SITE HAZARD ASSESSMENT
WORKSHEET 1
Summary Score Sheet

SITE INFORMATION:

Mandl Holdings Trust
18864 Front St NE
Poulsbo, WA 98370
Kitsap County Parcel ID: 4227-000-004-0005

Section/Township/Range: 23/26N/1E
Latitude: 47.73424
Longitude: -122.64564
Ecology Facility Site ID No: 8180381
Cleanup Site ID: 3740

Site scored/ranked for the August 2014 update

July 26, 2014

SITE DESCRIPTION (management areas, substances of concern, and quantities):

The Mandl Holdings Trust property is a 0.41 acre commercial site located in Poulsbo, WA. The current use of the property is commercial retail with parking. The site is on the east side of Front Street. The ground slopes down from the site to Liberty Bay of Puget Sound. The slopes on the site are approximately 3%. There are three two story commercial buildings on site with the balance of the property, approximately 40%, covered in asphalt. According to Kitsap County Assessor records these buildings were built in 1915. See Figure 1 for a vicinity map.

The site owner is listed as:

Mandl Holdings, LLC
Marion E. Sluys, Agent
PO Box 279
Poulsbo, WA 98370-0279

BACKGROUND AND HISTORY OF CONTAMINATION

The site was added to the Confirmed and Suspected Contaminated Sites List in January of 2008 after an Initial Investigation by Ecology staff. A report of a sheen in Liberty Bay led to a storm water pipe and a leaking Underground Storage Tank. When the tank was removed, holes were found in the tank. Soil was excavated, but, apparently never sampled. A monitoring well was installed to check ground water contamination. No historical sampling data has been located for this site or well.

SITE HAZARD ASSESSMENT (SHA) INVESTIGATION

In preparation for conducting an SHA for the Mandl Holdings Site, multiple site visits were conducted by Kitsap Public Health District (KPHD) staff. Site visits occurred on April 6, 2011, November 11,

2013, December 12, 2013, June 18, 2014, and on June 23, 2014. These site visits were conducted to observe current conditions at the property and give KPHD staff a familiarity with the site and the surrounding area, including surface water flow directions. Conditions observed onsite were consistent with those described above under Site Description.

SOIL SAMPLING EVENT

Several site visits were made to prepare for sampling the monitoring well onsite. Investigation of the well revealed that the well is 4' deep with moist sand at the bottom of the well. As no water was present in the well and the diameter of the well casing (3" black ABS pipe) allowed, a 2" auger was used to collect soil from the bottom of the well on June 23rd, 2014. As the auger full of soil was removed from the well casing a strong diesel odor was detected by KPHD staff. Staff also noted the soil in the auger transitioned from sand to mottled clay within 6" of the bottom of the well casing. The sample was analyzed for Total Petroleum Hydrocarbons – Gasoline and Diesel Range (TPH-Gx and TPH-Dx). The results were returned as **10,000 mg/kg** for diesel range hydrocarbons and **1000 mg/kg** for gasoline range hydrocarbons. Both of these results are exceedances of the Model Toxics Control Act, Method A- Unrestricted Land Uses. See Figure 1 for the soil sampling location

SPECIAL CONSIDERATIONS (include limitations in site file data or data which cannot be accommodated in the model, but which are important in evaluating the risk associated with the site, or any other factor(s) over-riding a decision of no further action for the site):

1) The contaminant pathway from the leaking underground storage tank to marine surface water in Liberty Bay, and the visual evidence of contamination, are noted in ERTS Report. No photos, or sample results are found in the record.

ROUTE SCORES:

Surface Water/Human Health:	**31.1**	Surface Water/Environmental.:	**49.7**
Air/Human Health:	**NS**	Air/Environmental:	**NS**
Groundwater/Human Health:	**30.2**		

OVERALL RANK: 2

WORKSHEET 2
Route Documentation

1. **SURFACE WATER ROUTE**

   a. List those substances to be considered for scoring: Source:

      TPH-Dx and TPH-Gx

   b. Explain basis for choice of substance(s) to be used in scoring.

      These substances were observed in surface water. These substances were also detected in subsurface soil and/or groundwater samples associated with the site in concentrations exceeding their respective MTCA cleanup levels.

   c. List those management units to be considered for scoring: Source:

      Surface water

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

      The contaminating substances were observed in surface water and the route from the source to the surface water was confirmed.

2. **AIR ROUTE –** *Not Scored*

   a. List those substances to be considered for scoring: Source:

   b. Explain basis for choice of substance(s) to be used in scoring:

   c. List those management units to be considered for scoring: Source:

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

3. **GROUNDWATER ROUTE**

   a. List those substances to be considered for scoring: Source: 1,2

      TPH-Dx and TPH-Gx

   b. Explain basis for choice of substance(s) to be used in scoring:

      These substances were detected in subsurface soil and/or groundwater samples associated with the site in concentrations exceeding their respective MTCA cleanup levels.

   c. List those management units to be considered for scoring: Source: 1,2

      Subsurface soil and groundwater

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

      The contaminating substances were detected in subsurface soil and/or groundwater samples in concentrations exceeding their respective MTCA cleanup levels.

WORKSHEET 4
Surface Water Route

1.0 SUBSTANCE CHARACTERISTICS

1.1 Human Toxicity

	Substance	Drinking Water Standard (µg/L)	Value	Acute Toxicity (mg/kg-bw)	Value	Chronic Toxicity (mg/kg/day)	Value	Carcinogenicity		Value
								WOE	PF*	
1	TPH-Gx	5	8	3306	3	ND	ND	A	.029	5
2	TPH-Dx	160	4	490	5	0.004	3	-	ND	ND

Potency Factor

Source:1,2,3,4,5,6

Highest Value: 8
(Max = 10)

Plus 2 Bonus Points? 2

Final Toxicity Value: 10
(Max = 12)

1.2 Environmental Toxicity ( ) Freshwater (X) Marine

	Substance	Acute Water Quality Criteria		Non-Human Mammalian Acute Toxicity	
		(µg/L)	Value	(mg/kg)	Value
1	TPH-Gx	5100	2	3306	3
2	TPH-Dx	2350	2	490	5

Source: 1,2,3,4,5,6

Highest Value: 5
(Max = 10)

1.3 Substance Quantity (areal extent)

Explain Basis: Estimate less than 16 cubic yards.

Source:1,2,3,4

Value:4
(Max = 10)

2.0 MIGRATION POTENTIAL

		Source	Value
2.1	**Containment:** LUST release to marine surface water **Explain basis:** Per page SW-20 in WARM Manual for release from groundwater to surface water.	1,2,3	**10** (Max = 10)
2.2	**Surface Soil Permeability:** Loam over clay. Sand in former tank area.	1,2,3,4,10	**5** (Max = 7)
2.3	**Total Annual Precipitation:** 41inches per year	7	**3** (Max = 5)
2.4	**Max 2yr/24hr Precipitation:** 2 to 4 inches	6	**3** (Max = 5)
2.5	**Flood Plain:** Source not in flood plain, discharge in flood plain.	9	**1** (Max = 2)
2.6	**Terrain Slope:** 2 to 5 %	4,9,10	**2** (Max = 5)

3.0 TARGETS

		Source	Value
3.1	**Distance to Surface Water:** Less than 1000 ft.	4,9,10	**10** (Max = 10)
3.2	**Population Served within 2 miles (see WARM Scoring Manual Regarding Direction):** No drinking water from surface water.	8,9,10	**0** (Max = 75)
3.3	**Area Irrigated by surface water within 2 miles :** None	8,9,10	**0** (Max = 30)
3.4	**Distance to Nearest Fishery Resource:** Less than 1000 ft.	9,10	**12** (Max = 12)
3.5	**Distance to, and Name(s) of, Nearest Sensitive Environment(s):** Less than 1000 ft. to Liberty Bay of Puget Sound. Liberty Bay contains a fishery resource. Also, less than 1000' to municipal park.	9,10	**12** (Max = 12)

4.0 RELEASE

Explain Basis: Visual evidence of release to surface water.	Source:1,2 **Value: 5** (Max = 5)

WORKSHEET 6
Groundwater Route

1.0 SUBSTANCE CHARACTERISTICS

1.2 Human Toxicity											
	Substance	Drinking Water Standard (µg/L)	Value	Acute Toxicity (mg/ kg-bw)	Value	Chronic Toxicity (mg/kg/day)	Value	Carcinogenicity		Value
								WOE	PF*	
1	TPH –Dx	160	4	490	5	0.004	3	-	-	-
2	TPH-Gx	5	8	3306	3	-	-	A	0.029	5
3										
4										
5										

* *Potency Factor*

Source: 1,2,3,4,5

Highest Value: 8
(Max = 10)

Plus 2 Bonus Points? 2

Final Toxicity Value: 10
(Max = 12)

1.2 Mobility (use numbers to refer to above listed substances)		
Cations/Anions	OR	Solubility (mg/L)
1=	1	$3.0x10^{1}$= 1
2=	2	$1.8x10^{3=3}$
3=	3	

Source: 1,4,5

Value: 3
(Max = 3)

1.3 Substance Quantity:	
Explain basis: Unknown 10 to 100 cubic yards contaminated soils	Source: 1,2,5,10 **Value: 2** (Max=10)

2.0 MIGRATION POTENTIAL

		Source	Value
2.1	**Containment (explain basis):** Scored as Landfill: No liner (3) + Capped (0) + No leachate system (2) + Free liquids (3) = 8	1,5,10	**8** (Max = 10)
2.2	**Net precipitation:** 29.7" – 5.6" = 24.1"	7	**3** (Max = 5)
2.3	**Subsurface hydraulic conductivity:** Loam over clay. Sand in tank area.	1,2,3,4	**1** (Max = 4)
2.4	**Vertical depth to groundwater:** Approximately 5 feet.	1,2,3,4	**8** (Max = 8)

3.0 TARGETS

		Source	Value
3.1	**Groundwater usage:** Public water source with alternate source available.	9	**4** (Max = 10)
3.2	**Distance to nearest drinking water well**: Approximately 4200 feet.	7,8,9	**2** (Max = 5)
3.3	**Population served within 2 miles:** Approximately 1542.	9	**39** (Max = 100)
3.4	**Area irrigated by (groundwater) wells within 2 miles:** None	9,10	**0** (Max = 50)

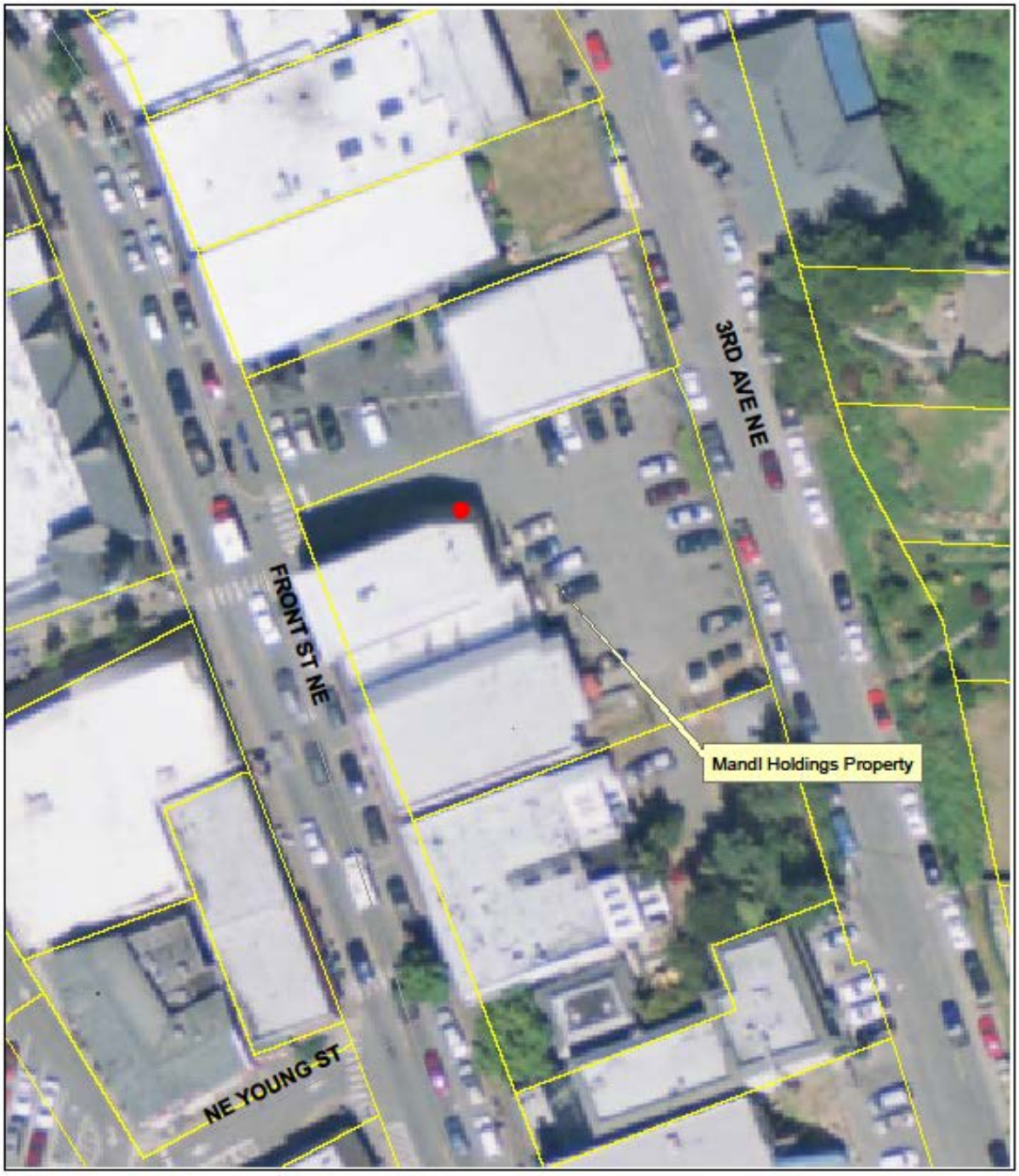
4.0 RELEASE

	Source	Value
Explain basis for scoring a release to groundwater: Confirmed in soils only.	1,2,3,10	**0** (Max = 5)

SOURCES USED IN SCORING

1) Washington State Department of Ecology, ERTS # 563377
2) Interview with Bob Rodman, Poulsbo Environmental Consultants, April 6, 2011
3) Washington State Department of Ecology, ISIS Summary
4) KPHD prep site visit, sampling event, and analytical results, June 18, 2014, and June 23, 2014.
5) Washington State Department of Ecology, Toxicology Database for Use in Washington Ranking Method Scoring, January 1992
6) Washington State Department of Ecology, WARM Scoring Manual, April 1992.
7) Washington Climate – Net Rainfall Table
8) Washington State Department of Ecology, Washington State Well Log Viewer.
9) KPHD GIS, 2014
10) KPHD Site Visits on April 6, 2011, November 11, 2013, and December 12, 2013.

Figure 1.



Mandl Holdings Trust
FS ID # 8180381
Vicinity and Sample Map

Red dot is former tank and soil sampling location

KITSAP PUBLIC
HEALTH DISTRICT