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September 27, 2019

Jonathan Polonsky
Plaid Pantries, Inc.
10025 SW Allen Blvd.
Beaverton, OR 97005

Re: Opinion on Remedial Investigation at the Following Site:

- **Site Name:** Plaid Pantry 112
- **Site Address:** 1002 W Fourth Plain Blvd, Vancouver, Clark County, WA 98660
- **Cleanup Site ID:** 11759
- **Facility/Site ID:** 9158935
- **VCP Project ID:** SW1314

Dear Jonathan Polonsky:

The Washington State Department of Ecology (Ecology) received your request for an opinion on your independent cleanup of the Plaid Pantry 112 facility (Site). This letter provides our opinion. We are providing this opinion under the authority of the Model Toxics Control Act (MTCA),[1] chapter 70.105D Revised Code of Washington (RCW).

Issue Presented and Opinion

Ecology is responding to your request to evaluate the Remedial Investigation (RI) conducted at the Plaid Pantry 112 Site.

Ecology supports your proposal to expand the existing Soil Vapor Extraction System (SVE) to address remaining petroleum impacts in the adjacent right-of-way; however, additional performance sampling is necessary to demonstrate the effectiveness of the cleanup already completed on-Property in addition to the proposed cleanup that you intend to conduct off-Property 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, Washington Administrative Code (WAC) chapter 173-340 (collectively "substantive requirements of MTCA"). The analysis is provided below.

[1] https://fortress.wa.gov/ecy/publications/SummaryPages/9406.html

Description of the Site

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:

- Gasoline range total petroleum hydrocarbons (TPH-G) into the Soil.
- Diesel range petroleum hydrocarbons (TPH-D) into the Soil.
- Benzene, toluene, ethylbenzene, and xylene (BTEX) constituents into the Soil.
- Lead into the Soil.
- Naphthalene into the Soil.
- Tetrachloroethylene (PCE) into the soil vapor.
- Freon into the soil vapor.

Enclosure A includes a detailed description and diagram of the Site, as currently known to Ecology. A history of the Site can be found in Ecology's February 2019 Opinion Letter.[2]

A parcel of real property can be affected by multiple sites. At this time, we have no information that the parcel(s) associated with this Site are affected by other sites.

Basis for the Opinion

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

1. EES Environmental Consulting, Inc. (EES), *Remedial Investigation Status Update and Response to Ecology Opinion Letter*, letter addressed to Aaren Fiedler, L.G.; Washington Department of Ecology Voluntary Cleanup Program – Southwest Region, received May 17, 2019.

2. SWCA Environmental Consultants (SWCA), *Plaid Pantry #112 Terrestrial Ecological Evaluation / SWCA Project No. 54211*, memo addressed to Paul Ecker; EES Environmental Consultants, Inc., March 15, 2019.

3. Ecology, *Opinion on Remedial Investigation and proposed work at the following Site*, letter addressed to Mark Conan; Plaid Pantries Inc., February 20, 2019.

4. EES, *Remedial Investigation Report*, September 19, 2018.

[2] Washington State Department of Ecology, *Opinion on Remedial Investigation and proposed work at the following Site*, letter addressed to Mark Conan; Plaid Pantries Inc., February 20, 2019. http://ecyaptcp/DSARS/docViewer.ashx?did=80467

5. EES, *Technical Memorandum; Focused Off-Site Remedial Technology Evaluation*, memo addressed to Jonathan Polonsky and Brent Chadwick, September 19, 2018.

6. EES, *Technical Memorandum; Vapor Intrusion Assessment Data Table Revisions*, memo addressed to Aaren Fiedler, Washington Department of Ecology, August 5, 2017.

7. EES, *Technical Memorandum; Vapor Intrusion Assessment*, memo addressed to Jonathan Polonsky and Brent Chadwick – Plaid Pantries, Inc., May 18, 2017.

8. EES, *Soil Vapor Extraction Monitoring Results*, memo addressed to Jonathan Polonsky and Brent Chadwick, Plaid Pantries, Inc., June 14, 2016.

9. EES, *Development of Site-Specific MTCA Method B Soil Cleanup Level for Gasoline*, memo addressed to Mark Conan, Jonathan Polonsky, & Brent Chadwick, Plaid Pantries, Inc., March 31, 2016.

10. EES, *Perched Groundwater Evaluation*, memo addressed to Mark Conan, Jonathan Polonsky, & Brent Chadwick, Plaid Pantries, Inc., March 30, 2016.

11. EES, *Interim Remedial Action Status Report*, February 3 2014.

12. Ecology, *Further Action at the following Site*, letter addressed to Mr. Mark Conan; October 28, 2013.

13. EES, *Site Assessment Report*, December 31, 2012.

14. EES, *Site Assessment Report*, December 27, 2012.

15. PNG Environmental, Inc. (PNG), *Site Assessment Report*, October 19, 2011.

16. PNG, *Historic Information Review Summary*, memo addressed to Plaid #112 Project File, July 29, 2011.

Those documents are kept in the Central Files of the Southwest Regional Office of Ecology (SWRO) for review by appointment only. Information on obtaining those records can be found on Ecology's public records requests web page.[3] Some site documents may be available on Ecology's Cleanup Site web page.[4]

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

[3] https://ecology.wa.gov/About-us/Accountability-transparency/Public-records-requests
[4] https://apps.ecology.wa.gov/gsp/Sitepage.aspx?csid=11759

Analysis of the Cleanup

Ecology has concluded that **further remedial action** is necessary to clean up contamination at the Site. That conclusion is based on the following analysis:

1. Characterization of the Site.

EES has demonstrated in the September 2018 *Remedial Investigation Report* and May 2019 *Remedial Investigation Status Update and Response to Ecology Opinion Letter* that the Site has been sufficiently characterized regarding the petroleum related contamination at the Site.

The petroleum contamination includes TPH-G and TPH-D, BTEX, lead, and naphthalene in soil and soil vapor. The Site has not been defined for PCE and Freon for any media.

Ecology has determined your characterization of the Site for the petroleum related contamination is sufficient to establish cleanup standards and select a cleanup action for those petroleum related hazardous substances. Ecology understands that Plaid Pantry is only proposing to remediate the petroleum contamination related to underground petroleum storage and fuel dispensing at the Site and not the PCE, Freon,[5] or other contamination that may also be present at the Site and not related to the petroleum release.

The exposure pathways of the petroleum related hazardous substances for the Site as Ecology currently understands them are detailed below. Ecology's comments regarding the non-petroleum related hazardous substances can be found in the February 2019 opinion letter.[2]

- **Soil-Direct Contact**:
  Complete. Hazardous substances related to the petroleum release from a previously unknown underground storage tank (UST) are present in the soil between the ground surface and 15 feet below ground surface (bgs).
- **Soil-Leaching**:
  Incomplete. Hazardous substances are only present in the shallow soils, less than 15 feet bgs, and groundwater has not been encountered down to 40 feet bgs, the maximum depth explored at the Site. Based on boring/water well logs for the area, EES is assuming that groundwater is present at depths greater than 80 feet bgs.
- **Soil-Vapor**:
  Incomplete. Petroleum contaminated soil (PCS) is located outside the horizontal and vertical inclusion distances of 6 feet vertically below structures and 30 feet horizontally from the building located on the property. Sub-slab soil gas samples collected below both the Plaid Pantry and Domino's Pizza areas of the building did not show any exceedances of the MTCA Method B sub-slab screening levels.
- **Groundwater**:
  Incomplete. Groundwater has not been observed at the Site down to a depth of 40 feet bgs and is believed to only be present at depths greater than 80 feet bgs.

[5] EES, *Technical Memorandum; Vapor Intrusion Assessment Data Table Revisions*, memo addressed to Aaren Fiedler, Washington Department of Ecology August 5, 2017, p. 1.

- **Ecological**:
  Incomplete. An environmental assessment was completed by SWCA who conducted an exposure analysis of the Site using MTCA Table 749-1.[6] SWCA demonstrated that no further evaluation is needed for the Site under WAC 173-340-7492(2)(a);[7] current or planned land use makes wildlife exposure unlikely.

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.

Cleanup Standards: Under MTCA, cleanup standards consist of three primary components; (a) points of compliance,[8] (b) cleanup levels,[9] and (c) applicable state and federal laws.[10]

(a) Points of Compliance. Points of compliance are the specific locations at the Site where cleanup levels must be attained. Standard points of compliance, provided in the following table, are currently being used for the Site.

Media	Points of Compliance
Soil-Direct Contact	Based on human exposure via direct contact, the standard point of compliance is throughout the Site from ground surface to fifteen feet below the ground surface.[11]
Soil- Protection of Groundwater	Based on the protection of groundwater, the standard point of compliance is throughout the Site.[12]
Soil-Protection of Plants, Animals, and Soil Biota	Based on ecological protection, the standard point of compliance is throughout the Site from ground surface to fifteen feet below the ground surface.[13]
Groundwater	Based on the protection of groundwater quality, the standard point of compliance is 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.[14]
Groundwater-Surface Water Protection	Based on the protection of surface water, the standard point of compliance is all locations where hazardous substances are released to surface water.[15]
Air Quality	Based on the protection of air quality, the point of compliance is indoor and ambient air throughout the Site.[16]
Sediment	Based on the protection of sediment quality, compliance with the requirements of WAC 173-204.[17]

[6] WAC 173-340-900.
[7] https://apps.leg.wa.gov/wac/default.aspx?cite=173-340-7492
[8] WAC 173-340-200 "Point of Compliance."
[9] WAC 173-340-200 "Cleanup level."
[10] WAC 173-340-200 "Applicable state and federal laws," WAC 173-340-700(3)(c).
[11] WAC 173-340-740 (6)(d).
[12] WAC 173-340-747.
[13] WAC 173-340-7490(4)(b.)
[14] WAC 173-340-720(8)(b).
[15] WAC 173-340-730(6).
[16] WAC 173-340-750(6).
[17] WAC 173-340-760.

(b) Cleanup Levels. Cleanup levels (CULs) are the concentrations of a hazardous substance in soil, water, air, or sediment that are determined to be protective of human health and the environment. At this Site, MTCA Method B cleanup screening levels were used to evaluate soil, soil vapor, and indoor air contamination detected at the Site.

Proposed MTCA Method B CULs for Site hazardous substances are listed in the following table. Method A groundwater CULs are considered applicable and are included for reference though groundwater has not been encountered at the Site. EES has performed a total risk assessment and submitted it in the May 2019 *Remedial Investigation Status Update and Response to Ecology Opinion Letter*.

Proposed Site CULs for each Media

Hazardous Substances	CAS #	Method A Groundwater CUL (µg/L)	Method B Soil CUL (mg/Kg)	Method B Indoor Air CUL (µg/m^3)
Gasoline & Diesel Related Hazardous Substances:				
Total TPH	NONE	NONE	2,619 [18]	140
TPH-G	NONE	800/1,000 [19]	NONE	NONE
TPH-D/O	NONE	500	NONE	NONE
Benzene	71-43-2	5	18	0.32
Toluene	108-88-3	1,000	6,400	2,300
Ethylbenzene	100-41-4	700	8,000	460
Total Xylenes	1330-20-7	1,000	16,000	46
Naphthalenes[20,21]	Various	160	NONE	NONE
Naphthalene[22]	91-20-3	NONE	1,600	0.074
1-methyl naphthalene	90-12-0	NONE	34	NONE
2-methyl naphthalene	91-57-6	NONE	320	NONE
EDB	106-93-4	0.01	0.5	0.0042
EDC	107-06-2	5	11	0.096
MTBE	1634-04-4	20	560	9.6
Metals:				
Total Lead	7439-92-1	15	250	NONE
Halogenated VOCs:				
PCE	127-18-4	5.0	480	9.62
TCE[23]	79-01-6	5.0	12	0.37
1,2-Dichloroethylene[23]	540-59-0	72	720	NONE
Vinyl Chloride[23]	75-01-4	0.20	0.67	0.28
Other VOCs:				
Carbon tetrachloride	56-23-5	0.63	14	0.42
MEK	78-93-3	4,800	48,000	2,300
1,1,1-Trichloroethane	71-55-6	200	160,000	2,300
Freon[24]	Various	Chemical Specific		

[18] EES, *Technical Memorandum; Development of Site-Specific MTCA Method B Soil Cleanup Level for Gasoline*, memo addressed to Mark Conan, Jonathan Polonsky, & Brent Chadwick, Plaid Pantries, Inc., March 31, 2016.
[19] MTCA Method A TPH-G CULs are dependent on whether benzene in present.
[20] Naphthalenes includes the total of naphthalene, 1-methyl naphthalene, and 2-methyl naphthalene. The MTCA Method A groundwater CUL is for the sum of all three.
[21] This CUL is included for reference since naphthalenes are included in the Method A TPH-G and TPH-D/O CULs.
[22] Naphthalenes[20] are not included as part of the MTCA Method B calculated TPH soil CUL and are required to be sampled individually as appropriate on a Site specific bases.
[23] Included as Degradation Daughter Products of PCE.
[24] The term "Freon" is used to identify multiple fluorocarbon refrigerants. Although "Freon" was identified in a lab report[5] as causing matrix interference, the specific fluorocarbon refrigerant or refrigerants was/were not identified.

(c) <u>Applicable Laws and Regulations:</u> For the remedial investigation, please identify all applicable local, state, and federal laws for the cleanup action.[25] This requirement may impact cleanup standards applicable to the Site.

3. Selection of Cleanup Action.

Ecology has determined the cleanup action you selected for the Site meets the substantive requirements of MTCA. The cleanup performed for the on-Property area of the Site included removal of an UST, removal of contaminated soils, and operation of an SVE system. EES has proposed extending the SVE system to the off-Property area of the Site that is in the W. Fourth Plain Blvd. corridor. Ecology concurred with the extension of the SVE system in its February 2019 Opinion Letter.

4. Cleanup.

Ecology has determined the cleanup you performed does not meet any cleanup standards at the Site. Sampling has been completed that indicates the SVE system may be reducing the concentrations in soil for the on-Property area of the Site. Performance sampling will still need to be completed for these on-Property areas that demonstrates that specific areas of CUL exceedance for all petroleum related hazardous substances have been remediated to below their CULs. The same performance sampling will need to be completed after the off-Property area of the Site has been remediated. Ecology understands that performance sampling may be waiting for cleanup of the entire Site to be completed.

[25] WAC 173-340-710(2)

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**:

- 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.

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 the Site 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 Voluntary Cleanup Program web site.[26] If you have any questions about this opinion, please contact me at (360) 407-6437 or aaren.fiedler@ecy.wa.gov.

Sincerely,

Aaren Fiedler
Toxics Cleanup Program
Southwest Regional Office

AF: tam

Enclosure: A – Description and Diagrams of the Site

cc: Paul Ecker, EES Environmental Consulting, Inc.
Nicholas Acklam, Ecology (by email)
Ecology Site File

[26] https://www.ecy.wa.gov/vcp

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Enclosure A

Description and Diagrams of the Site

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Site Description

The Site, identified as Plaid Pantry 112, is located at 1002 W Fourth Plain Blvd., Vancouver, 98660, Clark County (Parcel ID 1018000). The Site is located at the north-west corner of the intersection of W Fourth Plain Blvd. and Kauffman Ave. The area around the Site is mostly commercial.

The Site property consists of a commercial building occupied by the Plaid Pantry convenience store and a Domino's Pizza. Plaid Pantry operates a 76 branded fuel dispenser located in the parking lot area of the Site along W Fourth Plain Blvd.

East of the Site across Kauffman Ave. is a shopping center with a kiosk style coffee shop. South-east of the Site across the intersection is a credit union. South of the Site across W Fourth Plain Blvd. is a tire repair shop and some private residences.

Adjacent to the Site Property on the west is a vacant lot and adjacent to the Site Property on the north is a brick manufacturing facility.

The source of the release was an underground storage tank (UST) believed to have been left in place from historical (before Plaid Pantry) refueling operations that were conducted in the area. This UST has been removed. The hazardous substances released at the Site are petroleum (gasoline) related hazardous substances.

Contamination extends vertically down to a depth of approximately 12 feet below ground surface (bgs). Contamination extends horizontally north-south from just north of the current dispenser island to approximately 15 feet out into the W Fourth Plain Blvd. corridor south of the Site Property, and east-west from the southwestern end of the current UST nest to approximately 30 feet west of the current UST nest. Only soil and soil gas are affected.

Groundwater at the Site is believed to be at a depth of 80 feet or more, and no groundwater has been encountered down to the deepest depth explored at approximately 40 feet bgs.

Geology: EES reports that the Site is comprised primarily of silt and sandy silt grading to silty sand down to depths ranging from 13.5 feet to 20 feet bgs. This silt is covered by a surface fill. Below this silty layer is a layer of sand and gravel down to the maximum depth explored (approximately 40 feet bgs).

Since groundwater has not been encountered at the Site, EES is only assuming that the flow direction in the area is to the west or southwest based on topography and the location of the Columbia River. The Columbia River is located approximately 1 mile southwest of the Site.

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Site Diagrams

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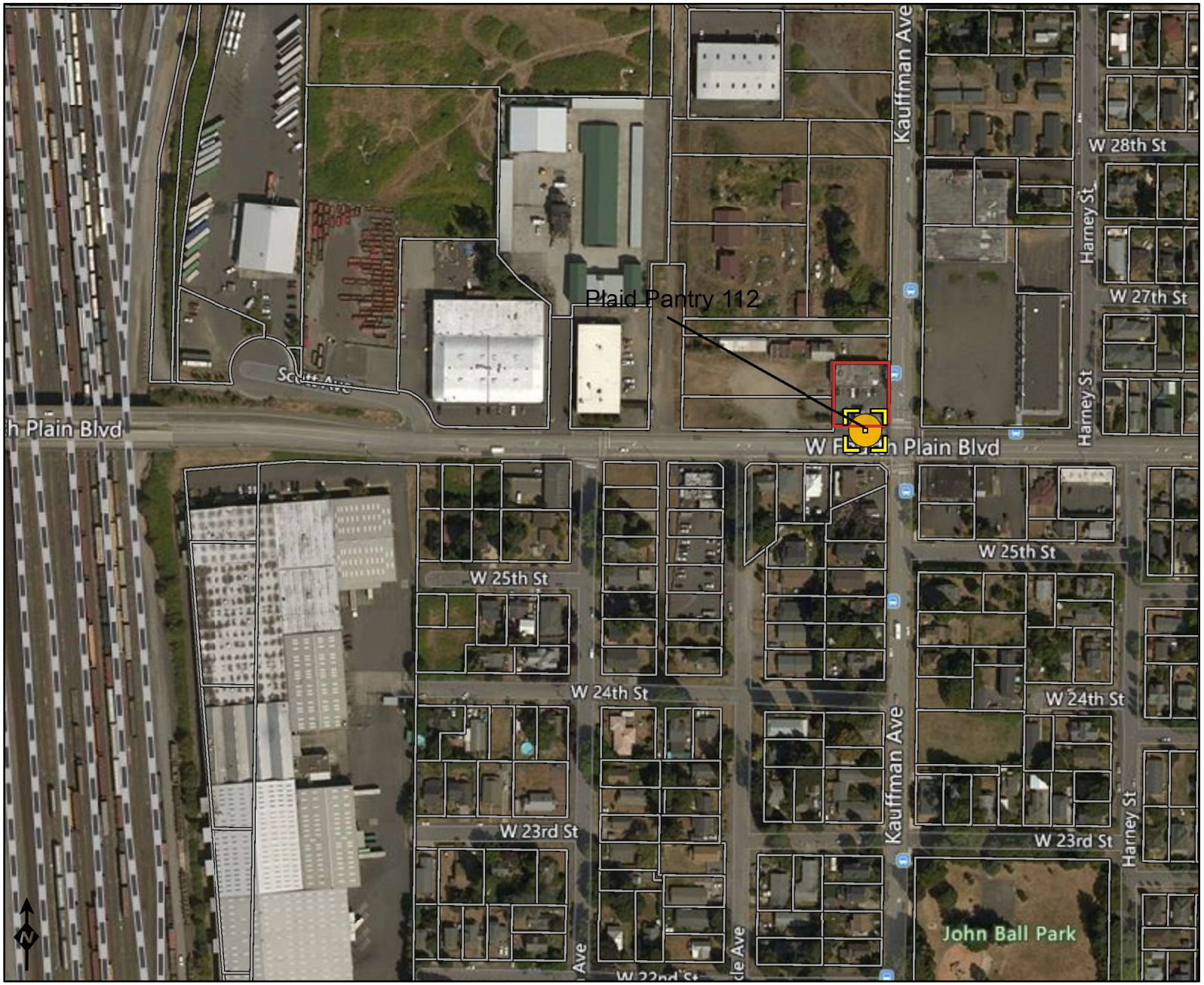
Ecology Figure 1: Site Location with Parcel Boundaries



TCP Cleanup Sites

- No Further Action
- Awaiting Cleanup
- Cleanup Started
- Monitoring
- Tracked By EPA/Reported Cleaned Up

- Parcels

Miles
0 0.03 0.06 0.12

DEPARTMENT OF ECOLOGY
State of Washington