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STATE OF WASHINGTON DEPARTMENT OF ECOLOGY

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August 26, 2020

Nicholas Bahn Manor Market 3609 164th Avenue Southwest Lynnwood, WA 98087 (<u>Nick.bahn@gmail.com</u>)

Re: Opinion pursuant to WAC 173-340-515(5) on Proposed Remedial Action for the following Hazardous Waste Site:

- Site Name: Manor Market Deli
- Site Address: 3609 164th Avenue SW, Lynnwood, WA 98087
- Facility/Site No.: 77492944
- Cleanup Site ID No.: 11939
- VCP Project No.: NW2621

Dear Nicholas Bahn:

The Washington State Department of Ecology (Ecology) received your request for an opinion on a Remedial Investigation/Feasibility Study (RI/FS) Report for the **Manor Market Deli** facility (Site). This letter provides our opinion. We are providing this opinion under the authority of the Model Toxics Control Act (MTCA), Chapter 70.105D RCW. This opinion applies only to the Site described below.

Description of the Site

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

- Total petroleum hydrocarbons in the gasoline range (TPH-G), benzene, toluene, ethylbenzene, xylenes (BTEX) and methyl tert-butyl ether (MTBE) into the Soil;
- TPH-G, BTEX, MTBE and lead into the Ground Water;
- BTEX, tetrachloroethene (PCE) and trichloroethene (TCE) into the Soil Gas;
- BTEX and PCE into the Indoor Air.

• BTEX into the Air.

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

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

Basis for the Opinion

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

- 1. Associated Environmental Group, LLC, 2020. *Remedial Investigation & Feasibility Study with Opinion Letter Response, Manor Market, 3609 164th St. SW, Lynnwood, WA 98087.* April 29.
- 2. Associated Environmental Group, LLC, 2019. *Remedial Investigation Addendum & Opinion Letter Response, Work Plan and Request for Opinion, Manor Market, 3609 164th St. SW, Lynnwood, WA 98087.* April 5.
- Associated Environmental Group, LLC, 2018. Phase II Environmental Site Assessment; conducted on Spruce Market, 16404 - 36th Avenue West Lynnwood, Washington 98036. August 23.
- 4. Associated Environmental Group, LLC, 2017. Work Plan and Request for Opinion, Manor Market, 3609 164th St. SW, Lynnwood, WA 98087. October 27.
- Associated Environmental Group, LLC, 2016. Remedial Investigation/Model Remedy Review Request, Manor Market, 3609 164th St. SW, Lynnwood, WA 98087. December 29.
- 6. Associated Environmental Group, LLC, 2013. Supplemental Remedial Investigation 3rd Phase Workplan, Manor Market, 3609 164th St. SW, Lynnwood, WA 98087. June 10.
- 7. Associated Environmental Group, LLC, 2012. Supplemental Remedial Investigation 2nd Phase, Manor Market, 3609 164th St. SW, Lynnwood, WA 98087. April 5.
- 8. Associated Environmental Group, LLC, 2011. Supplemental Site Characterization, Manor Market, 3609 164th St. SW, Lynnwood, WA 98087. September 14.
- 9. Envitech, Llc, 2011. *Phase II Environmental Site Assessment, Manor Market, 3609 164th St. SW, Lynnwood, WA 98087.* April 26.

- 10. Envitech, Llc, 2010. *Phase I Environmental Site Assessment, Manor Market, 3609 164th St. SW, Lynnwood, WA 98087.* November 8.
- 11. Environmental Associates, Inc., 1998. *Limited Subsurface Sampling & Testing, The Manor Market, 3609 164th Street Southwest, Lynnwood, Washington.* November.
- 12. Robert M. Rodman, 1998. Site Characterization, Crystal Cleaners, Unit D, 3609 164th St. S.W., Lynnwood, Washington. November.
- 13. Quest, 1998. *Results of Underground Storage Tank Removal and Site Remediation Program at Manor Market, 3609 164th St. SW, Lynnwood, WA.* February 6.

In addition to the above documents, Ecology has issued written opinions in letters dated August 28, 2013, July 3, 2017, December 29, 2017 and September 12, 2019.

A number of these documents are accessible in electronic format from the <u>Site web page</u>^[1]. The complete records are kept in the Central Files of the Northwest Regional Office of Ecology (NWRO) for review by appointment only. Visit our <u>Public Records Request page</u>^[2] to submit a public records request or get more information about the process. If you require assistance with this process, you may contact the Public Records Officer at <u>publicrecordsofficer@ecy.wa.gov</u> or (360) 407-6040.

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

Opinion

Based on a review of the Remedial Investigation and Feasibility Study (RI/FS) and Opinion Letter Responses, Ecology has determined:

• Contamination on the Site is related to three 12,000-gallon gasoline USTs that were decommissioned and replaced in 1998. Soil in place on the Site contains TPH-G, benzene, ethylbenzene, xylenes and MTBE at concentrations exceeding Method A cleanup levels. Single ground water sampling events in 2018 and 2019 indicated that TPH-G, benzene and MTBE are present at concentrations exceeding Method A cleanup levels in several monitoring wells.

The concentration of TPH-G in monitoring well MW-6 located at the south Property line in December 2019 was 1,830 micrograms per liter (μ g/L), the highest measured in the

^[1] <u>https://apps.ecology.wa.gov/gsp/Sitepage.aspx?csid=11939</u>

^[2] <u>https://ecology.wa.gov/publicrecords</u>

well since installation in 2015 and above Method A. Benzene was also detected above Method A at 147 μ g/L, the second highest concentration measured since the well was installed. These exceedances are most likely from a residual source of TPH-G in soil on the Site.

As of December 2019, MTBE still exceeds the Method A cleanup level (20 μ g/L) in monitoring wells MW-1, MW-3 and MW-4 at concentrations ranging from 25 to 700 μ g/L. These exceedances are most likely from a residual source in soil on the Site which may be separate from contamination impacting MW-6, since MTBE has been detected there once, in 2016, at a concentration of 2.4 μ g/L.

• FS Alternative 1 which includes natural attenuation, containment and institutional controls was selected as the recommended remedial alternative. In Alternative 1, containment refers to overburden soil and asphalt that are already in place rather than an engineered cap designed as a component of the remedy.

As per WAC 173-340-360 (2)(e)(iii), cleanup actions should not rely primarily on institutional controls and monitoring where it is technically feasible to implement a more permanent cleanup action for all or a portion of the site. Further, as per WAC 173-340-440(1), institutional controls are measures undertaken to limit or prohibit activities that may interfere with the integrity of an interim action or cleanup action or that may result in exposure to hazardous substances at a site.

Natural attenuation is not considered a remedy in and of itself. Also, the report provides no evidence or Site-specific data to demonstrate that natural attenuation processes are currently active on the Site and thus how it would achieve cleanup of the Site in the estimated restoration time frame of 10 to 15 years. Additionally, it is unclear how the restoration time frame was estimated. Ecology does not consider 10 to 15 years to be a reasonable restoration time frame following a remedial action.

The description of natural attenuation in Section 6.2.1 does not include details about geochemical parameters that would be analyzed for to indicate the progress of natural attenuation other than decreased concentrations of Site contaminants of concern. Without monitoring of geochemical parameters, reduced concentrations of Site contaminants in ground water cannot be attributed to natural attenuation.

• The November 2019 sampling round indicated that benzene and naphthalene in indoor air exceed the Method B indoor air screening levels. It is unclear how Alternative 1 would address this hazardous condition.

- Ecology prefers the selection of a more robust cleanup option such as Alternatives 2 and 3 that will minimize the estimated restoration time frame. The alternative benefit values are nearly twice as much as Alternative 1 according to the disproportionate cost analysis.
- Four consecutive quarters of ground water monitoring data below cleanup levels are needed in order for Ecology to consider a No Further Action determination for the Site or the Property.
- If Alternative 1 is implemented, Ecology suggests that the Site be self-terminated from the VCP and re-enrolled as an independent cleanup once a minimum of four consecutive quarters of ground water data below applicable cleanup levels are achieved. It is unlikely an environmental covenant could be placed on the Property with ground water concentrations exceeding cleanup levels.
- Figure 3: The extent of MTBE in soil has not been delineated as shown on the figure. Besides exceedances in MW-4 and MW-6, only soil in MW-5, MW-10 and MW-11 was analyzed for MTBE and contained non-detectable concentrations. The extent is potentially a much larger area than what is shown on the figure.
- Figures 5, 6 and 7: Data collected in all borings in the cross-section should be shown or included in the notes if all non-detectable results. It would be helpful to also show the most recent ground water monitoring data on the cross-sections.
- Figures 9, 10 and 11: The 575-foot ground water elevation contour line is missing.
- Figure 12: Ground water elevation data is missing from Site monitoring wells MW-7, MW-8 and MW-9 which were not gauged in the December 2, 2019 sampling event. All monitoring wells should be gauged even if they are not being sampled. This data helps to confirm the consistency of the direction of the hydraulic gradient. The ground water elevation measured at MW-6 appears anomalous or mounding, as noted in the past, is occurring at that location.
- Chart 1: Please check the legend for the bar chart color of 'Cost per Benefit Value' and correct if needed.

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 web site: <u>www.ecy.wa.gov/vcp</u>. If you have any questions about this opinion, please contact me at (425) 649-7064 or heather.vick@ecy.wa.gov.

Sincerely,

Henthe North

Heather Vick, LHg NWRO Toxics Cleanup Program

Enclosure (1): A – Description and Diagrams of the Site

cc: Scott Rose, Associated Environmental Group, LLC, (srose@aegwa.com)

Enclosure A

Description and Diagrams of the Site

Site Description

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

Site: The Site is defined as total petroleum hydrocarbons in the gasoline range (TPH-G), benzene, toluene, ethylbenzene and xylenes (BTEX) methyl-tert-butyl-ether and lead (MTBE) in soil and ground water at 3609 164th Street SW in Lynnwood, Washington (Property) (**Figure 1**). In addition, the Site is defined as lead in ground water, BTEX, tetrachloroethene (PCE) and trichloroethene (TCE) into the soil gas, BTEX and PCE into the indoor air, and BTEX into the air.

The rectangular-shaped Property, which corresponds to Snohomish County parcel number 00372900300502, is 0.75 acre in size. Manor Market Deli is located at the eastern end of a strip retail building on the Property that also includes the commercial businesses Access to Money and Tokyo Teriyaki 2. A portable expresso stand, Java Hut, also operates in the southwest corner of the Property.

<u>Area and Property Description</u>: The Property is located in north Lynnwood in an area consisting of primarily residential land uses with some commercial uses in the immediate vicinity of the Property. The Property is located approximately 0.25 mile west of Interstate 405 at the northwest corner of the intersection of 164th Street SW and 36th Avenue West. Manor Market Deli is a convenience store that includes retail gasoline sales using three gasoline pump islands with twin dispensers under one canopy located in the southeast portion of the Property.

Property History and Current Use: The Property was farmland as the first developed use until the current improvements were constructed in 1982. The Property is occupied by a 7,000 square-foot, one-story, multi-tenant retail building.

The Property was formerly the location of Crystal Cleaners, a dry cleaning operation in tenant unit D on the west end of the building.

The Property is currently the location of a strip retail business center and gasoline station (**Figure 2**).

Sources of Contamination: Potential contaminant sources on the Site consist of three former 12,000-gallon, single-walled, gasoline underground storage tanks (USTs) that were installed in 1982. The three original USTs, two dispensers and associated piping and equipment were removed in 1998 when the existing UST system was installed. Soil contaminated with petroleum hydrocarbons was encountered beneath the Property during the upgrade. The former USTs were replaced with two 10,000-gallon double-walled steel tanks and new dispensers, piping and other ancillary equipment with leak detection capabilities. One of the USTs is a dual compartment (4,000- and 6,000-gallon tanks) which holds midand premium-grade gasoline. The other 10,000-gallon UST holds regular-grade gasoline. In 1998, prior to a sale of the Property, due diligence and Site characterization activities were

conducted that determined the presence of soil impacted with tetrachloroethylene (PCE), a dry cleaning solvent, both beneath and outside of the Crystal Cleaners tenant space. A concentration of 180 mg/kg was measured in a soil sample collected at a depth of 2.7 feet below the ground surface (bgs). This concentration exceeded the Method A cleanup level at the time of 0.5 mg/kg as well as the current PCE cleanup level of 0.05 mg/kg. No ground water was investigated at the time; it was thought that the first water-bearing zone on the Property occurred more than 100 feet bgs.

In October 1998, two soil borings were advanced, one (HA-1) using a hand auger inside the Crystal Cleaners tenant space and one (B-1) outside using a drill rig. Soil samples collected at depths of 0.5 feet and 2.5 to 3.5 feet bgs contained non-detectable levels of PCE but the practical quantitation limit was 0.11 mg/kg which is above the Method A cleanup level. A soil sample collected in HA-1 at a depth of 2.7 feet bgs contained 180 mg/kg of PCE.

In November 1998, twelve soil borings were advanced inside and outside the tenant space. One of the borings, AH1a, was drilled in the same location as HA-1 described above with a deeper sample collected at 4.5 feet bgs which contained non-detectable PCE.

Of the remaining 11 soil borings sampled, PCE was detected in two samples at concentrations of 0.012 and 0.015 mg/kg, both below the current Method A cleanup level of 0.05 mg/kg.

Crystal Cleaners was previously enrolled in the VCP as project number NW0179. A No Further Action (NFA) determination was issued by Ecology on January 13, 1999. The NFA included the placement of a Restrictive Covenant that prohibited activities without Ecology's approval that would result in the release of contamination contained as part of the cleanup.

Physiographic Setting: The Site is located in south Snohomish County within the Puget Sound Lowland, an elongated (north-south) basin situated between the Cascade Mountains on the east and the Olympic Mountains on the west. The elevation of the Site is approximately 610 feet above mean sea level.

<u>Surface/Storm Water System</u>: The nearest surface water body to the Site is Lake Serene which is located 0.75 mile to the north. Storm water runoff on and in the vicinity of the Property disperses via sheet flow to catch basins connected to the City of Lynnwood's storm water system.

Ecological Setting: The Property is primarily surrounded by residential and commercial land uses; however, there are two undeveloped greenbelts up to approximately 200 feet wide within 500 feet of the Property and may provide habitat for terrestrial species.

Geology: The Site area is mapped as being underlain by Vashon glacial till. Shallow soil beneath the Site consists of very dense silt mixed with very fine sand and clay. At depths of approximately 25 to 30 feet below ground surface (bgs), fine to coarse sand and gravel were encountered below the till which are most likely Advance outwash deposits.

<u>**Ground Water</u>**: In January 1998, no ground water was encountered to a depth of 12 feet bgs; however, water was observed in the UST excavation basin immediately following UST removal. After approximately 2,800 gallons of water were pumped out, no additional water entered into the excavation even after several days. Based on this, it was concluded that the water entering the excavation was atmospheric and stored in the permeable UST backfill materials rather than ground water.</u>

In 2012, Site investigation activities encountered a perched ground water layer in all three monitoring wells that ranged in depth from approximately 24.5 to 28.5 feet bgs. The direction of flow was determined in March 2012 to be to the northeast which is consistent with topographic elevation contours in the Site vicinity.

Water Supply: The Site area is supplied with water from the Alderwood Water and Wastewater District which receives treated and filtered water from the City of Everett. Everett's raw water supply originates from the Spada Reservoir created by Culmback Dam on the Sultan River approximately 25 miles east of Everett. According to Ecology's well log database, no water supply wells are located within 0.25 mile of the Property.

Release and Extent of Soil, Ground Water and Soil Vapor Contamination:

Soil: Prior to the removal of the original USTs in 1998, a subsurface investigation was conducted in March 1997 to assess potential contamination in soil adjacent to the former tank pad. The investigation consisted of 7 soil borings advanced at locations immediately adjacent to the USTs and dispensers to a maximum depth of 12 feet bgs with soil samples collected and analyzed for TPH-G. No TPH-G or constituents were reportedly detected in any of the samples but a report documenting this work is not available.

When the three former USTs and related fuel dispensing equipment were decommissioned in January 1998, petroleum-contaminated soil (PCS) was encountered during the removal. Approximately 1,000 tons of PCS were excavated and 2,800 gallons of water were removed from the excavation pit. Confirmation soil samples were collected from within the former UST and dispenser areas. Five soil samples were collected at depths of 11 to 13 feet bgs from the former UST excavation area, also one sample from the along the fuel lines and two samples from under the dispenser area. Two soil samples from within the former UST excavation area (one bottom and one sidewall) contained benzene at 0.1 mg/kg, above the MTCA Method A cleanup level of 0.03 mg/kg. None of the samples from the dispenser

area/piping contained detectable petroleum hydrocarbons.

A 2010 Phase I Environmental Site Assessment (ESA) identified concerns related to past operations including gasoline spills, UST noncompliance, UST releases and dry cleaning solvent releases related to the former Crystal Cleaners that operated on the Property. The Phase I ESA concluded that sufficient risk existed to warrant additional investigation of Recognized Environmental Conditions on the Property.

A Phase II ESA conducted in April 2011 focused on the former UST system, specifically the UST pad and fuel dispenser islands. Five soil borings (S-1 through S-5) were advanced using a direct-push drill rig to a maximum depth of 16 feet bgs although refusal was encountered in three of the borings at 9 to 10 feet bgs. No ground water was encountered in any of the five borings. Soil samples collected south of the UST pad in boring S-2 and north of the northeast pump island in boring S-4 contained benzene at concentrations of 0.21 and 0.23 mg/kg, respectively, exceeding the Method A cleanup level of 0.03 mg/kg.

In August 2011 a Supplemental Site Characterization was performed in which four soil borings (B-1 through B-4) were advanced to further assess the subsurface. Borings B-1 and B-4 were advanced adjacent to the present day and former tank pad and borings B-2 and B-3 were advanced adjacent to the fuel dispensers. The borings were advanced to depths of 8 to 26 feet bgs. Only the deepest boring, B-1, encountered ground water at 24 feet bgs. Soil analytical results indicated the presence of PCS at two locations including B-1 south of the previous/current fuel tanks and B-3, adjacent to the northeast pump island.

In February 2012, soil samples were collected from soil borings drilled for monitoring wells MW-1 through MW-3. Soil samples for the boring drilled for MW-1 contained TPH-G and benzene exceeding Method A cleanup levels to a depth of 36.5 feet bgs, the maximum depth explored. At boring MW-3 (northeast of former LUSTs on the eastern side of the Site), benzene was detected at concentrations exceeding the Method A cleanup level at depths of 7 and 24.5 feet bgs.

In May 2015, six soil borings (MW-4 through MW-9) were advanced and completed as monitoring wells. Soil samples collected in MW-4 through MW-6 were analyzed for TPH-G, BTEX and MTBE. Exceedances of MTBE occurred in soil samples from MW-4 and MW-6. In MW-6, a soil sample collected at a depth of 6.5 feet bgs contained 3,230 mg/kg of TPH-G and 1.87 mg/kg of benzene. The sample contained non-detectable levels of MTBE but the detection limit was twice the Method A cleanup level. Soil samples collected from MW-7, MW-8 and MW-9 were only analyzed for VOCs with no detections.

In March 2016, two additional soil borings (MW-10 and MW-11) were advanced and completed as monitoring wells at the east end of the Property. Soil samples collected in the

two borings were analyzed for TPH-G, BTEX and MTBE. Only the sample collected in MW-11 at 5 feet contained 1,160 mg/kg TPH-G, 0.27 mg/kg benzene, 0.95 mg/kg toluene, 8.2 mg/kg ethylbenzene and 19 mg/kg total xylenes. Except for toluene, all of these results exceed the respective Method A cleanup levels.

Ground Water: In the 2011 investigation using four soil borings, ground water was only encountered in the deepest boring, B-1, at 23 to 24 feet bgs. A grab ground water sample collected from this boring contained TPH-G at 2,100 μ g/L and benzene at 170 μ g/L which both exceeded Method A cleanup levels. This ground water sample was also analyzed for VOCs with none detected.

Three monitoring wells (MW-1 through MW-3) were installed in February 2012 to assess whether contamination was present in ground water on the Site. The wells were installed to straddle the water table with screened intervals of 20 to 25 feet. Subsequent ground water sampling conducted in 2012 and 2013 indicated that MW-1 contained benzene and MTBE exceeding Method A cleanup levels. MW-2 and MW-3 contained only MTBE at concentrations below Method A.

Monitoring wells MW-1 and MW-2 were sampled again in June 2015 when newly-installed monitoring wells MW-4 through MW-9 were sampled initially. Monitoring well MW-3 was not sampled; MW-7 through MW-9 were only analyzed for ethylene dichloride and volatile organic compounds (VOCs) with none detected. Samples collected from MW-4 contained benzene and MTBE at concentrations above Method A cleanup levels. MW-6 contained TPH-G and benzene at concentrations above Method A cleanup levels.

Ground water samples collected in 2015 and 2016 indicated two distinct patterns. MW-1 and MW-4 contained only benzene and MTBE at concentrations exceeding Method A cleanup levels. MW-6 contained TPH-G and benzene at concentrations exceeding Method A cleanup levels. These results suggest a similar source in MW-1 and MW-4 and potentially a separate source in MW-6.

Analysis for VOCs in ground water has been conducted once at the following monitoring wells in either 2015 or 2016: MW-3, MW-4, MW-7, MW-8, MW-9 and MW-11. There have been no detections.

Ground water monitoring events conducted in May 2018 and December 2019 included all Site monitoring wells except MW-7 through MW-9. These wells are upgradient and cross-gradient to contamination on the Site and were installed primarily to confirm no ground water impacts occur related to the former Crystal Cleaners.

Single ground water sampling events in 2018 and 2019 indicated that TPH-G, benzene and

MTBE are present at concentrations exceeding Method A cleanup levels in several monitoring wells. Monitoring wells with MTBE exceedances of the Method A cleanup level (20 μ g/L) in December 2019 include MW-1 (32 μ g/L), MW-3 (25 μ g/L) and MW-4 (700 μ g/L).

Interim Remedial Action

In May 2012, an oxygen release compound filter sock was installed in monitoring well MW-1 from a depth of 19 to 34 feet bgs in an effort to treat ground water impacts. The filter sock was removed about a year later as it did not appear to have had much of an effect on benzene concentrations measured in samples from that well.

Site Diagrams



