SITE HAZARD ASSESSMENT
Worksheet 1
Summary Score Sheet

SITE INFORMATION:

Cleanup Site ID: 2269

E & E Foods Building

Facility/Site ID: 82527483

3922 6th Ave S

Seattle, King County, WA 98108

Section:	17	Latitude:	47.56834
Township:	24N	Longitude:	-122.32609
Range:	4E	Tax/Parcel ID:	7886100210

Site Scored/ranked for the February 2015 Hazardous Sites List Publication

SITE DESCRIPTION:

The E & E Foods Building site (Site) is a former foods warehouse located in Seattle, King County, Washington. The 1.36-acre property is located approximately 4,600 feet from the Lower Duwamish Waterway (LDW), and zoned for industrial (IG2 U/85) use.

Adjacent properties include automotive parts and repair stores to the west and south, a food bank to the west, warehouses to the east, and a Washington State vehicle emission testing facility to the north.

The Site is currently operated as Gretchen's Shoebox by Schwartz Family Holdings.

Current activities at the site include the operation of a catering facility that supplies boxed lunches and other prepared foods.

The Site is located on the east side of 6th Avenue South, and is bordered on the east by Maynard Avenue South, on the north by South Bradford Street, and on the south by South Andover Street.

State cleanup site Spear Trusts WHSE (Cleanup Site ID [CSID] 1890) is located to the south of the Site.

SITE BACKGROUND:

A summary of prior operations/tenants at the subject property is presented below.

From	To	Operator/Tenant	Activity
	1940	Landfill	
	2004	E & E Foods	
2004	2007	Tam LLC	Wan Hua Foods
	2014	Schwartz Family Holdings LLC	Gretchen's Shoebox

SITE CONTAMINATION:

In 2001 the E & E Foods Building site was reported to Washington State Department of Ecology (Ecology) and placed on the Voluntary Cleanup Program (VCP) list with ID number NW0802.

A Phase I and II Environmental Site Assessment (ESA) was reportedly conducted at the Site in 1993 by Enviros, however these reports were not available for review. A Phase I Site Assessment conducted by Kleinfelder, Inc. in 1993 identified a 3,000-gallon underground storage tank (UST) at the Site, and suggested that further exploration may be warranted.

A Phase II Site Assessment was conducted at the Site in 1994 by Kleinfelder, Inc. Four soil borings (B-1 though B-4) were advanced at the Site to depths of 15.5 feet and 21 feet below ground surface (bgs) and completed as monitoring wells KMW-1 though KMW-4. Creosote odor was reportedly observed in KMW-1. Groundwater samples were collected and analyzed for total petroleum hydrocarbons (TPH), volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), and metals.

Benzene, toluene, ethylbenzene, and xylenes were not detected in soil samples at concentrations at or above the laboratory detection limits, however the laboratory detection limits for benzene were at or above the Model Toxics Control Act (MTCA) Method A cleanup level for some samples. Gasoline was detected in borings B-3 (8 feet bgs) and B-4 (10 feet bgs) at concentrations above the MTCA Method A cleanup level (with or without benzene). Heavy oil-range petroleum hydrocarbons (B-2 and B-4) and diesel (B-3 and B-4) were also detected in soil at concentrations above their respective MTCA Method A cleanup levels.

Polychlorinated biphenyls (PCBs) were detected in soil from boring B-4, but at a concentration below the MTCA Method A cleanup level. Arsenic was present in boring B-4 at a concentration above the MTCA Method A cleanup level, and in soil borings B-1, B-2, and B-3 at concentrations above the MTCA Method B (carcinogenic) cleanup level. Chromium (total) was present in soil at concentrations above the MTCA Method A cleanup level for chromium VI but below the MTCA Method A cleanup level for chromium III. Soil from boring B-4 contained lead and mercury at concentrations above the MTCA Method A cleanup levels. Soil collected from B-2 contained benzo(a)pyrene above the MTCA Method A cleanup level, and the toxicity equivalent concentration of carcinogenic polycyclic aromatic hydrocarbons (cPAHs) was above the MTCA Method A cleanup levels in B-2 and B-4.

Diesel- and heavy oil-range petroleum concentrations in groundwater samples collected from all four wells in December 1993 were above the MTCA Method A cleanup levels. Groundwater concentrations of gasoline were above the MTCA Method A cleanup level in KMW-2 and KMW-3. Arsenic, cadmium, chromium, and lead were detected in groundwater from all four monitoring wells at concentrations above their respective MTCA Method A cleanup levels. Mercury was detected above the MTCA Method A cleanup level in samples from KMW-1, KMW-2, and KMW-3. Copper (KMW-1, KMW-2, KMW-3, KMW-4), nickel (KMW-1, KMW-2, KMW-3), and zinc (KMW-1, KMW-2, KMW-3) were detected in groundwater at concentrations above their respective MTCA Method B cleanup levels.

PAST REMEDIATION ACTIVITIES:

Ecology was notified of the Site in 2001 when one 3,000-gallon gasoline UST and associated piping was excavated and removed from the Site, after a 1-inch diameter hole was identified in the UST. Visual and olfactory evidence of petroleum-impacted soil was observed along the southern edge of the UST excavation, however the excavation could not be expanded further to the south due to a utility line. Approximately 67 tons of petroleum-impacted soil were excavated and disposed of offsite, and three confirmation samples were collected. The soil sample collected from the base of the excavation did not contain gasoline at or above the laboratory detection limit. The soil sample collected from the south sidewall contained 450 milligrams per kilogram (mg/kg) gasoline, 1,300 mg/kg kerosene-range petroleum hydrocarbons, and 660 mg/kg oil-range petroleum hydrocarbons; however gasoline was the only analyte detected at a concentration above its respective MTCA Method A cleanup level. The confirmation soil sample collected from the northwest corner contained kerosene-, oil-, and gasoline-range petroleum hydrocarbons at concentrations below the MTCA Method A cleanup levels. Benzene, toluene, ethylbenzene, xylenes, and lead were not detected in confirmation soil samples at or above the laboratory detection limits.

The soils encountered during the excavation included silt and sand mixed with household waste, gravel, and metal and wood debris, likely associated with the former 6th Avenue South Landfill. Clay was reportedly located beneath the fill layer.

Groundwater was reportedly observed in the excavation at approximately 10 feet bgs, and a sheen was observed on the surface of the groundwater collecting in the excavation.

Reportedly, additional site characterization activities were planned, however there is no record in Ecology's files of subsequent Site characterization. Groundwater monitoring wells installed at the Site in 1993 were not noted on the Site map for the 2001 UST removal, and it is unclear if these monitoring wells are still present at the site.

The Site entered the VCP in 2001, and was given a No Further Action (NFA) determination with a restrictive covenant in 2003. The reviewed documents included the 1994 Phase II ESA completed by Kleinfelder. The analytical results at the Site were compared to MTCA Method C cleanup levels for industrial properties. Soil impacts at the Site remained, including heavy-range petroleum hydrocarbons, metals, PAHs, and PCBs, and were assumed to be associated with the Site's former use as a landfill. The NFA determination included impacts related to the UST and impacts related to the use of the Site as a landfill. The NFA determination did not include

groundwater monitoring requirements.

In 2010, the Site's NFA was rescinded during a 5-year periodic review. According to documentation from a site visit conducted as part of the periodic review, the asphalt cover was reportedly still in place at the Site, and was expected to protect human exposure from soil impacts present at the Site. A conditional point of compliance for groundwater had not been established as part of the NFA determination, and the NFA was rescinded due to concerns related to groundwater.

CURRENT SITE CONDITIONS:

Soils containing TPH, PAHs, and metals at concentrations above the MTCA Method A cleanup levels are expected to be present at the Site. PCBs were detected in soil at a concentration below the MTCA Method A cleanup level. Additionally, groundwater samples collected in 1993 contained concentrations of diesel, gasoline, oil, and metals at concentrations above the MTCA Method A and B cleanup levels.

The approximate depth to groundwater is 8 to 13 feet below ground surface, with groundwater flowing to the northwest or south (based on reports by Kleinfelder, Inc. and Aerotech Environmental Consulting, Inc.). Subsurface soils are sand and silt with fill from a former landfill (based on field observations during the 2001 UST excavation).

SPECIAL CONSIDERATIONS:

Checked boxes indicate routes applicable for Washington Ranking Method (WARM) scoring

☐ **Surface Water**

Impacted soils are present at the site beneath an intact asphalt cap.

☑ **Air**

Volatile compounds are suspected to be present at the site in subsurface soils. The Site is paved, so metals are not expected to impact the air route as particulates.

☑ **Groundwater**

Metals and petroleum products have been detected in groundwater at the site at concentrations above their respective MTCA Method A cleanup levels.

PAHs have also been detected in site soils, but due to the low solubility and volatility of benzo(a)pyrene, they are not expected to impact the groundwater or air routes.

ROUTE SCORES:

Surface Water/ Human Health:		Surface Water/ Environment:	
Air/ Human Health:	13.2	Air/ Environment:	1.1
Groundwater/ Human Health:	39.8		

Overall Rank: 5

REFERENCES:

1 Aerotech Environmental Consulting Inc., 2004, Letter Re: independent Remedial Action - "No Further Action Letter" Industrial Property/E & E Meats 3922 6th Avenue South Seattle, Washington 98101. June 18, 2004.

2 Aerotech Environmental Consulting, Inc., 2004, Phase I Environmental Site Assessment, Subject Property: Wan Hua Foods, Inc., 3922 6th Avenue South Seattle, Washington 98101. July 2, 2004.

3 Ecology Water Resources Explorer, accessed August 2014. https://fortress.wa.gov/ecy/waterresources/map/WaterResourcesExplorer.aspx

SITE HAZARD ASSESSMENT
Worksheet 1
Summary Score Sheet

4 G-Logics, 2001, UST Site Assessment E & E Foods Building 3922 6th Avenue South Seattle, WA 98108. Prepared for Lori Lee, Banchero Family et al. January 24, 2001.

5 King County GIS Center iMAP application, Property Information, Groundwater Program, and Sensitive Areas mapsets. Accessed March 2014. http://www.kingcounty.gov/operations/GIS/Maps/iMAP.aspx

6 Kleinfelder, Inc., 1993, Phase I Environmental Site Assessment E & E Foods 3922 6th Ave. S. Seattle, Washington. Prepared for E & E Foods. September 23, 1993.

7 Kleinfelder, Inc., 1994, Phase II Environmental Site Assessment E and E Foods 3922 6th Avenue South Seattle, Washington. Prepared for E and E Foods. January 20, 1994.

8 Missouri Census Data Center, Circular Area Profiles - 2010 census data around a point location. http://mcdc.missouri.edu/websas/caps10c.html. Accessed March 2014.

9 National Climatic Data Center 2011 Local Climatological Data for Seattle, Seattle Tacoma Airport. http://www1.ncdc.noaa.gov/pub/orders/IPS-90B1F39F-6CFA-4A6B-AA82-5ED1FF897CCC.pdf

10 WARM Scoring Manual

11 WARM Toxicological Database

12 Washington Department of Transportation 24-hour Isopluvial Maps, January 2006 update. http://www.wsdot.wa.gov/publications/fulltext/Hydraulics/Wa24hrIspoluvials.pdf

13 Washington State Department of Ecology, 2003, Letter Re: Independent Remedial Action Industrial Property/E & E Meats 3922 6th Avenue South Seattle, Washington. April 23, 2003.

14 Washington State Department of Ecology, 2004, Letter Re: Independent Remedial Action - "No Further Action letter" Industrial Property/E & E Meats 3922 6th Avenue South Seattle, Washington. June 24, 2004.

15 Washington State Department of Ecology, 2010, Periodic Review E and E Foods Building Facility Site ID#: 87527483. May 2010.

16 Washington State Department of Ecology, 2011, Letter Re: Notice of Recission of 'No Further Action' Status at the following Hazardous Waste Site: Name: E and E Foods, aka E and E Meats, now Gretchen's Shoebox. May 9, 2011.

SITE HAZARD ASSESSMENT
Worksheet 2
Route Documentation

Cleanup Site ID: 2269 E & E Foods Building

Facility/Site ID: 82527483

1. SURFACE WATER ROUTE

List those substances to be considered for scoring:

Not applicable

Explain the basis for choice of substances to be used in scoring:

List those management units to be considered for scoring:

Explain basis for choice of unit to be used in scoring:

2. AIR ROUTE

List those substances to be considered for scoring:

Gasoline

Explain the basis for choice of substances to be used in scoring:

Prior detection (1993) in Site soil at concentrations above the MTCA Method A cleanup level

List those management units to be considered for scoring:

Soil vapor

Explain basis for choice of unit to be used in scoring:

Potential for vapor transport

3. GROUNDWATER ROUTE

List those substances to be considered for scoring:

Diesel, oil, arsenic, cadmium, chromium, copper, lead, mercury, nickel, and zinc

Explain the basis for choice of substances to be used in scoring:

Prior detection in Site groundwater (1993) at concentrations above the MTCA Method A cleanup level

List those management units to be considered for scoring:

Groundwater

Explain basis for choice of unit to be used in scoring:

Prior detection in Site groundwater

Worksheet 5

Air Route

CSID: 2269 **Site Name:** E & E Foods Building

1.0 Substance Characteristics

1.1 Introduction (WARM Scoring Manual) - Please Review before scoring

1.2 Human Toxicity

Substance	Ambient Air Standard Value	Acute Toxicity Value	Chronic Toxicity Value	Carcinogenicity Value
Gasoline	10	3	X	5

Highest Value 10

Bonus Points? 0

Toxicity Value 10

1.3 Mobility

Gaseous Mobility	Max Value:	4
Particulate Mobility	Soil Type:	
	Erodibility:	
	Climatic Factor:	

Mobility Value 4

1.4 Final Human Health Toxicity/Mobility Matrix Value **HH Final Matrix Value** 20

1.5 Environmental Toxicity/Mobility

Substance	Non-human Mammalian Inhalation Toxicity (mg/m3)	Acute Value	Mobility Value	Table A-7 Matrix Value
Gasoline	31947	3	4	6

Env. Final Matrix Value 6

1.6 Substance Quantity

Amount: Approximately 2,000 square feet

Basis: Estimated extent of gasoline-impacted soil

Substance Quantity Value 4

Worksheet 5

Air Route

CSID: 2269 **Site Name:** E & E Foods Building

2.0 Migration Potential

2.1 Containment Containment Value: 5

Explain Basis: At least 2 feet of soil cover but no vapor collection system present

3.0 Targets

3.1 Nearest Population Population Distance Value: 10

<1000 feet to a retail facility

3.2 Distance to and name of nearest sensitive environments Sensitive Environment Value: 5

Approximately 3,000 feet to Jefferson Park

3.3 Population within 0.5 miles Population Value: 17

303 population

4.0 Release Release to Air Value: 0

Explain basis for scoring a release to air:

No confirmed release to air

Pathway Scoring - Air Route, Human Health Pathway

$AIR_H = (SUB_{AH}*60/329)*[REL_A+(TAR_{AH}*35/85)]/24$

Where:

SUB_{AH} =(Human toxicity + 5) * (Containment + 1) + Substance Qty	SUB_{AH}	154
REL_A = Release to Air	REL_A	0
TAR_{AH} = Nearest Population + Population within 1/2 mile	TAR_{AH}	27.4
	AIR_H	13.2

Pathway Scoring - Air Route, Environmental Pathway

$AIR_E = (SUB_{AE}*60/329)*[REL_A+(TAR_{AE}*35/85)]/24$

Where:

SUB_{AE} =(Environmental Toxicity Value +5)*(Containment +1) +Substance Qty	SUB_{AE}	70
REL_A = Release to Air	REL_A	0
TAR_{AE} = Nearest Sensitive Environment	TAR_{AE}	5.0
	AIR_E	1.1

Worksheet 6

Groundwater Route

CSID: 2269 **Site Name:** E & E Foods Building

1.0 Substance Characteristics

1.1 Human Toxicity

Substance	Drinking Water Standard Value	Acute Toxicity Value	Chronic Toxicity Value	Carcinogenicity Value
Diesel	4	5	3	X
Arsenic	8	5	5	7
Cadmium	8	5	5	X
Chromium	6	X	1	X
Copper	2	X	1	X
Lead	6	X	10	X
Mercury	8	X	5	X
Nickel	6	X	1	X
Zinc	2	X	1	X

Highest Value 10

Bonus Points? 2

Toxicity Value 12

1.2 Mobility

Cations/Anions Max Value: 3

Solubility Max Value:

Mobility Value 3

1.3 Substance Quantity

Amount: Approximately 1,200 cubic yards

Basis: Estimated volume of impacted soil

Substance Quantity Value 4

2.0 Migration Potential

2.1 Containment

Containment Value 10

Explain Basis: Contaminated soil

2.2 Net Precipitation > 10 to 20 inches

Net Precipitation Value 2

2.3 Subsurface Hydraulic Conductivity

Conductivity Value 3

Sand, silt, and fill

2.4 Vertical Depth to Groundwater 10 feet

Confirmed release: Yes

Depth to Aquifer Value 8

Worksheet 6

Groundwater Route

CSID: 2269 **Site Name:** E & E Foods Building

3.0 Targets

3.1 Groundwater Usage Aquifer Use Value: 2

Irrigation and industrial

3.2 Distance to Nearest Drinking Water Well >10,000 feet

Well Distance Value: 0

3.3 Population Served within 2 Miles Population Served Value: 0

0 people

3.4 Area Irrigated by GW Wells within 2 miles Area Irrigated Value: 1

1 acres

4.0 Release Release to Groundwater Value: 5

Explain basis for scoring a release to groundwater:

Confirmed release to groundwater

Pathway Scoring - Groundwater Route, Human Health Pathway

$GW_H = (SUB_{GH}*40/208)*[(MIG_G*25/17)+REL_G+(TAR_{GH}*30/165)]/24$

Where:

SUB_{GH} =(Human toxicity + mobility + 3) * (Containment + 1) + Substance Qty	SUB_{GH}	202
MIG_G=Depth to Aquifer+Net Precip + Hydraulic Conductivity	MIG_G	13
REL_G = Release to Groundwater	REL_G	5
TAR_{GH} = Aquifer Use + Well Distance + Population Served + Area Irrigated	TAR_{GH}	2.8
	GW_H	39.8

Washington Ranking Method

Route Scores Summary and Ranking Calculation Sheet

Site Name: E & E Foods Building **CSID:** 2269

Site Address: 3922 6th Avenue South **FSID:** 82527483

HUMAN HEALTH ROUTE SCORES

Enter Human Health Route Scores for all Applicable Routes:

Pathway	Route Score	Quintile Group
Surface Water	ns	0
Air	13.2	2
Groundwater	39.8	3

H=	3
M=	2
L=	0

$$\frac{H^2 + 2M + L}{8} = \frac{9 + 4 + 0}{8}$$

Human Health Priority Bin Score: **2**

rounded up to next whole number

ENVIRONMENT ROUTE SCORES

Enter Environment Route Scores for all Applicable Routes:

Pathway	Route Score	Quintile Group
Surface Water	ns	0
Air	1.1	1

H=	1
L=	0

$$\frac{H^2 + 2L}{7} = \frac{1 + 0}{7}$$

Environment Priority Bin Score: **1**

rounded up to next whole number

Comments/Notes:

FINAL MATRIX RANKING **5**

FOR REFERENCE:

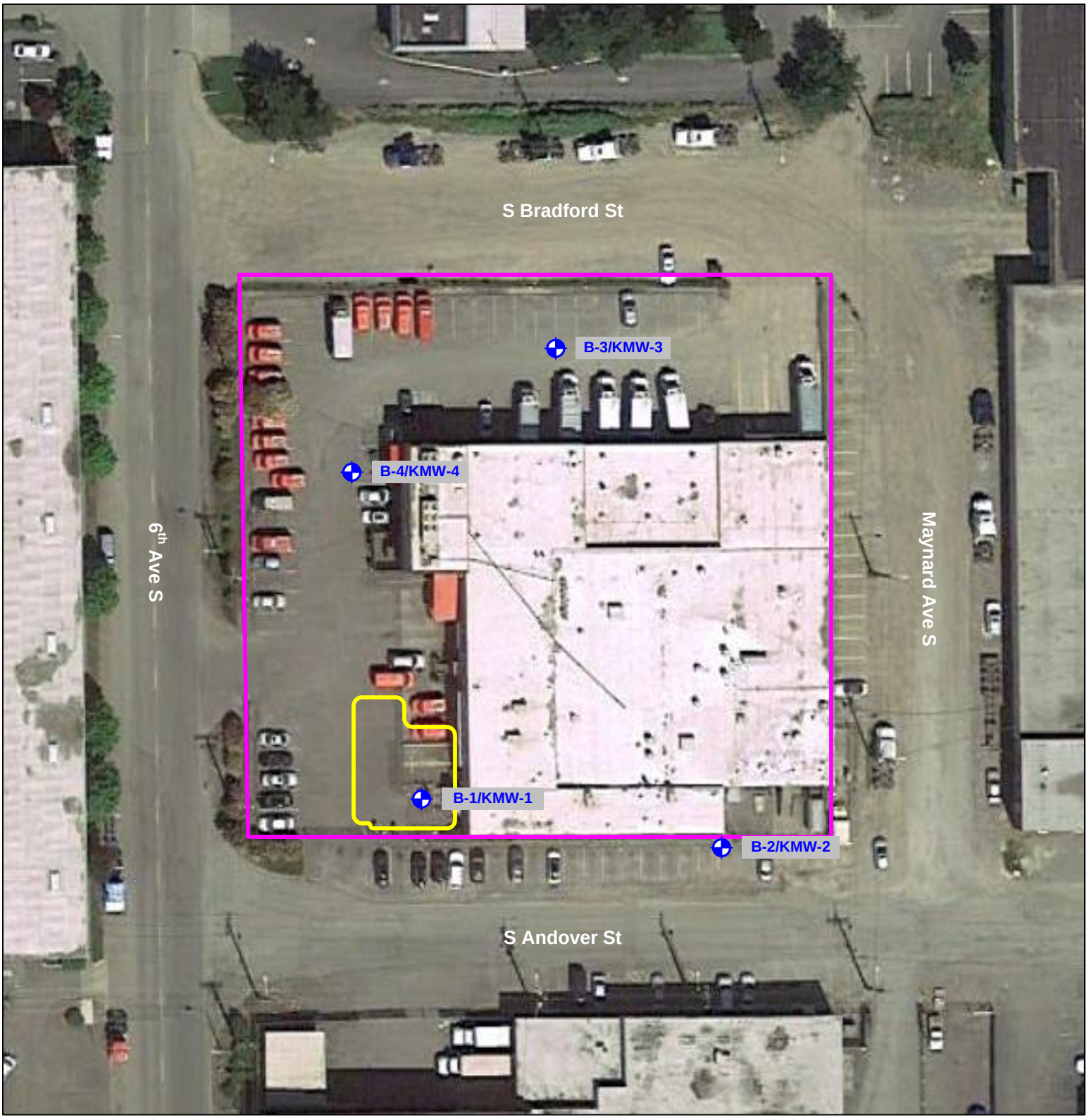
Final WARM Bin Ranking Matrix

Human Health Priority	Environment Priority 5	4	3	2	1	N/A
5	1	1	1	1	1	1
4	1	2	2	2	3	2
3	1	2	3	4	4	3
2	2	3	4	4	5	3
1	2	3	4	5	5	5
N/A	3	4	5	5	5	NFA

Quintile Values for Route Scores - August 2014 Values

Quintile	Human Health: Surface Water	Human Health: Air	Human Health: Ground Water	Environment: Surface Water	Environment: Air
5	>= 30.7	>= 37.3	>= 51.9	>= 49.8	>= 30.3
4	>= 22.5	>= 23.0	>= 41.0	>= 30.9	>= 23.0
3	>= 13.0	>= 14.5	>= 33.1	>= 23.2	>= 14.1
2	>= 6.8	>= 8.1	>= 23.5	>= 10.7	>= 1.6
1	<= 6.7	< 8.1	<= 23.4	<= 10.6	<= 1.5

Quintile value associated with each route score entered above



Legend:

- Property location (approximate)
- Excavation area (approximate)
- Monitoring well (approximate)

Notes:

1. All locations are approximate, and not to scale.

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DEPARTMENT OF ECOLOGY
State of Washington

E & E Foods Building
3922 6th Avenue South
Seattle, WA 98108

Site Overview Map

CSID 2269
CSID2269.vsd