

1. Description of the Property.

The Property includes the following tax parcel in King County, which was affected by the Site and addressed by your cleanup:

- 630340-0316.

The Property does not include the following right-of-way easements, which are located on that parcel:

- 16th Avenue SW.
- SW 107th Street.

Enclosure A includes a legal description of the Property. **Enclosure B** includes a diagram of the Site that illustrates the location of the Property within the Site.

2. Description of the Site.

The Site is defined by the nature and extent of contamination associated with the following release:

- Gasoline-range petroleum hydrocarbons (TPHg) and benzene, toluene, ethylbenzene, and xylenes (BTEX) into the Soil.

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

3. Identification of Other Sites that may affect the Property.

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

Basis for the Opinion

This opinion is based on the information contained in the documents listed in **Enclosure C**. 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, 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=8195>).

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

Analysis of the Independent Remedial Actions Completed to Date

Based on a review of the RI Report, Ecology has determined:

1. The Site characterization meets MTCA requirements by:
 - Delineating the horizontal and vertical extent of impacts to soil and soil vapor;
 - Documenting that groundwater was not encountered to a depth of 50 feet below ground surface (bgs) in an on-Site boring, and that local water well records show depths to groundwater in the area on the order of 100 feet bgs;
 - Supporting development of a conceptual Site model and evaluation of contaminant exposure pathways;
 - Supporting establishment of cleanup standards for the Site, including application of MTCA Method B direct contact soil cleanup levels; and
 - Confirm that exceedances of Method B soil cleanup levels do not occur below a depth of 7.5 feet bgs and appear to be confined to a shallow silt unit that is consistently present beneath the Site.
2. Ecology does not concur with the statements associated with the soil sample statistical analysis presented in the RI Report that conclude Method B cleanup levels are met throughout the Site at the point of compliance. Four soil samples exceed the calculated modified Method B soil cleanup level for TPHg of 2,919 mg/kg (concentrations of 3,700 mg/kg, 4,210 mg/kg, 5,960 mg/kg, and 5,970 mg/kg). The statement that these data are statistical outliers is not valid.
3. The plan view maps and cross sections in the RI Report are very effective in illustrating the extent of petroleum impacts to soils beneath the Site. Superposition of the Figure 5A (Approximate Extent of Gasoline Impacts to Soil) and Figure 7A (Gasoline and Benzene Concentrations in Soil Gas) clearly shows that contamination remaining within the shallow silt layer beneath the Site presents a potential vapor intrusion threat to:
 - Workers who expose underground utilities (beneath the eastern part of the Property and the adjacent 16th Avenue SW right-of-way), which include water, storm sewer, sanitary sewer, natural gas, electric power, and telephone);
 - Future structures located on the eastern part of the Property; and
 - The neighboring Masters Auto & Tire Service, adjacent to the north Property boundary.

4. In order to fully evaluate potential vapor intrusion issues, please refer to the following Ecology document: *“Implementation Memorandum No. 18, Petroleum Vapor Intrusion (PVI): Updated Screening Levels, Cleanup Levels, and Assessing PVI Threats to Future Buildings; January 10, 2018.”* Section 5.3 of this guidance document identifies four approaches to ensure that the VI pathway is protected.
5. Pursuit of a No Further Action opinion for the Property or the Site will require completion of a Feasibility Study and Disproportionate Cost Analysis and selection of a cleanup action, per WAC 173-340-350. If the cleanup qualifies for a soil model remedy (see *“Model Remedies for Sites with Petroleum Contaminated Soils, Toxics Cleanup Program Publication No. 15-09-043, Revised December 2017”*), an FS and DCA are not required. However, in order to qualify for a model remedy, the completed remedial action must be source removal, including free product and contaminated soil removal to the greatest extent practicable.

Limitations of the Opinion

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**:

- Change the boundaries of the Site.
- 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 performed is substantially equivalent. Courts make that determination. See RCW 70.105D.080 and WAC 173-340-545.

Mr. Paul Ecker
August 15, 2018
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3. 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).

Contact Information

Thank you for choosing to clean up your Property under the Voluntary Cleanup Program (VCP). After you have addressed our concerns, you may request another review of your cleanup. Please do not hesitate to request additional services as your cleanup progresses. 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. If you have any questions about this opinion, please contact me by phone at 425-649-7257 or by e-mail at michael.warfel@ecy.wa.gov.

Sincerely,



Michael R. Warfel, VCP Site Manager
NWRO Toxics Cleanup Program

Enclosures (3): A – Legal Description of the Property
 B – Description and Diagrams of the Site (including the Property)
 C – Basis for the Opinion: List of Documents

cc: Richard Piacentini, 10645 16th Ave NW LLC, Property Owner
 Jonathan Polonsky, Plaid Pantries, Inc. (via email)
 Sonia Fernandez, Ecology VCP Coordinator, NWRO (via email)

Enclosure A

Legal Description of the Property

Lots 8 and 9, Block 5, OAK PARK, according to the plat thereof recorded in Volume 22 of Plats, page 72, records of King County, Washington; EXCEPT the portion thereof conveyed to King County for road by deed recorded under Recording No. 7105050125; AND EXCEPT that portion thereof condemned in King County Superior Court Cause No. 765849 for street. Situate in the County of King, State of Washington.

Enclosure B

Description and Diagrams of the Site (including the Property)

Site Description

This section provides Ecology's understanding and interpretation of site conditions, and is the basis for the opinions expressed in the body of the letter.

Site: The Site is defined as TPHg and BTEX releases to soil. The Site is located on King County tax parcel 6303400316 at 10645 16th Avenue SW in Seattle, Washington (Property).

Area and Property Description: The Property is 0.37 acres in size. The Property is located west of 16th Avenue SW and north of SW 107th Street (**Figure 1**) within an area of mixed commercial and residential land uses. Master's Auto & Tire Service is located adjacent to the Property to the north, a Taco Bell restaurant is located across SW 107th Street to the south, a funeral home is located across the intersection to the southeast across SW 107th St and 16th Avenue SW, a former Blockbuster video store was located east across 16th Avenue SW, and single family residences are located east of the Property across an alley.

Site History and Current Use: The Property operated as a retail petroleum facility from 1964 through 2006 (**Figures 2 and 3**), and is currently occupied by a convenience store, a restaurant and associated parking. The most recent former gas station (operated by Plaid Pantries) was equipped with one 10,000-gallon and two 12,000-gallon capacity underground storage tanks (USTs) that were used to store gasoline. There was no known storage of other fuels or waste oil at the Site during operation of this service station. The previous development of the Property is unknown.

Source of Contamination: The source of contamination at the Site includes the former USTs and associated product piping and dispensers.

Physiographic Setting: The Site is situated at an elevation of approximately 380 feet above mean sea level on a hilltop area located west of the Duwamish River valley and east of Puget Sound. The land surface at the Site is generally flat, but the area slopes moderately to the southeast.

Surface/Storm Water System: Two catch basins are located on the east side of the Property, and likely connect to municipal storm drain lines. Hick's Lake is located approximately 1/2-mile southeast of the Site, and an un-named lake is located approximately 1/4-mile northeast of the Site.

Ecological Setting: The Property is surfaced with asphalt and a building. The Property is surrounded by developed residential and commercial properties and roadways.

Geology: Soils at the Site were mapped in 2005 as ice contact deposits comprised of interbedded glacial till and outwash. Borings logs indicate that the Site is underlain by non-native crushed rock backfill up to 2 feet bgs, underlain by brown sandy silt or silty fine sand that extends to 9 to 14 feet bgs. The silt layer is underlain by sandy gravel and sand to the total depth explored of 50 feet bgs.

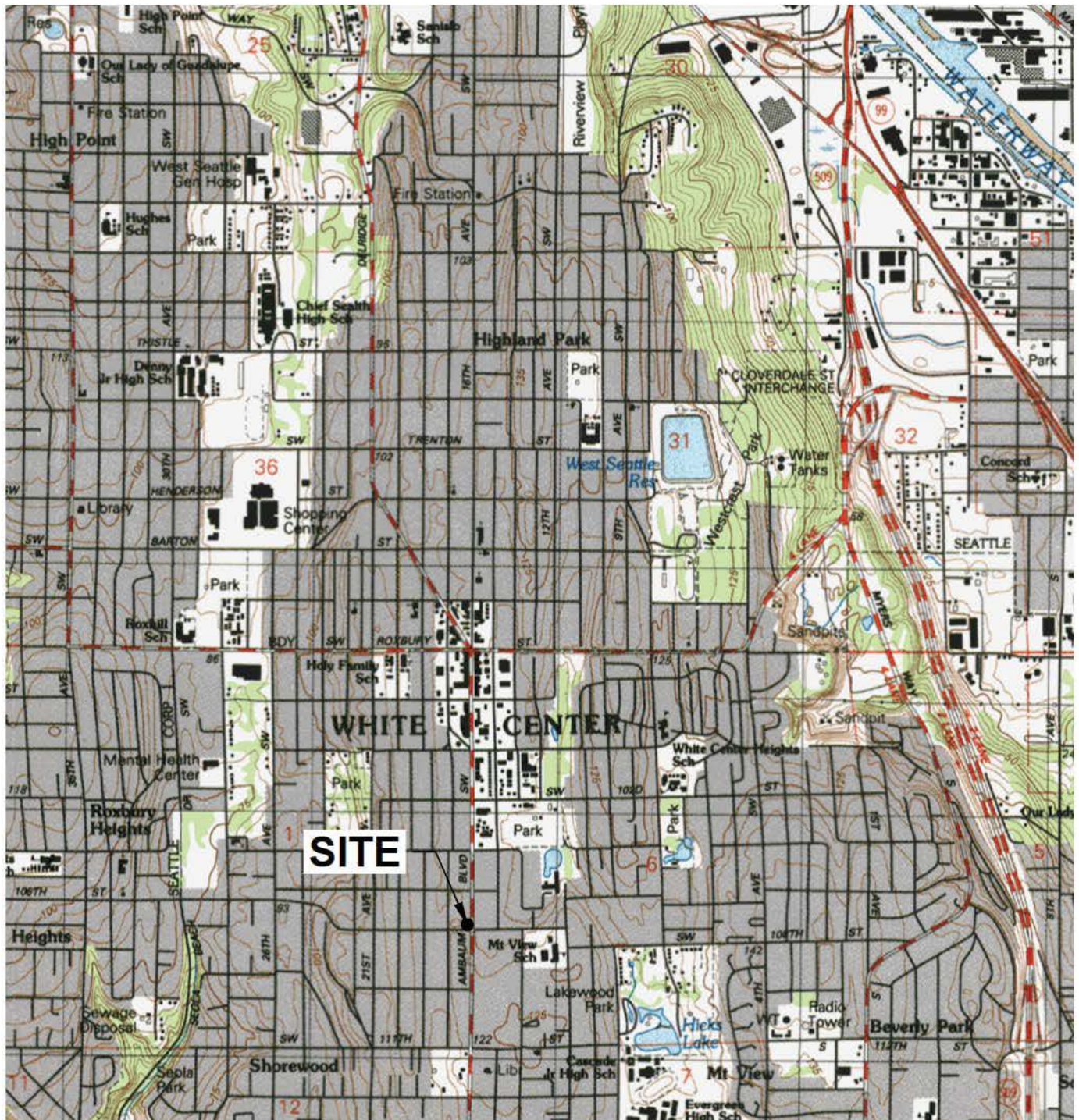
Groundwater: Groundwater has not been encountered at the Site to the total depth explored of 50 feet bgs. An inventory of local well logs indicates depths to groundwater on the order of 100 feet bgs.

Release and Extent of Soil Contamination: Soil sampling conducted during the UST removal activities indicated that elevated concentrations of TPHg and BTEX were present in soil remaining at the Site at the northeast corner of the UST removal excavation. Soil with concentrations of TPHg and BTEX greater than modified MTCA Method B soil cleanup levels typically occurred between approximately 4 feet bgs and 14 feet bgs north and east of the former UST nest (**Figures 4 and 5**). A boring advanced immediately adjacent to B-1 did not contain detectable concentrations of TPHg or benzene in the soil sample collected at 28 feet bgs. Soil contamination extends east of the Property beneath 16th Avenue SW at depths up to approximately 14 feet bgs. It appears that the soil contamination is associated with the silt layer present at depths up to 14 feet bgs across the Site.

TPHg and benzene concentrations above vapor intrusion screening levels are present in soil gas in the same area as the soils that exceed Method B cleanup levels, in the northeast part of the Site (**Figure 6**). Site data indicate that these soil gas concentrations extend beyond the Property boundaries to the north (beneath an adjacent commercial building) and east (beneath the 16th Avenue NE right-of-way). Soil vapor concentrations beneath the existing commercial building on the western part of the Property are below vapor intrusion screening levels.

Pilot Remediation Studies: Soil vapor extraction (SVE) pilot tests were conducted at the Site in 2008 and 2009. An In Situ Chemical Oxidation (ISCO) pilot test was completed at the Site in April 2013. The results of all pilot testing concluded that the remediation methods evaluated were not effective due to the fine-grained nature and low permeability of the silt soils in which the petroleum contamination resides.

Site Diagrams



SOURCE:
USGS, SEATTLE SOUTH QUADRANGLE
WASHINGTON - SNOHOMISH CO.
7.5 X 15 MINUTE SERIES (TOPOGRAPHIC) 1983



APPROXIMATE SCALE IN FEET



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(503) 847-2740

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VICINITY MAP

PLAID PANTRY #324
10645 16TH AVE SW.
WHITE CENTER, KING CO., WA.

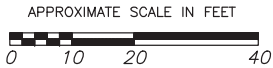
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FILE:	1133-01	FIGURE NO.	1
DRAWN:	JJT		
APPROVED:	CR		

Enclosure B, Figure 1



LEGEND

Pre-Plaid Fueling Infrastructure (Prior to 1986)



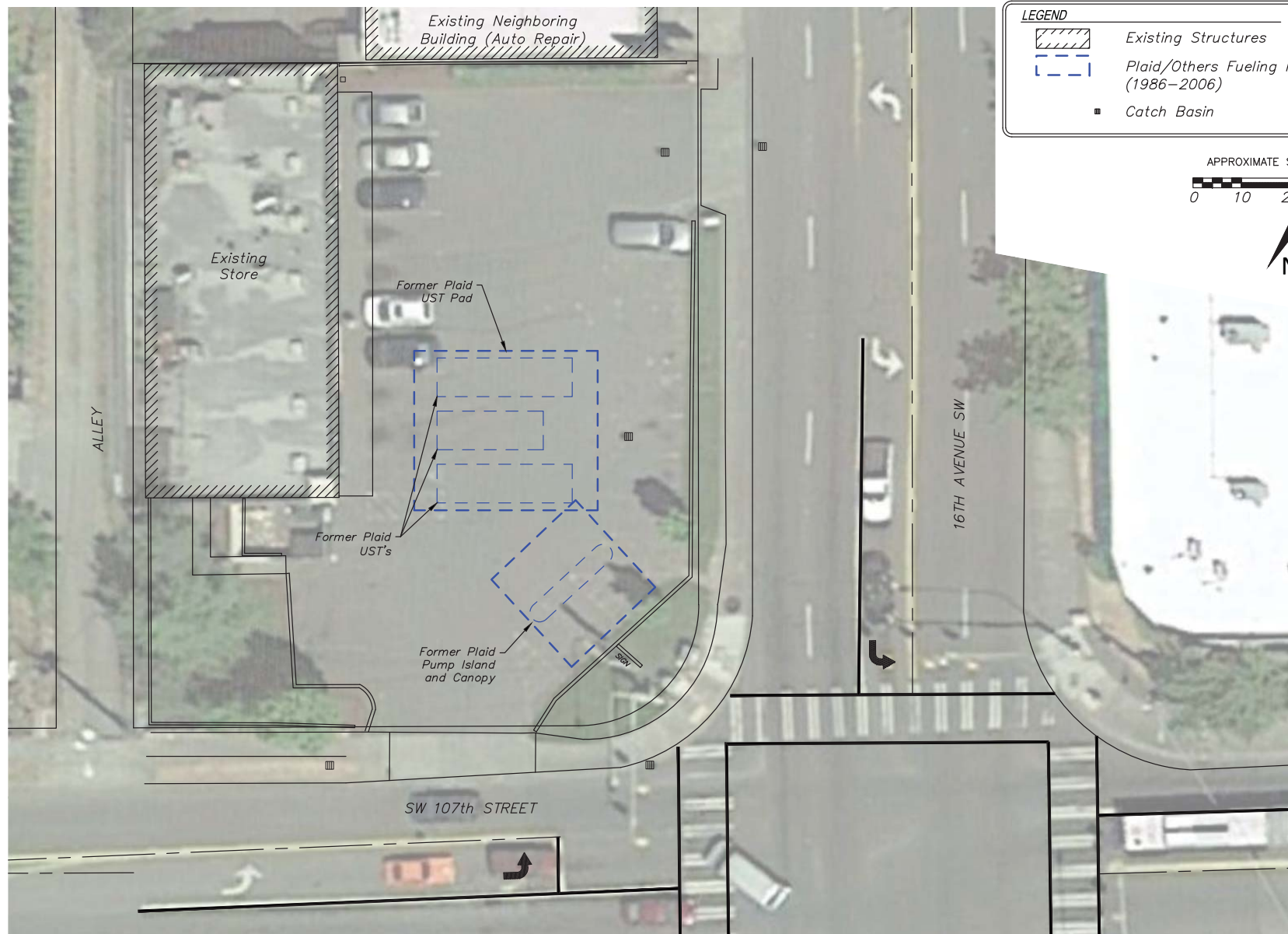
DATE:	3-20-18	PROJECT NO.	1133-01
FILE:	1133-01	FIGURE NO.	2B
DRAWN:	JUT		
APPROVED:	CR		

PRE-PLAID
FORMER FUELING INFRASTRUCTURE
(PRE-1986)

PLAID PANTRY #324
10645 16TH AVE SW.
WHITE CENTER, KING COUNTY, WA.

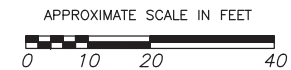
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Enclosure B, Figure 2



LEGEND

- Existing Structures
- Plaid/Others Fueling Infrastructure (1986-2006)
- Catch Basin



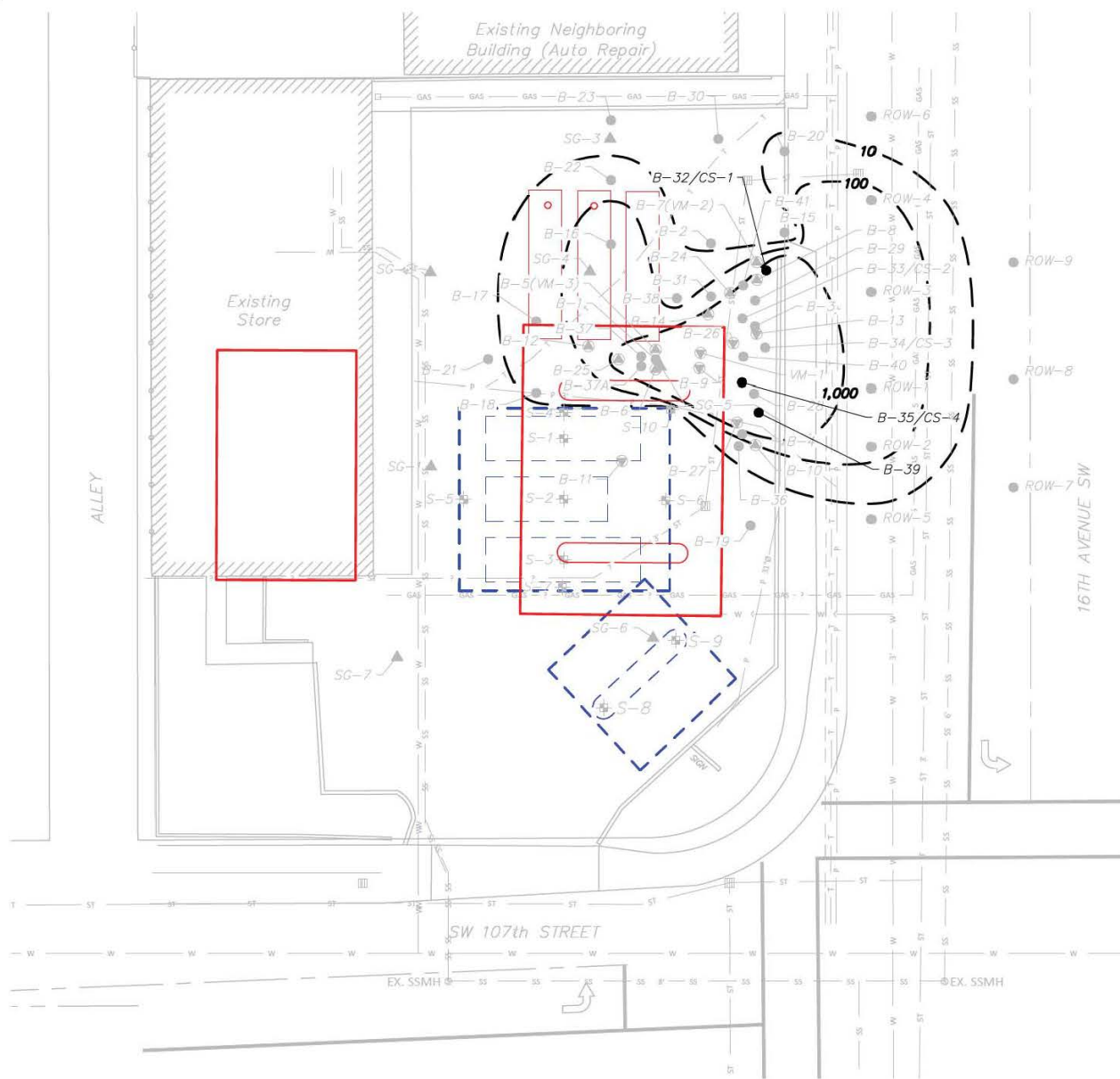
DATE: 3-20-18	PROJECT NO. 1133-01
FILE: 1133-01	FIGURE NO. 2A
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APPROVED: CR	

SITE FEATURES AND
FUELING INFRASTRUCTURE
(1986-2006)

PLAID PANTRY #324
10645 16TH AVE SW.
WHITE CENTER, KING COUNTY, WA.

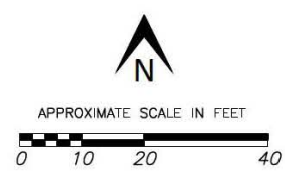
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Enclosure B, Figure 3



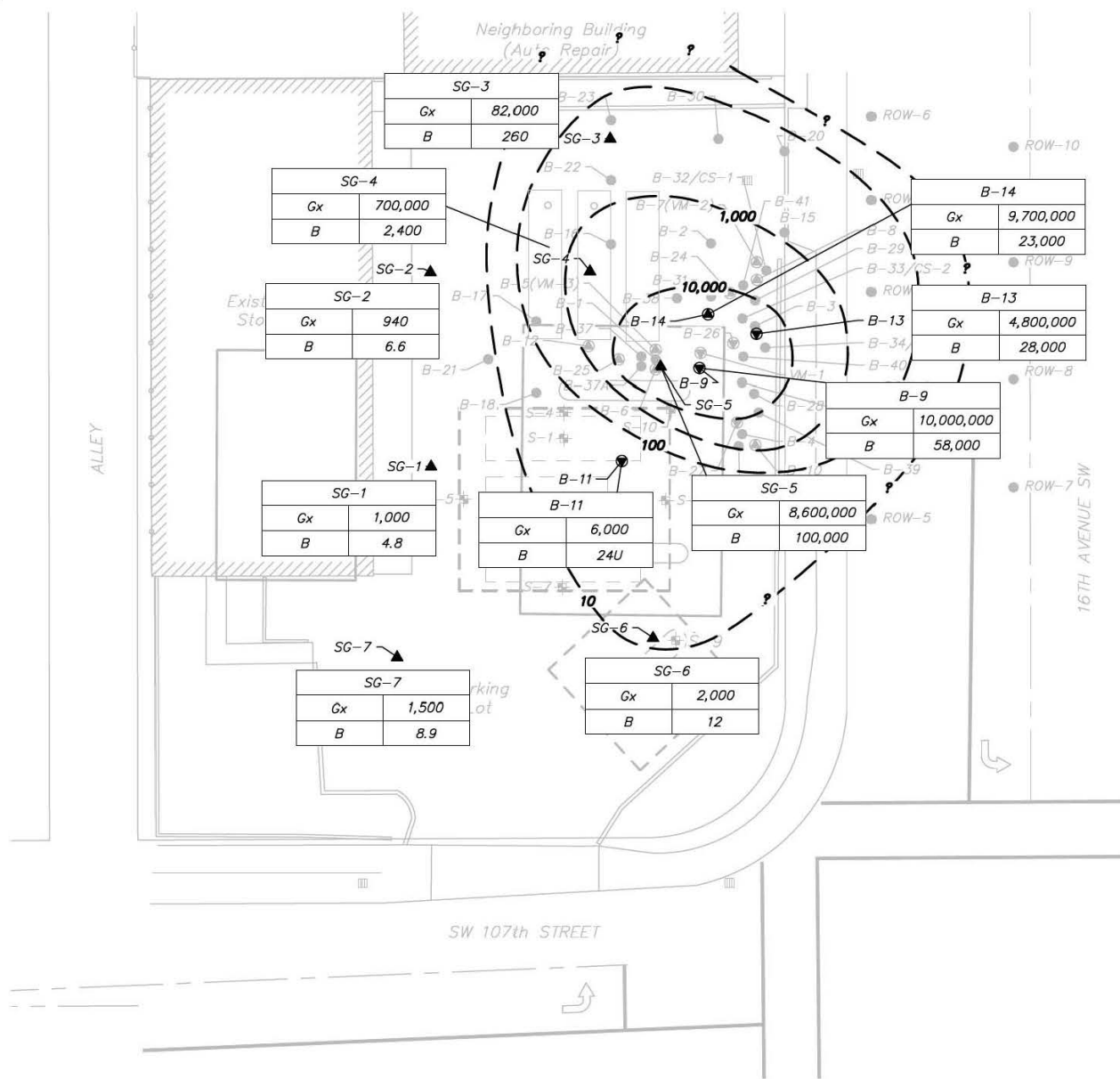
LEGEND

- Existing Structures
- Pre-Plaidd Fueling Infrastructure (Prior to 1986)
- Plaidd/Others Fueling Infrastructure (1986-2006)
- Catch Basin
- S-6 Soil Sample Location (KEE, 2006)
- B-8 Boring and SVE Pilot Wells Screen <8' bgs (PNG, 2008-2009)
- B-13 Boring and SVE Pilot Wells Screen >8' bgs (PNG, 2008-2009)
- B-1 Boring Locations (2007-2014)
- SG-1 Soil Gas Locations (EES, 2014)
- Gas
- Power
- Storm
- Sewer
- Telephone
- Gasoline Isocontour in Soil (mg/kg)
- Sample Location Exceeding Site-Specific MTCA Method B Soil Cleanup Level for Gasoline (2,919 mg/kg)



EES ENVIRONMENTAL CONSULTING, INC. 240 N Broadway #203, Portland, OR 97227 (503) 847-2740 www.ees-environmental.com	APPROXIMATE EXTENT OF GASOLINE IMPACTS IN SOIL		PROJECT NO. 10-6-17
	PLAIID PANTRY #324 10645 16TH AVE SW WHITE CENTER, KING COUNTY, WA.		DATE: 10-6-17 FILE: 1133-01 DRAWN: JUT APPROVED: CR
			FIGURE NO. 5A

Enclosure B, Figure 5



Enclosure C

Basis for the Opinion: List of Documents

1. KEE LLC, *UST Closure Action Report, Zip Market & Gas, Seattle, Washington*, January 10, 2007
2. PNG Environmental, Inc. (PNG), *Site Assessment Report, Former Plaid Pantry Store #324, 10645 16th Avenue SW, Seattle, Washington*, January 25, 2008.
3. PNG, *Former Plaid Pantry Store #324, Seattle, Washington, Site Characterization and SVE Pilot Test Report, October 1, 2008*.
4. PNG, *Supplemental Site Characterization Work Plan, Former Plaid Pantry Store #324, 10645 16th Avenue SW, Seattle, Washington*, November 4, 2008.
5. PNG, *Supplemental Site Characterization-April 2009. Former Plaid Pantries Store #324, 10645 16th Avenue SW, Seattle, Washington* May 18, 2009.
6. PNG, *Site Status Report - Remedial Alternative Screening, Former Plaid Pantries Store #324, 10645 16th Avenue SW, Seattle, Washington*, July 15, 2010.
7. PNG, *Interim Remedial Action Work Plan. Former Plaid Pantries Store #324, 10645 16th Avenue SW, Seattle, Washington*, April 22, 2011.
8. PNG, *Memorandum, Status of Remedial Action Planning, Former Plaid Pantry Store #324, Seattle, Washington*, November 28, 2011.
9. EES Environmental Consulting, Inc. (EES), *Technical Memorandum, Focused Remedial Alternative Screening, Former Plaid Pantries Store #324, Seattle, Washington*, July 27, 2012.
10. EES, *Technical Memorandum, Offsite Characterization Work Plan, Former Plaid Pantries Store #324, Seattle, Washington*, August 6, 2012.
11. Washington State Department of Ecology (Ecology), *Opinion on Proposed Cleanup of the following Site: Plaid Pantry Store 324 aka Zip Market, 10645 16th Avenue SW, Seattle, WA Facility/Site No. 18113426, VCP Project No. NW2585*, August 16, 2012.
12. EES, *Off-Site Investigation Report, Former Plaid Pantries, Inc. Store #324, 10645 16th Avenue SW, Seattle, Washington*, October 12, 2012.
13. EES, *Technical Memorandum, ISCO Pilot Test Results and Status of Remedial Action Planning, Former Plaid Pantries, Inc. Store #324, White Center/King County, Washington*, September 10, 2013.
14. EES, *Technical Memorandum, Supplemental Site Investigation Work Plan, Plaid Pantries Store #324, White Center/King County, Washington*, October 17, 2013.
15. Ecology, *Opinion Pursuant to WAC 173-340-515(5) on Proposed Remedial Action, Zip Market & Gas, 10645 16th Ave SE, Seattle, WA, VCP NW2585*, January 9, 2014.
16. EES, *Site Characterization and Risk Assessment Report, Former Plaid Pantries, Inc. Store #324, 10645 16th Avenue SW, Seattle, Washington*, May 30, 2014.
17. EES, *Remedial Investigation Report, Former Plaid Pantries, Inc. Store #324, 10645 16th Avenue SW, Seattle, Washington*, March 20, 2018.