

## **Revised Phase II Environmental Site Assessment**

Ripley Lane Stream Connection  
Renton, Washington

*for*  
**Washington State Department of Transportation**

April 9, 2021



**GEOENGINEERS**   
Earth Science + Technology









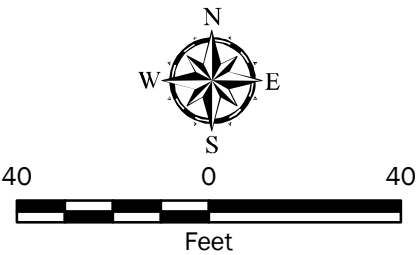
Legend

- GeoEngineers Boring Number and Approximate Location
- WSDOT Soil Sample Number and Approximate Location
- GeoEngineers Monitoring Well Number and Approximate Location
- Ripley Lane Project Area

Notes:

- The locations of all features shown are approximate.
- This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Data Source: ESRI Clarity. Street data from King County GIS.  
Projection: NAD 1983 StatePlane Oregon North FIPS 3601 Feet



Site Plan with Monitoring Well, Soil Sample and Boring Locations	
Ripley Lane Fish Passage Renton, Washington	
GEOENGINEERS	Figure 2



Table 1  
Soil Chemical Analytical Results - Petroleum Hydrocarbons and Semi-Volatile Organic Compounds  
Ripley Lane Fish Passage  
Renton, Washington

Test Pit/Boring/Well ID	Sample ID	Date Collected	Depth (Feet Below Ground Surface)	Field Screening Observation		Petroleum Hydrocarbons NWTPH-Gx (mg/kg)	Petroleum Hydrocarbons NWTPH-Dx (mg/kg)					Semi-Volatile Organic Compounds EPA Method 8270 (mg/kg)																	Total cPAHs <sup>1</sup> (mg/kg)	Volatile Organic Compounds EPA Method 8260C (mg/kg)				
						Gasoline	Diesel	Heavy Oil	Diesel w/SGC	Heavy Oil w/SGC	O-Cresol	m,p-Cresol	Naphthalene	2-Methyl-naphthalene	1-Methyl-naphthalene	Acenaphthylene	Acenaphthene	Fluorene	PCP	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo (a) anthracene	Chrysene	Benzo (b) fluoranthene	Benzo (j,k) fluoranthene	Benzo (a) pyrene	Indeno (1,2,3-cd) pyrene	Dibenz (a,h) anthracene	Benzo (g,h,i) perylene	Other SVOC	TEQ	Various
				Sheen	PID (ppm)																													
WSDOT Soil Samples																																		
IP-5	RL-IP-5	1/21/2020	--	--	--	< 9.4	47	370	--	--	--	--	0.051	0.030	0.027	0.12	0.13	0.16	< 1.9	1.6	0.48	2.3	3.00	0.83	1.1	1.9	0.49	1.2	0.95	0.17	0.85	ND	0.332	ND <sup>2</sup>
IP-6	RL-IP-6	1/21/2020	--	--	--	< 11.0	< 42	190	--	--	--	--	0.027	< 0.017	< 0.017	0.083	0.019	0.047	< 2.10	0.55	0.25	1.3	1.8	0.51	1.8	0.87	0.23	0.38	0.35	0.058	0.30	ND	0.2099	ND <sup>2</sup>
GeoEngineers Borings																																		
B-1	B-1-3-3.5	6/16/2020	3.0 - 3.5	NS	0.0	--	< 28	< 55	< 28	< 55	< 0.037	< 0.037	< 0.0073	< 0.0073	< 0.0073	< 0.0073	< 0.0073	< 0.18	< 0.0073	< 0.0073	< 0.0073	< 0.0073	< 0.0073	< 0.0073	< 0.0073	< 0.0073	< 0.0073	< 0.0073	< 0.0073	< 0.0073	--	ND	--	
B-2	B-2-0.5-1	6/16/2020	0.5 - 1.0	NS	0.0	--	< 30	< 60	< 30	< 60	< 0.040	< 0.040	< 0.0080	< 0.0080	< 0.0080	< 0.0080	< 0.0080	< 0.20	< 0.0080	< 0.0080	< 0.0080	< 0.0080	< 0.0080	< 0.0080	< 0.0080	< 0.0080	< 0.0080	< 0.0080	< 0.0080	< 0.0080	< 0.0080	--	ND	--
	B-2-3.5-4	6/16/2020	3.5 - 4.0	NS	0.0	--	< 35	< 75	< 35	< 75	< 0.047	< 0.047	< 0.0093	< 0.0093	< 0.0093	< 0.0093	< 0.0093	< 0.23	0.067	0.02	0.051	0.063	0.031	0.032	0.031	< 0.0093	0.027	0.014	< 0.0093	0.0130	--	0.0359	--	
MW-1	MW1-0.5-1.5	6/16/2020	0.5 - 1.5	NS	0.0	--	< 32	71	< 32	< 63	< 0.042	< 0.042	0.024	0.025	0.016	< 0.0084	< 0.0084	< 0.0084	< 0.21	0.023	0.011	0.018	0.026	0.012	0.015	0.016	< 0.0084	0.0160	0.0097	< 0.0084	0.0130	--	0.0208	--
	MW1-13-14	6/16/2020	13.0 - 14.0	NS	0.0	--	< 47	140	< 47	< 95	< 0.063	< 0.063	0.025	< 0.013	< 0.013	< 0.013	< 0.013	< 0.013	< 0.31	< 0.013	< 0.013	< 0.013	< 0.013	< 0.013	< 0.013	< 0.013	< 0.013	< 0.013	< 0.013	< 0.013	< 0.013	--	ND	--
MW-2	MW2-0.5-1	6/16/2020	0.5 - 1.0	NS	0.0	--	< 32	190	< 32	130	< 0.043	< 0.043	0.17	0.013	0.012	< 0.0086	0.045	0.056	< 0.22	0.17	0.035	0.19	0.16	0.049	0.064	0.064	0.02	0.042	0.024	< 0.0086	0.024	--	0.059	--
	MW2-4-5	6/16/2020	4.0 - 5.0	NS	0.0	--	< 37	260	< 37	210	< 0.049	< 0.049	< 0.0097	< 0.0097	< 0.0097	< 0.0097	< 0.0097	< 0.0097	< 0.24	0.014	< 0.0097	0.015	0.022	0.011	0.013	0.015	< 0.0097	0.0140	< 0.0097	< 0.0097	0.0099	--	0.0182	--
MW-3	MW3-0.5-1	6/16/2020	0.5 - 1.0	NS	0.0	--	< 35	75	< 35	< 70	< 0.046	< 0.046	< 0.0093	< 0.0093	< 0.0093	0.011	< 0.0093	< 0.0093	< 0.23	0.028	0.02	0.090	0.083	0.046	0.060	0.075	0.021	0.047	0.031	< 0.0093	0.028	--	0.065	--
	MW3-4-5	6/16/2020	4.0 - 5.0	NS	0.0	--	< 42	< 84	< 42	< 84	< 0.056	< 0.056	< 0.011	< 0.011	< 0.011	< 0.011	0.020	< 0.011	< 0.28	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	--	ND	--	
MTCA Method A Cleanup Levels for Unrestricted Land Use								2,000					--	--	5	--	--	--	--	--	--	--	--	--	--	--	--	--	0.1	--	--	Various	0.1	Various

Notes:  
<sup>1</sup>Carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs) analyzed by EPA Method 8270D/SIM. Total cPAHs calculated using the toxicity equivalency (TEQ) methodology specified in Washington Administrative Code (WAC) 173-340-780(B); cPAHs that were not detected were assigned half the value of the detection limit for these calculations. Not detected (ND) is indicated for samples which no cPAHs were detected.  
<sup>2</sup>Not detected except acetone  
<28 = analyte not detected  
WSDOT = Washington State Department of Transportation  
**Bold** = analyte was detected at a concentration above the laboratory method detection limit  
Gray shading indicates the detected concentration exceeds the presented MTCA cleanup levels.  
mg/kg = milligram per kilogram; VOCs = volatile organic compounds  
ND = not detected  
NS = no sheen; S = sheen  
PID = Photoionization Detector  
SGC = Silica Gel Cleanup  
TEQ = toxic equivalency  
EPA = Environmental Protection Agency  
NWTPH = Northwest total petroleum hydrocarbon  
MTCA = model toxics cleanup act  
-- = not analyzed/established

**Table 2**  
**Soil Chemical Analytical Results - Metals and PCBs**  
**Ripley Lane Fish Passage**  
**Renton, Washington**

Boring/ Well ID	Sample ID	Date Collected	Depth (Feet Below Ground Surface)	Field Screening Observation		Metals EPA Method 6010D/7471B (mg/kg)								PCBs EPA Method 8082A (mg/kg)
				Sheen	PID (ppm)	Arsenic	Barium	Cadmium	Chromium	Lead	Selenium	Silver	Mercury	
B-1	B-1-3-3.5	6/16/2020	3.0 - 3.5	NS	0.0	< 11	<b>63</b>	< 0.55	<b>16</b>	< 5.5	< 11	< 1.1	< 0.28	ND
B-2	B-2-0.5-1	6/16/2020	0.5 - 1.0	NS	0.0	< 12	<b>100</b>	< 0.60	<b>21</b>	<b>110</b>	< 12	< 1.2	< 0.30	ND
	B-2-3.5-4	6/16/2020	3.5 - 4.0	NS	0.0	< 14	<b>76</b>	< 0.70	<b>28</b>	<b>23</b>	< 14	< 1.4	< 0.35	ND
MW-1	MW1-0.5-1.5	6/16/2020	0.5 - 1.5	NS	0.0	< 13	<b>50</b>	< 0.63	<b>29</b>	<b>13</b>	< 13	< 1.3	< 0.31	ND
	MW1-13-14	6/16/2020	13.0 - 14.0	NS	0.0	< 19	<b>99</b>	< 0.94	<b>45</b>	< 9.4	< 19	< 1.9	< 0.47	ND
MW-2	MW2-0.5-1	6/16/2020	0.5 - 1.0	NS	0.0	< 13	<b>79</b>	< 0.65	<b>22</b>	<b>29</b>	< 13	< 1.3	< 0.32	ND
	MW2-4-5	6/16/2020	4.0 - 5.0	NS	0.0	< 15	<b>92</b>	< 0.73	<b>44</b>	13	< 15	< 1.5	< 0.37	ND
MW-3	MW3-0.5-1	6/16/2020	0.5 - 1.0	NS	0.0	< 14	<b>90</b>	< 0.70	<b>41</b>	<b>19</b>	< 14	< 1.4	< 0.35	ND
	MW3-4-5	6/16/2020	4.0 - 5.0	NS	0.0	< 17	98	< 0.84	<b>50</b>	< 8.4	< 17	< 1.7	< 0.42	ND
<b>MTCA Method A Cleanup Levels for Unrestricted Land Use</b>						21	--	2	2,000	250	400	400	2	--
<b>MTCA Cleanup Level for the Protection of Groundwater</b>						--	1,600	--	--	--	5	14	--	--

**Notes:**

<4.62 = analyte not detected

**Bold** = analyte was detected at a concentration above the laboratory method detection limit

mg/kg = milligram per kilogram

NS = no sheen; S = sheen

PID = Photoionization Detector

ppm = parts per million

EPA = Environmental Protection Agency

PCB = Polychlorinated biphenyl

MTCA = model toxics cleanup act

Table 3  
Groundwater Chemical Analytical Results - Petroleum Hydrocarbons and Semi-Volatile Organic Compounds  
Ripley Lane Fish Passage  
Renton, Washington

Well ID	Sample ID	Date Collected	Depth to Groundwater (btoc)	Petroleum Hydrocarbons NWTPH-Dx (µg/L)				Semi-Volatile Organic Compounds EPA Method 8270 (µg/L)																				Total cPAHs <sup>4</sup> (µg/L)	
				Diesel	Heavy Oil	Diesel w/SGC	Heavy Oil w/SGC	O-Cresol	m,p-Cresol	Naphthalene	2-Methyl-naphthalene	1-Methyl-naphthalene	Acenaphthylene	Acenaphthene	Fluorene	PCP	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo (a) anthracene	Chrysene	Benzo (b) fluoranthene	Benzo (j,k) fluoranthene	Benzo (a) pyrene	Indeno (1,2,3-cd) pyrene	Dibenz (a,h) anthracene	Benzo (g,h,i) perylene	TEQ
MW-1	MW1-20200617	6/17/2020	2.20	250	350	< 220	< 220	< 1.0	< 1.0	35	0.44	0.35	< 0.1	0.22	< 0.1	< 5.0	< 0.1	< 0.1	< 0.1	< 0.1	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	ND
MW-2	MW2-20200617	6/17/2020	0.80	< 220	360	< 220	< 220	< 1.2	< 1.2	0.13	< 0.12	< 0.12	< 0.12	< 0.12	< 0.1	< 6.1	< 0.12	< 0.12	< 0.12	< 0.12	< 0.012	< 0.012	0.015	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	ND
MW-3	MW3-20200617	6/17/2020	0.98	< 220	260	< 220	< 220	< 0.97	< 0.97	< 0.097	< 0.097	< 0.097	< 0.097	0.15	< 0.097	< 4.9	< 0.097	< 0.097	< 0.097	< 0.097	< 0.0097	< 0.0097	< 0.0097	< 0.0097	< 0.0097	< 0.0097	< 0.0097	< 0.0097	ND
MTCA Method A or B Cleanup Levels				500	500	500	500	–	–	160	–	–	–	–	–	0.22	–	–	–	–	–	–	–	–	0.1	–	–	–	0.1

Notes:

<220 = not detected

**Bold** = analyte was detected at a concentration above the laboratory method detection limit

btoc = below top of casing

SGC = Silica Gel Cleanup

TEQ = toxic equivalency

EPA = Environmental Protection Agency

NWTPH = Northwest total petroleum hydrocarbon

MTCA = model toxics cleanup act

ug/L = micrograms per liter

cPAHs = carcinogenic polycyclic aromatic hydrocarbons



**Table 4**  
Groundwater Chemical Analytical Results - Metals and PCBs  
Ripley Lane Fish Passage  
Renton, Washington

Well ID	Sample ID	Date Collected	Total Metals EPA 200.8/7470A (µg/L)								Dissolved Metals EPA 200.8/7470A (µg/L)								PCBs EPA Method 8082A (µg/L)
			Arsenic	Barium	Cadmium	Chromium	Lead	Selenium	Silver	Mercury	Arsenic	Barium	Cadmium	Chromium	Lead	Selenium	Silver	Mercury	
MW-1	MW1-20200617	6/17/2020	< 3.3	< 28	< 4.4	< 11	<b>3.1</b>	< 5.6	< 11	< 0.5	< 3.0	< 25	< 4.0	< 10	< 1.0	< 5.0	< 10	< 0.5	ND
MW-2	MW2-20200617	6/17/2020	<b>3.8</b>	<b>80</b>	< 4.4	< 11	< 1.1	< 5.6	< 11	< 0.50	< 3.0	<b>45</b>	< 4.0	< 10	< 1.0	< 5.0	< 10	< 0.5	ND
MW-3	MW3-20200617	6/17/2020	<b>3.6</b>	<b>39</b>	< 4.40	< 11	< 1.1	< 5.6	< 11	< 0.5	< 3.0	<b>32</b>	< 4.0	< 10	< 1.0	< 5.0	< 10	< 0.5	ND
MTCA Method A or B Cleanup Levels			5	3,200	5	50	15	80	80	2	5	3,200	5	50	15	80	80	2	Varies

**Notes:**

<50 analyte not detected

**Bold** = analyte was detected at a concentration above the laboratory method detection limit

PCBs = polychlorinated biphenyls

EPA = Environmental Protection Agency

MTCA = model toxics cleanup act

ug/L = micrograms per liter