



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

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July 16, 2013

Mr. Jin Shin
West View Mart
971 Ault Field Road
Oak Harbor, WA 98277-3619

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

- **Name:** West View Mart
- **Address:** 971 Ault Field Road, Oak Harbor, WA 98277
- **Facility/Site No.:** 53233419
- **VCP No.:** NW 2373
- **Cleanup Site ID No.:** 9580

Dear Mr. Shin:

Thank you for submitting documents regarding your proposed remedial action for the **West View Mart** facility (Site) for review by the Washington State Department of Ecology (Ecology) under the Voluntary Cleanup Program (VCP). Ecology appreciates your initiative in pursuing this administrative option for cleaning up hazardous waste sites under the Model Toxics Control Act (MTCA), Chapter 70.105D RCW.

This letter constitutes an advisory opinion regarding a review of submitted documents/reports pursuant to requirements of MTCA and its implementing regulations, Chapter 70.105D RCW and Chapter 173-340 WAC, for characterizing and addressing the following release(s) at the Site:

- Gasoline-range petroleum hydrocarbons (TPH-G) and associated compounds of benzene, toluene, ethylbenzene, xylenes (BTEX) and naphthalene into the Soil.

Ecology is providing this advisory opinion under the specific authority of RCW 70.105D.030(1)(i) and WAC 173-340-515(5).

This opinion does not resolve a person's liability to the state under MTCA or protect a person from contribution claims by third parties for matters addressed by the opinion. The state does



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not have the authority to settle with any person potentially liable under MTCA except in accordance with RCW 70.105D.040(4). The opinion is advisory only and not binding on Ecology.

Ecology's Toxics Cleanup Program has reviewed the following information regarding your proposed remedial actions:

1. Associated Environmental Group, LLC (AEG), 2013. *Work Plan for Supplemental Remedial Investigation, West View Mart, 971 Ault Field Road, Oak Harbor, Washington.* April 16.
2. AEG, 2011. *Quarterly Groundwater Events – October 2010/February 2011 Report, West View Mart, 971 Ault Field Road, Oak Harbor, Washington.* February 28.
3. AEG, 2010. *Supplemental Remedial Investigation conducted on West View Mart, 971 Ault Field Road, Oak Harbor, Washington.* August 6.
4. AEG, 2009. *Subsurface Investigation, conducted on West View Mart, 971 Ault Field Road, Oak Harbor, Washington.* December 22.
5. AEG, 2007. *Phase I Environmental Site Assessment, conducted on West View Mart, 971 Ault Field Road, Oak Harbor, Washington.* December 28.
6. AEG, 2007. *Vapor Extraction System/Sampling and Analysis, West View Mart, 971 Ault Field Road, Oak Harbor, Washington.* August 8.
7. Slotta Design and Construction, 2004. *Results of Vapor Extraction System Monitoring, West View Mart Inc., 971 Ault Field Road, Oak Harbor, Washington 98277.* August 8.
8. Edge Analytical, 1996. *Independent Remedial Action Report for West View Mart, Ault Field Road, Oak Harbor, WA.* December 10.
9. Edge Analytical, 1995. *Status Report of Petroleum Cleanup – West View Mart, 971 Ault Field Road, Oak Harbor, WA.*
10. Materials Testing and Consulting, Inc., 1992. *Results of the UST Site Assessment, West View Mart, 971 Ault Field Road, Oak Harbor, Washington, 98277.* June.

The reports listed above will be kept in the Central Files of the Northwest Regional Office of Ecology (NWRO) for review by appointment only. Appointments can be made by calling the NWRO resource contact at (425) 649-7235 or sending an email to:

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nwro_public_request@ecy.wa.gov.

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

- Gasoline-range petroleum hydrocarbons (TPH-G) and associated compounds of benzene, toluene, ethylbenzene, xylenes (BTEX) and naphthalene into the Soil.

The Site is more particularly described in **Enclosure A** to this letter, which includes a detailed Site diagram. The description of the Site is based solely on the information contained in the documents listed above.

Based on a review of supporting documentation listed above, pursuant to **requirements contained in MTCA and its implementing regulations, Chapter 70.105D RCW and Chapter 173-340 WAC, for characterizing and addressing the following release(s) at the Site, Ecology has determined:**

- The primary objective of the Supplemental Remedial Investigation (RI) is to collect data with which a Method B soil cleanup level will be calculated for the Site using the fractionated analytical VPH/EPH method which divides the TPH mixture into equivalent carbon numbers.
- A secondary objective of the Supplemental RI is to assess the current levels of petroleum hydrocarbon contamination previously detected in soil at the Site. For this reason, it is important to site the soil borings as close as possible to previous boring locations where the most elevated levels of petroleum contamination in soil were detected.
- Four soil borings will be advanced using hollow stem auger (HSA) drilling methods to a maximum depth of 25 feet below the ground surface (bgs). Soil samples will be collected at five-foot intervals or based on field screening of HSA cuttings. A total of 20 soil samples (5 per boring) will be analyzed for TPH-G, BTEX and naphthalene. One sample per boring will be split with half being analyzed using the NWTPH-Gx method and the other half being analyzed using the VPH/EPH method. The split sample will be collected from the depth interval suspected of being the most contaminated based on field screening.
- The four soil borings will be sited in locations where the highest concentrations of TPH-G, BTEX and naphthalenes were previously located. These locations include:
 - 1) Between EW-4 and EW-5 in the northwest area of the Property at depths of 4 to 10 feet bgs

- 2) Between EW-6 and EW-7, east of the fuel island at depths ranging from 6.5 to 10 feet bgs
 - 3) Between the Tattoo Shop and the West View Mart building at a depth approximately 10 feet bgs
 - 4) East of the West View Mart building at depths of approximately 10 to 15 feet bgs
- No figure was provided in the Work Plan showing the proposed soil boring locations described above. Insufficient information is provided in the descriptions to enable the actual drilling location to be pinpointed. Ecology has the following recommendations regarding the described soil boring locations:
 - 1) No soil data was collected from the extraction well borings. The previous locations that exhibited elevated levels of TPH-G and BEX were B-4 and MW-4. The soil boring in this area should be between those two locations rather than between EW-4 and EW-5.
 - 2) Previous soil samples between EW-6 and EW-7 included B-5 in 2009 and MW-3 in 2010. The soil boring should be as close to B-5 as possible.
 - 3) The soil boring between the Tattoo Shop and the West View Mart building at a depth approximately 10 feet bgs should be as close to B-2 as possible. At this location, how will drilling into tank backfill material be avoided?
 - 4) The soil boring east of the West View Mart building at depths of approximately 10 to 15 feet bgs should be as close to B-1 as possible.
 - Ecology's April 29, 2011 Further Action letter stated that the lateral extent of contamination in the soil had not been fully determined, including off-Property areas to the east and west. None of the soil boring locations proposed in the Work Plan will further delineate contamination on the Site. In addition, soil contamination to the northwest of EW-4 and MW-4 has not been delineated laterally.
 - A Simplified Terrestrial Ecological Evaluation (TEE) was conducted for the Site in which the area of contiguous, undeveloped land on the Site or within 500 feet of any area of the Site was entered as 0.25 or less acre. Due to the proximity of undeveloped land to the Site, the area of contiguous, undeveloped land is most likely in excess of 0.25 acre.

This opinion does not represent a determination by Ecology that a proposed remedial action will be sufficient to characterize and address the specified contamination at the Site or that no further remedial action will be required at the Site upon completion of the proposed remedial action. To obtain either of these opinions, you must submit appropriate documentation to Ecology and request such an opinion under the VCP. This letter also does

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not provide an opinion regarding the sufficiency of any other remedial action proposed for or conducted at the Site.

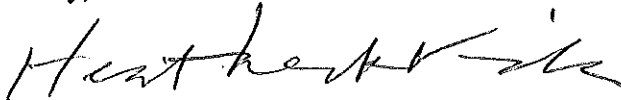
Please note that this opinion is based solely on the information contained in the documents listed above. Therefore, if any of the information contained in those documents is materially false or misleading, then this opinion will automatically be rendered null and void.

The state, Ecology, and its officers and employees make no guarantees or assurances by providing this opinion, and no cause of action against the state, Ecology, its officers or employees may arise from any act or omission in providing this opinion.

Again, Ecology appreciates your initiative in conducting independent remedial action and requesting technical consultation under the VCP. As the cleanup of the Site progresses, you may request additional consultative services under the VCP, including assistance in identifying applicable regulatory requirements and opinions regarding whether remedial actions proposed for or conducted at the Site meet those requirements.

If you have any questions regarding this opinion, please contact me at (425) 649-7064 or hvic461@ecy.wa.gov.

Sincerely,



Heather Vick, LHg
NWRO Toxics Cleanup Program

Enclosures: (1) A – Site Description and Site Diagrams

cc: Michael Chun, Associated Environmental Group, LLC
 Sonia Fernandez, VCP Coordinator, Ecology

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 associated with soil contaminated with petroleum hydrocarbons located at 971 Ault Field Road in Oak Harbor, Washington (Property). Gasoline was released to soil at the Property and TPH-G and BTEX in soil comprise the Site. The Property and the Site are shown on the attached Site diagrams.

Area Description: The Property is bounded by Ault Field Road and undeveloped forest land on the north. Surrounding properties consist of a variety of commercial and retail businesses. Whidbey Island Naval Air Station occupies the entire area north of Ault Field Road. A warehouse building is located on the south, an auto rental office on the east, and a tattoo business on the west.

Property History and Current Use: The Property was originally developed in the late 1940s and has operated as a gasoline station since 1951. An automobile repair shop operated on the Property from 1951 to 1988, when the shop building was converted to a convenience store which has been in operation to the present.

The building used oil for heating until approximately 1968 when it was converted to electric heat. From the 1980s to the present, the building has been heated by propane stored in a 150-gallon AST located on the south side of the convenience store.

The Property is currently occupied by a gasoline service station on the northern portion, an auto paint shop located adjacent to the south of the convenience store building, and a warehouse building on the far southern end of the Property.

Sources of Contamination: Potential contamination sources consist of leaks and spills associated with the USTs, fuel product pipelines and dispenser islands.

Originally, there were five underground storage tanks (USTs) on the west side of the store building, including two 1,000-gallon diesel USTs, two 2,000-gallon gasoline USTs, and one 500-gallon heating oil or waste oil tank. In the late 1970s, an 8,000-gallon unleaded gasoline UST was added on the east side of the store building. In addition, there were two in-ground hydraulic hoists and a sump in association with the automobile repair shop.

In 1991, the five USTs located west of the convenience store were removed. Petroleum-contaminated soil at concentrations exceeding MTCA cleanup levels was left in place. Releases from the former USTs and resulting petroleum-contaminated soil are sources on the Site.

Physiographic Setting: The Site is located within the Puget Sound Lowland Physiographic Province, a north-south trending structural and topographic depression is bordered on its west side by the Olympic Mountains, and to the east by the Cascade Mountain foothills. The Puget Sound Lowland is underlain by Tertiary volcanic and sedimentary bedrock, and has been filled

to the present day land surface with Pleistocene glacial and nonglacial sediments. The land surface of Whidbey Island is covered with recent glacial deposits which reach several thousand feet in thickness.

The Site and surrounding area are located above Clover Valley on the north end of Whidbey Island. The elevation of the Property is approximately 155 feet above mean sea level. The land surface in the vicinity of the Property slopes to the north-northeast; the Property is relatively flat.

Surface/Storm Water System: Surface water runoff in the area is generally collected in drainage ditches and likely discharges to the Strait Juan de Fuca located approximately 1½ miles west of the Property.

Ecological Setting: There is extensive undeveloped forest land in the vicinity of the site, which provides terrestrial habitat in the area.

Geology: Geologic materials underlying the Site area consist of the Vashon till which overlies the Esperance Sand and the Whidbey Formation. On the Property, fill materials were encountered in the areas excavated for the former USTs located in the west and east sides of the convenience store. The fill consists of silty, gravelly sand and extends to depths of approximately 9 to 12 feet below the ground surface (bgs) in those areas. Glacial till occurs on the Property beneath the fill to depths of about 19 feet bgs. Dense, well-sorted sand underlies the till to a depth of 30 feet bgs.

Ground Water: Ground water was only encountered within the backfill at boring B-1 located east of the convenience store. This water most likely occurred within sand used to backfill the excavation pit following previous tank removal activities. Due to the presence of glacial till on the Property, there is limited ground water recharge. Observations from the borings on the Property, which extended to a total depth of 44.5 feet bgs, and from geotechnical borings in the area, indicate little or no ground water within this depth range. Fully-saturated conditions most likely occur below 44.5 feet bgs, the maximum depth of exploration. Based on topographic contours, the ground water flow direction at the Property is most likely to the north-northwest.

In addition, monitoring wells MW-1 through MW-4, installed in June 2010 during the Supplemental Remedial Investigation and screened from approximately 10 to 30 feet bgs, were all found to be dry in July and October, 2010 and February 2011.

A drinking water well drilled in 1959 in the same quarter-quarter section as the Site encountered gravel to 9 feet bgs, hardpan to 16 feet bgs and dry sand to 55 feet bgs. The static water level in the borehole occurred at a depth of 123.5 feet bgs.

Release and Extent of Contamination - Soil: Six original USTs were decommissioned in November 1991. The tanks were located in two basins, one on the west side of the West View Mart building and one on the east side. Five of the tanks were removed from the UST basin on the west side of the building and included two 1,000-gallon diesel USTs, two 2,000-gallon gasoline USTs, and one 500 gallon heating oil or waste oil tank. Soil encountered during removal of the tanks had a heavy petroleum sheen and odor. Petroleum contaminated soil was

overexcavated to an undocumented depth and stockpiled on the Site.

Excavation was limited due to close proximity to the convenience store and a building to the west. As a result, petroleum-contaminated soil was left in place however no drawings showing the excavated area and locations of samples collected area available. No ground water was encountered. A Site Assessment was conducted by Materials Testing and Consulting, Inc. at the time of the tank decommissioning and a report produced dated 1992. Ecology has not yet obtained a copy of the report. Partial information from the report indicates that soil samples were collected from excavation pits and soil borings drilled for the VES extraction wells. Two of the borings, TH-5 and TH-6, drilled at the northeast and southeast corners respectively of the new pump island contained TPH-G at concentrations ranging from 486 to 1,125 mg/kg and benzene ranging from 16,482 to 29,275 mg/kg at depths of 23 to 24.5 feet bgs.

Contaminated soil was also encountered during excavation of the new tank basin in the north portion of the Property construction in the area north of the pump island. Four new USTs were installed, including three 6,000-gallon gasoline USTs (regular, plus and super grade tanks) and one 2,000-gallon diesel UST. All of the new USTs were single-walled steel tanks with an epoxy resin coating. The associated product lines were single-walled suction style piping. Contaminated soil reportedly remained in the basin.

The sixth UST, an 8,000-gallon gasoline tank, was removed from the east side of the building. Soil encountered during removal smelled of petroleum. The excavation pit of the tank was structurally limited to the east and west by West Mart building and the Property boundary. However, the pit was reportedly overexcavated and confirmation samples were collected that indicated the contaminated soil had been removed. In total, approximately 300 cubic yards of contaminated soil was removed from the Site following the removal of the six USTs.

In 1991, a vapor extraction system (VES) was installed on the Property shortly after UST removal and soil excavation were completed. The VES was installed to address remaining petroleum-contaminated soil which was not accessible for excavation. The VES consisted of nine extraction wells installed west, north and east of the West View Mart building and connected by horizontal piping. The horizontal piping was connected to an air compressor located west of the West View Mart building. By 1995, readings from the VES had decreased from 2,000 ppm to 25 ppm indicating that the system had some effect for the area of influence.

A 2004 evaluation of the VES concluded that the system was continuing to remove concentrations of petroleum hydrocarbon constituents and that concentrations had continued to decrease. However, the evaluation also concluded that a residual volume of petroleum hydrocarbon-impacted soil likely existed in all of the VES well locations. The evaluation report stated it was likely that there was soil underlying the Site that exceeded MTCA cleanup levels. The evaluation report recommended that the maintenance be performed on the VES and that an air sparging system be installed to enhance the recovery. It is unclear how long the VES system was in operation after 2004. Vapor samples collected in 2007 from four of the nine VES wells indicated that one of the wells contained TPH-G and BTEX suggested that soil contamination was still present in the area influenced by the VES. The VES was in need of maintenance and repair at that time.

A Subsurface Investigation was conducted in 2009 to determine if petroleum-contaminated soil remained on the Site in concentrations exceeding MTCA cleanup levels following the VES remedial effort. Five out of 6 soil borings advanced contained TPH-G and BTEX exceeding Method A cleanup levels with TPH-G up to 7,720 mg/kg and benzene up to 2.8 mg/kg.

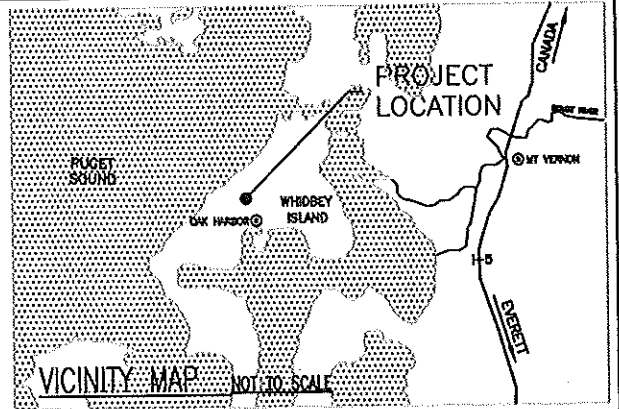
A Supplemental Remedial Investigation conducted in 2010 consisted of the advancement of four soil borings and installation of four monitoring wells in the borings. Data collected in 2010 indicated petroleum-contaminated soil containing TPH-G and BTEX above Method A cleanup levels remained primarily within the upper 15 to 20 feet bgs in the areas described above. No other petroleum-associated compounds were detected at levels exceeding cleanup levels.

Extent of Contamination.– Ground Water: Ground water impacts from the Site are unknown as ground water was not encountered to the maximum depth explored which was 44.5 feet bgs. No water was encountered in four monitoring wells installed in 2010 screened to 25 to 30 feet bgs.

The distance between the base of the deepest soil contamination (25 feet bgs) and the estimated minimum depth to saturation (greater than 44.5 feet bgs) is approximately 19.5 feet as well as the limited permeability of the subsurface materials present at the Site indicate that ground water below the Site is most likely not impacted.

Site Diagrams

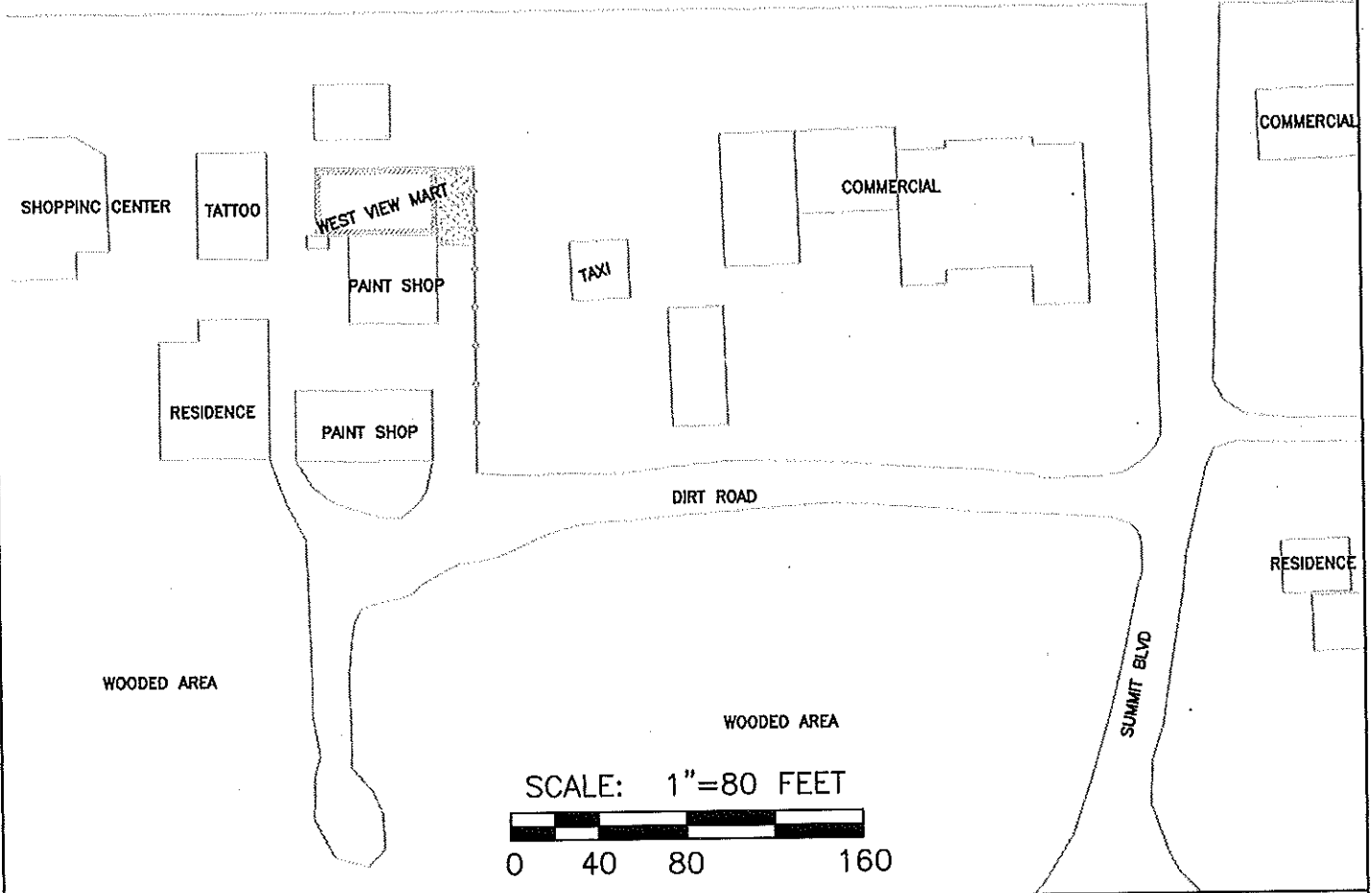
Notes: (a) The locations of all features shown are approximate.
 (b) This drawing is for information purposes.
 It is intended to assist in showing features discussed in
 an attached document.
 Reference: Drawing created from sketch provided by AEGs' personnel.



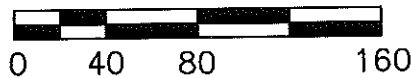
ELECTRICAL ENCLOSURE

WOODED AREA

AULT FIELD ROAD



SCALE: 1"=80 FEET



ASSOCIATED ENVIRONMENTAL GROUP, LLC
 1018 CAPITOL WAY S, Suite 201
 Olympia, WA 98501
 (360) 352-9835 Fax (360) 352-8184

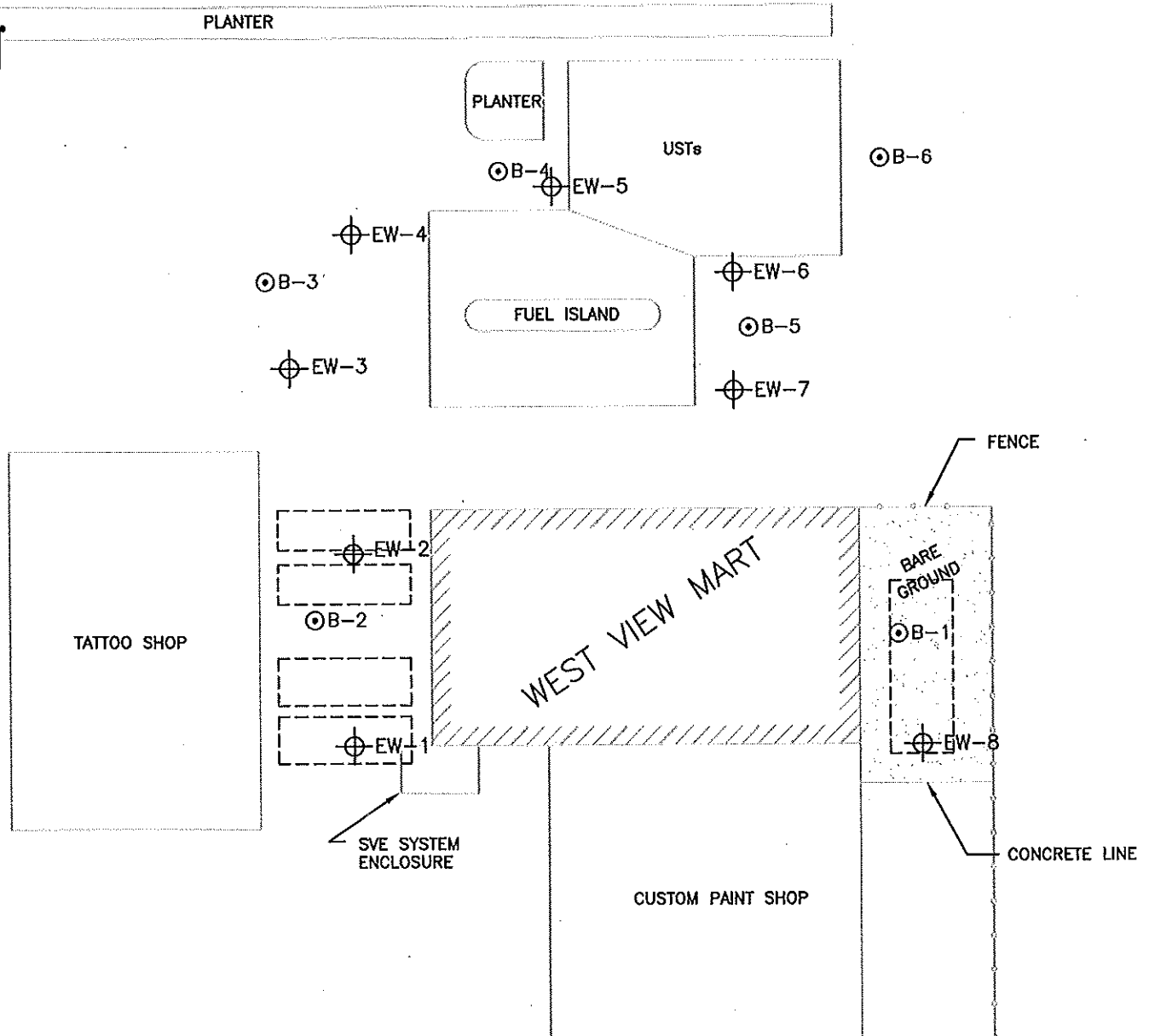
FIGURE 1
 SITE & VICINITY MAP

WEST VIEW MART
 971 AULT FIELD RD
 OAK HARBOR, WA

Project# 07-199	Date: 04/18/13
File: WEST VIEW MART	Sheet 1 OF 3

Notes: (a) The locations of all features shown are approximate.
 (b) This drawing is for information purposes.
 It is intended to assist in showing features discussed in
 an attached document.
 Reference: Drawing created from sketch provided by AEGs' personnel.

AULT FIELD RD



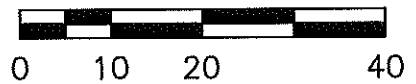
LEGEND

⊙ B-1 SOIL BORING (AEG 2009)

⊕ EW EXTRACTION WELL

⌚ FORMER UST (LOCATION APPROXIMATE)

SCALE: 1"=20 FEET



ASSOCIATED ENVIRONMENTAL GROUP, LLC
 1018 CAPITOL WAY S, Suite 201
 Olympia, WA 98501
 (360) 362-9835 Fax (360) 352-8184

FIGURE 2
 SITE PLAN

WEST VIEW MART
 971 AULT FIELD RD
 OAK HARBOR, WA

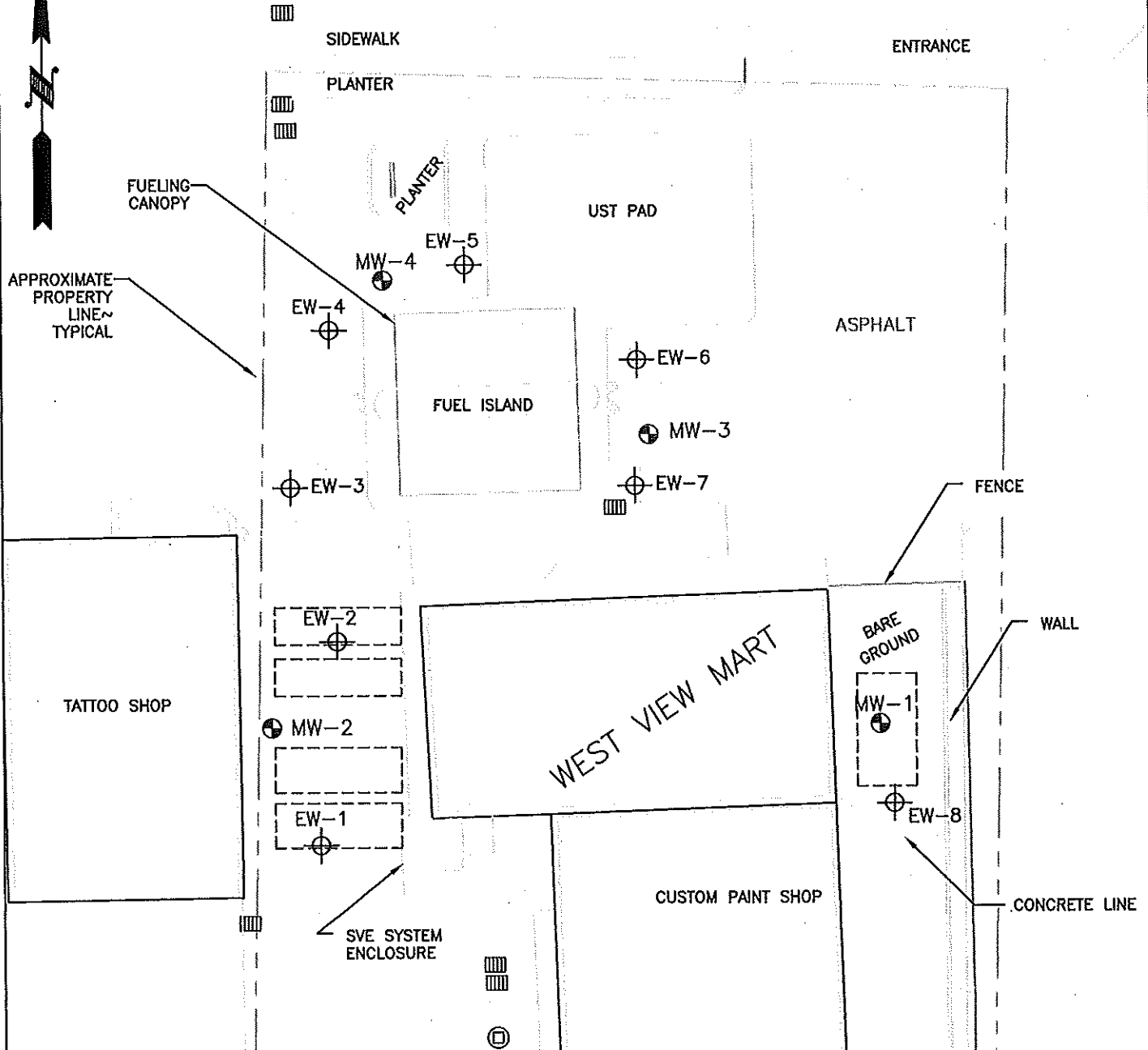
Project# 07-282	Date: 04/18/13
File: WEST VIEW MART	Sheet 2 OF 3

Notes:

- (1) The locations of all features shown are approximate.
- (2) This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document.

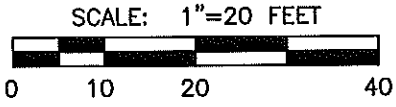
Reference: Drawing created from surveyor's drawing by PACIFIC GEOMATIC SERVICES and notes provided by AEG, LLC.

AULT FIELD RD



LEGEND

- ⊕ MW-1 MONITORING WELLS BY AEG
- ⊕ EW-1 EXTRACTION WELL
- ⊔ FORMER UST (LOCATION APPROXIMATE)
- ⊔ CATCH BASIN



ASSOCIATED ENVIRONMENTAL GROUP, LLC
 1018 CAPITOL WAY S, Suite 201
 Olympia, WA 98501
 (360) 352-9835 Fax (360) 352-8164

FIGURE 3
 SITE PLAN - RI

WEST VIEW MART
 971 AULT FIELD RD
 OAK HARBOR, WA 98277

Project# 07-199	Date: 2/28/2011
File: WEST VIEW MART	Sheet 3 OF 3

