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January 6, 2021

Doug Hillman
Aspect Consulting, LLC
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Seattle WA 98104
dhillman@aspectconsulting.com

Re: Further Action at a Property associated with a Site:

- **Property Address:** 614 North First Street, Tacoma, Pierce County, WA 98403
- **Facility / Site Name:** Morrells Dry Cleaners
- **Facility/Site ID:** 18489568
- **Cleanup Site ID.:** 386
- **VCP Project No.:** SW1039

Dear Doug Hillman:

The Washington State Department of Ecology (Ecology) received your request for an opinion on the independent cleanup of a property associated with the Morrells Dry Cleaners facility (Site). This letter provides our opinion. We are providing this opinion under the authority of the [Model Toxics Control Act \(MTCA\)](#),¹ [chapter 70A.305 Revised Code of Washington \(RCW\)](#).²

Issues Presented and Opinion

On August 28, 2020, Ecology received a Property Specific Closure report (the Report³), and requested that Ecology concur with a no further action likely determination for a property at the Site.⁴ The Property subject to the Property specific No Further Action request is Pierce County tax parcel 2030120033 (the Property). Ecology has reviewed available reports for this cleanup, and appreciates the substantial amount of work that you have completed to investigate and clean up the Morrells Dry Cleaners facility. Ecology supports pursuing a no further action determination for the Property.

MTCA allows property-specific no further action determinations for all sites that qualify. To support your goal of a Property-specific no further action likely determination for the Property, Ecology is providing this opinion on how the proposed property-specific cleanup may meet MTCA requirements.

¹ <https://fortress.wa.gov/ecy/publications/SummaryPages/9406.html>

² <https://app.leg.wa.gov/RCW/default.aspx?cite=70A.305>

³ Aspect Consulting LLC, *Property-Specific Closure Report for Parking Lot Parcel, Morrell's Dry Cleaners*, August 2020.

⁴ Report Page 28-29

Ecology offers no opinion on the independent remedial actions you have completed to clean up the Site outside of the Property. To achieve Ecology concurrence with a property-specific cleanup, we suggest you review this opinion and include our suggestions in your next submittal.

You proposed implementing engineered and institutional controls managed by an environmental covenant for the parking lot parcel, with a no further action determination after the Property eventually meets cleanup standards. You estimate that it will take many years for the Property to meet cleanup standards.

MTCA allows property-specific no further action determinations when sufficient demonstration is provided for Ecology to concur that the disproportionate cost analysis supports a property-specific non-permanent cleanup. If engineered or institutional controls are needed as part of the remedial alternative, those restrictions are generally recorded in an environmental covenant that is then signed by both the Property owner and Ecology. However, Ecology's no further action determination is normally issued close after the environmental covenant has been recorded and returned to Ecology. Regular post closure confirmational monitoring is often needed at similar sites in perpetuity. That monitoring occurs after the no further action determination.

Post-closure monitoring is reviewed by Ecology at regular five-year intervals. When a property eventually meets cleanup standards throughout the area of control governed by a covenant, the Property owner at that time may request Ecology review and determine if the environmental covenant is still needed. We suggest you closely follow this general process to obtain a property-specific closure for this Site. The main difference with the process you proposed is that Ecology's property-specific no further action determination would be provided at the time that Ecology concurs with the Property's remedial alternative, and not in the future.

Summarizing several of our comments to obtain Ecology's concurrence with your proposal, we suggest that you include the following information in your next request:

- Additional delineation of the Site, or make assumptions about the Site outside of currently delineated extents based on Ecology guidance for property-specific cleanups (Opinion Section 1, below).
- The property's rights-of-way in the request, for example rights-of-way in both Division Avenue and North First Street. Ecology assumes that at this location, property boundaries include to the centerline of the rights-of-way (Opinion Section 1, below).
- Additional evaluation of cleanup standards (Opinion Section 2, below).
- A draft environmental covenant and all attachments as a necessary component of the preferred remedial alternative for Ecology's review (Opinion Section 3, below).

This opinion is based on an analysis of whether the remedial action meets the substantive requirements of MTCA, chapter 70A.305 RCW,⁵ and its implementing regulations, chapter 173-340 WAC (collectively “substantive requirements of MTCA”). The analysis is provided below.

Description of the Property and the Site

This opinion applies only to the Property and the Site described below. This opinion does not apply to any other sites that may affect the Property. Any such sites, if known, are identified separately below.

1. Description of the Property.

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

- 2030120033

A legal description of the Property is required, and should be provided to Ecology with a draft covenant. At this location, Ecology assumes that the Property extends to the centerlines of adjacent rights-of-way.

2. 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 releases into the environment:

- The chlorinated solvent Tetrachloroethylene (PCE) and its degradation products trichloroethylene (TCE), 1,1-dichloroethylene (DCE); including cis-1,2-DCE and 1,2-trans-DCE, and vinyl chloride.
- Other Volatile Organic Carbons detected during remedial investigation including 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, p-Isopropyltoluene, Sec-Butylbenzene, n-Propylbenzene, Methylene Chloride, 1,2-Dibromo-3-Chloropropane, 2-Hexanone, Bromomethane, CFC-11, CFC-12, Chloroethane, Chloromethane, Methyl Ethyl Ketone, Methyl Isobutyl Ketone, Methylene Chloride, Tert-Butylbenzene, Cumene, 1,2,3-Trichlorobenzene, 1,2,4-Trichlorobenzene, Hexachlorobutadiene, Hexane, Naphthalene, and Chloroform.
- Petroleum Hydrocarbons and related petroleum constituents including benzene, toluene, ethylbenzene, and total xylenes.
- Metals including lead, arsenic, and chromium.

⁵ <https://app.leg.wa.gov/RCW/default.aspx?cite=70A.305>

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

- The Property is located within the projected boundaries of the Tacoma Smelter Plume facility (# 89267963).
- The Property is located adjacent to the Bruce Titus Chevrolet facility (#3427832).
- The Property is located adjacent to the Key Bank Stadium Branch facility (#33263239).

At this time, Ecology has insufficient information to determine if the Property is actually affected. This opinion does not apply to any contamination associated with these facilities.

Basis for the Opinion

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

Documents listed in Enclosure A are kept in the Central Files of the Southwest Regional Office of Ecology (SWRO) for review by appointment only. Information on obtaining the records can be found on [Ecology's public records requests web page](#).⁶ Some site documents may be available on [Ecology's Cleanup Site Search web page](#).⁷

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

Analysis of the Cleanup

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

1. Characterization of the Site.

Historical characterization of the Site and additional requirements for the ongoing remedial investigation are provided in Ecology's September 26, 2011, opinion for this Site's cleanup. The following reports in Ecology's currently available electronic site record⁸ describe work conducted since that 2011 to continue to evaluate and clean up the Site:

- A March 2012 feasibility study report recommends conducting soil vapor extraction and biostimulation to clean up contamination at the Site.
- A May 2012 memorandum describes additional remedial investigation conducted at the Site, including the installation and monitoring of monitoring well MW14-D in North First Street, and the installation and soil sampling of eight shallow soil borings (DP-10 through DP-17).

⁶ <https://ecology.wa.gov/About-us/Accountability-transparency/Public-records-requests>

⁷ <https://apps.ecology.wa.gov/gsp/Sitepage.aspx?csid= 386>

⁸ Additional reports may be included in Ecology's permanent hard-copy site record for this cleanup Site. Due to current health risks, Ecology's permanent hard-copy site record was not reviewed for this opinion.

For that investigation, soil vapor samples were collected from below the pavement in the alleyway between Morrell's and the retail building to the north, and 8-hour duration indoor air sampling was conducted at Morrell's and the Thriftway office.

- A May 16, 2014, Interim Cleanup Action Construction and Design Report documents installation and pilot testing of a soil vapor extraction system at the Site, and includes the results of groundwater sampling.
- A December 23, 2014, Interim Cleanup Action Construction Completion Report contains the construction completion details of the soil vapor extraction system, and details regarding biostimulation conducted at the Site.
- A January 16, 2020, response to Ecology's request for site status update contains a summary of additional work conducted during 2018 and 2019. A 2018 feasibility study for the Site was included as an attachment to the response. Reported remedial actions at the Site included operation of the soil vapor extraction system, and installation and sampling of 13 additional groundwater monitoring wells and four angled soil vapor extraction wells. Biostimulants are reported to have been injected in 2018. Results from groundwater monitoring from 2014-2019 were also included.
- An August 2020 Property-specific closure report for the Parking Lot (the Report) parcel provides evaluation of the Site remedial investigation, and suggests a preferred remedial alternative supported through a feasibility study for a Property at the Site.

Ecology has determined your characterization of the Site is not sufficient to establish cleanup standards for the Site and select a cleanup for the Property.

Property Where No Further Action is Proposed: Ecology needs you to provide a legal description of the tax parcel where no further action is proposed. The report proposes closure for the Parking Lot Parcel, described in the Report and Figure 1 as "T.P.N. 2030-12-0033" (the Property). We suggest you include this in the draft environmental covenant, discussed below.

Include Property Rights-of-Way: Ecology assumes that the Property boundaries extend to the centerlines of adjacent rights-of-way on both Division Avenue and North First Street. There may be other rights-of-way included with the Property. This type of information is often contained in a land survey of the Property that includes platting and dedications. Additional easements on the Property where no further action is proposed may be described in a current title report. All easements will need to be considered when evaluating a draft environmental covenant.

Based on Ecology guidance for property-specific no further action determinations,⁹ Ecology needs documentation of your good faith effort to include the property's rights-of-way in a property-specific no further action determination. Ecology guidance suggests obtaining:

- Written documentation from the easement holder rejecting any remedial actions necessary under MTCA.
- Documentation that the easement holder failed to respond to your written requests to resolve the issues, such as the use of certified mail.
- Documentation of good faith efforts to resolve the issues with the easement holder.

Site Remedial Actions Likely Affect the Property Restoration Timeframe: In your next submittal, please provide the remedial actions you will conduct to clean up the Site, and the schedule for completing those actions. Consider the incremental costs and restoration timeframe of the Property in light the planned remedial actions to be taken to clean up the Site.

Due to the possibility of recontamination from groundwater and possibly mobile contaminated soil vapor in the source zone, the restoration timeframe to complete the Property cleanup appears dependent on the remedial actions you continue to implement to clean up contamination in the source zone on the adjacent contaminated building parcel. Also, the incremental cost of a permanent remedial alternative meeting cleanup standards in a reasonable restoration timeframe for the parking lot parcel may be low, when considered in the context of the overall Site cleanup.

Please provide the incremental costs and restoration timeframe of the Property as part of the overall Site cleanup. Describe how the planned Site cleanup will affect the projected restoration timeframe for the Property. Based on the information you have provided to date, we suggest that it may be more effective at this time for you to include the parking lot parcel in the Site cleanup, rather than seek Ecology concurrence with a separate closure of the parking lot parcel.

Completing Site Characterization for the Property Cleanup: Ecology refers you to our Guidance for Property Cleanups under the Voluntary Cleanup Program (VCP)¹⁰ for guidelines and requirements to complete the Site characterization prior to selecting a cleanup for the Property.

The MTCA Site may be thought of as the extent of contamination released to the environment, without regard to either cleanup levels or property boundaries. To complete a Property cleanup within a Site, the overall Site's remedial investigation¹¹ must be sufficient to establish cleanup standards for the Site, and select a cleanup for the Property.¹²

⁹ Ecology, Guidelines for Property Cleanups under the Voluntary Cleanup Program, Washington State Department of Ecology Toxics Cleanup Program Publication No. 08-09-044, Revised July 2015, Page 23. Available at: <https://fortress.wa.gov/ecy/publications/SummaryPages/0809044.html>.

¹⁰ Ecology Toxics Cleanup Program, Guidelines for Property Cleanups under the Voluntary Cleanup Program, Publication No. 08-09-044, Revised July 2015, Page 29, Available at: <https://fortress.wa.gov/ecy/publications/SummaryPages/0809044.html>

¹¹ WAC 173-340-350

¹² WAC 173-340-360 through 173-340-390

The following additional information is needed for Ecology to concur that this Site's remedial investigation is sufficient:

- **Indicator Hazardous Substances:** The Report states that PCE serves as an "indicator compound" for screening level exceedances in soil.¹³ The use of indicator hazardous substances for the remedial investigation must be determined appropriate by Ecology. To use PCE as an indicator hazardous substance for the cleanup, Ecology suggests following the purpose and approach provided in WAC 173-340-703 to show how PCE meets MTCA requirements as an indicator hazardous substance at the Site. Please also consider the cumulative risk of multiple chemicals at the Site, discussed in Section 2, below.

Without these evaluations, all hazardous substances exceeding cleanup screening levels detected during the remedial investigation will need to be delineated throughout the Site, including in off-Property areas, rights-of-way, and adjacent properties impacted by the Site. If Ecology obtains sufficient information and analysis to concur with the use of an indicator hazardous substance or substances and meeting MTCA requirements that is conservatively protective for cumulative risk, then only indicator hazardous substances would need to be delineated throughout the Site to background concentrations, including in off-Property areas, rights-of-way, and adjacent properties.

Until the requirements of WAC 173-340-703 are met, and cumulative effects evaluated as discussed below, Ecology suggests listing all cleanup screening levels used for the investigation, developing cleanup standards for all hazardous substances released at the Site that exceeded cleanup screening levels, and delineating those hazardous substances using concentration isopleths to natural background concentrations in both plan view and geologic cross section.

- **Site Delineation:** Site delineation means determining and reporting sufficient data and figures showing the lateral and vertical extent of hazardous substances both above and below proposed cleanup screening levels to natural background levels in soil, soil vapor, groundwater, and ambient and indoor air, irrespective of property boundaries or eventual cleanup levels.

The Report you provided lists hazardous substances detected in soil, soil vapor, groundwater, and air on two parcels, and delineates the likely extents of PCE contamination above proposed cleanup levels in soil and groundwater on those two parcels. The source of contamination mass appears to be at the location of the dry cleaners. It is likely that released hazardous substances may be detectable above natural background concentrations on other adjacent parcels and in rights-of-way in soil, soil gas, groundwater, and ambient air. This information generally needs to be included in the Site remedial investigation.

¹³ Report Page 12

Sufficient site characterization will result in figures showing concentration isopleths of hazardous substances in soil, soil gas and groundwater throughout the MTCA Site in both plan view maps and geologic cross sections, and soil vapor, ambient (outdoor) and indoor air monitoring results showing air quality throughout the Site, including off the Property. Ecology understands that interpolations will be necessary. However, better delineation of the extents of the Site is needed prior to Ecology concurring that the Site remedial investigation is sufficiently complete to propose remedial alternative(s) for the Property.

- **Alternatives to Completing Site Characterization:** Ecology property-specific guidance¹⁴ provides alternatives to collecting Site-specific data sufficient to delineate the Site and select a property specific cleanup where hazardous substances in the environment have not been characterized throughout a Site. While the guidance is applicable to all property cleanups, including this cleanup, Ecology is conservatively protective of human health and the environment when evaluating uninvestigated potential risks at the Site.¹⁵

Consistent with our conservatively protective approach, and after reviewing the information you provided and the available options in our property-specific cleanup guidance, we believe either of the following two options may provide sufficient information to adequately evaluate and include uninvestigated or unreported areas at this Site. Ecology suggests you review these approaches and determine if either may be sufficient to select a cleanup action for a property or properties impacted by the Site:

1. **Conduct additional remedial investigation to characterize the lateral and vertical distribution and concentrations of hazardous substances throughout the Site.** Conduct sufficient additional investigation, and develop plan view maps and geologic cross sections delineating the current extent of hazardous substances in soil, soil gas, indoor and ambient (outdoor) air, and groundwater throughout the Site, using concentration isopleths. Include off-Property areas. Figures should be delineated to background concentrations for all hazardous substances detected at the Site, or information provided how the indicator hazardous substance determination requirements in MTCA were met. Demonstrate that the Site is not commingled with other nearby hazardous releases listed in this opinion. Evaluate those features which affect the fate and transport of hazardous substances released to the environment. Ecology understands that interpolations will be necessary, and suggests you clearly indicate where data were insufficient to delineate the Site with geostatistical accuracy, and where necessary interpolations were made.

¹⁴ Ecology Toxics Cleanup Program, Guidelines for Property Cleanups under the Voluntary Cleanup Program, Publication No. 08-09-044, Revised July 2015, Page 32, Available at: <https://fortress.wa.gov/ecy/publications/SummaryPages/0809044.html>

¹⁵ WAC 173-340-702(3) Cleanup standards and cleanup actions selected under MTCA shall be established that provide conservative estimates of human health and environmental risks that protect susceptible individuals as well as the general population.

- 2. Assume a reasonable worst case scenario for hazardous substances present in uninvestigated areas of the Site.** Instead of conducting all necessary additional remedial investigation, follow Ecology guidance and assume that the releases impact unexplored areas of the Site. In other words, you may assume the worst. While you would still need to provide concentration isopleths of all hazardous substances detected at the Site where contamination has been investigated, you could propose a reasonable worst case scenario for uninvestigated areas of the Site.

A reasonable worst case scenario could include, for example, that hazardous substances detected during the Site remedial investigation and those used during the period when the dry cleaner operated, are assumed present in uninvestigated areas of the Site at concentrations at or above those concentrations detected during the remedial investigation. Worst case assumptions regarding commingled contamination from adjacent sites listed in this opinion would also need to be considered.

It may also be appropriate to collect some additional site-specific data wherever the proposed cleanup would be sensitive to worst case assumptions. Then, a demonstration would need to be made that the Property's preferred remedial alternative remains protective of the assumed reasonable worst case scenario, and of recontamination of the Property from the Site and adjacent sites. Evaluating recontamination might be completed through regular soil, soil gas, groundwater, and air monitoring of hazardous substances from those releases, with a contingency plan describing actions to be taken if contamination is detected above proposed threshold values.

The Site cleanup would also need to be demonstrated not to be hindered by a no further action determination for the Property. This guidance-supported approach may be sufficient to complete the Property-specific cleanup without completing the delineation of the Site.

Air Quality: For either option, also provide sufficient compliance monitoring data and evaluation of the air quality throughout the Site, including at the property where no further action is proposed supporting that the air pathway is incomplete at the standard point of compliance for air quality, and that no further action is appropriate.¹⁶ Provide figures illustrating the extent of hazardous substances detectable in soil gas, and ambient and indoor air. The standard point of compliance for air quality is ambient (outdoor) and indoor air throughout the Site.¹⁷ Ecology suggests obtaining simultaneous sub-slab and ambient air samples in the parking lot, and measuring a broad spectrum of hazardous substances in those samples. Ensure that a conservative tracer such as helium is used and reported to demonstrate that ambient air is not artificially introduced into sub-slab samples.

¹⁶ WAC 173-340-750(7)(a)

¹⁷ WAC 173-340-750(1). WAC 173-340-750(6)

Commercial Air Quality Scenario Requires Institutional Controls: Previous air quality sampling and evaluation appears to have been conducted using a commercial 8 hour collection scenario. Using a commercial exposure scenario anywhere at this Site for air compliance purposes will result in the requirement for a restriction limiting future Site use to solely commercial purposes. A commercial site use restriction should be proposed in any draft environmental covenant for the Property or the Site. Alternately, ensure that additional air quality compliance samples are obtained and evaluated using unrestricted collection procedures provided in Ecology guidance.

Ensure Ecology Receives all Cleanup Documentation: Some groundwater monitoring reports and laboratory results for environmental sampling for the Site remedial investigation and independent interim actions conducted do not appear to be complete in Ecology's electronic Site record, and were not reviewed for this opinion. However, Ecology is currently working primarily from remote locations, and this opinion review has been limited to the readily available electronic site record.¹⁸ You may have submitted hard copy reports to Ecology since our last review in 2011 that were not readily available electronically. We suggest reviewing the reports included for this opinion in Enclosure A. Ensure Ecology's Site record is complete, prior to Ecology's next review.

2. Establishment of Cleanup Standards for the Site.

Cleanup Standards: Under MTCA, cleanup standards consist of three primary components; (a) points of compliance,¹⁹ (b) cleanup levels,²⁰ and (c) applicable state and federal laws.²¹ Ecology has determined the cleanup levels and points of compliance you established for the Site do not meet the substantive requirements of MTCA.

To evaluate cleanup standards, Ecology will need you to propose:

- Points of compliance.
- Cleanup screening levels used for all detected hazardous substances. Ecology expects that many detected hazardous substances may be screened out at this step.
- Appropriate cleanup levels for hazardous substances exceeding cleanup screening levels.
- Applicable local, state and federal laws.

Ecology suggests providing tables and reporting detailing the proposed cleanup standard components.

¹⁸ Ecology's Electronic Document repository for this project is available at <https://apps.ecology.wa.gov/gsp/CleanupSiteDocuments.aspx?csid=386>

¹⁹ WAC 173-340-200 "Point of Compliance."

²⁰ WAC 173-340-200 "Cleanup level."

²¹ WAC 173-340-200 "Applicable state and federal laws," WAC 173-340-700(3)(c)

(a) Points of Compliance. Points of compliance are the specific locations at the Site where cleanup levels must be attained. For clarity, Ecology provides the following table of standard points of compliance that are applicable to this Site. Not all points of compliance are likely needed for use at this 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. ²²
Soil- Protection of Groundwater	Based on the protection of groundwater, the standard point of compliance is throughout the Site. ²³
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. ²⁴
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. ²⁵
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. ²⁶
Air Quality	Based on the protection of air quality, the point of compliance is indoor and ambient air throughout the Site. ²⁷
Sediment	Based on the protection of sediment quality, compliance with the requirements of 173-204 WAC. ²⁸

(b) Cleanup Levels: Cleanup screening levels are used to determine if cleanup standards are necessary for specific hazardous substances detected at a Site. Cleanup levels are the concentrations of a hazardous substance in specific media (soil, water, air, or sediment) that are determined to be protective of human health and the environment, and are needed when cleanup screening levels are exceeded.

At this Site, MTCA Method A and B unrestricted cleanup screening levels were used to evaluate contamination detected in soil, soil gas, air, and groundwater at the Site. MTCA Method A and B may be appropriate for use as cleanup levels, depending on the results of the needed terrestrial ecological evaluation and the completion of the remedial investigation, and the incorporation of applicable laws and regulations. Ecology will need a proposed cleanup level for each hazardous substance detected above proposed cleanup screening levels, for each impacted media.

(c) Applicable Laws and Regulations. In addition to establishing minimum requirements for cleanup standards, applicable local, state, and federal laws may also impose certain technical and procedural requirements for performing cleanup actions.

²² WAC 173-340-740 (6)(d)

²³ WAC 173-340-747

²⁴ WAC 173-340-7490(4)(b)

²⁵ WAC 173-340-720(8)(b)

²⁶ WAC 173-340-730(6)

²⁷ WAC 173-340-750(6)

²⁸ WAC 173-340-760

These requirements are described in WAC 173-340-710. An [online tool](#)²⁹ is currently available to help you evaluate the local requirements that may be necessary.

All cleanup actions conducted under MTCA shall comply with applicable state and federal laws.³⁰ The person conducting a cleanup action shall identify all applicable local, state, and federal laws. The department shall make the final interpretation on whether these requirements have been correctly identified and are legally applicable or relevant and appropriate.^{31,32}

There are three general groups of applicable local, state, and federal laws that need to be included:

- i. Chemical-Specific:** Examples of chemical-specific laws include promulgated concentrations from another rule that result in adjusting proposed cleanup levels. Method A is inclusive of these laws. For Methods B or C, additional evaluation of chemical-specific applicable state and federal laws is required.
- ii. Action-Specific:** Examples of action-specific laws include requirements for obtaining local permits to excavate and/or dispose of contaminated soil, stormwater construction permits, or the requirement to notify local law enforcement in case human remains are discovered during excavation. All MTCA cleanups require evaluation of action-specific applicable state and federal laws.
- iii. Location-Specific:** Examples of location-specific laws include specific requirements for working near wetlands or archeologically important areas. All MTCA cleanups require evaluation of location-specific applicable state and federal laws.

Cumulative Effects: For sites with multiple hazardous substances, MTCA requires assessing the hazard index and the total excess cancer risk under [WAC 173-340-705](#).³³ Please adjust proposed cleanup levels to ensure the hazard index does not exceed a value of HQ=1, and to assure the total excess cancer risk does not exceed a value of 1×10^{-5} . Provide sufficient documentation for Ecology to determine that MTCA requirements for cumulative effects are met.

Terrestrial Ecological Evaluation: A terrestrial ecological evaluation is used to determine if cleanup standards protective of ecological receptors are appropriate for the remedial investigation. Based on the location of this Site, Ecology suggests first determining if the Site may be excluded from additional terrestrial ecological evaluation based on any of the criteria contained in WAC 173-340-7491. Please provide the terrestrial ecological evaluation conducted for this remedial investigation, and provide an evaluation how cleanup levels and points of compliance protective of ecological receptors are appropriate for this cleanup.

²⁹ <https://apps.oria.wa.gov/opas/index.asp>

³⁰ WAC 173-340-710(1)

³¹ WAC 173-340-710(2)

³² Note – MTCA Method A includes ARARs and concentration-based tables (WAC 173-340-700(5)(a)) If MTCA Method A remains in use as proposed Site cleanup levels, identify non-concentration based technical and procedural requirements. If Method B or C cleanup levels are proposed, also include concentration-based requirements.

³³ <https://apps.leg.wa.gov/wac/default.aspx?cite=173-340-705>

3. Selection of Cleanup for the Property.

Ecology has determined that additional remedial investigation is necessary at the Site before selecting a cleanup action for the Property. Once you have completed the additional remedial investigation and evaluated remedial alternatives for the Site, Ecology suggests you submit an updated property-specific no further action request for our review.

Remedial Alternatives for the Parking Lot Parcel

Soil Vapor Extraction: Prior to concurring that soil vapor extraction is not supported as a remedial technology for the parking lot parcel, Ecology requests that you provide recent sub-slab soil vapor data obtained from the parking lot parcel demonstrating that vadose zone soils in the parking lot are not impacted with contaminated soil vapor, and that use of soil vapor extraction would not be cost effective. Ecology recommends simultaneously collecting sub-slab and ambient air data at the parking lot. Without recent soil vapor data obtained when the adjacent soil vapor extraction system has been turned off for some time, Ecology assumes that contaminated soil vapor at the Site is also mobile from the source zone to the vadose zone of the adjacent parking lot. Ecology needs you to evaluate whether or not contaminated soil vapor is present, and include it in remedial alternatives.

Monitored Natural Attenuation: Using monitored natural attenuation alone, the Report provides an estimate of the restoration timeframe based on collected data for the parking lot parcel of approximately twenty additional years. The calculated restoration timeframe you provided does not appear to provide sufficient statistical confidence in the results. Additional data and analysis will be needed.

While ten years is often considered a maximum reasonable restoration timeframe under MTCA³⁴ and many years have already passed for this cleanup, using monitored natural attenuation on the parking lot parcel may be cost effective to eventually meet cleanup standards permanently without the need for an environmental covenant. MTCA provides preference for permanent cleanups. Considering the large and ongoing effort to reduce source zone contamination at this Site, Ecology believes that a longer restoration timeframe may be reasonable for the Site. Also, the restoration timeframe you provided for monitored natural attenuation is correctly based on data already obtained for the cleanup. However, you continue to reduce available contaminant mass in the overall Site's vadose zone through both soil vapor extraction and biostimulation.

Where biostimulation was applied, Site hazardous substance concentrations appear to have decreased by an order of magnitude or more. Our experience is that reducing available contaminant mass can result in increased natural attenuation rates for contaminated soil vapor and groundwater, especially outside the immediate source zone. With additional data, the twenty-year restoration timeframe may be adequately conservative.

³⁴ Ecology, Sediment Cleanup User's Manual (SCUM), Guidance for Implementing the Cleanup Provisions of the Sediment Management Standards, Chapter 173-204 WAC, Publication No. 12-09-057, Second Revision December 2019, Section 12.5

Monitored natural attenuation prior to closure may be shown to provide a permanent cleanup for the parking lot parcel that better meets MTCA requirements, is not disproportionately costly for the permanent benefits to be obtained, and does not require additional remedial investigation or an environmental covenant at this time. We request you evaluate monitored natural attenuation³⁵ as a cleanup alternative for the Property meeting the requirements for a permanent cleanup alternative in the property-specific feasibility study.

The remedy for the parking lot parcel could also be included in the overall Site cleanup. A monitored natural attenuation based cleanup would leave the parking lot parcel open and active as part of the Site, but appears to be supported, and could result in a permanent cleanup costing far less than the current proposed cleanup, for the same environmental benefits. It would not require conducting additional remedial investigation or making worst case assumptions outside of the currently delineated Site for a Property specific cleanup.

Draft Covenant: The draft environmental covenant is an integral part of the preferred remedial alternative. The draft environmental covenant package will be necessary for Ecology to complete our review of the preferred remedial alternative for a Property-specific no further action determination. Ecology suggests including the draft environmental covenant as part of an updated feasibility study.

Before completing the draft covenant package, Ecology first suggests that you review the Toxic Cleanup Program's [Procedure 440A: Establishing Environmental Covenants under the Model Toxics Control Act](#), Revised December 22, 2016,³⁶ and include the following requirements with your next submittal:³⁷

Ecology will need a draft covenant memorializing proposed institutional and engineered controls. Also provide the environmental covenant³⁸ in electronic word-processing-compatible format. Include the following information with the draft covenant:

- a. **Plan View Maps and Geologic Cross Sections:** Include delineated concentration (1) isopleth plan view maps and (2) geologic cross sections showing the extents of remaining contamination at the Site. Include the boundaries of the MTCA facility (Site) and the Property. Indicate where insufficient data are available to delineate to natural background concentrations. These maps will be used to indicate where contamination remains at the Site after closure at the Property. For consistency with other sites in our program, Ecology prefers that data for these maps are provided in units of milligrams per kilogram (mg/kg) for soil, micrograms per liter ($\mu\text{g/L}$) for groundwater, and micrograms per cubic meter ($\mu\text{g/m}^3$) for soil gas, ambient and indoor air.

³⁵ Helpful resource: US Environmental Protection Agency's *Use of Monitored Natural Attenuation for Inorganic Contaminants in Groundwater at Superfund Sites*, August 2015. <https://semspub.epa.gov/work/HQ/177087.pdf>

³⁶ <https://fortress.wa.gov/ecy/publications/documents/1509054.pdf>

³⁷ WAC 173-340-440(4)

³⁸ See the word processing formatted document at: <https://fortress.wa.gov/ecy/publications/SummaryPages/1509054.html>.

- b. **Title Search:** Provide a complete and current (obtained within 6 months) title search as part of Exhibit A, legal description. A current title search is needed to evaluate existing easements on the Property.
- c. **Land Survey:** Provide a land survey of impacted properties and rights-of-way. Include platting and dedications.
- d. **Review the Title Search and Land Survey to Determine if Existing Easements Include Any Area of Proposed Engineered or Institutional Controls:**
 - i. Develop a plan view map or sketch of the locations of existing easements sufficient for Ecology to concur with your evaluation of whether any easements include the areas of proposed engineered or institutional controls.
 - ii. For each easement that intersects proposed controls at the Site, provide either
 - 1) A signed subordination agreement or;
 - 2) Sufficient evaluation of specific easement terms for Ecology to concur that the easement does not impact the integrity of the cleanup.

When reviewing easements, Ecology assumes that Property boundaries extend to the centerline of adjacent rights-of-way.

- f. **Financial Assurance Requirements:** Ecology suggests contacting our Financial Assurance Officer Joanna Richards at joanna.richards@ecy.wa.gov or (360) 407-6754 for direction on evaluating necessary financial assurance requirements.³⁹ Review the financial assurance requirements of WAC 173-340-440(11). Include any needed financial assurance mechanisms and implementation of financial assurances based on the requirements, and sufficient explanation for Ecology to concur.
- g. **Local Government Notification Requirements:** Please document how the local government notification requirements of WAC 173-340-440(10) are completed. Ecology suggests providing the draft covenant and enclosure package to the local land use planning authority for review and comment. If comments are provided, update the draft covenant based on comments, and provide Ecology the correspondence, local government comments, and how those comments were addressed. If no response is received, include sufficient information for Ecology to concur that the correct local government agency was notified, the date they were notified, and that comments were sought. At this Site, Ecology believes that the appropriate local land use planning authority may be the City of Tacoma Planning Department.

³⁹ <https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Dangerous-waste-guidance/Dispose-recycle-or-treat/Financial-assurance>

- h. Long-Term Groundwater Monitoring, Cap and Air Monitoring Plan:** Ecology will need long-term monitoring to ensure the remedy is effective. A long-term groundwater, cap and air monitoring and reporting plan will be needed. That plan needs to also include contingency planning, in the event that the remedy is not effective.

Ecology suggests proposing a fifteen-month confirmation groundwater monitoring frequency for the first five years of post-closure monitoring, so that four quarters of seasonal groundwater results are obtained over the five years prior to Ecology's first required regular review. Additional groundwater monitoring should be proposed at regular intervals in perpetuity. The need for additional actions will be determined during Ecology's regular five-year reviews. Sufficient air monitoring needs to also be proposed.

Reporting on the cap condition may be conducted at the same time as other long term monitoring, and should be detailed in the monitoring plan. An initial inspection with photographs and description of the cap to be monitored should be included with the plan.

The plan should also include provisions to ensure that all environmental data is provided in accordance with WAC 173-340-840(5) and Ecology Toxics Cleanup Program Policy 840 (Data Submittal Requirements).

- i. Contingency Plan:** A long-term soil, groundwater and soil vapor contingency plan is likely required. That plan should describe those actions that will be conducted if long-term monitoring results exceed predetermined levels, or if cap maintenance or other maintenance is needed, such as repairing groundwater monitoring wells or containment caps, and the actions that will be taken if contaminated soil is exposed for any reason.

The contingency plan may be triggered during regular inspection of the cap and monitoring well integrity, or by exceedances of cleanup levels at a point of compliance during long term monitoring. A simple and adequate contingency plan would include and detail, as applicable, that when specific levels are detected during long-term monitoring, additional confirmation sampling would be performed within 30 days of the initial receipt of results. If the cap were damaged, indoor air sampling and analysis would be conducted and the cap repaired. The contingency plan should include exposed contaminated soil and groundwater management requirements.

Additional follow-up groundwater sampling would include all required testing for detected hazardous substances and related compounds. The contingency plan should include proposed analytes for contingency sampling in an analytical schedule. Results of performance and confirmation sampling for a contingency plan would be provided to Ecology within 90 days of the laboratory result date if no exceedances of criteria are detected, or within 30 days of the laboratory report result date if exceedances are detected, or for follow-up confirmation sampling.

If confirmation sampling reveals the continued presence of contaminants above predetermined levels, the contingency plan should include that a work plan to further evaluate conditions beneath the Site would be submitted to Ecology within 60 days of receipt of results of confirmation sampling.

- j. **Rights-of-Way:** If contamination exceeding cleanup standards remains in rights-of-way on the Property, or exceeds soil vapor cleanup screening levels where an engineered control such as a sidewalk is needed to reduce human exposure to contaminated soil vapor in those rights-of-way, a subordination agreement with the right-of-way holder, or good faith effort to obtain a subordination agreement, would normally be required for implementing an environmental covenant.

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 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 you performed is substantially equivalent. Courts make that determination. See RCW 70A.305.080 and WAC 173-340-545.

3. State is immune from liability.

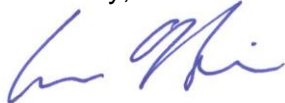
The state, Ecology, and its officers and employees are immune from all liability, and no cause of action of any nature may arise from any act or omission in providing this opinion. See RCW 70A.305.180.

Contact Information

Thank you for choosing to clean up your Property under the 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](#).⁴⁰ If you have any questions about this opinion, please contact me by e-mail at adam.harris@ecy.wa.gov.

Sincerely,



Adam Harris, LHG
Toxics Cleanup Program
Southwest Regional Office

AH/tm

Enclosure: A – Basis for the Opinion: List of Documents

cc by email: Chris Bacha, City of Tacoma, CBacha@ci.tacoma.wa.us
Nicholas Acklam, Ecology, nicholas.acklam@ecy.wa.gov
Mark Gordon, Ecology, mark.gordon@ecy.wa.gov
Joanna Richards, Ecology, joanna.richards@ecy.wa.gov
Ecology Site File

⁴⁰ <https://www.ecy.wa.gov/vcp>

Enclosure A

Basis for the Opinion: List of Documents

1. Law Offices of Gordon, Thomas et al., Re; Titus Chevrolet, 11/10/2008.
2. Aspect Consulting, LLC, Memorandum From Douglas Hillman, To: Dave Shaw, Re: Site Conditions Summary, Former Walker Chevrolet Property 7/14/2009.
3. Aspect Consulting, LLC, *Focused Feasibility Study, Morrell's Dry Cleaner*, Prepared for: David Shaw, Successor to Walker Chevrolet, 3/26/2012.
4. Aspect Consulting, LLC, Memorandum From: Douglas Hillman, To: Dave Shaw: Re: Former Walker Chevrolet, and Morrells Dry Cleaners, Data Gaps Investigation, 5/1/2012.
5. Aspect Consulting, LLC, *Interim Cleanup Action and Design Report, Morrells Dry Cleaners*, 5/16/2014.
6. Aspect Consulting, LLC, *Interim Cleanup Action Construction Completion Report, Morrells Dry Cleaners*, 12/23/2014.
7. Aspect Consulting, LLC, From: Dave Hefner, To: Adam Harris, Ecology, Re: Response to Information Request Dated December 19, 2019, 1/16/2020.
8. Aspect Consulting, LLC, *Property Specific Closure Report for Parking Lot Parcel, Morrells Dry Cleaners*, 8/28/2020.