east of the FHS building.

Recommendation: Include this site on the Confirmed and Suspected Contaminated Sites List.

(fill in contaminant matrix below with appropriate status choice from the key below the table)

CONTAMINANT GROUP	CONTAMINANT	SOIL	GROUNDWATER	SURFACE WATER	AIR	BEDROCK	DESCRIPTION
Non-Halogenated Organics	Phenolic Compounds						Compounds containing phenols (Examples: phenol; 4-methylphenol; 2-methylphenol)
	Non-Halogenated Solvents						Organic solvents, typically volatile or semi-volatile, not containing any halogens. To determine if a product has halogens, search HSDB (http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?HSDB) and look at the Chemical/Physical Properties, and Molecular Formula. If there is not a Cl, I, Br, F in the formula, it's not halogenated. (Examples: acetone, benzene, toluene, xylenes, methyl ethyl ketone, ethyl acetate, methanol, ethanol, isopropranol, formic acid, acetic acid, stoddard solvent, Naptha). *Use this when TEX contaminants are present independently of gasoline.*
	Polynuclear Aromatic Hydrocarbons (PAH)	C					Hydrocarbons composed of two or more benzene rings.
	Tributyltin						The main active ingredients in biocides used to control a broad spectrum of organisms. Found in antifouling marine paint, antifungal action in textiles and industrial water systems. (Examples: Tributyltin; monobutyltin; dibutyltin)
	Methyl tertiary-butyl ether						MTBE is a volatile oxygen-containing organic compound that was formerly used as a gasoline additive to promote complete combustion and help reduce air pollution.
	Benzene						Benzene
	Other Non-Halogenated Organics						Other Non-Halogenated Organics (Example: Phthalates)
	Petroleum Diesel						Petroleum Diesel
	Petroleum Gasoline						Petroleum Gasoline
	Petroleum Other	C					Crude oil and any fraction thereof. Petroleum products that are not specifically Gasoline or Diesel.
Halogenated Organics (see notes at bottom)	PBDE						Polybrominated di-phenyl ether
	Other Halogenated Organics						Other organic compounds with halogens (chlorine, fluorine, bromine, iodine). search HSDB (http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?HSDB) and look at the Chemical/Physical Properties, and Molecular Formula. If there is a Cl, I, Br, F in the formula, it is halogenated. (Examples: Hexachlorobutadiene; hexachlorobenzene; pentachlorophenol)
	Halogenated solvents						Solvents containing halogens (Halogen is typically chlorine, but can also be fluorine, bromine, iodine), and their breakdown products (Examples: Trichloroethylene; Tetrachloroethylene (aka Perchloroethylene); TCE; TCA; trans and cis 1,2 dichloroethylene; vinyl chloride)
	Polychlorinated Biphenyls (PCB)						Any of a family of industrial compounds produced by chlorination of biphenyl, noted primarily as an environmental pollutant that accumulates in animal tissue with resultant pathogenic and teratogenic effects
	Dioxin/dibenzofuran compounds (see notes at bottom)						A family of more than 70 compounds of chlorinated dioxins or furans. (Examples: Dioxin; Furan; Dioxin TEQ; PCDD; PCDF; TCDD; TCDF; OCDD; OCDF). *Do not use for 'dibenzofuran', which is a non-chlorinated compound that is detected using the semivolatile organics analysis 8270*
Metals	Metals - Other						Metals other than arsenic, lead, or mercury. (Examples: cadmium, antimony, zinc, copper, silver)
	Lead						Lead
	Mercury						Mercury

CONTAMINANT GROUP	CONTAMINANT	SOIL	GROUNDWATER	SURFACE WATER	AIR	BEDROCK	DESCRIPTION
	Arsenic		C				Arsenic
Pesticides	Non-halogenated pesticides						Pesticides without halogens (Examples: parathion, malathion, diazinon, phosmet, carbaryl (sevin), fenoxycarb, aldicarb)
	Halogenated pesticides						Pesticides with halogens (Examples: DDT; DDE; Chlordane; Heptachlor; alpha-beta and delta BHC; Aldrin; Endosulfan, dieldrin, endrin)
Other Contaminants	Radioactive Wastes						Wastes that emit more than background levels of radiation.
	Conventional Contaminants, Organic						Unspecified organic matter that imposes an oxygen demand during its decomposition (Example: Total Organic Carbon)
	Conventional Contaminants, Inorganic						Non-metallic inorganic substances or indicator parameters that may indicate the existence of contamination if present at unusual levels (Examples: Sulfides, ammonia)
	Asbestos						All forms of Asbestos. Asbestos fibers have been used in products such as building materials, friction products and heat-resistant materials.
	Other Deleterious Substances						Other contaminants or substances that cause subtle or unexpected harm to sediments (Examples: Wood debris; garbage (e.g., dumped in sediments))
	Benthic Failures						Failures of the benthic analysis standards from the Sediment Management Standards.
	Bioassay Failures						For sediments, a failure to meet bioassay criteria from the Sediment Management Standards. For soils, a failure to meet TEE bioassay criteria for plant, animal or soil biota toxicity.
Reactive Wastes	Unexploded Ordinance						Weapons that failed to detonate or discarded shells containing volatile material.
	Other Reactive Wastes						Other Reactive Wastes (Examples: phosphorous, lithium metal, sodium metal)
	Corrosive Wastes						Corrosive wastes are acidic or alkaline (basic) wastes that can readily corrode or dissolve materials they come into contact with. Wastes that are highly corrosive as defined by the Dangerous Waste Regulation (WAC 173-303-090(6)). (Examples: Hydrochloric acid; sulfuric acid; caustic soda)

Status choices for contaminants	
Contaminant Status	**Definition**
B - Below Cleanup Levels (Confirmed)	The contaminant was tested and found to be below cleanup levels. (Generally, we would not enter each and every contaminant that was tested; for example if an SVOC analysis was done we would not enter each SVOC with a status of "below". We would use this for contaminants that were believed likely to be present but were found to be below standards when tested
S - Suspected	The contaminant is suspected to be present; based on some knowledge about the history of the site, knowledge of regional contaminants, or based on other contaminants known to be present
C - Confirmed Above Cleanup Levels	The contaminant is confirmed to be present above any cleanup level. For example - above MTCA method A, B, or C; above Sediment Quality Standards; or above a presumed site-specific cleanup level (such as human health criteria for a sediment contaminant).
RA - Remediated - Above	The contaminant was remediated, but remains on site above the cleanup standards (for example - capped area).
RB - Remediated - Below	The contaminant was remediated, and no area of the site contains this contaminant above cleanup standards (for example - complete removal of contaminated soils).

Halogenated chemicals and solvents: Any chemical compound with chloro, bromo, iodo or fluoro is halogenated; those with eight or fewer carbons are generally solvents (e.g. halogenated methane, ethane, propane, butane, pentane, hexane, heptane or octane) and may also be used for or registered as pesticides or fumigants. Most are dangerous wastes, either listed or categorical. Organic compounds with more carbons are almost always halogenated pesticides or a contaminant or derivitive. Referral to the HSDB is recommended you are unfamiliar with a chemical name or compound, as it contains useful information about synonyms, uses, trade names, waste codes, and other regulatory information about most toxic or potentially toxic chemicals.

Dibenzodioxins and dibenzofurans are normalized to a combined equivalent toxicity based on 2,3,7,8-tetrachloro-p-dibenzodioxin as set out in Ch. 173-340-708(8)(d) and in the Evaluating the Toxicity and Assessing the Carcinogenic Risk of Environmental Mixtures using Toxicity Equivalency Factors Focus Sheet (https://fortress.wa.gov/ecy/clarc/FocusSheets/tef.pdf). Results may be reported as individual compounds and isomers (usually lab results), or as a toxic equivalency value (reports).

FOR ECOLOGY USE ONLY (For Listing Sites):

How did the Site come to be known:
- ☐ Site Discovery (received a report): _____ (Date Report Received)
- ☒ ERTS Complaint
- ☐ Other (please explain): _____

Does an Early Notice Letter need to be sent: ☒ Yes ☐ No
If *No*, please explain why: _____

NAICS Code (if known): _____
Otherwise, briefly explain how property is/was used (i.e., gas station, dry cleaner, paint shop, vacant land, etc.):
_____

Site Unit(s) to be created (Unit Type): ☒ Upland (includes VCP & LUST) ☐ Sediment

If multiple Units needed, please explain why: _____

Cleanup Process Type (for the Unit):
- ☒ No Process
- ☐ Voluntary Cleanup Program
- ☐ Federal-supervised or conducted
- ☐ Independent Action
- ☐ Ecology-supervised or conducted

Site Status:
- ☐ Awaiting Cleanup
- ☒ Cleanup Started
- ☐ No Further Action Required
- ☐ Construction Complete – Performance Monitoring
- ☐ Cleanup Complete – Active O&M/Monitoring

Site Manager (Default: Southwest Region): SW

Specific confirmed contaminants include:
PAH, Petroleum, other in Soil
Arsenic in Groundwater
_____ in Other (specify matrix: _____)

Facility/Site ID No. (if known):
_____

COUNTY ASSESSOR INFO:

Please attach to this report a copy of the tax parcel/ownership information for each parcel associated with the site, as well as a parcel map illustrating the parcel boundary and location.