



ENVIRONMENTAL CONSULTING, INC.

240 N. Broadway, Suite 115, Portland OR 97227

(503) 847-2740

www.ees-environmental.com

Technical Memorandum

To: John Bails, Washington Department of Ecology, Northwest Region VCP
From: Paul Ecker, LHG
CC: Mark Conan, Plaid Pantries, Inc.
Date: August 6, 2012
Subject: Offsite Characterization Work Plan
Former Plaid Pantries Store #324
Seattle, Washington
Ecology VCP File #NW2585
EES Project #E1133-01

EES Environmental Consulting, Inc. (EES) prepared the following work plan to describe proposed offsite characterization activities adjacent to the former Plaid Pantries (Plaid) Store #324 located in Seattle, Washington (Figure 1). This Plaid site is enrolled in the Voluntary Cleanup Program administered by Washington Department of Ecology (Ecology).

BACKGROUND

The site is located at the northwest corner of SW 107th Street and 16th Avenue SW in Seattle, Washington. The property is owned by Louise Piacentini and is occupied by a convenience store and restaurant. Maps illustrating the site location and pertinent site features are provided as Figures 1 through 3. Soil analytical testing results are summarized in Table 1. Groundwater has not been encountered at the site and is not anticipated within 50-80 feet of ground surface.

Plaid operated the Store #324 retail gasoline station at the site between September 1986 and November 30, 1990. Plaid then sub-leased the store building and sold the UST system fixtures and equipment to Young Kil Kim and Chae Yop Kim. Fuel storage at the Plaid facility was provided by three gasoline USTs (two 12,000-gallon capacity USTs and one 10,000 gallon capacity UST) which were decommissioned by the sub-tenants in 2006. Plaid remained the primary lessee of the property until August 31, 2006.

During the operations of Plaid and its sub-tenants, only gasoline is known to have been stored and dispensed at the site. Leaded gasoline may have been dispensed at the site during phase-out of that product in the 1980s. EES understands that neither Plaid nor their sub-tenants stored or dispensed other hydrocarbons such as diesel fuel, bulk motor oil, or other bulk solvents at any time during site operations.

Plaid and its sub-tenants operated a leak detection system in accordance with Ecology requirements and no known system leaks were identified or reported to Plaid during the term of Plaid's lease. Tank decommissioning data provided to Plaid in 2007 by the property owner and subsequent investigations by Plaid indicate that gasoline constituents were identified in soil near the former UST system.

Extensive site characterization indicates gasoline contamination in soil extends north and northeast of the former underground storage tank (UST) cavity, but no free product or groundwater impacts related to the fueling operations are suspected. Site characterization reports prepared for Plaid, including a site-specific remedial action plan (04/22/2011) have been submitted to Ecology under separate cover. Site characterization efforts to date, and the proposed future remedial actions, are being conducted with input provided by the Washington Department of Ecology's Voluntary Cleanup Program and in accordance with Washington's Model Toxics Control Act (MTCA) environmental cleanup rules as published in WAC 173-340.

SITE CHARACTERIZATION

Based on site characterization performed to date, soils located north and northeast of the former UST cavity contain gasoline and benzene at concentrations exceeding Ecology's MTCA Method A cleanup levels (Table 1 and Figure 3). Gasoline impacts may extend offsite into the right-of-way immediately east of the property, and future efforts to characterize the potential off-site impacts are planned as described in this document.

Groundwater has not been encountered at the site to maximum drilling depths of 50 feet, which is consistent with records identifying the local water table at depths between approximately 60 and 100 feet below ground surface (bgs). Based on the limited vertical extent of identified soil contamination (approximately 12 feet bgs), groundwater is unlikely to be impacted by the release and confirmatory groundwater samples have not been collected at the site.

RATIONALE FOR OFF-SITE CHARACTERIZATION

The initial Site Assessment identified soil impacts at maximum depths of approximately 12 feet bgs and confirmed that depth to groundwater at the subject site exceeds 50 feet below the ground surface (greater than 30 feet below the deepest identified soil impacts), and therefore no deep vadose-zone soil impacts or groundwater impacts associated with site gasoline release(s) are suspected at this time. Existing soil analytical data for the site is summarized in Table 1.

Site characterization is incomplete at this time because further lateral delineation of gasoline impacts and potential sources is necessary in compliance with Washington's Model Toxics Control Act (MTCA), Chapter 173-340 WAC. The proposed characterization work includes offsite soil sampling to attempt to constrain the lateral extent and relative magnitude of the well-characterized gasoline impacts originating at the former Plaid site.

A summary of the proposed supplemental site characterization tasks is presented below.

SCOPE OF WORK

Supplemental characterization activities are proposed for the adjacent roadway area where gasoline impacted soil associated with Plaid's former fueling activities at the subject site may exist. Because the water table is anticipated at depths over 50 feet bgs and site-related groundwater impacts are not suspected, the scope of work is limited to soil characterization as described below.

The following approach is consistent with current Ecology guidance regarding sampling methodology, analytical testing methods, data evaluation, and reporting (Ecology 2011).

FIELD COORDINATION/PLANNING

- Obtain a King County permit for planned drilling in adjoining 16th Avenue right-of-way (ROW) areas.
- Update the site Health and Safety Plan to guide field safety protocols, in accordance with rules established by the Occupational Safety and Health Administration (OSHA) and Washington Industrial Safety and Health Act (WISHA).
- Perform a site visit to mark proposed sampling locations for utility identification purposes.
- Request utility identification through the public Northwest Utility Notification Center (NUNC) as required before drilling.
- Contract with a local geophysical locating firm to attempt to identify underground utility features and conduits located at each planned drilling location to clear the selected locations for drilling and sampling.

DRILLING AND SAMPLING

- Contract with a local firm to provide “air-knife” pre-drilling services intended to clear each borehole to depths up to 10 feet (if feasible) using pressurized air such that underground utilities/infrastructure not otherwise identified by geophysics at boring locations can be visually identified before drilling. This approach minimizes but does not eliminate the risk of encountering unidentified underground features during drilling.
- Advance up to 12 borings in the adjoining King County ROW areas as illustrated in Figure 3. Borings will be advanced to terminal depths of up to twenty feet bgs as described below:
 - Soil samples will be collected manually by hand auger at each location where air-knife pre-drilling occurs. The hand auger samples will be advanced a minimum of one foot ahead of the air knife work to minimize the risk of soil disturbance created by the pressurized air. If feasible, hand auger samples will be collected at depths of three, six, and nine feet. Air knife work may terminate at shallower depths depending on soil conditions.
 - Direct-push drilling and sampling will commence upon completion of the air-knife work. At each drilling location, EES will retrieve, examine, and log continuous soil cores in five foot long segments during drilling. Soil samples will be field screened for volatile organic vapors using a photo ionization detector (PID). Soil samples will be collected for laboratory analysis based on field screening results and soil conditions observed (a minimum of two soil samples per boring will be collected and analyzed, including one sample within three feet of the ground surface submitted for analysis).
 - Up to 12 soil borings will each be advanced to 20 feet bgs at ROW locations to the east of the fueling area in an effort to characterize offsite impacts related to former site operations. The borings will be advanced sequentially such that locations nearest to the former Plaid site are completed and sampled first. A mobile laboratory will be utilized to provide rush testing of the soil samples collected. In an effort to minimize disturbance to the ROW, if testing of the soil samples indicates no significant gasoline or gasoline constituent concentrations in soil for an entire north-south sampling row (consisting of three to four borings), then no additional drilling or sampling will be conducted further to the east.
- All temporary boreholes will be filled with hydrated granular bentonite and sealed in accordance with Water Resources Department requirements. Paved surfaces will be restored in accordance with the ROW permit.

ANALYTICAL TESTING

EES will submit selected bulk soil samples for either mobile or fixed laboratory analysis using the following analytical methods (including quality control duplicate and travel blank samples as indicated). A minimum of two soil samples (more if necessary based on field observations and/or preliminary laboratory analytical results) are to be submitted from each of the borings as indicated below.

- Total petroleum hydrocarbon identification by Method NWTPH-HCID. If gasoline range petroleum hydrocarbons are detected they will be quantified by Method NWTPH-Gx. If diesel or heavy oil range petroleum hydrocarbons are detected they will be quantified by Method NWTPH-Dx. Samples submitted for expedited testing will be analyzed for gasoline and related BTEX constituents by EPA Method 8021.
- Samples with detectable concentrations of gasoline will also be analyzed for volatile organic compounds by EPA Method 8260 and lead by EPA Method 6000/7000.
- Samples with detectable concentrations of diesel or heavy oil will also be analyzed for semi-volatile polynuclear aromatic hydrocarbons (PAHs) by EPA Method 8270 SIM.

PROPOSED SCHEDULE

EES proposes to initiate supplemental site characterization work plan activities during the week of August 20, 2012 (assuming Plaid's authorization and ROW permit approval are first obtained).

Informal status reports and key maps will be provided to Plaid as data become available. Upon completion of all specified field and analytical testing activities, EES will prepare a written report to include a discussion of the field work, an evaluation of the testing results, site maps depicting sampling locations, tabulated analytical results, copies of all analytical reports, chain of custody documentation, and recommendations for additional work (if warranted).

ASSUMPTIONS

The proposed work is recommended in accordance with Ecology's published environmental cleanup rules and EES's experience at similar sites. Additional investigation or remedial actions may be required to fully address areas of concern, if identified.

Assumptions used to generate the work plan are as follows:

- Meetings, negotiations, and submittals to regulatory agencies are not included in the scope of work.
- This work plan was prepared in accordance with regulatory guidance as indicated, and the proposed work is expected to proceed under Ecology's Voluntary Cleanup Program framework. To the extent that future technical consultation with Ecology results in work plan modifications, such modifications are not included or budgeted within this scope.
- Access to the subject property and negotiations with the property owner and/or tenants will be arranged by Plaid, and all fieldwork can be conducted during normal business hours.
- Unimpeded access to the work area(s) will be available, including no overhead or underground utility conflicts.
- EES assumes drilling and sampling can be accomplished under one mobilization and will not exceed two days total.

- No unreasonably difficult subsurface conditions will be encountered requiring the use of alternative drilling/excavation equipment.
- All fieldwork can be performed using standard personal protective equipment and procedures (Level D).
- Other than the ROW permit and Ecology drilling permits/start cards (which are included in this scope), no other permits are specified or included. If necessary, such permits would be obtained at an additional time and materials cost basis.
- A public utility locate notification will be conducted and EES may contract a private utility locator in an effort to identify subsurface utilities at each proposed drilling location. Sampling locations will also be considered based on the results of “air knife” efforts as described. The use of these methods does not guarantee that unidentified conduits/structures will not be encountered during drilling, but greatly minimizes the risk of doing so. EES will not be responsible for damage to subsurface utilities not identified to us prior to initiating work.
- A mobile laboratory will be utilized for up to two days for soil sample analysis.
- Expedited or alternative fixed laboratory analyses are not included in this work scope unless otherwise noted.
- Equipment decontamination rinsate, soil cuttings, and other debris may be generated as part of the proposed work. The investigation-derived wastes (IDW) will be contained in sealed and properly labeled 55-gallon steel drums (or in a covered steel drop box) and stored onsite. EES will coordinate disposal of IDW. However, characterization and disposal costs for the IDW, if any, are not included under this proposal.

ATTACHMENTS

TABLES

Table 1: Soil Analytical Results - Gasoline and Related Constituents

FIGURES

Figure 1: Site Location Map

Figure 2: Site Features

Figure 3: Approximate Extent of Petroleum Impacted Soils

Tables

Table 1
Soil Analytical Results - Gasoline and Volatile Organic Compounds (mg/Kg)
 Plaid Pantry #324
 Seattle, Washington

Sample Identification	Sample Depth (feet bgs)	Date Sampled	Gasoline Range Organics (GRO)	Benzene	Toluene	Ethylbenzene	Total Xylenes	Methyl t-butyl ether	1,2-Dibromoethane	1,2-Dichloroethane	Naphthalene	Total Lead
S-1	16	05/04/2006	2 U	0.02 U	0.02 U	0.02 U	0.06 U	-	-	-	-	-
S-2	16	05/04/2006	2 U	0.02 U	0.02 U	0.02 U	0.06 U	-	-	-	-	-
S-3	16	05/04/2006	2 U	0.02 U	0.02 U	0.02 U	0.06 U	-	-	-	-	-
S-4	8	05/04/2006	2 U	0.02 U	0.02 U	0.02 U	0.06 U	-	-	-	-	-
S-5	8	05/04/2006	2 U	0.02 U	0.02 U	0.02 U	0.06 U	-	-	-	-	-
S-6	8	05/04/2006	2 U	0.02 U	0.02 U	0.02 U	0.06 U	-	-	-	-	-
S-7	8	05/04/2006	2 U	0.02 U	0.02 U	0.02 U	0.06 U	-	-	-	-	-
S-8	8	05/04/2006	2 U	0.02 U	0.02 U	0.02 U	0.06 U	-	-	-	-	-
S-9	8	05/04/2006	2 U	0.02 U	0.02 U	0.02 U	0.06 U	-	-	-	-	-
S-10	4	05/04/2006	310	0.23	0.85	2.0	16	-	-	-	-	-
B1-5	5	11/12/2007	1,400	4.8	92	55	580	0.05 U	0.05 U	0.05 U	13	7.95
B1-8	8	11/12/2007	11	0.03 U	0.05 U	0.05 U	0.21	0.05 U	0.05 U	0.05 U	0.05 U	2.38
B1-23	23	11/12/2007	50	0.29	6.2	3.8	60	0.05 U	0.05 U	0.05 U	3.2	-
B2-9	9	11/12/2007	2 U	0.03 U	0.05 U	0.05 U	0.15 U	0.05 U	0.05 U	0.05 U	0.05 U	2.46
B3-8	8	11/12/2007	390	0.86	28	21	136	0.05 U	0.05 U	0.05 U	5 U	4.11
B4-5	5	11/12/2007	2	0.03 U	0.065	0.059	0.303	0.05 U	0.05 U	0.05 U	0.057	2.61
B4-8	8	11/12/2007	2 U	0.03 U	0.05 U	0.05 U	0.15 U	0.05 U	0.05 U	0.05 U	0.05 U	-
B-5@4	4	07/16/2008	1,300	0.8 U	4.2	12	120	-	-	-	-	-
B-5@7	7	07/16/2008	2 U	0.02 U	0.02 U	0.02 U	0.06 U	-	-	-	-	-
B-5@12	12	07/16/2008	2 U	0.02 U	0.02 U	0.02 U	0.06 U	-	-	-	-	-
B-5@17	17	07/16/2008	2 U	-	-	-	-	-	-	-	-	-
B-5@22	22	07/16/2008	2 U	0.02 U	0.02 U	0.02 U	0.06 U	-	-	-	-	-
B-5@28	28	07/16/2008	2 U	-	-	-	-	-	-	-	-	-
B-5@34	34	07/16/2008	2 U	0.02 U	0.02 U	0.02 U	0.06 U	-	-	-	-	-
B-5@39	39	07/16/2008	2 U	-	-	-	-	-	-	-	-	-
B6@4	4	07/17/2008	1,500	1.5	65	12	250	-	-	-	-	-
B6@9	4	07/17/2008	2 U	0.02 U	0.02 U	0.02 U	0.06 U	-	-	-	-	-
B7@4	4	07/16/2008	2 U	0.02 U	0.02 U	0.02 U	0.06 U	-	-	-	-	-
B-7@8	8	07/16/2008	580 U	0.50	6.1	9.2	38	-	-	-	-	-
B-7@11	11	07/16/2008	2 U	0.02 U	0.02 U	0.02 U	0.06 U	-	-	-	-	-
B-7@19	19	07/16/2008	2 U	-	-	-	-	-	-	-	-	-
B-7@21	21	07/16/2008	2 U	0.02 U	0.02 U	0.02 U	0.06 U	-	-	-	-	-
B-7@26	26	07/16/2008	2 U	0.02 U	0.02 U	0.02 U	0.06 U	-	-	-	-	-
B-7@34	34	07/16/2008	2 U	0.02 U	0.02 U	0.02 U	0.06 U	-	-	-	-	-
B-7@39	39	07/16/2008	2 U	-	-	-	-	-	-	-	-	-
B-8@6	6	07/17/2008	1,200	0.73	16	17	150	-	-	-	-	-
B-8@9	9	07/17/2008	18	0.03	1	0.5	0.78	-	-	-	-	-
B-9@5	5	07/17/2008	950	1.5	42	14	120	-	-	-	-	-
B-9@10	10	07/17/2008	2,100	9.9	99	31	200	-	-	-	-	-
B-9@12	12	07/17/2008	2 U	0.02 U	0.03	0.02 U	0.06 U	-	-	-	-	-
B-10@4	4	07/15/2008	8	0.06	0.22	0.17	0.92	-	-	-	-	-
B10@6	6	07/15/2008	6	0.07	0.4	0.24	0.74	-	-	-	-	-
B-10@10	10	07/15/2008	76	0.02 U	0.45	0.57	3.9	-	-	-	-	-
B-10@14.5	14.5	07/15/2008	19	0.02 U	0.17	0.15	0.97	-	-	-	-	-
B-10@19	19	07/15/2008	2 U	0.02 U	0.02 U	0.02 U	0.06 U	-	-	-	-	-
B-10@20-30	20-30	07/15/2008	2 U	0.02 U	0.02 U	0.02 U	0.06 U	-	-	-	-	-
B-10@31	31	07/16/2008	2 U	0.02 U	0.02 U	0.02 U	0.06 U	-	-	-	-	-
B-10@39.5	39.5	07/16/2008	2 U	-	-	-	-	-	-	-	-	-
B-12@4	4	07/17/2008	150	0.02 U	0.27	0.02 U	3.6	-	-	-	-	-
B-12@8	8	07/17/2008	2 U	0.02 U	0.02 U	0.02 U	0.06 U	-	-	-	-	-
B-13@5	5	07/17/2008	140	0.02 U	1.8	1.6	11	-	-	-	-	-
B-13@12	12	07/17/2008	3	0.12	0.26	0.06	0.3	-	-	-	-	-
Plaid 324 Comp		07/16/2008	-	-	-	-	-	-	-	-	-	2.09

Table 1
Soil Analytical Results - Gasoline and Volatile Organic Compounds (mg/Kg)
Plaid Pantry #324
Seattle, Washington

Sample Identification	Sample Depth (feet bgs)	Date Sampled	Gasoline Range Organics (GRO)	Benzene	Toluene	Ethylbenzene	Total Xylenes	Methyl t-butyl ether	1,2-Dibromoethane	1,2-Dichloroethane	Naphthalene	Total Lead
B-15/4	4	04/22/2009	2 U	0.03 U	0.05 U	0.05 U	0.15 U	0.05 U	0.05 U	0.05 U	0.05 U	-
B-15/8	8	04/22/2009	2 U	0.03 U	0.05 U	0.05 U	0.15 U	0.05 U	0.05 U	0.05 U	0.05 U	-
B-15/12	12	04/22/2009	2 U	0.03 U	0.05 U	0.05 U	0.15 U	0.05 U	0.05 U	0.05 U	0.05 U	-
B-16/4	4	04/22/2009	2 U	0.03 U	0.05 U	0.05 U	0.15 U	-	-	-	0.05 U	-
B-16/8	8	04/22/2009	120	0.03 U	0.05 U	0.33	0.98	-	-	-	1.0	-
B-16/11	11	04/22/2009	2 U	0.03 U	0.05 U	0.05 U	0.15 U	-	-	-	0.05 U	-
B-17/4	4	04/22/2009	2 U	0.03 U	0.05 U	0.05 U	0.15 U	-	-	-	0.05 U	-
B-17/7	7	04/22/2009	46	0.03 U	0.05 U	0.06	0.15 U	-	-	-	0.32	-
B-17/10	10	04/22/2009	90	0.03 U	0.05 U	0.05 U	0.15 U	-	-	-	0.05 U	-
B-17/13	13	04/22/2009	2 U	0.03 U	0.05 U	0.05 U	0.15 U	-	-	-	0.05 U	-
B-18/4	4	04/22/2009	54	0.03 U	0.05 U	0.05 U	0.15 U	0.05 U	0.005 U	0.05 U	0.092	-
B-18/8	8	04/22/2009	2 U	0.03 U	0.05 U	0.05 U	0.15 U	0.05 U	0.05 U	0.05 U	0.05 U	-
B-18/12	12	04/22/2009	2 U	0.03 U	0.05 U	0.05 U	0.15 U	0.05 U	0.05 U	0.05 U	0.05 U	-
B-19/4	4	04/22/2009	2 U	0.03 U	0.05 U	0.05 U	0.15 U	0.05 U	0.05 U	0.05 U	0.05 U	-
B-19/8	8	04/22/2009	2 U	0.03 U	0.05 U	0.05 U	0.15 U	0.05 U	0.05 U	0.05 U	0.05 U	-
B-19/12	12	04/22/2009	2 U	0.03 U	0.05 U	0.05 U	0.15 U	0.05 U	0.05 U	0.05 U	0.05 U	-
B-20/4	4	04/22/2009	2 U	0.03 U	0.05 U	0.05 U	0.15 U	0.05 U	0.05 U	0.05 U	0.05 U	-
B-20/6	6	04/22/2009	93	0.03 U	0.05 U	0.05 U	0.15 U	0.05 U	0.005 U	0.05 U	0.05 U	-
B-20/10	10	04/22/2009	2 U	0.03 U	0.05 U	0.05 U	0.15 U	0.05 U	0.05 U	0.05 U	0.05 U	-
B-21/4	4	04/22/2009	2 U	0.03 U	0.05 U	0.05 U	0.15 U	0.05 U	0.05 U	0.05 U	0.05 U	-
B-21/9	9	04/22/2009	2 U	0.03 U	0.05 U	0.05 U	0.15 U	0.05 U	0.05 U	0.05 U	0.05 U	-
B-22/4	4	04/22/2009	2 U	0.03 U	0.05 U	0.05 U	0.15 U	-	-	-	0.05 U	-
B-22/7	7	04/22/2009	93	0.03 U	0.05 U	0.12	0.1	-	-	-	0.32	-
B-23/5	5	04/22/2009	2 U	0.03 U	0.05 U	0.05 U	0.15 U	0.05 U	0.05 U	0.05 U	0.05 U	-
B-23/10	10	04/22/2009	2 U	0.03 U	0.05 U	0.05 U	0.15 U	0.05 U	0.05 U	0.05 U	0.05 U	-
B-24/4	4	11/10/2009	2	0.02 U	0.02	0.02 U	0.06 U	-	-	-	-	-
B-24/8	8	11/10/2009	990	0.5	15	17	96	-	-	-	-	-
B25/4	4	11/10/2009	2	0.02 U	0.02	0.02 U	0.06 U	-	-	-	-	-
B-25/8	8	11/10/2009	2 U	0.02 U	0.02 U	0.02 U	0.06 U	-	-	-	-	-
B-26/4	4	11/10/2009	27	0.23	0.15	0.76	3.8	-	-	-	-	-
B-26/8	8	11/10/2009	130	0.25	4.4	2.0	13	-	-	-	-	-
B-26/12	12	11/10/2009	17	0.60	0.99	0.37	2.0	-	-	-	-	-
B-27/4	4	11/11/2009	1,000	0.90	24	20	100	-	-	-	-	-
B-27/8	8	11/11/2009	12	0.02 U	0.21	0.17	1.1	-	-	-	-	-
B-27/12	12	11/11/2009	5.0	0.02 U	0.26	0.08	0.45	-	-	-	-	-
B-28/8	8	05/18/2011	1,420	3.4 J	51	21	126	-	-	-	-	-
B-28/13	13	05/18/2011	14	0.88 J	1.3	0.23	1.4	-	-	-	-	-
B-29/8	8	05/18/2011	1,420	0.57	32	27	147	-	-	-	-	-
B-29/16	16	05/18/2011	4 U	0.01 UJ	0.08	0.03	0.20	-	-	-	-	-
MTCA Method A Cleanup Level ^a			100,30 ^b	0.03	7	6	9	0.1	0.005	NA	5	250

Notes:

^a Model Toxics Control Act (MTCA) Cleanup Amendments, Method A Soil Cleanup Levels For Unrestricted Land Use (WDOE, October 12, 2007)

^b Per MTCA, the cleanup value for gasoline is 30 mg/kg if benzene is detected and/or if the sum of the toluene, ethylbenzene, and xylenes is greater than one percent of the gasoline concentration, and 100 mg/kg for all other gasoline mixtures.

Volatile organic compounds (VOCs) by EPA Method 8260B

Gasoline range organics (GRO) by Method NWTPH-Gx

Total lead by EPA Method 6010

mg/Kg = Milligrams per kilogram (parts per million)

bgs = Below ground surface

U = Not detected at method reporting limit shown

UJ = Data Validation Qualifier. The analyte was analyzed for, but not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise. See corresponding data validation report for further explanation.

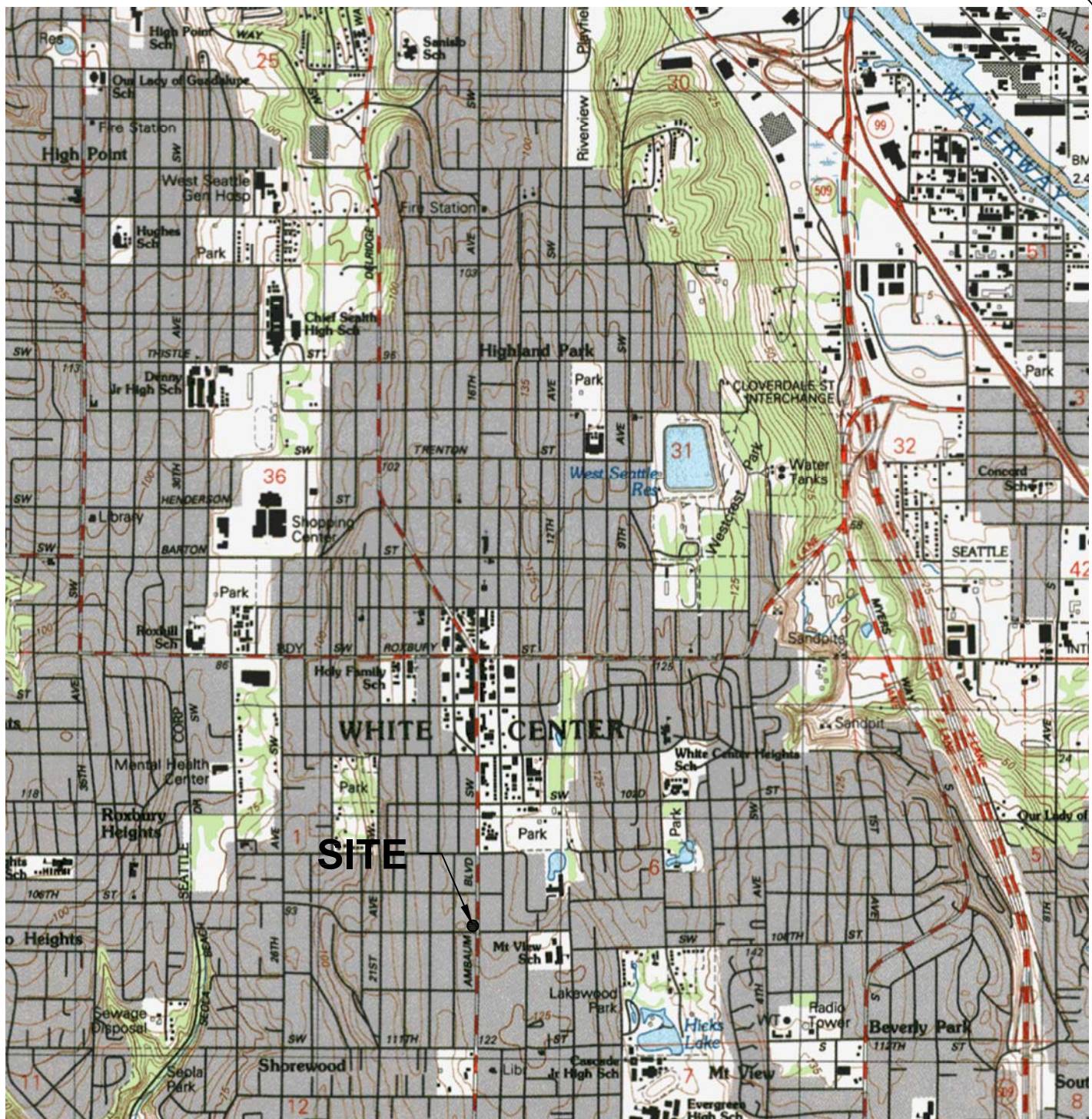
J = Data Validation Qualifier. The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample. See corresponding data validation report for further explanation.

- = Not measured

NA = Not applicable

Values in **bold** indicate the compound concentration exceeds the MTCA Method A Cleanup Level

Figures



NOTE: USGS, Seattle South Quadrangle
Washington - Snohomish Co.
7.5 x 15 Minute Quadrangle,
1983.

APPROXIMATE SCALE IN FEET



PLAID PANTRY #324
10645 16TH AVE. SW
SEATTLE, WA.

SITE LOCATION MAP

EES

ENVIRONMENTAL CONSULTING, INC.

2405 NE 16th Avenue, Portland, OR 97212
(503) 847-2740
www.ees-environmental.com

DATE:	6-18-12	PROJECT NO.
FILE:	1133-01	1133-01
DRAWN:	JJT	FIGURE NO.
APPROVED:	PE	1

Z:\EES-Autocad\1133-01 Plaid Pantry #324\2012\June 2012\1133-01_BM.dwg, LONG 11X17, 6/18/2012 3:23:12 PM



LEGEND

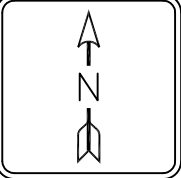
- Existing Structures
- Former UST's (Removed May 2006)
- Catch Basin
- S-6 Soil Sample Location (KEE, May 2006)
- B-1 Boring Locations (2007-2009)
- B-28,B-29 Boring Locations (PNG, Earth Engineers, May. 2011)
- B-8 Boring and SVE Pilot Wells Screen <8' bgs (PNG, July 2008, Nov. 2009)
- B-13 Boring and SVE Pilot Wells Screen >8' bgs (PNG, July 2008, Nov. 2009)
- GAS Gas
- P Power
- ST Storm



DATE:	6-18-12	PROJECT NO.	1133-01
FILE:	1133-01	DRAWN:	JIT
		APPROVED:	PE
		FIGURE NO.	2

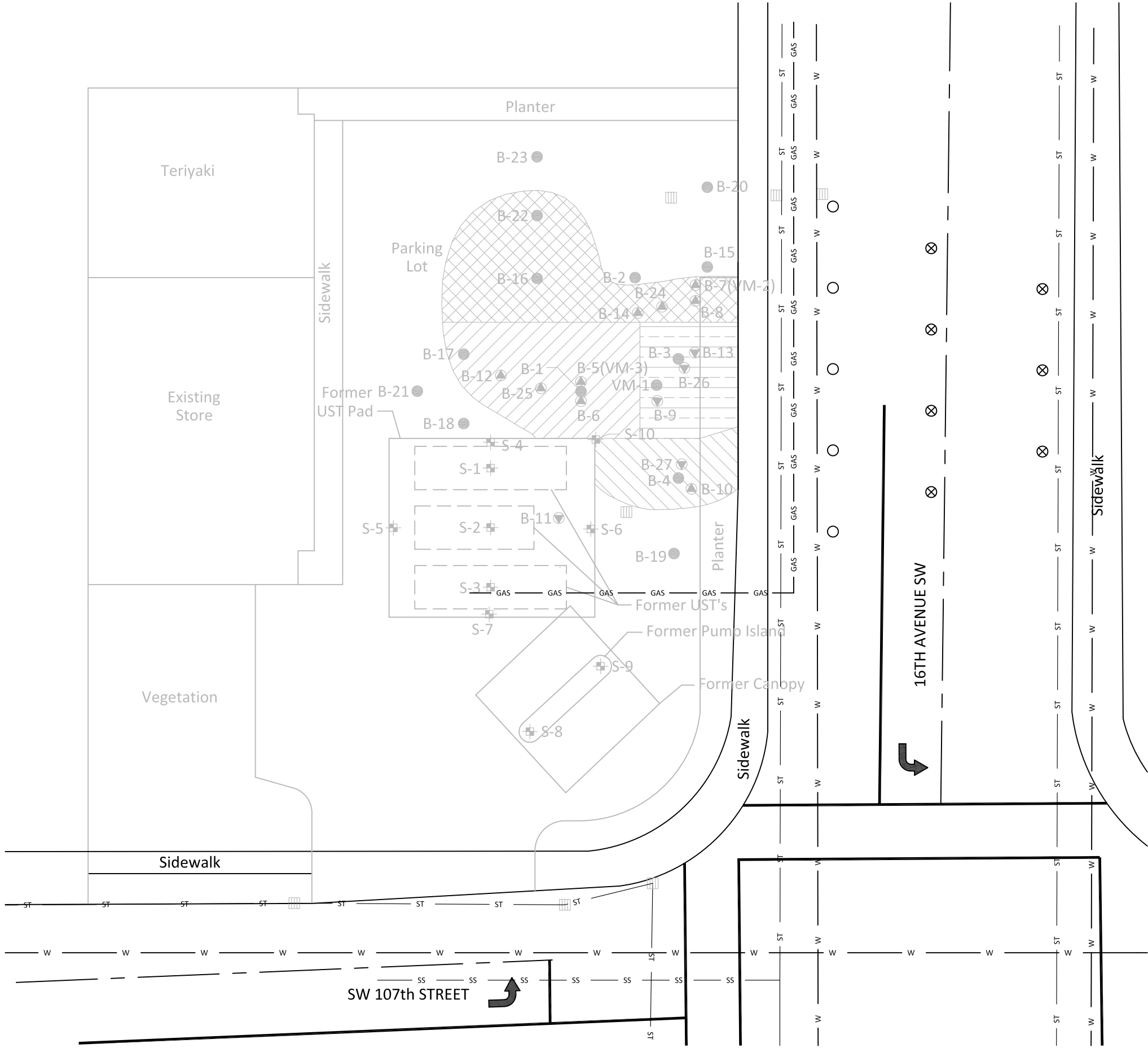
SITE FEATURES

PLAID PANTRY #324 10645 16TH AVE SW. SEATTLE, WA.



EES ENVIRONMENTAL CONSULTING, INC. 2405 NE 16th Avenue, Portland, OR 97212 (503) 847-2740 www.ees-environmental.com

Z:\EES-Autocad\1133-01 Plaid Pantry #324\2012\Aug 2012\1133-01_9M.dwg, Utilities, 8/3/2012 12:58:19 PM

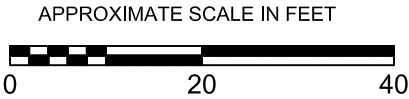


LEGEND

- Existing Structures
- Former UST's (Removed May 2006)
- Catch Basin
- Soil Sample Location (KEE, May 2006)
- Boring Locations (2007-2009)
- SVE Pilot Wells (PNG, July 2008)
- Gas
- Sewer
- Storm
- Water
- Proposed Boring Locations (2012) (Minimum 3' from marked underground utilities)
- Proposed Supplemental Boring Locations

Gasoline > MTCA Method A Soils Cleanup Level = 30 mg/Kg

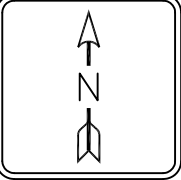
- 3 - 6' Zone
- 3 - 10' Zone
- 5 - 10' Zone
- 4 - 12' Zone



PROJECT NO.	1133-01
DATE:	8-3-12
FILE:	1133-01
DRAWN:	JIT
APPROVED:	PE
FIGURE NO.	3

APPROXIMATE EXTENT OF PETROLEUM IMPACTED SOILS AND PROPOSED BORING LOCATIONS
--

PLAID PANTRY #324 10645 16TH AVE SW. SEATTLE, WA.



EES ENVIRONMENTAL CONSULTING, INC. 2405 NE 16th Avenue, Portland, OR 97212 (503) 847-2740 www.ees-environmental.com
