

STATE OF WASHINGTON

DEPARTMENT OF ECOLOGY

Southwest Region Office PO Box 47775 • Olympia, Washington 98504-7775 • 360-407-6300

May 13, 2025

Jeff Kaspar Farallon Consulting, LLC 975 5th Avenue NW Issaquah, WA 98027 jkaspar@farallonconsulting.com

Re: No Further Action Likely for the following contaminated Site:

- Site Name: Grace's Cleaners (Battle Ground Plaza)
- Site Address: 717 West Main Street, Battle Ground, WA 98604
- Facility/Site ID: 86416754
- Cleanup Site ID: 578
- VCP Project ID: SW0597

Dear Jeff Kaspar:

The Washington State Department of Ecology (Ecology) received your April 9, 2025 Work Plan for Regional Aquifer Assessment and Vapor Intrusion Pathway Evaluation (Workplan) and request for an opinion at the former Grace's Cleaners Property (Site). This letter provides our opinion. We are providing this opinion under the authority of the <u>Model Toxics Control Act</u> (<u>MTCA</u>),¹ <u>chapter 70A.305 Revised Code of Washington (RCW</u>).²

^{1. &}lt;sup>1</sup> https://fortress.wa.gov/ecy/publications/SummaryPages/9406.html

^{2. &}lt;sup>2</sup> https://app.leg.wa.gov/RCW/default.aspx?cite=70A.305

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Issue Presented and Opinion

Ecology is responding to your requests for an opinion on the most recently submitted Workplan³ for further investigation at the Site.

This opinion is based on an analysis of whether the investigative/remedial work and groundwater data to date meets the substantive requirements of MTCA, Chapter 70A.305 RCW, and its implementing regulations, Washington Administrative Code (WAC) Chapter 173-340 (collectively "substantive requirements of MTCA"). The analysis is provided below.

Basis for the Opinion

This opinion is based on the information contained in the documents listed in **Enclosure A**.

These 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.⁴ Some site documents may be available on Ecology's Cleanup Site Search web page.⁵

The Site is defined by the extent of contamination caused by the following release(s):

 Halogenated volatile organic compounds (HVOC) to soil, groundwater, soil vapor, and indoor/ambient air. These compounds include tetrachloroethene (PCE), trichloroethene (TCE), dichloroethene (DCE) cis/trans isomers, 1,1,1-trichlorethane (TCA), and vinyl chloride (VC).

The description of the Site is based solely on the information contained within the aforementioned documents. This opinion is void if any of the information contained in those documents is materially false or misleading.

^{3. &}lt;sup>3</sup> Farallon; October 2022-June 2023 Groundwater Monitoring Event; December 22, 2023.

^{4. &}lt;sup>4</sup> https://ecology.wa.gov/Footer/Public-records-requests

^{5. &}lt;sup>5</sup> https://apps.ecology.wa.gov/cleanupsearch/site/578

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Opinion

Ecology concurs with the Workplan scope of work for both regional aquifer assessment and vapor intrusion evaluation. For the vapor intrusion evaluation, Ecology offers the following specific reminders regarding the use of Summa canisters based on indoor air sampling:

Canister initial and final pressures are important indicators of sample period and flow rate. Specifically, when canisters are entirely voided (pressure is equal to or near ambient),

The actual sample period is unknown^{6,7} and as such, it cannot be evaluated how long the sample was drawn at a constant rate. Specifically, due to normal pressure equilibration, the canister will draw air at a lower rate when vacuum is reduced below 5 inches Hg, which biases the data towards the beginning of the sample period. Canisters with final pressures greater than 10 inches Hg should also be noted as this suggests a greatly retarded sample draw with the sample flow rate likely not being representative of the desired sample period. Canisters with an initial vacuum of less than -25 inches Hg should be avoided as this indicates potential leakage from the canister resulting in a potentially non-representative sample.⁸

Differential pressures should be measured using a micro-manometer that is auto-zeroing and has a pressure differential sensitivity to 0.001 inches of water (such as a CLK-Zephyr II+ data logging micro-manometer). Differential pressures should be recorded using a data logger for at least 48 hours (preferably one week) prior to sampling to assess fluctuations (if any) of cross-slab differential pressure.

Beyond the aforementioned, Ecology has the following comments below based on statements and conclusions made in sections of the Workplan:

1. Ecology Comments

Background. Ecology understands that groundwater monitoring has been conducted at the Site since 2016 with an objective of confirming that prior remediation activities of HVOC releases at the Site would result in cleanup of deep groundwater within the regional Troutdale aquifer used by the City of Battle Ground (COB) as a potable drinking water source. These wells

^{6. &}lt;sup>6</sup> USEPA, *Compendium Method TO-15*, January 1999. Section 8.3.

^{7. &}lt;sup>7</sup> ITRC, Vapor Intrusion Pathway: A practical Guideline, January 2007.

^{8. &}lt;sup>8</sup> New Jersey Department of Environmental Protection, *Vapor Intrusion Technical Guidance*, May 2021. Appendix H.

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are located approximately 700 feet northeast of the Site, extract groundwater from screened intervals that range from 93 to 144 feet below ground surface (bgs), and Ecology's concerns are centered around protecting this drinking water supply. To this end, prior cleanup activities completed at the Site have included:

- Excavation, off-Site transport, and disposal of the PCE-contaminated soil from the former dry-cleaning location, which was the source of contamination to groundwater at the Site;
- Operation of soil vapor extraction (SVE) at the former dry-cleaning location to remove residual PCE in soil that could not be accessed by excavation; and
- Implementation of in-situ chemical oxidation at one location near the back door of the former dry-cleaning location where a minor release of PCE in soil was identified.

Site Monitoring Wells and Analytical Data. Stratigraphic evaluation at the Site has occurred from installation of monitoring wells MW-1D, MW-2D, MW-3D, and MW-5D in the firstencountered water-bearing zone (wbz) at screened depths ranging from approximately 72.5 to 88.5 feet below the ground surface (bgs). At well MW-1D, the borehole was deepened to approximately 105 feet bgs to assess the thickness of a dry cemented gravel layer that underlaid the first water-bearing zone at the Site. This dry gravel layer was encountered from 87 to 102 feet bgs at MW-1D and it was concluded that it could function as an aquitard or aquiclude as it was present in all of the borings beginning at approximately 88 feet bgs. Despite its presence, the vertical thickness, extent, competency, degree of fracturing, porosity, and permeability is unknown both across and downgradient of the Site. Other deeper water-bearing zones were also encountered at depths from approximately 102 to 139 feet bgs and were mixed with thinner layers of dry soil during installation of the single multiport well MPW-2. Regardless of the degree of hydraulic conductivity, Ecology considers the presence of the dry cemented gravel layers as potential lateral (and vertical) conveyors of Site COC further downgradient and beyond the former Site COC source areas. Hence Ecology's request for additional lateral (downgradient) delineation of said Site COC in groundwater. Beyond and relative to the existence of the dry cemented gravel layers beneath the Site, Ecology does not consider one downgradient on-Site well (MPW-2) completed to the depth of the COB wells as adequate to delineate the chemical groundwater conditions downgradient of the Site.

Further, while the sampling data from 2005 to 2007 indicated the presence of the Site COCs at levels less than the respective MTCA cleanup levels (CULs) from monitoring wells MW-1D,

MW-2D, MW-3D, and MW-5D, all four wells also exhibited 1,1,1-trichloroethane (TCA)⁹ during all four consecutive sampling events that occurred from June 2005 to June 2006, at levels also less than the MTCA A CUL. However, the laboratory report from the following June 2016 groundwater sampling event for the 4 wells only reported the Site COC PCE, TCE, DCE isomers, and VC as not detected at or above the laboratory method reporting limits (MRL). Given the samples were analyzed via EPA Method 8260D, the full scan results should have been reported to evaluate the continued presence or absence of TCA. Given TCA has also been present in the City of Battleground (COB) municipal wells at similar concentrations and that no other Site COC sources have been identified between the Site and said COB wells, Ecology must consider the presence of TCA in the on-Site wells as a marker that could indicate a plausible hydraulic connection to past, present, and/or future Site COC impacts in the COB wells. TCA was also often used as a dry-cleaning spotting/cleaning agent and as such, its presence in the on-Site wells must be considered relevant to past off-Site migration of Site-derived COC, regardless of its concentrations.

Remedial Excavation/Soil Analytical Data. Very high concentrations of PCE have been detected in soil at the Site. A PCE soil contaminant concentration of 14,700 mg/kg (or 294,000 times the soil cleanup level that is protective of groundwater) was detected in September 2006 in sample GP-21(9-10').¹⁰ COC-impacted soil was excavated at the Site to a limited depth (15' bgs), approximately 5' beneath the location of this high concentration release. Regardless of its subsequent removal and given discrete random versus incremental soil confirmation sampling was used, its presence indicated the likelihood that other similarly undetected elevated concentrations may have likely existed, and which may have chronically served as COC sources to groundwater downgradient of the site. This is not atypical as contaminants are often anisotropically distributed in soil as both a laterally and vertically heterogeneous medium.

To that end, soil data collected between 2001 and 2008 also show a high variability in PCE concentrations over short distances at the site, with large PCE variations exceeding 1000% between samples separated by distances of one to two feet. This high variability of PCE concentrations over short distances indicates that discrete random samples were inadequate to characterize the impacted soil volume and a statistically significant number of samples should have been collected from an appropriate population. The statistical approach is required to avoid soil sampling results that convey a bias in favor of SVE efficacy, i.e., results that produce

^{9. &}lt;sup>9</sup> https://www.ncbi.nlm.nih.gov/books/NBK464353/pdf/Bookshelf_NBK464353.pdf

^{10. &}lt;sup>10</sup> Farallon, Subsurface Investigation and Focused Feasibility Study Report, Figure 6/Table 3, January 15, 2007.

indications of remedial success that may reflect performance testing design flaws rather than actual remedial effectiveness. This approach is recognized by Ecology and required by MTCA.¹¹

Though WAC 173-340-740(7) can require statistical compliance for contaminant concentrations in groundwater (minimum 11 consecutive quarterly sampling events), we concur that your proposal of up to four consecutive quarterly sampling events will likely be sufficient to demonstrate compliance for groundwater at the Site. Four consecutive quarterly sampling events would meet Stage 3 compliance groundwater monitoring requirements.¹²

EIM. Please ensure that all sampling/compliance data collected are uploaded to Ecology's EIM database. All Site data collected since August 1, 2005 will have to be accepted and approved in EIM prior to issuing any Site no further action opinion letter.

Conclusion<u>.</u> Based on the aforementioned, Ecology cannot yet concur that the objective of confirming that prior PCE cleanup activities at the Site have resulted in cleanup of deep groundwater within the regional aquifer used by the COB as a potable drinking water source. However, Ecology concurs that the currently proposed scope of work will provide the necessary data to determine if cleanup standards are met for the Site and ii) depending on the sampling results, enable eventual conveyance of no further action for the Site.

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.

^{11. &}lt;sup>11</sup> WAC 173-340-740

^{12. &}lt;sup>12</sup> Borrowed from section 10.3 in the Guidance for Remediation of Petroleum Contaminated Sites, revised June 2016.

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To settle liability with the state and obtain protection from contribution claims, a person must enter into a consent decree with Ecology under RCW 70A.305.040(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 a party performs is substantially equivalent. Courts make that determination. *See* RCW 70A.305.080 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 70A.305.170(6)

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 <u>Voluntary</u> <u>Cleanup Program web site</u>.¹³ If you have any questions about this opinion, please contact me at (360) 489-5347 or joe.hunt@ecy.wa.gov</u>.

Sincerely,

Joseph B. Hunt, LHG Toxics Cleanup Program Southwest Regional Office

^{13. &}lt;sup>13</sup> https://www.ecy.wa.gov/vcp

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Enclosure: A – Documents List

cc: Mark Myers, <u>mmyers@williamkastner.com</u> Mark Herceg, PE, Public Works Director, City of Battle Ground; <u>mark.herceg@cityofbg.org</u> Tim Mullin, Ecology, <u>tim.mullin@ecy.wa.gov</u> Ecology Site File **Documents List**

- 1. Farallon Consulting, L.L.C. (Farallon), *Technical Memorandum and Work Plan for Regional Aquifer Assessment and Vapor Intrusion Pathway Evaluation*, Former Grace's Plaza Cleaners, 717 West Main Street, Battle Ground Plaza, Battle Ground, Washington, April 9, 2025.
- Farallon, October 2022 and June 2023 Semiannual Performance Groundwater Monitoring Results for Ecology Opinion, Former Grace's Plaza Cleaners, 717 West Main Street, Battle Ground Plaza, Battle Ground, Washington, November 15, 2023.
- 3. Farallon, *Technical Memorandum Addendum to Cleanup Action Summary Report and Performance Groundwater Monitoring Results*, Former Grace's Plaza Cleaners, 717 West Main Street, Battle Ground Plaza, Battle Ground, Washington, April 30, 2020.
- 4. Farallon, *Cleanup Action Summary Report,* Former Grace's Plaza Cleaners, 717 West Main Street, Battle Ground Plaza, Battle Ground, Washington, July 29, 2016.
- 5. Farallon, *Cleanup Action Progress Report December 2010 to February 2021*, Former Grace's Plaza Cleaners, 717 West Main Street, Battle Ground Plaza, Battle Ground, Washington, April 16, 2012.
- 6. Farallon, *Cleanup Action Progress Report December 2010 to February 2021*, Former Grace's Plaza Cleaners, 717 West Main Street, Battle Ground Plaza, Battle Ground, Washington, January 18, 2011.
- 7. Farallon, *Technical Memorandum Cleanup Action Status Summary*, Former Grace's Plaza Cleaners, 717 West Main Street, Battle Ground Plaza, Battle Ground, Washington, July 11, 2011.
- 8. Pacific Groundwater Group, *Technical Memorandum Draft Comments Assessment of SVE Remedial Action*, Former Grace's Plaza Cleaners, 717 West Main Street, Battle Ground Plaza, Battle Ground, Washington, February 26, 2010.
- 9. Farallon, *Cleanup Action Progress Report*, Former Grace's Plaza Cleaners, 717 West Main Street, Battle Ground Plaza, Battle Ground, Washington, November 25, 2009.
- 10. Farallon, *July 2009 Performance Soil Sampling Event*, Former Grace's Plaza Cleaners, 717 West Main Street, Battle Ground Plaza, Battle Ground, Washington, July 29, 2009.
- 11. Farallon, *Technical Memorandum Cleanup Action Status Summary*, Former Grace's Plaza Cleaners, 717 West Main Street, Battle Ground Plaza, Battle Ground, Washington, October 1, 2008.
- 12. Farallon, *Cleanup Action Plan and SAP/QAPP/Engineered Drawings,* Former Grace's Plaza Cleaners, 717 West Main Street, Battle Ground Plaza, Battle Ground, Washington, March 25, 2008.
- 13. Farallon, *Groundwater Monitoring Report*, Former Grace's Plaza Cleaners, 717 West Main Street, Battle Ground Plaza, Battle Ground, Washington, November 6, 2007.
- 14. Farallon, *Subsurface Investigation and Focused Feasibility Study Report*, Former Grace's Plaza Cleaners, 717 West Main Street, Battle Ground Plaza, Battle Ground, Washington, January 15, 2007.
- 15. GeoEngineers, *Feasibility Study*, Grace's Plaza Cleaners, 717 West Main Street, Battle Ground Plaza, Battle Ground, Washington, September 29, 2006.
- 16. Farallon, *First Quarter 2006 Groundwater Status Report*, Former Grace's Plaza Cleaners, 717 West Main Street, Battle Ground Plaza, Battle Ground, Washington, March 20, 2006.
- 17. GeoEngineers, *Feasibility Study*, Grace's Plaza Cleaners, 717 West Main Street, Battle Ground Plaza, Battle Ground, Washington, September 29, 2006.

- 18. Farallon, *Groundwater Investigation and Soil Vapor Extraction Pilot Test Report*, Grace's Plaza Cleaners, 717 West Main Street, Battle Ground Plaza, Battle Ground, Washington, January 20, 2006.
- 19. Farallon, *Groundwater Investigation Report*, Grace's Plaza Cleaners, 717 West Main Street, Battle Ground Plaza, Battle Ground, Washington, October 3, 2005.
- 20. Farallon, *Phase III Subsurface Investigation Report*, Grace's Plaza Cleaners, 717 West Main Street, Battle Ground Plaza, Battle Ground, Washington, October 18, 2004.