



STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

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May 31, 2019

Elisabeth Silver  
ATC Group Services LLC  
6347 Seaview Avenue NW  
Seattle, WA 98107

**Re: Opinion on Proposed Cleanup of the following Site:**

- **Site Name:** Harbour Pointe Cleaners Lynnwood
- **Site Address:** 13619 Mukilteo Speedway, Lynnwood, WA 98037
- **Facility/Site No.:** 41352598
- **Cleanup Site ID No.:** 12413
- **VCP Project No.:** NW2902

Dear Elisabeth Silver:

The Washington State Department of Ecology (Ecology) received your request for an opinion on your proposed independent cleanup of the **Harbour Pointe Cleaners Lynnwood** facility (Site). This letter provides our opinion. We are providing this opinion under the authority of the Model Toxics Control Act (MTCA), Chapter 70.105D RCW.

**Issue Presented and Opinion**

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Upon completion of the proposed cleanup, will further remedial action likely be necessary to clean up contamination at the Site?

**NO. Ecology has determined that, upon completion of your proposed cleanup, and establishment of an Environmental Covenant, no further remedial action will likely be necessary to clean up contamination at the Site.**

This opinion is based on an analysis of whether the remedial action meets the substantive requirements of MTCA, Chapter 70.105D RCW, and its implementing regulations, Chapter 173-340 WAC (collectively “substantive requirements of MTCA”). The analysis is provided below.



## **Description of the Site**

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This opinion applies only to the Site described below. The Site is defined by the nature and extent of contamination associated with the following release:

- Tetrachloroethylene (PCE) and Trichloroethene (TCE) into the Soil.
- PCE and TCE into the Soil Gas.
- PCE and TCE into the Indoor Air.

**Enclosure A** includes a detailed description and diagram of the Site, as currently known to Ecology.

Please note a parcel of real property can be affected by multiple sites. At this time, we have no information that the parcel associated with this Site is affected by other sites.

## **Basis for the Opinion**

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This opinion is based on the information contained in the following documents:

1. ATC Group Services, *Cold Weather Sampling Event Report, Harbour Pointe Cleaners at Mukilteo Speedway Center, 13619 Mukilteo Speedway, Lynnwood, Washington*, dated March 4, 2019.
2. ATC Group Services, *Cleanup Action Report, Harbour Pointe Cleaners at Mukilteo Speedway Center, 13619 Mukilteo Speedway, Lynnwood, Washington*, dated October 15, 2018.
3. ATC, *Survey of potential Sources of Indoor Air PCE/TCE Impact, Harbour Pointe Cleaners at Mukilteo Speedway Center, 13619 Mukilteo Speedway, Lynnwood, Washington*, March 15, 2018.
4. ATC, *Initial Operations and Maintenance Report, Harbour Pointe Cleaners at Mukilteo Speedway Center, 13619 Mukilteo Speedway, Lynnwood, Washington*, May 2, 2017.
5. Washington Department of Ecology, *Opinion on Feasibility Study with Disproportionate Cost Analysis, Harbour Pointe Cleaners at Mukilteo Speedway Center, 13619 Mukilteo Speedway, Lynnwood, Washington*, dated April 4, 2016.

6. CARDNO ATC, *Feasibility Study with Disproportionate Cost Analysis, Harbour Pointe Cleaners at Mukilteo Speedway Center, 13619 Mukilteo Speedway, Lynnwood, Washington*, dated September 17, 2015.
7. Washington Department of Ecology, *Opinion on Limited Subsurface Investigation, Speedway Shopping Center-Harbour Pointe Cleaners, 13632 Highway 99, Lynnwood, Washington*, dated October 17, 2014.
8. CARDNO ATC, *Limited Subsurface Investigation, Speedway Shopping Center-Harbour Pointe Cleaners, 13632 Highway 99, Lynnwood, Washington*, dated April 3, 2014.
9. EBI Consulting, *Phase II Environmental Site Assessment, Speedway Shopping Center, 13632 Highway 99, Lynnwood, Washington*, dated March 18, 2013.
10. Buchanan Environmental Associates, *Mukilteo Speedway Center Limited Phase II Environmental Site Assessment, 13619 Mukilteo Speedway, Lynnwood, Washington*, dated September 6, 2006.

Those documents are kept in the Central Files of the Northwest Regional Office of Ecology (NWRO) for review by appointment only. You can make an appointment by completing a Request for Public Record form (<https://www.ecology.wa.gov/About-us/Accountability-transparency/Public-records-requests>) and emailing it to [PublicRecordsOfficer@ecy.wa.gov](mailto:PublicRecordsOfficer@ecy.wa.gov), or contacting the Public Records Officer at 360-407-6040. A number of these documents are accessible in electronic form from the Site web page (<https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=12413>).

This opinion is void if any of the information contained in those documents is materially false or misleading.

### **Analysis of the Cleanup**

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Ecology has concluded that, upon completion of your proposed cleanup, **no further remedial action** will likely be necessary to clean up contamination at the Site. That conclusion is based on the following analysis:

#### **1. Characterization of the Site.**

Ecology has determined your characterization of the Site is sufficient to establish cleanup standards and select a cleanup action. The Site is described above and in **Enclosure A**.

PCE was detected in soil and soil gas at concentrations exceeding the MTCA Method A and Method B cleanup level for direct contact. The PCE-impacted soil is present below the Harbour Point Cleaners tenant space, and extends to the west under the adjacent tenant space. The maximum vertical extent is approximately 3 feet below ground surface (bgs). TCE was detected in soil gas at concentrations just below the MTCA Method B screening level. Site investigations also demonstrated that ground water is not impacted; therefore, no soil-to-ground water pathway is present.

## 2. **Establishment of cleanup standards.**

Ecology has determined the cleanup levels and points of compliance you established for the Site meet the substantive requirements of MTCA.

### Soil:

The Site is located in a mixed commercial and residential area. Soil cleanup levels suitable for unrestricted land uses are therefore applicable to this Site. For unrestricted land use, through protection of direct contact, and protection of leaching to groundwater, either Method A or Method B cleanup levels can be used. MTCA Method A cleanup levels for unrestricted land uses were selected. Method A cleanup levels for soil were established based on direct contact and the protection of ground water.

The following potential exposure/risk pathways were appropriate to consider:

- Human health protection from direct soil contact pathway exposure
- Human health protection from soil-to-air pathway exposure
- Terrestrial ecological protection

Soil cleanup levels protective of terrestrial ecological receptors are not applicable for this Site, based on the exclusion relating to proximity of undeveloped land in accordance with WAC 173-340-7491(1)(c)(i). There are less than 1.5 contiguous acres of undeveloped land on or within 500 feet of any part of the Site.

For soil cleanup levels based on the protection of ground water, the point of compliance is defined as Site-wide throughout the soil profile and may extend below the water table. This is the appropriate point of compliance for the Site.

Groundwater:

Groundwater below the Site is considered potable. The following potential exposure/risk pathways were appropriate to consider:

- Human health protection from drinking groundwater pathway exposure
- Human health protection from vapor intrusion from groundwater to indoor air pathway

For groundwater cleanup levels based on drinking water, the point of compliance is defined as throughout the Site from the uppermost level of the saturated zone extending vertically to the lowest most depth which could potentially be affected by the Site. This is the appropriate point of compliance for the Site.

Air:

Cleanup levels for air are based on protection of human health. MTCA Method B indoor air cleanup levels are the appropriate choice (MTCA Method A values do not exist).

Point of Compliance: The standard point of compliance for air is in ambient and indoor air throughout the Site.

**3. Selection of cleanup action.**

Ecology has determined the cleanup action you proposed for the Site and documented in the Feasibility Study (FS) meets the substantive requirements of MTCA.

The selected cleanup action consisted of the following:

- Soil vapor extraction was implemented through the operation of a sub-slab depressurization system (SSD system). The SSD system consists of 40 polyvinyl chloride riser pipes plumbed vertically from the sub-slab to a blower mounted to the building roof. The effluent air is discharged from the blower. Once the SSD system was in operation, quarterly indoor air samples were obtained and analyzed to determine the effectiveness of the system. Operation of the SSD system commenced January 2017 and continued through June 2018.
- The former dry cleaners space (which is no longer operating) was cleaned in June 2018, and additional sub-slab, indoor and outdoor air sampling and analysis was conducted in July 2018. Decommissioning of the dry cleaner space included removal of all above-ground features, including the dry cleaning machine, spot cleaning and pressing table, containers of spot cleaners, dry cleaning solvents,

waste filters, and spend solvent wastes. Ventilation system ductwork and sections of stained wallboard were also removed from the Site.

- Indoor air quality needed to be further assessed to critique the current, post-remediation site conditions, absent the influence of the SSD system operation. As a result, sub-slab, ambient and indoor air sampling and analysis activities were performed in July 2018 and January 2019.
- The additional data gathered was evaluated in accordance with Ecology's Draft ***Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action***, revised April 2018, for assessing and addressing soil vapor issues.
- The following are actions Ecology has taken to supplement portions of the Ecology draft Vapor Intrusion (VI) guidance. The major changes include:
  - Updated and revised VI screening levels. The cleanup and screening levels in Appendix B in the 2009 guidance were outdated and have been replaced by Ecology's Cleanup Levels and Risk Calculation (CLARC) VI data tables. The CLARC VI table values are based toxicity data that were current as of April 2015 and also use attenuation factors for determining sub-slab soil gas and ground water screening levels that are consistent with EPA's recommendations.
  - Issued new guidance related to VI evaluation. See Implementation Memorandum No. 18 entitled: "*Petroleum Vapor Intrusion (PVI) Updated Screening Levels, Cleanup Levels and Sampling Considerations*". The memo proposes a generic Method B TPH indoor air cleanup level, addresses the requirement to account for the additive effects of the compounds present in petroleum mixtures, and provides recommendations for assessing the potential threat of VI on future buildings.
  - Issued Implementation Memorandum No. 21 entitled: "*Frequently Asked Questions (FAQs) Regarding Vapor Intrusion (VI) and Ecology's 2009 Draft VI Guidance*." This implementation memo answers a number of questions on whether specific portions of Ecology's 2009 Draft Vapor Intrusion (VI) Guidance are still applicable. Most of these questions address technical or policy changes that have occurred since the draft guidance was issued.

- Issued DRAFT Implementation Memorandum No. 22 entitled *Vapor Intrusion (VI) Investigations and Short-term Trichloroethene (TCE) Toxicity.*”
- TCE air cleanup levels were calculated based on the risk of health effects following chronic (many year) exposures. TCE, through a different mechanism of action, also presents health risks to developing fetuses following acute ( $\leq 3$  week) exposures. A combination of expedited site characterization, public outreach, mitigation, and interim remedial action may be necessary to protect against these acute health risks. Ecology guidance on this issue is available in draft form at:  
<https://fortress.wa.gov/ecy/publications/SummaryPages/1809047.html>

Specifically, this memorandum provides recommendations pertaining to cleanup site contaminated with trichloroethene (TCE):

- Provides indoor air action levels that are protective of short-term exposures to TCE.
  - Provides the default (non-site-specific) subsurface vapor intrusion (VI) screening levels that are protective of the short-term indoor air TCE action levels.
  - Identifies options for effectively and rapidly responding to those situations where TCE concentrations caused by VI in indoor air are above action levels.
  - Establishes the commitment by Ecology’s Toxics Cleanup Program (TCP) to keep indoor air TCE concentrations (caused by VI) below short-term action levels at MTCA cleanup sites in Washington State.
  - Provides guidance and recommendations for those scenarios where a) VI-caused TCE indoor air concentrations exceed, or may exceed, the short-term action levels, and b) the building being investigated is regularly occupied by female residents or workers of childbearing age.
- A limited, well-defined volume of PCE-contaminated soil remains under the building. The concrete floor in the tenant space prevents direct access to the impacted soil and leaching to groundwater. The results of the vapor intrusion assessment demonstrate that the floor also prevents soil vapors from entering the building. The Property needs an environmental covenant (EC) to manage the

contaminated soil and the potential for vapor intrusion if the building is removed or remodeled in the future. Future vapor assessment considerations will be required under the EC, if a new building is constructed on the Property, and to also assess commercial buildings in the vicinity of the Property.

- Future vapor assessment considerations include: vapor intrusion pathway potential if a new building is constructed on the Property, and vapor intrusion pathway potential to commercial buildings in the vicinity of the Property.
- The final Cleanup Action Report (CAR) and a draft EC will be the next submittal to Ecology. As discussed at the Ecology/consultant/owner meeting held by phone April 10, 2019 the following specifics will be provided in the next submittal:
  - Please include the “Chronological Vapor Intrusion Data Evaluation Table (**Enclosure B** to this letter) that was prepared by Ecology and utilized for discussion purposes for the 4/10/2019 meeting.
  - MTCA Method C VI soil screening levels may be used to evaluate whether commercial workers at the Property are sufficiently protected under current conditions, but MTCA Method C VI soil gas screening levels must be used to evaluate whether the VI pathway is complete. For TCE, the commercial/industrial action level may be used to evaluate whether women of child-bearing age are sufficiently protected under current conditions.
  - In July 2018, TCE at the Site exceeded the soil vapor screening level by 33 percent, but the laboratory report limit (RL) for indoor air was too high to make a conclusion. In January 2019, the soil vapor had decreased below the screening level and the detection in indoor air was slightly below the screening level. The building heating, ventilation and cooling (HVAC) system was not turned on for the January 2019 sampling event, as the piping and equipment had been removed during the summer after the tenant had vacated the Site. Since the intent was to sample and gather data during a cold-weather VI sampling event, which is expected to be conducted with the HVAC system on, please explain why the data gaps do not compromise the Site qualification for a No Further Action (NFA) opinion.
  - A discussion needs to be added to the final report about the benzene exceedances of the MTCA Method B CUL in indoor air. The CUL of 13.7 ug/m<sup>3</sup> reported in Table 1 is for noncancer health effects, but the CUL of 0.32 ug/m<sup>3</sup> for cancer effects must be used. The 2019 indoor air concentrations are similar to or below the 2019 outdoor air concentrations, suggesting that the source of benzene is not vapor intrusion. Furthermore, the 2018 and 2019 benzene concentrations in indoor air are consistent with



typical indoor air concentrations (reference). Therefore, benzene does not need to be selected as a COC for indoor air. Ecology provided you with several resources to aid in the discussion.

- Please document that TCE exceeded its air CUL at OA-3 near the service station. The exceedance suggests an outside source of TCE unrelated to Site VI.
- MTCA Method B and C values for indoor and outdoor air are cleanup levels. They are not screening levels. Please correct Table 1.
- Ensure that all tables report detection limits rather than the symbol “ND” for non-detected results.
- The updated CAR will include the information presented in the October 15, 2018 report, the March 19, 2019 submittal, and the additional data and technical rational which were not presented in the reports, along with the above specifics which were discussed at the April 10, 2019 meeting.

#### **Remedial action assessment.**

Once cleanup has been completed, the project will need completion of a final CAR, which summarizes all work conducted at the Site as well as results, interpretations, and conclusions. In the meeting held April 10, 2019, it was agreed that the CAR submittal dated October 15, 2018, the Cold Weather Sampling Event Report dated March 19, 2019, and the addendum of additional data and interpretation (in process of being prepared) would be reissued to Ecology as a final CAR document. Once the CAR has been reviewed and concurred by Ecology, a final opinion can then be issued concerning the Site.

The selected cleanup action must meet applicable minimum requirements for cleanup actions stipulated in WAC 173-340-360: protect human health and the environment, comply with cleanup standards, use permanent solutions, and provide for reasonable restoration time frames.

#### **4. Other requirements.**

**A draft Environmental Covenant (EC) must be prepared and submitted to Ecology in conjunction with the Final CAR for Ecology’s consideration on a final NFA opinion for the Site.**

Information on how to prepare an Environmental Covenant can be found in the Uniform Environmental Covenants Act (UECA), [Chapter 64.70 RCW](#), and [WAC 173-340-440](#) of

the Model Toxics Cleanup Act (MTCA) Cleanup Regulation).

Draft the covenant using the boilerplate document available on the VCP web site (<https://fortress.wa.gov/ecy/publications/SummaryPages/1509054.html>). Please note that any changes to the boilerplate language in the covenant must be approved by the Attorney General's Office.

The environmental covenant must include the following restrictions:

- The Property will remain in commercial use. If the Property becomes re-zoned for residential use, a vapor intrusion assessment must be conducted to determine whether conditions are protective of residential use.
- If the current building is demolished and removed, the residual contaminated soil below the building must be resampled. If the soil exceeds MTCA Method B cleanup levels, and it is removed during redevelopment of the Property, Ecology will consider a request to release the EC.
- If the current building is remodeled in any manner that could change vapor intrusion conditions, or if the HVAC system is altered, a new vapor intrusion assessment must be conducted.

Electronic submittal of all sampling data into Ecology's electronic *Environmental Information Management* (EIM) database is a requirement in order to receive a NFA opinion for this Site. Data from this Site have not yet been entered into the EIM database. Note that all data must be uploaded into the Ecology EIM system upon submission of each report to Ecology. This allows the Ecology Site Manager to access data to check results or perform additional analyses with those data. Erica Fot (email [efot461@ecy.wa.gov](mailto:efot461@ecy.wa.gov), or via telephone at 360-407-6692) is Ecology's contact and resource on entering data into EIM.

## **Limitations of the Opinion**

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### **1. Opinion does not settle liability with the state.**

Liable persons are strictly liable, jointly and severally, for all remedial action costs and for all natural resource damages resulting from the release or releases of hazardous substances at the Site. This opinion **does not**:

- Resolve or alter a person's liability to the state.
- Protect liable persons from contribution claims by third parties.

To settle liability with the state and obtain protection from contribution claims, a person must enter into a consent decree with Ecology under RCW 70.105D.040(4).

**2. Opinion does not constitute a determination of substantial equivalence.**

To recover remedial action costs from other liable persons under MTCA, one must demonstrate that the action is the substantial equivalent of an Ecology-conducted or Ecology-supervised action. This opinion does not determine whether the action you proposed will be substantially equivalent. Courts make that determination. *See* RCW 70.105D.080 and WAC 173-340-545.

**3. Opinion is limited to proposed cleanup.**

This letter does not provide an opinion on whether further remedial action will actually be necessary at the Site upon completion of your proposed cleanup. To obtain such an opinion, you must submit a report to Ecology upon completion of your cleanup and request an opinion under the VCP.

**4. State is immune from liability.**

The state, Ecology, and its officers and employees are immune from all liability, and no cause of action of any nature may arise from any act or omission in providing this opinion. *See* RCW 70.105D.030(1)(i).

Elisabeth Silver  
May 13, 2019  
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### **Contact Information**

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Thank you for choosing to clean up the Site under the Voluntary Cleanup Program (VCP). As you conduct your cleanup, please do not hesitate to request additional services. We look forward to working with you.

For more information about the VCP and the cleanup process, please visit our web site: [www.ecy.wa.gov/programs/tcp/vcp/vcpmain.htm](http://www.ecy.wa.gov/programs/tcp/vcp/vcpmain.htm). If you have any questions about this opinion, please contact me by phone at 425.649-4422 or e-mail at [gcar461@ecy.wa.gov](mailto:gcar461@ecy.wa.gov).

Sincerely,



Glynis A. Carrosino  
NWRO Toxics Cleanup Program

Enclosures (2):   A – Description and Diagrams of the Site  
                          B – Chronological Vapor Intrusion Data Evaluation

cc:     Charles Gurney, Weingarten  
          Sonia Fernandez, Ecology NWRO VCP Coordinator

## **Enclosure A**

### **Description and Diagrams of the Site**

## Site Description

*This enclosure provides Ecology's understanding and interpretation of Site conditions and forms the basis for the opinions expressed in the letter.*

**Site Definition:** The Site is defined by the extent of contamination due to releases to soil, soil gas and indoor air of tetrachloroethylene (PCE) and the related by-product trichloroethene (TCE) associated with 13619 Mukilteo Speedway in Lynnwood, Washington (the Property). The Property and the Site are shown on the attached Site diagrams (**Figures 1 - 7**).

**Area Description:** The Property is located in Snohomish County, at the Mukilteo Speedway Center, a shopping center located on six irregularly-shaped parcels encompassing a total of 7.80 acres of land. The Property is bordered to the west by the Mukilteo Speedway, (a four-lane highway), to the south by Lincoln Way, and to the east by and State Highway 99 (**Figure 1**). The Property is bordered to the north by a residential development. The area comprises commercial businesses and industrial properties. The Snohomish County Assessor tax parcel number for the Property is 00373300801204, with a description of Township 28 North; Range 04 East; Section 34; NE Quarter of the NE Quarter. The Property coordinates are: Latitude 47.87393 degrees; Longitude -122.27674 degrees.

**Property History and Current Use:** The shopping center was built in 1992 and consists of four structures designated as Buildings A through D (**Figure 6**). Harbour Pointe Cleaners is located in tenant space B6 in Building B within the Speedway Shopping Center, and operated as a dry cleaning facility at the Property since approximately 1992. Tenant space B6 has a main entrance off the Shopping Center parking lot, and a back door entrance behind the main structure. Between 1992 and 2007 the facility utilized the chlorinated volatile organic compound PCE in their dry cleaning operations. In 2007, the operators switched from PCE to a silicon-based dry cleaning solvent with a small amount of TCE added to prevent bonding to the machine. In 2018, the Harbour Pointe dry cleaners space was vacated, and is currently still not in use.

**Contaminant Sources and History of Releases:** The potential contaminant sources for this Site result from improper disposal of filters, waste, separator water, still bottoms, and solvent leaks from the dry cleaning machine and the waste collection vessels. It is possible that untreated separator water was disposed directly into the sanitary sewer system based on information presented in previous reports.

**Storm Water/Surface Water:** The nearest surface water body to the Site is Lake Serene, which is located approximately 2,000 feet to the southwest (**Figure x**). The Site is covered by buildings and paved parking lots. Surface water runoff is collected by catch basins located in the parking lots and at the curbs of adjacent City streets.

**Ecological Setting:** There is little terrestrial habitat on or in the immediate vicinity of the Property. The area is developed as industrial and commercial properties. Most of the Site and the surrounding area are paved with asphalt and concrete, or covered by the building.

**Geology:** The Site is in the Puget Sound Lowland Physiographic Province. The Puget Lowland is underlain at depth by Tertiary volcanic and sedimentary bedrock, which has been covered to the present day land surface with Pleistocene-aged glacial and non-glacial sediments.

Subsurface soil on the Site was generally characterized as fine-grained and consisting of brown to olive-brown silt with gravel and sand of strong induration to 13 feet below the ground surface (bgs) or shallower. Coarse-grained strata consisting of sand and gravel are present beneath the fine-grained sediments, followed below by dominantly fine-grained glacial till to 25 feet bgs, the maximum depth explored.

**Ground Water:** Subsurface investigations conducted in 2006 identified that ground water occurs at approximately 9 to 14 feet bgs and ground water flow is toward the east-northeast.

**Release and Extent of Contamination – Soil:** PCE and TCE are the known contaminants present in soil at the Site. There is evidence of a release of PCE to soil above the MTCA Method A cleanup level of 0.05 mg/kg in the western and eastern portions of the Site at a depth of the approximately 1 foot bgs. TCE was detected at concentrations below cleanup levels. The maximum vertical extent of PCE-impacted soil is approximately 3 feet below ground surface (bgs) based on the results of the subsurface investigation conducted in 2014 (**Figure 2 and 4**).

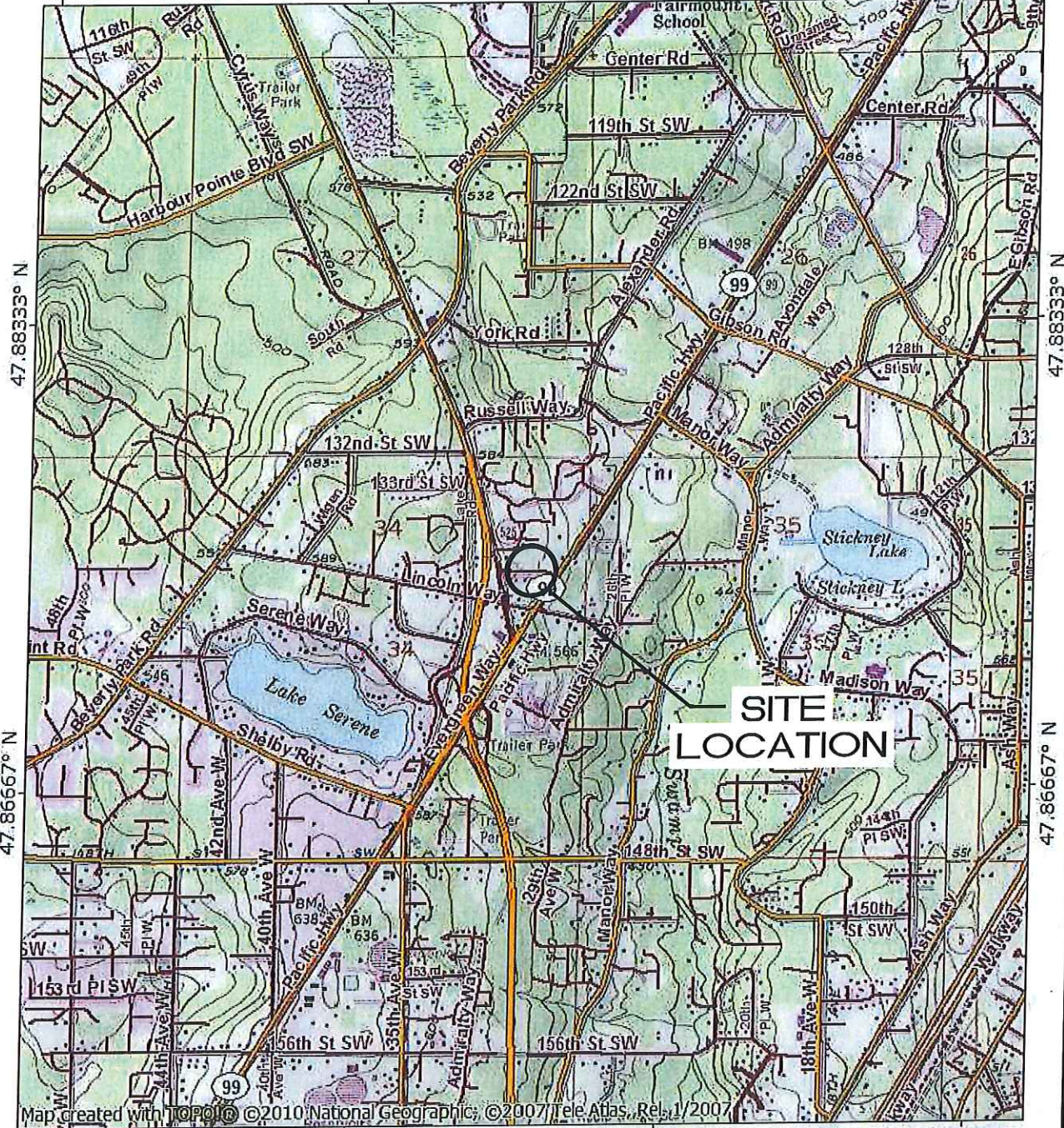
**Release and Extent of Contamination – Soil Gas:** PCE and TCE are the known contaminants present in soil gas at the Site. These COCs were detected in temporary sub-slab vapor samples VE-1, VE-2, and V-3 at concentrations above the MTCA Method B sub-slab soil gas screening levels (**Figure 7**).

**Release and Extent of Contamination – Ground Water:** Between June and August 2006, a total of five ground water monitoring wells were installed between 15 and 25 feet bgs, designated as MW-1 through MW-5 (see **Figure 5**). Laboratory results from ground water samples collected from the five monitoring wells identified the presence of TCE and 1,1-dichloroethane at concentrations below MTCA Method A cleanup levels. No other PCE degradation compounds have been detected in the ground water.

## Site Diagrams



122.30000° W      122.28333° W      122.26667° W      WGS84 122.25000° W



47.88333° N

47.86667° N

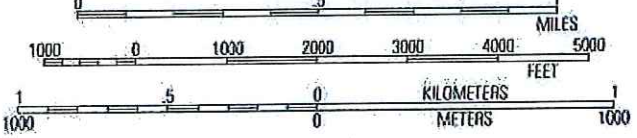
47.88333° N

47.86667° N

**SITE LOCATION**

Map created with TOPO © © 2010 National Geographic; © 2007 Tele Atlas, Rel. 1/2007

122.30000° W      122.28333° W      122.26667° W      WGS84 122.25000° W



TN ↑ MN  
16°  
03/05/15

SOURCE: USGS TOPO MAP, EDMONDS EAST, WA, 1981

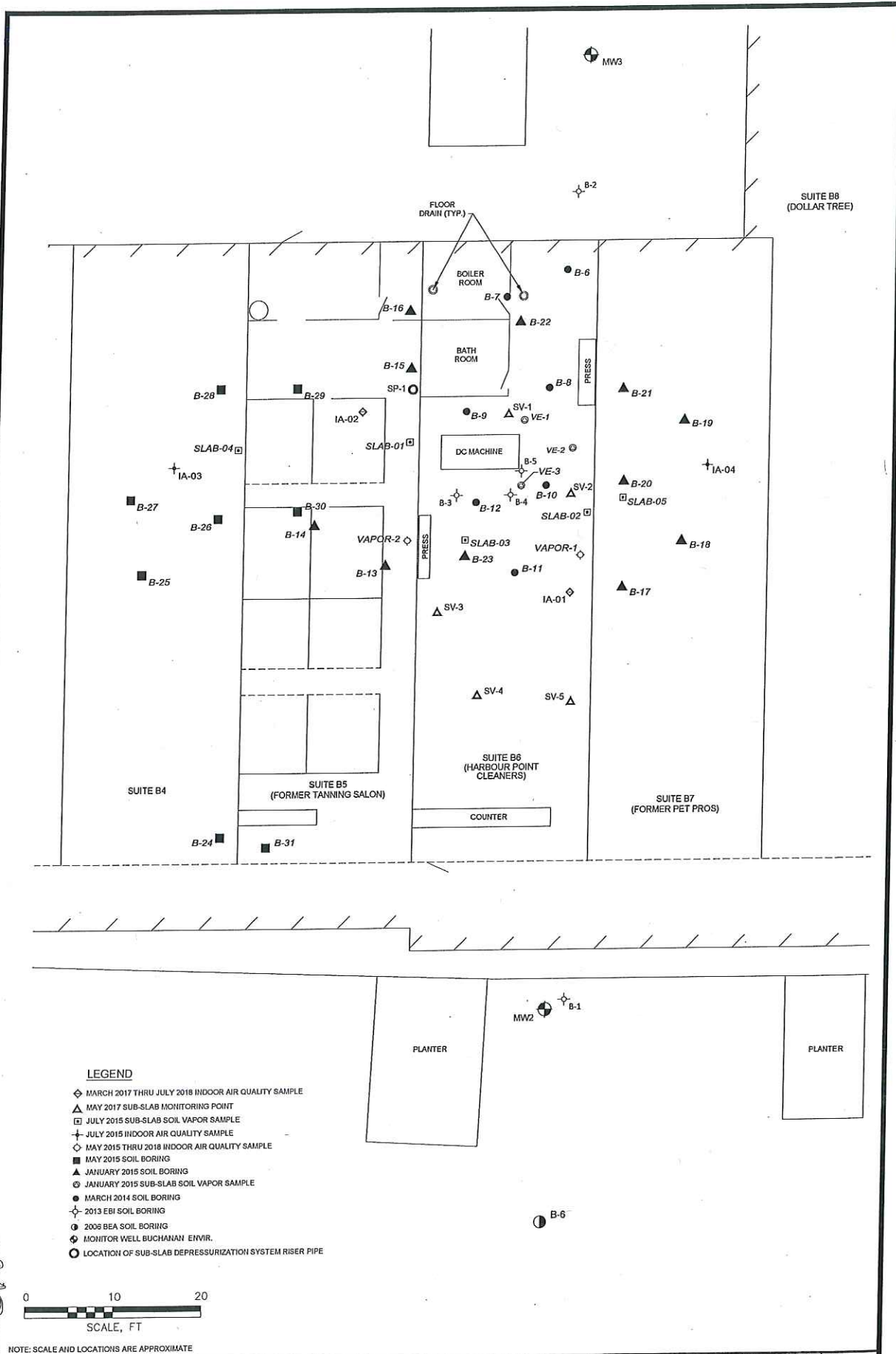
**SITE LOCATION MAP**

FORMER HARBOUR POINT CLEANERS  
13619 MUKILTEO SPEEDWAY  
LYNNWOOD, WA

PROJECT NUMBER: 282EM00166      DATE: 11/10/16      FIGURE  
APPROVED BY: SP      DRAWN BY: BK      1

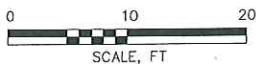
**ATC** 6347 Seaview Avenue NW  
Seattle, Washington 98107  
Ph: (206) 781-1449 \*\*\* Fax: (206) 781-1543

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**LEGEND**

- ◇ MARCH 2017 THRU JULY 2018 INDOOR AIR QUALITY SAMPLE
- ▲ MAY 2017 SUB-SLAB MONITORING POINT
- JULY 2015 SUB-SLAB SOIL VAPOR SAMPLE
- ⊕ JULY 2015 INDOOR AIR QUALITY SAMPLE
- ◇ MAY 2015 THRU 2018 INDOOR AIR QUALITY SAMPLE
- MAY 2015 SOIL BORING
- ▲ JANUARY 2015 SOIL BORING
- JANUARY 2015 SUB-SLAB SOIL VAPOR SAMPLE
- MARCH 2014 SOIL BORING
- 2013 EBI SOIL BORING
- 2009 BEA SOIL BORING
- ◇ MONITOR WELL BUCHANAN ENVIR.
- LOCATION OF SUB-SLAB DEPRESSURIZATION SYSTEM RISER PIPE



NOTE: SCALE AND LOCATIONS ARE APPROXIMATE

**SAMPLE LOCATIONS**  
 FORMER HARBOUR POINT CLEANERS  
 13619 MUKILTEO SPEEDWAY  
 LYNNWOOD, WA

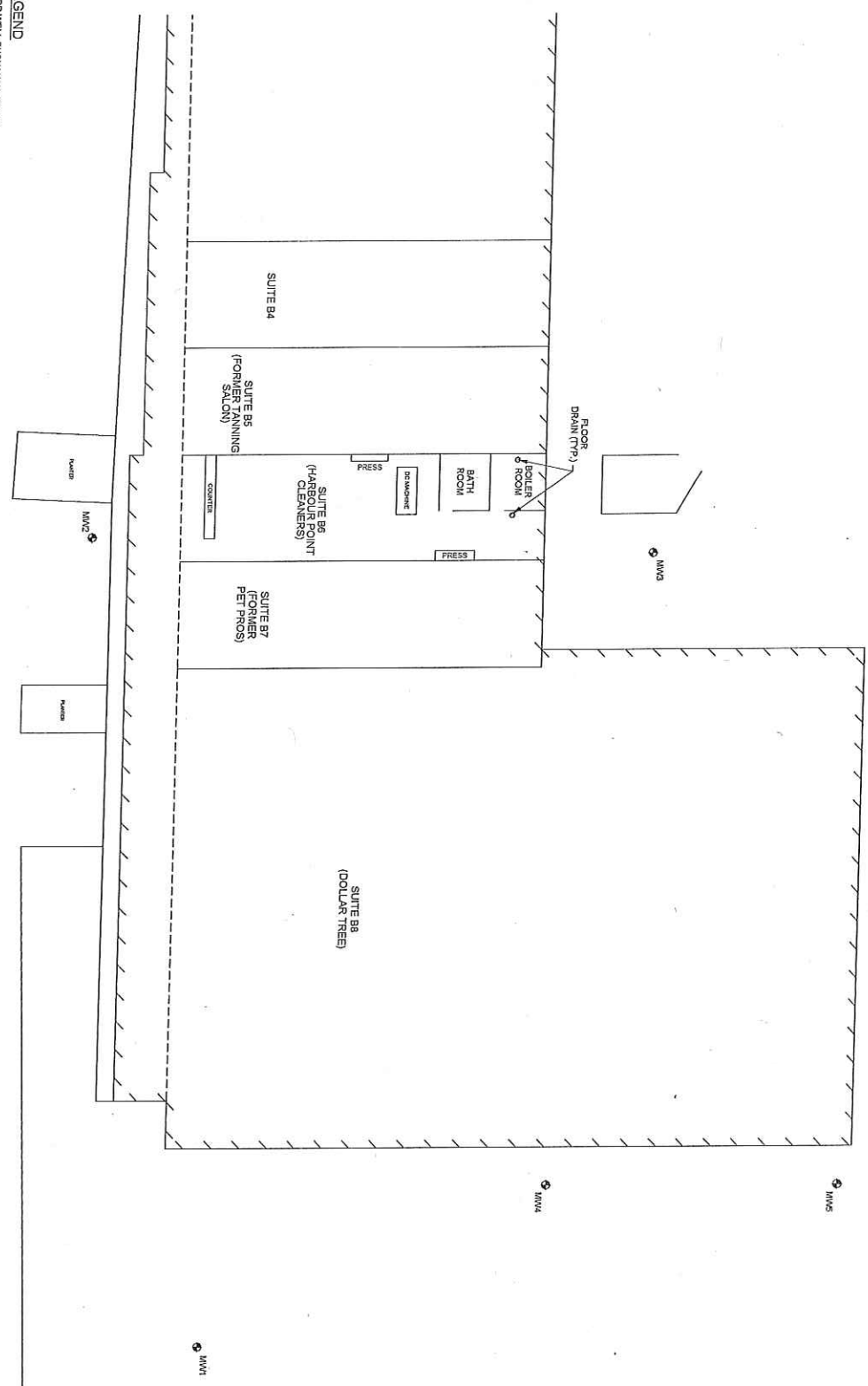
PROJECT NUMBER: NPWR116001	DATE: 9/27/18	FIGURE
APPROVED BY: ES	DRAWN BY: BK	2

**ATC** 6347 Seaview Avenue NW  
 Seattle, Washington 98107  
 Ph: (206) 781-1449 \*\*\* Fax: (206) 781-1543

NOTE: SCALE AND LOCATIONS ARE APPROXIMATE



LEGEND  
 ● MONITOR WELL BUCHANAN ENVR.

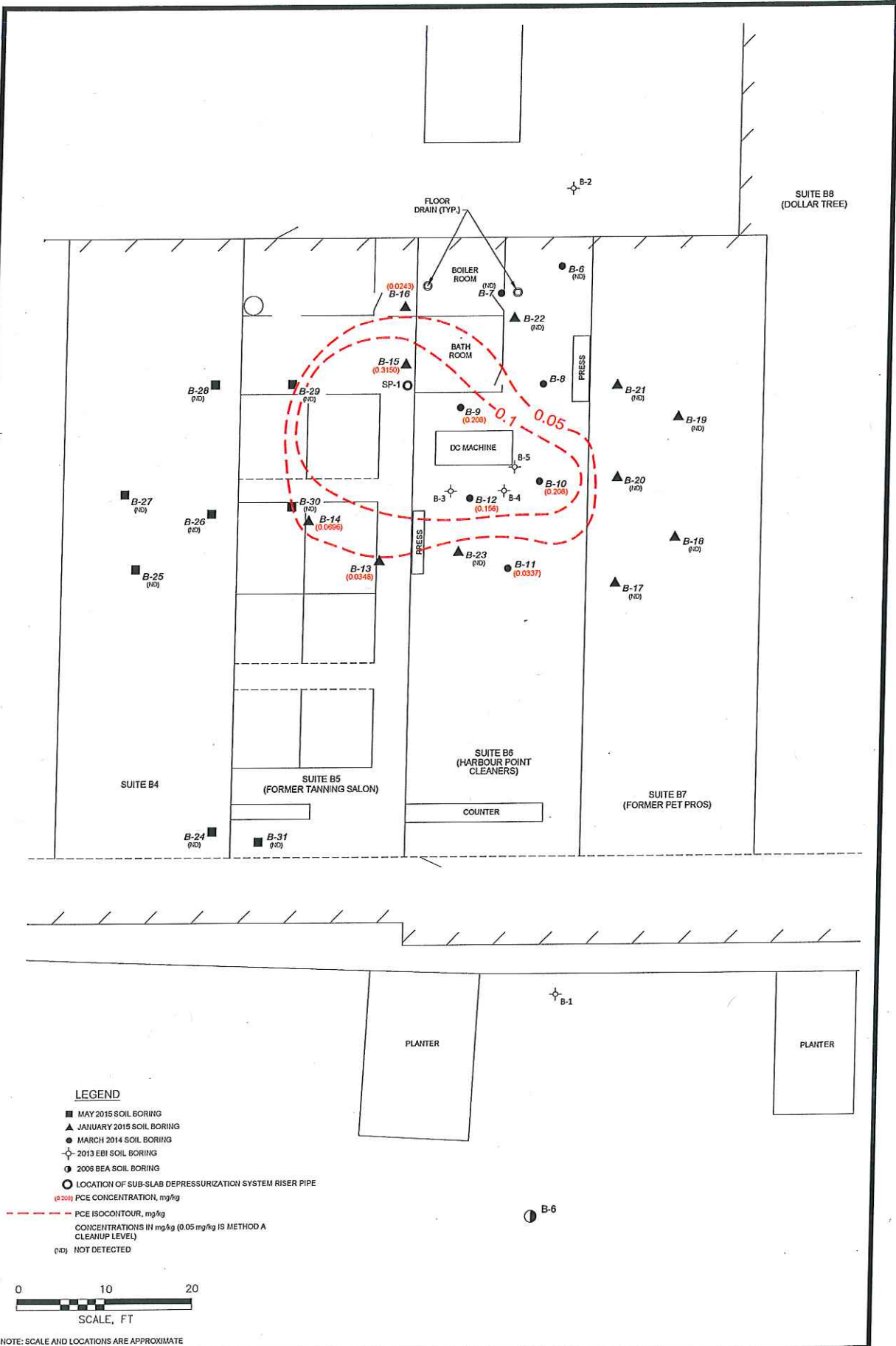


**GROUNDWATER MONITORING WELL LOCATIONS**

FORMER HARBOUR POINT CLEANERS  
 13619 MUKILTEO SPEEDWAY  
 LYNNWOOD, WA

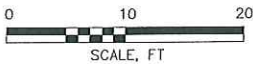
PROJECT NUMBER: NPWR18001	DATE: 9/27/18	FIGURE
APPROVED BY: ES	DRAWN BY: BK	3

**ATC** 6347 Seaview Avenue NW  
 Seattle, Washington 98107  
 Ph: (206) 781-1449 \*\*\* Fax: (206) 781-1543



**LEGEND**

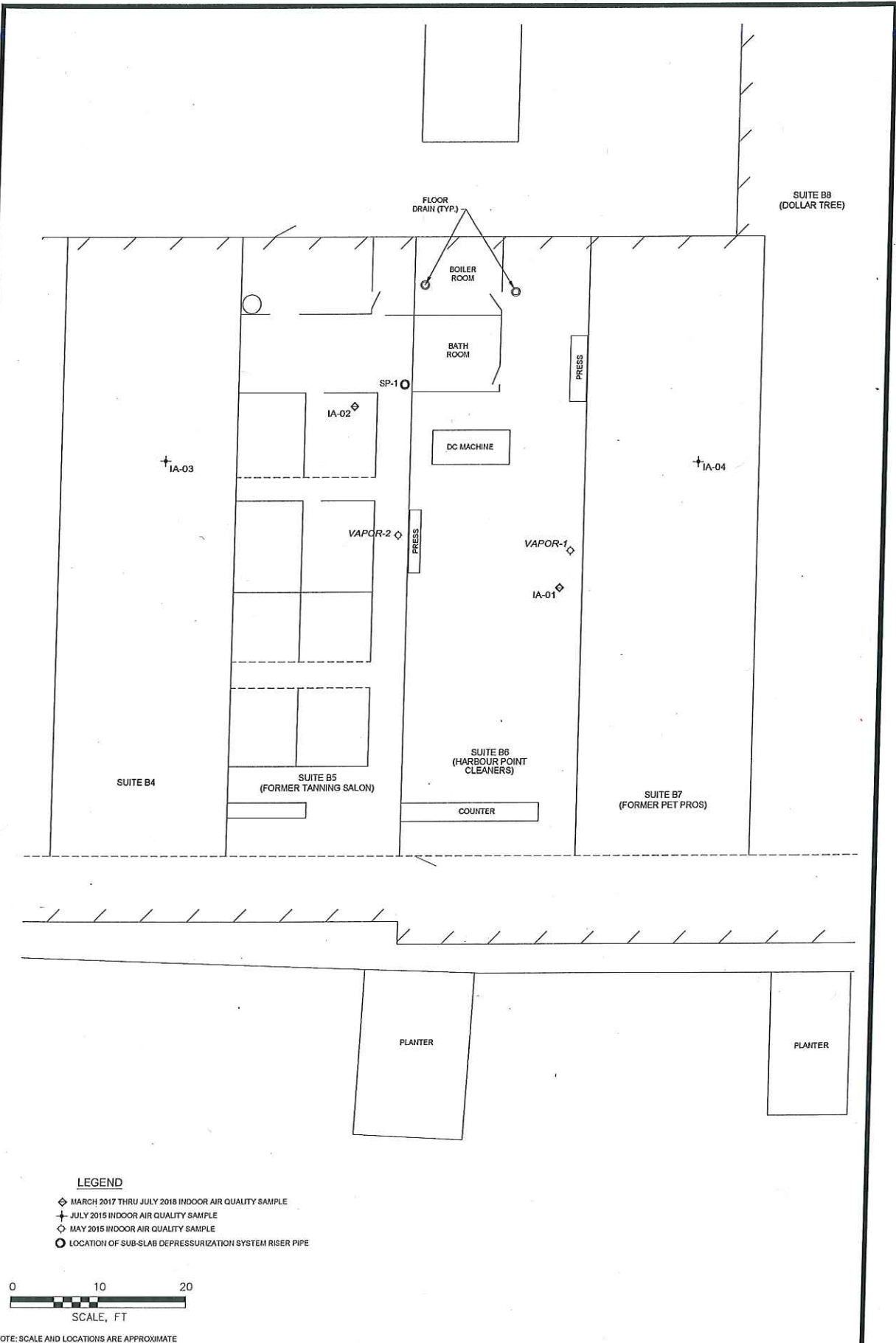
- MAY 2015 SOIL BORING
- ▲ JANUARY 2015 SOIL BORING
- MARCH 2014 SOIL BORING
- ⊕ 2013 EBI SOIL BORING
- 2006 BEA SOIL BORING
- LOCATION OF SUB-SLAB DEPRESSURIZATION SYSTEM RISER PIPE
- (0.204) PCE CONCENTRATION, mg/kg
- - - PCE ISOCONTOUR, mg/kg
- CONCENTRATIONS IN mg/kg (0.05 mg/kg IS METHOD A CLEANUP LEVEL)
- (ND) NOT DETECTED



NOTE: SCALE AND LOCATIONS ARE APPROXIMATE

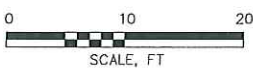
**PRE-REMEDIATION PCE CONCENTRATIONS IN SOIL AT 1 FOOT BELOW GROUND LEVEL ISOCONTOURS**  
 FORMER HARBOUR POINT CLEANERS  
 13619 MUKILTEO SPEEDWAY  
 LYNNWOOD, WA

PROJECT NUMBER: NFWRI18001	DATE: 9/28/18	FIGURE
APPROVED BY: ES	DRAWN BY: BK	4
6347 Seaview Avenue NW Seattle, Washington 98107 Ph: (206) 781-1449 *** Fax: (206) 781-1543		



**LEGEND**

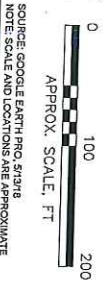
- ◇ MARCH 2017 THRU JULY 2018 INDOOR AIR QUALITY SAMPLE
- + JULY 2015 INDOOR AIR QUALITY SAMPLE
- ◇ MAY 2015 INDOOR AIR QUALITY SAMPLE
- LOCATION OF SUB-SLAB DEPRESSURIZATION SYSTEM RISER PIPE



NOTE: SCALE AND LOCATIONS ARE APPROXIMATE

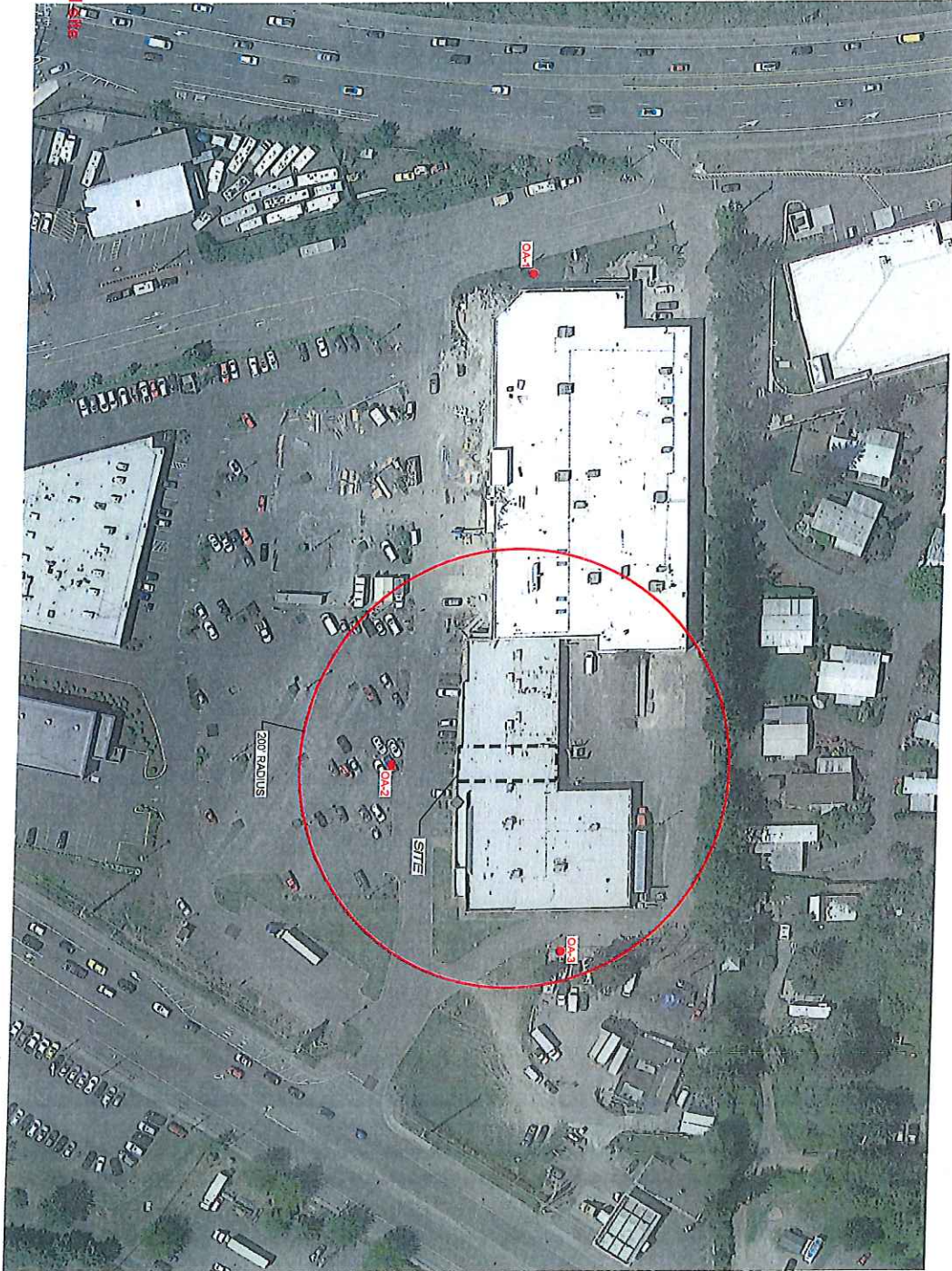
**INDOOR AIR QUALITY SAMPLE LOCATIONS**  
 FORMER HARBOUR POINT CLEANERS  
 13619 MUKILTEO SPEEDWAY  
 LYNNWOOD, WA

PROJECT NUMBER: NPWR110001	DATE: 9/27/18	FIGURE
APPROVED BY: ES	DRAWN BY: BK	5
<b>ATC</b> 6347 Seaview Avenue NW Seattle, Washington 98107 Ph: (206) 781-1449 *** Fax: (206) 781-1543		



SOURCE: GOOGLE EARTH PRO, STATE  
NOTE: SCALE AND LOCATIONS ARE APPROXIMATE

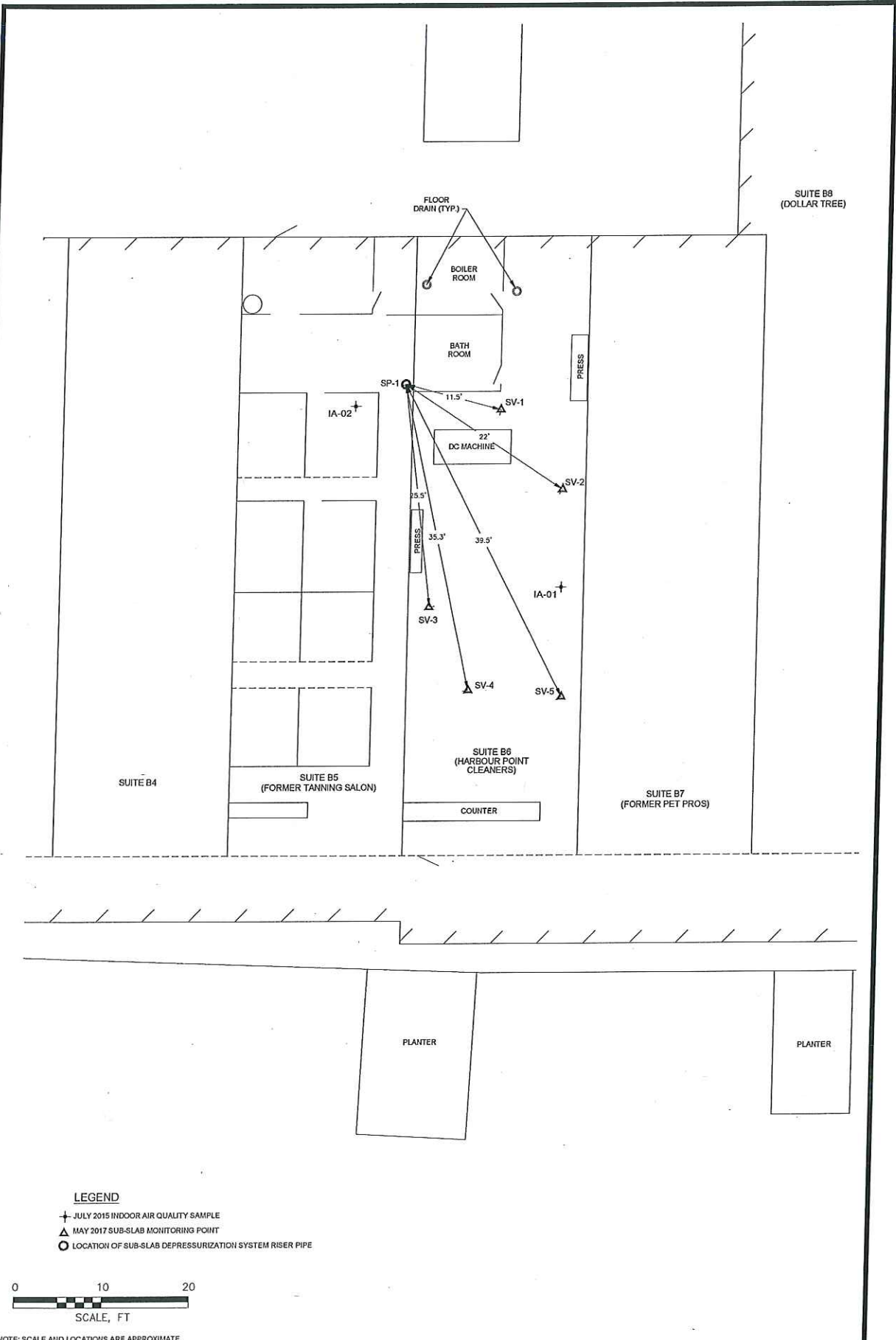
LEGEND  
● OUTDOOR AIR SAMPLE  
--- 200 foot radius around sites



**OUTDOOR AIR SAMPLE LOCATIONS**

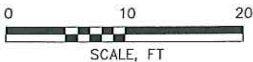
FORMER HARBOUR POINT CLEANERS  
13619 MUKILTEO SPEEDWAY  
LYNNWOOD, WA

PROJECT NUMBER: NPWR18001	DATE: 9/25/18	FIGURE
APPROVED BY: ES	DRAWN BY: BK	6
6347 Seaview Avenue NW Seattle, Washington 98107 Ph: (206) 781-1449 *** Fax: (206) 781-1543		



**LEGEND**

- + JULY 2015 INDOOR AIR QUALITY SAMPLE
- ▲ MAY 2017 SUB-SLAB MONITORING POINT
- LOCATION OF SUB-SLAB DEPRESSURIZATION SYSTEM RISER PIPE



NOTE: SCALE AND LOCATIONS ARE APPROXIMATE

**SELECT INDOOR AIR, SUB-SLAB EXTRACTION AND SSD SAMPLE LOCATIONS**

FORMER HARBOUR POINT CLEANERS  
13619 MUKILTEO SPEEDWAY  
LYNNWOOD, WA

PROJECT NUMBER: NPWR118001	DATE: 9/27/19	FIGURE
APPROVED BY: ES	DRAWN BY: BK	7

**ATC** 6347 Seaview Avenue NW  
Seattle, Washington 98107  
Ph: (206) 781-1449 \*\*\* Fax: (206) 781-1543

## **Enclosure B**

### **Chronological Vapor Intrusion Data Evaluation**



Harbour Pointe Cleaners Site  
Lynnwood, WA VCP NW2902

Chronological Vapor Intrusion Data Evaluation

Time Frame / Medium	Tetrachloroethene				Trichloroethene				
	SL or CUL (a) (ug/m3)	Max (ug/m3)	Location	Max / SL or CUL (unitless)	SL or CUL (a) (ug/m3)	Max (ug/m3)	Location	Max / SL or CUL (unitless)	Conclusion
<b>July 2015</b>									
Soil vapor	321	1950	Slab-1	6.1	12	7.73	Slab-1	0.6	
Indoor air	9.6	10.9	IA-2	1.1	0.37	7.6	IA-1	20.5	VI apparently not the source to indoor air
Outdoor air	--	--	--	--	--	--	--	--	
<b>December 2017</b>									
Soil vapor	--	--	--	--	--	--	--	--	
Indoor air	9.6	2.64	IA-1	0.3	0.37	6.22	IA-1	16.8	Without soil vapor data, can't distinguish between indoor source and VI
Outdoor air	9.6	7.41	OA-1	0.8	0.37	ND		< 2.9	
<b>May 2018: Dry cleaning business ceased operating.</b>									
<b>July 2018</b>									
Soil vapor	321	1,160	SV-1	3.6	12	16.1	SV-3	1.3	
Indoor air	9.6	< 1.36	--	< 0.14	0.37	< 1.07	--	< 2.9	Indoor air DLs are too high to conclude whether VI is occurring
Outdoor air	9.6	ND	--	< 0.14	0.37	ND	--	< 2.9	
<b>January 2019</b>									
Soil vapor	321	1,100	SV-1	3.4	12	9.01	SV-1	0.8	
Indoor air	9.6	< 0.136	--	< 0.014	0.37	0.296	IA-1	0.8	Apparent outdoor source near service station but indoor air doesn't exceed CUL
Outdoor air	9.6	< 0.136	--	< 0.014	0.37	1.59	OA-3	4.3	

(a) The entries for soil vapor are screening levels; the entries for indoor and outdoor air are cleanup levels.  
 CUL - cleanup level  
 DL - detection limit  
 ND - not detected; detection limit assumed to be the same as for indoor air on the line above  
 SL - screening level  
 VI - vapor intrusion