

SoundEarth Strategies, Inc. 1011 SW Klickitat Way, Suite 212 Seattle, Washington 98134

May 1, 2024

Frank P. Winslow, LHG Washington Department of Ecology – Toxics Cleanup Program 1250 W. Alder Street Union Gap, Washington 98903

SUBJECT: RESPONSE TO ECOLOGY INITIAL COMMENTS ON REMEDIAL INVESTIGATION AND FEASIBILITY STUDY Plantation Building 5512, 5520, & 5522 20th Avenue Northwest Seattle, King County, Washington Facility/Site ID: 12489 Cleanup Site ID: 11614 VCP Project ID: XN0045 Project Number: 0627-003

Dear Frank:

SoundEarth Strategies, Inc. (SoundEarth) has prepared this letter to respond to the Washington Department of Ecology (Ecology) initial comments on the Remedial Investigation and Feasibility Study, dated February 23, 2024 (SoundEarth 2024). Ecology comments were provided to Mindy Graddon via email dated March 20, 2024.

### COMMENT 1.0: VAPOR INTRUSION PATHWAY AND AIR SAMPLING RESULTS

Sub-slab soil gas data from Ballard Blossom included elevated concentrations of PCE and TCE at SS-02 for PCE and TCE. Indoor air sampling results from Ballard Blossom were below detection limits. Unfortunately, one sampling round is not sufficient to close out this concern.

The need for more than one indoor air sampling round is suggested in our Vapor Intrusion Guidance since significant temporal variability of contaminant concentrations in indoor air can occur over relatively short periods of time. The following Figure is from Ecology's Implementation Memo #21 (IM-21), dated November 15, 2021. [Figure 2, Continuous TCE sampling results from the Sun Devil Manor Study Site in Layton, Utah attached to comments.]

Ecology's vapor intrusion guidance dated March 2022 includes the following on page 55:

The following table has recommendations for the number of samples that may be needed when using canisters, sorbent tubes, or passive sampler methods. These recommendations do not factor in soil gas or indoor air concentrations levels, meteorological conditions, long-term exposures to the receptors present, or whether mitigation will be implemented quickly-any of which can affect how many sampling events will be needed. The premise is that longer sampling periods should provide better changes for capturing temporal variability associated with VI.

[Table 1: Recommended minimum number of sampling events for three sampling methods attached to comments.]

Since the Site includes elevated concentrations of sub-slab TCE (which can result in a short-term exposure concern), a minimum of three sampling rounds with a cannister are suggested when sub-slab soil gas results are elevated.

Response: SoundEarth concurs that additional indoor air sampling is required at the Ballard Blossom Property. Indoor air samples were collected at the Ballard Blossom Property in November 2023; therefore, we propose an additional indoor air sampling be performed in April/May 2024 (i.e., sampling event spaced 6 months apart). Based on the results April/May 2024 indoor air sampling event, an additional event may be required and performed in consultation with Ecology.

Sub-slab soil gas and indoor air sampling will not be performed at the Ballard Camera Property.

### COMMENT 2.0: SUB-SLAB SOIL GAS SAMPLING LOCATION AND DEPTH

Sample location SV-03 from 2017 had elevated concentrations of PCE and TCE in 2017. In order for Ecology to consider whether or not the soil gas samples collected in this area in 2023 are representative of this location and depth, Ecology request an E-W schematic cross section showing the depths and locations of soil gas samples on the Property to across the East Adjoining Property. This schematic cross section showing the depths and locations of soil gas samples on the Property to across the East Adjoining Property to across the East Adjoining Property. This schematic cross section showing the depths and locations of soil gas samples on the Property to across the East Adjoining Property. This schematic cross section should also show the depts of the structures, and depth to groundwater.

A N-S schematic cross section showing soil gas and indoor air sampling locations is also warranted from the Property to across the Ballard Blossom property to the south. In addition, please provide versions of Figure 17 and Figure 18 that include only soil gas and indoor air sampling locations (without soil boring and groundwater sampling locations) since is it very difficult to assess these maps currently due to the density of the data.

If the 2023 soil gas sampling results cannot be considered to replace the 2017 results, then indoor air sampling (or resampling of soil gas at the same location and depth) would appear to be warranted.

### Response: SoundEarth has prepared the following figures:

- Figure D: This figure illustrates the soil gas samples in a cross-section aligned from east to west (i.e., from the Property to the east-adjoining property).
- Figure 4A: This figure illustrates the soil gas samples in a cross-section aligned from north to south (i.e., from the Property to the south).
- Figure 17A (Soil Gas Analytical Results): This figure has been revised to show the shallow soil gas sample and sub-slab soil gas locations only.

 Figure 18A (Indoor Air Analytical Results): This figure has been revised to show the indoor air sampling locations only.

We appreciate our continued progress towards finalizing the Remedial Investigation and Feasibility Study for the 20th Avenue Northwest Property/Plantation Building Property.

Respectfully,

SoundEarth Strategies, Inc.

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Mindy Graddon, LG Associate Geologist

The and

Tom Cammarata, LHG Principal Geochemist

cc: Frank Winslow, Ecology

Attachment: Figure D, Cross Section (D-D') Figure 4A, Cross Section (A-A') Figure 17A, Soil Gas Analytical Results (Revised) Figure 18A, Indoor Air Analytical Results (Revised)

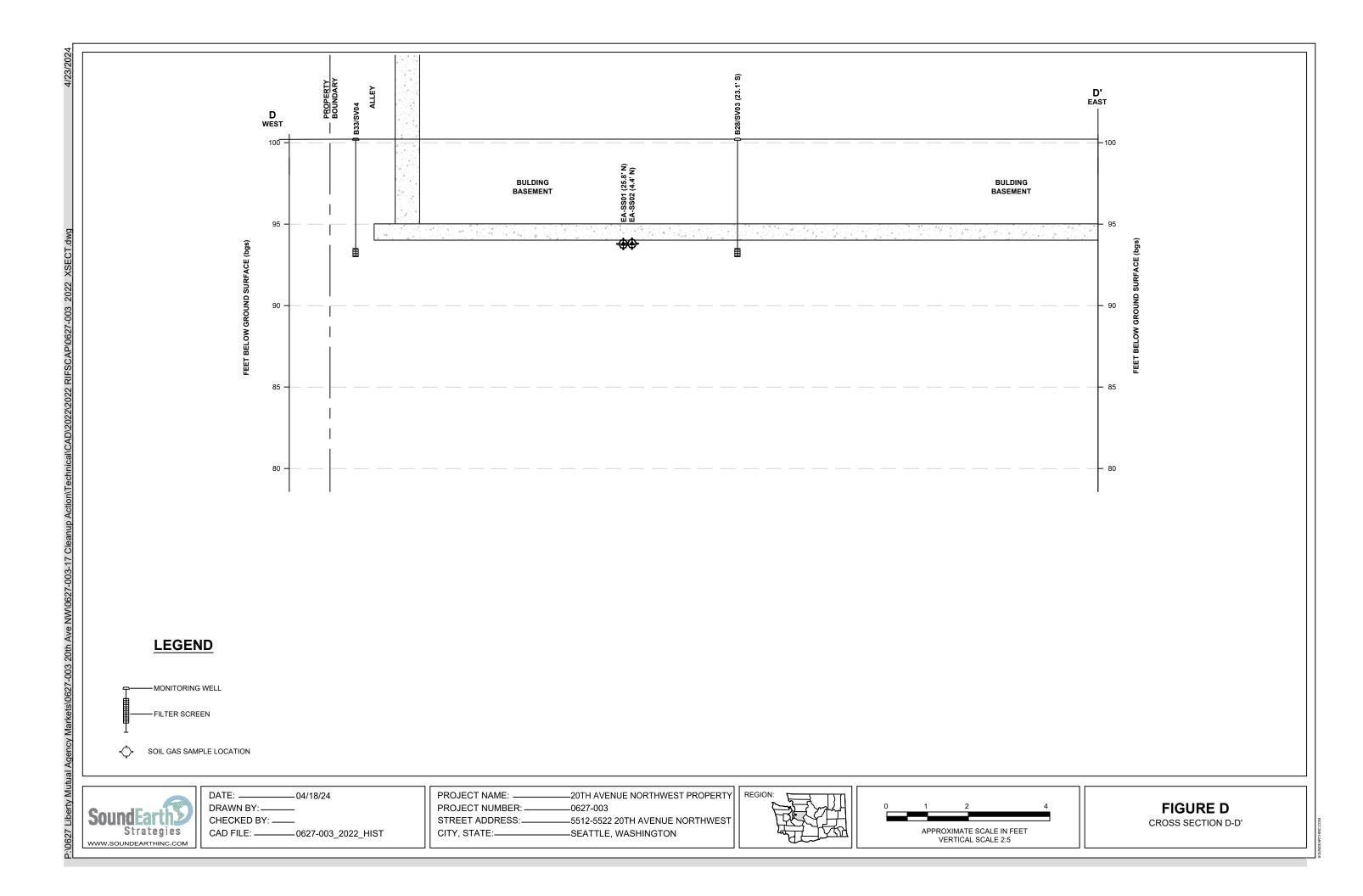
LMF:kak

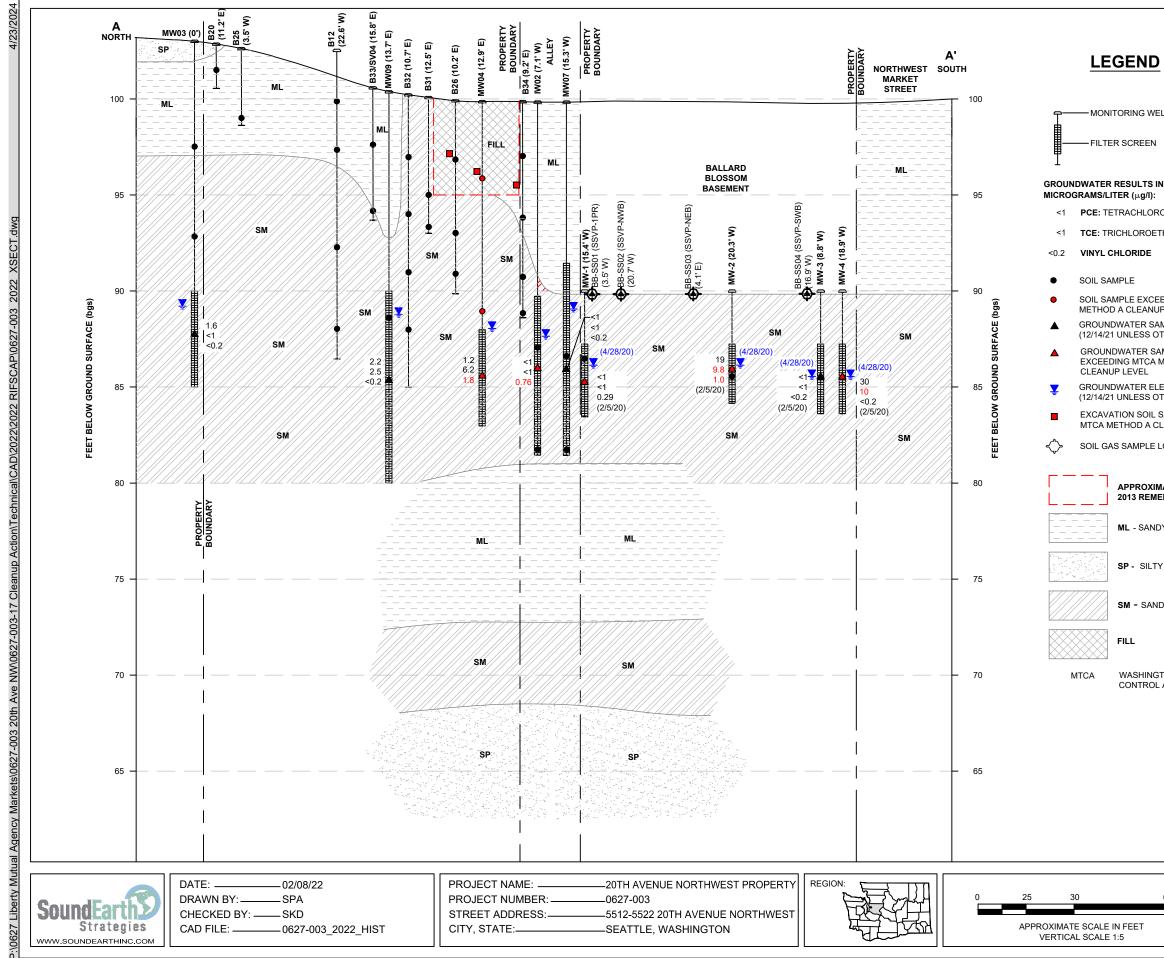
### BIBLIOGRAPHY

- SoundEarth Strategies, Inc. (SoundEarth). 2024. Remedial Investigation and Feasibility Study, 20th Avenue Northwest Property/Plantation Building Property, 5512 through 5522 20th Avenue Northwest, Seattle, Washington. Prepared for Doug Mullavey, Vicki Gruger, David Mitchell, and Diane Jacobsen. February 23.
- Washington State Department of Ecology (Ecology). 2009. *Guidance for Evaluating Vapor Intrusion in Washington State: Investigation and Remedial Action*. Publication No. 09-09-047. Finalized March 2022. October.
  - \_\_\_\_\_. 2024. Email thread regarding Plantation Building XN00045 Request for Intake Meeting. From Frank Winslow. To Mindy Graddon and Tom Cammarata, SoundEarth Strategies, Inc. March 20.

SoundEarth Strategies, Inc. P\0627 Liberty Mutual Agency Markets\0627-003 20th Ave NW\0627-003-17 Cleanup Action\Deliverables\2024 RIFS Response to Ecology Comments\0627-003-19\_ResponsetoEcology\_Edocx

**FIGURES** 





## LEGEND

-MONITORING WELL

FILTER SCREEN

<1 PCE: TETRACHLOROETHYLENE

<1 TCE: TRICHLOROETHYLENE

SOIL SAMPLE EXCEEDING MTCA METHOD A CLEANUP LEVEL GROUNDWATER SAMPLE

(12/14/21 UNLESS OTHERWISE NOTED)

GROUNDWATER SAMPLE EXCEEDING MTCA METHOD C CLEANUP LEVEL

GROUNDWATER ELEVATION (12/14/21 UNLESS OTHERWISE NOTED)

EXCAVATION SOIL SAMPLE EXCEEDING MTCA METHOD A CLEANUP LEVEL

SOIL GAS SAMPLE LOCATION

## APPROXIMATE EXCAVATION OF 2013 REMEDIAL EXCAVATION

ML - SANDY SILT

SP - SILTY SAND

SM - SAND WITH SILT

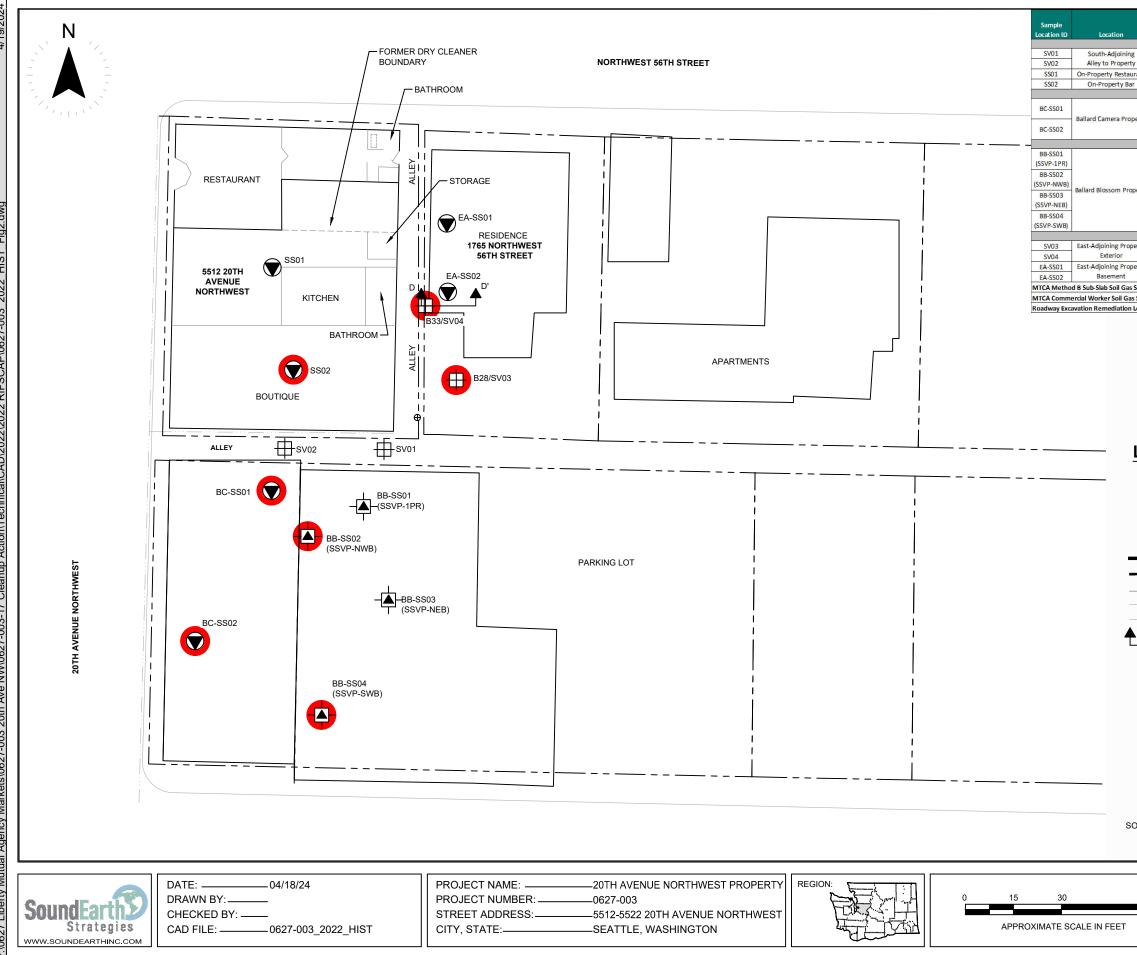
FILL

WASHINGTON STATE MODEL TOXICS CONTROL ACT

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NIFET	
IN FEET 1:5	

# FIGURE 4A

CROSS SECTION A-A'



	Property				Analytical Results (µg/m <sup>3</sup> )				
		Land Use	Sample	Sample			cis-1,2-	trans-1,2-	Vinyl
	Sampled By	Туре	Туре	Date	PCE	TĆE	DCE	DCE	Chloride
20	11 and 2022 (	On-Property a	nd Adjoiniı	ng Alley Soil	Gas Investi	gations			
ning			Shallow	06/10/11	150	17			<0.87
erty	SoundFarth	Commercial	Soil Gas	06/10/11	760	34			14
taurant	Soundearth		Sub-Slab	02/22/22	108	< 0.215	<1.59	<0.793	0.157
Bar			Soil Gas	02/22/22	106	8.85	140	1.88	73.2
	2013 and 20	22 Soil Gas In	vestigation	s - Ballard Ca	amera Prop	erty			
Property	SoundEarth	h Commercial		03/05/13	5,000	270	-	-	<7.8
			Sub-Slab	02/22/22	34.8	51.3	264	2.08	42.4
			Soil Gas	03/05/13	3,500	120		-	<4.1
				02/22/22	452	5.54	<1.59	<0.793	<0.102
	2018 and 202	3 Soil Gas Inv	estigations	- Ballard Bl	ossom Proj	perty			
	WES			12/28/18	<100	<4.1	<6	<6	<3.9
	SoundEarth			11/05/23	<35	< 0.55	<2	<2	<1.3
	WES			12/28/18	13,000	3,800	160	<5.9	3.8
Property	SoundEarth	Commercial	Sub-Slab	11/05/23	15,000	4,900	660	32	<4.3
roperty	WES	Commercial	Soil Gas	12/28/18	<110	12	<6.3	≪6.3	<4
	SoundEarth			11/05/23	<37	<0.58	<2.1	<2.1	<1.4
	WES			12/28/18	<92	<3.6	<5.4	<5.4	3.5
	SoundEarth			11/05/23	940	210	<3.5	<3.5	<2.2
	2017 and 20	23 Soil Gas In	vestigation	s - East-Adjo	ining Prop	erty			
roperty			Shallow	02/17/17	26,000	5,900			1,400
	SoundFarth	Residential	Soil Gas	02/17/17	710	65			280
roperty	SoundEarth	Residential	Sub-Slab	10/00/22	<38	<0.6	<2.2	2.2	<1.4
t			Soil Gas	10/06/23	110	<0.56	<2.1	<2.1	<1.3
as Screening Levels				320	11	610	610	95	
Gas Scree	ening Levels				1,500	95	NE	5,200	44
on Levels					9,700	320	NE	33,000	280

## LEGEND

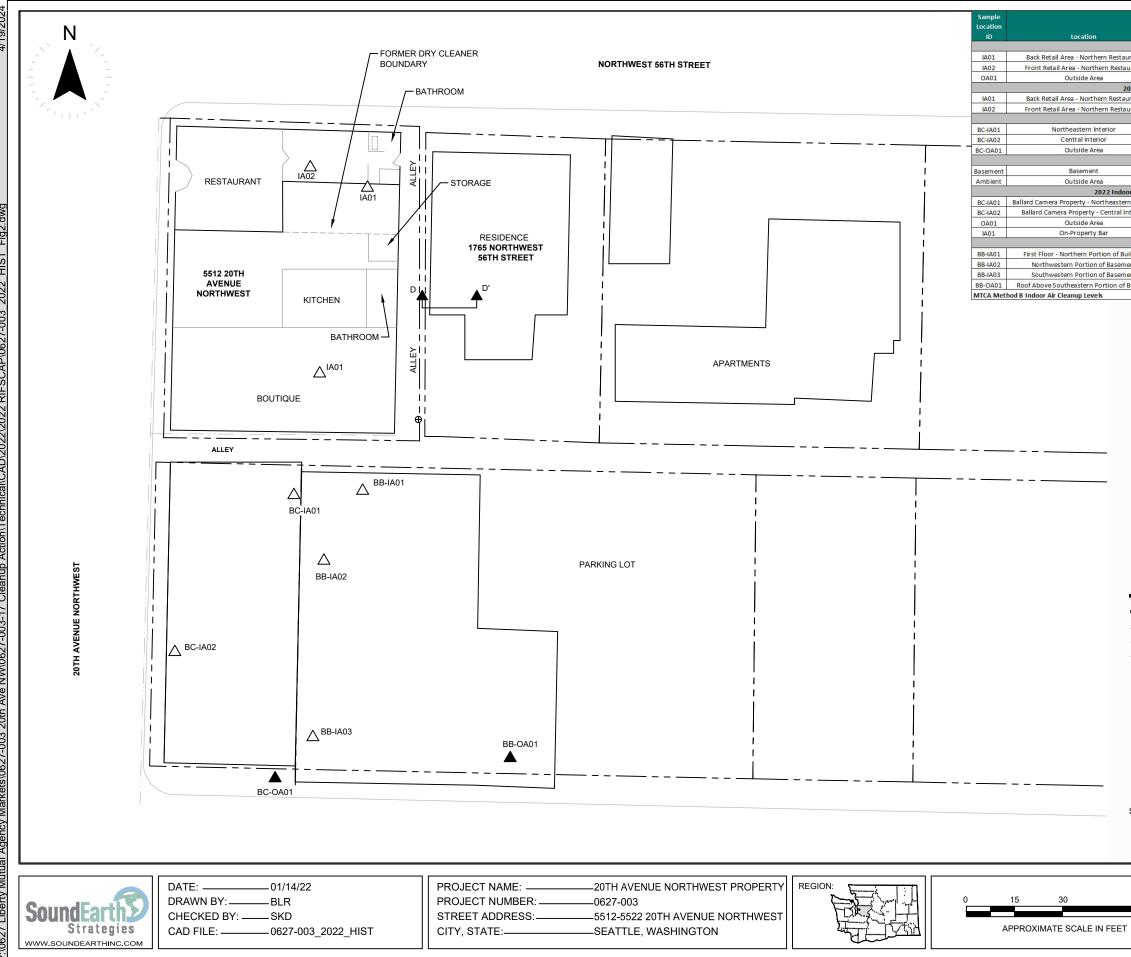
	⊕	SHALLOW SOIL GAS SAMPLE LOCATION (SOUNDEARTH, 2011-2017)
		LOCATION (SOUNDEARTH, 2011-2017)
		SUB-SLAB SOIL GAS SAMPLE LOCATION (SOUNDEARTH, 2013-2023)
	•	DENOTES CONCENTRATION EXCEEDS SUB-SLAB SOIL GAS SCREENING LEVEL FOR THE PROTECTION OF INDOOR AIR FOR A COMMERCIAL WORKER PROPERTY BOUNDARY
_		BUILDINGS
		WALLS
		STREETS
		FRENCH DRAIN
♠		CROSS SECTION LOCATION
	:	ABBREVIATIONS
	RED	DENOTES CONCENTRATION EXCEEDS ROADWAY
	BOLD	EXCAVATION REMEDIATION LEVEL DENOTES CONCENTRATION EXCEEDS APPLICABLE MTCA SOIL GAS SCREENING LEVEL
		NOT ANALYZED/NOT APPLICABLE
	<4	CONCENTRATION NOT DETECTED ABOVE THE
		LABORATORY REPORTING LIMIT
	CVOC	CHLORINATED VOLATILE ORGANIC COMPOUND
	DCE	DICHLOROETHENE

CVOC DCE US ENVIRONMENTAL PROTECTION AGENCY WASHINGTON STATE MODEL TOXICS CONTROL ACT EPA MTCA NE NOT ESTABLISHED PCE TETRACHLOROETHENE SOUNDEARTH SOUNDEARTH STRATEGIES, INC TRICHLOROETHENE TCE WHITMAN ENVIRONMENTAL SCIENCES WES

## FIGURE 17A

SOIL GAS ANALYTICAL RESULTS

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					Analytical Results (μg/m <sup>3</sup> )			
			Sample			cis-1,2-	trans-1,2-	Vinyl
	Sampled By	Sample Type	Date	PCE	TCE	DCE	DCE	Chloride
2009 O	n-Property Indo	or Air Assessm	ent - Baselir	ne				
urant		Indoor Air	02/05/09	4.8				
urant	SoundEarth	Indoor Air		6.2				
	Ī	Outdoor Air		<8.8	-			
2009 On-Pro	perty Indoor Ai	r Assessment -	Post HSVE S	startup				
urant	Course differently	Indoor Air	12/01/09	<1.8				
urant	SoundEarth	Indoor Air	12/21/09	<1.9				
2013 Ind	oor Air Assessm	ent - Ballard Ca	amera Prope	erty	,			
		Indoor Air		2.2	<0.18			<0.044
	SoundEarth	Indoor Air	03/05/13	2.4	<0.18			<0.043
	]	Outdoor Air		<1.2	<0.94			<0.45
2017 Inc	loor Air Assessn	nent - East-Adjo	ining Prope	rty				
	WES	Indoor Air	00/00/47	<0.34	<0.27	<0.2	<0.2	<0.13
		Outdoor Air	03/28/17	<0.34	<0.27	<0.2	<0.2	<0.13
or Air Asses	sment - On-Pro	perty and Form	er Ballard C	amera Pro	perty			
rn Interior		Indoor Air		<6.8	< 0.11	<0.4	<0.4	<0.26
nterior	SoundEarth	Indoor Air	05/26/22	<6.8	<0.11	<0.4	<0.4	<0.26
		Outdoor Air	05/20/22	<6.8	<0.11	<0.4	<0.4	<0.26
		Indoor Air		144				<0.26
2023 Inde	oor Air Assessm	ent - Ballard Bk	ossom Prop	erty				
uilding		Indoor Air		<6.8	<0.11			
ent	SoundEarth	Indoor Air	11/08/23	<6.8	<0.11			
ent	SoundEarth	Indoor Air	11/08/23	<8.8	<0.14			
Building		Outdoor Air		<6.8	<0.11			
				9.6	0.33	18	18	0.28

### LEGEND

$\bigtriangleup$	INDOOR AIR SAMPLE LOCATION (SOUNDEARTH, 2009-2023)
	OUTDOOR AIR SAMPLE LOCATION (SOUNDEARTH, 2009-2023)
	PROPERTY BOUNDARY
	BUILDINGS
	WALLS
	STREETS
	FRENCH DRAIN
	ABBREVIATIONS
BOLD	DENOTES LABORATORY REPORTING LIMIT EXCEEDS
<0.4	CONCENTRATION NOT DETECTED ABOVE THE LABORATORY REPORTING LIMIT
	NOT ANALYZED/NOT APPLICABLE
μg/m³	MICROGRAMS PER CUBIC METER
DCE	DICHLOROETHENE
EPA	LO ENVIRONMENTAL PROTECTION ACENOV
	US ENVIRONMENTAL PROTECTION AGENCY
HSVE	HORIZONTAL SOIL VAPOR EXTRACTION
HSVE	HORIZONTAL SOIL VAPOR EXTRACTION
HSVE MTCA PCE SOUNDEARTH	HORIZONTAL SOIL VAPOR EXTRACTION WASHINGTON STATE MODEL TOXICS CONTROL ACT TETRACHLOROETHENE SOUNDEARTH STRATEGIES, INC
HSVE MTCA PCE SOUNDEARTH TCE	HORIZONTAL SOIL VAPOR EXTRACTION WASHINGTON STATE MODEL TOXICS CONTROL ACT TETRACHLOROETHENE SOUNDEARTH STRATEGIES, INC TRICHLOROETHENE
HSVE MTCA PCE SOUNDEARTH	HORIZONTAL SOIL VAPOR EXTRACTION WASHINGTON STATE MODEL TOXICS CONTROL ACT TETRACHLOROETHENE SOUNDEARTH STRATEGIES, INC

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### FIGURE 18A

INDOOR AIR ANALYTICAL RESULTS

DEARTHING.C