EHS–International, Inc.
1011 SW Klickitat Way, Suite 104
Seattle, WA 98134
Phone 206-381-1128
Toll Free 800-666-2959
Fax 206-254-4279

April 24, 2015

Mr. Nick Chou
Capital Projects
Edmonds School District #15
20420 68th Avenue W
Lynnwood, Washington 98036-7400

Re: Revised Work Plan
Remedial Investigation and Feasibility Study Services – Lot 3, Lot 4, and Lot 7
Edmonds School District Maintenance and Transportation Facility
2927 Alderwood Mall Boulevard
Lynnwood, WA
(EHSI Project No. 10719)

Dear Nick:

We are pleased to present our revised work plan for conducting a remedial investigation and feasibility study (RI/FS) at the Edmonds School District (ESD) Maintenance and Transportation Facility located at 2927 Alderwood Mall Boulevard in Lynnwood, Washington (subject property; See Figure 1).

PROJECT UNDERSTANDING

The subject property is a 9.17-acre single tax parcel made up of three lots (Lot 3, 4, and 7). The location of the three lots and the subject property boundary is shown in Figure 2. ESD has operated a transportation bus facility on the subject property from 1955 to the present. Prior to the District's ownership and use of the property, records indicate Lot 4 was occupied by Tregoning Industries, a boat maintenance facility. ESD entered the Voluntary Cleanup Program (VCP) on April 15, 2013, due to a documented release from a waste oil underground storage tank (UST) located adjacent to the bus and vehicle maintenance building on the eastern portion of Lot 4. As part of the VCP process, Ecology generated an Opinion Letter on July 30, 2013, requesting a summary of previous investigations (RI Summary Report) to better understand if the subject property had been adequately characterized. EHSI met with ESD on August 21, 2013 to go over Ecology's recommendation and discuss future steps in the VCP process (feasibility study, cleanup action plan, remedial design, and remedial action) and potential cost of cleanup and funding options.

EHSI completed the RI Summary Report and submitted it to ESD and Ecology on December 18, 2013. Subsequently, after consultation with Ecology and ESD, EHSI developed this Revised Work Plan for implementation of the RI and feasibility stages of the cleanup. It is provided herein for your approval.

REMEDIAL INVESTIGATION

The purpose of the Remedial Investigation (RI) will be to collect data necessary to characterize the site for the purpose of developing and evaluating remedial alternatives. The RI will focus on completing a final extent of contamination determination in the bus and vehicle maintenance area (eastern portion of Lot 4), evaluating areas of potential environmental concern in the western portion of Lot 4, Lot 3, and Lot 7, conducting a quarterly groundwater sampling and monitoring program, and initiating an interim remedial action involving floating product removal from AB23.

EHSI's sampling approach and rationale involves the use of a Geoprobe drill rig in tandem with a mobile lab. The main purpose of using a mobile lab is so soil and groundwater samples can be analyzed in real time so adjustments can be made to the field investigation program. A smaller portion of the samples will be tested for additional parameters at a stationary lab on 24 to 48 hour turnaround time to ensure complete characterization. If soil or groundwater data exceed the WA State Model Toxics Control Act (MTCA) Method A or B cleanup levels, additional borings or monitoring wells may be installed.

The soil samples will be selected for chemical analysis based on one or more of the following:

- Area of suspected contamination based upon field observations (photoionization device [PID], odors, visual staining);
- Within the capillary fringe zone or at the water table;
- At the contact between the overlying fill/alluvium and till layer; and
- In the saturated zone of the deeper water-bearing zone within the till layer.

The groundwater samples will be selected for chemical analysis based on one or more of the following:

- Area of suspected contamination based upon field observations (photoionization device [PID], odors, visual staining);
- At the top of the water table;
- At the base of the perched-water bearing zone on top of the till layer; and
- Within the deeper water-bearing zone within the till layer.

Our sampling approach also involves test pits in the western areas that reportedly were backfilled with unknown debris. The test pits will help evaluate the nature of the backfill material. If contamination is suspected, subsurface samples will be collected.

Testing for remedial design parameters will be conducted for one or more of the following: grain size analysis, total organic carbon, ethane/ethane, methane, hydrogen, chloride, nitrate, manganese, ferrous iron, sulfate, and alkalinity.

All of the Geoprobe locations and groundwater wells will be surveyed.

Details and assumptions in regards to the RI program are presented below.

TASK 1 – BUS AND VEHICLE MAINTENANCE AREA (EASTERN PORTION OF LOT 4)

EHSI's scope addresses six of the eight data gaps that were presented in Section 9.0 and Figure 13 of the RI Summary Report. The remaining two data gaps (Data Gap Area #5 - New UST Release and Data Gap Area #7 - Fuel Pump Island and Product Line Release) were not included in our scope because of underground obstructions (existing USTs and product piping in the way of known or suspected contaminated areas). The scope of work also addresses additional areas of potential concern based upon the results of the Phase I ESA Update: solvent tank and drain system associated with the former auto paint shop; diesel spill excavation/former scrap metal area; waste oil/battery storage area; and former septic tank area adjacent to the bus and vehicle maintenance building. A map showing the location of the proposed soil borings and groundwater monitoring wells is shown in Figure 3.

Data Gap Area #1 – Hydraulic Lifts and Lube Pit Area

- Soil and groundwater samples will be collected beneath the bus and vehicle maintenance building as well as the steam cleaning station to better define the extent of contamination in soil and groundwater.
- The soil and groundwater samples will be collected using a Geoprobe drill rig and tested for the known contaminants of concern at the site (Total Petroleum Hydrocarbons (TPH) and Volatile Organic Compounds (VOCs)). The soil samples will be collected at discrete intervals from the continuous core sampling device. Groundwater samples will be collected from a hydro-punch device or a temporary monitoring well.
- A mobile lab will be used to test the soil and groundwater samples in real time so adjustments can be made to the planned field program.

Data Gap Area #2 – Unknown UST and Former Pump Island Area

- Conduct a Ground Penetrating Radar (GPR) survey on the north side of the bus and vehicle maintenance building to evaluate if a UST is located in this vicinity.
- Collect soil and groundwater samples in this area to evaluate the potential impact from the unknown UST and the former pump island.
- The soil and groundwater samples will be collected using a Geoprobe drill rig and tested on site for TPH and VOCs. The soil samples will be collected at discrete intervals from the continuous core sampling device. Groundwater samples will be collected from a hydro-punch device or a temporary monitoring well.
- A mobile lab will be used to test the soil and groundwater samples in real time so adjustments can be made to the planned field program.

Data Gap Area #3 – Auto Paint Shop Gasoline UST

- Conduct a GPR survey to locate the abandoned gasoline UST and other components of the tank system (product lines, etc.).

- Collect soil and groundwater samples around the perimeter of the UST and along product lines. The soil and groundwater samples will be collected using a Geoprobe drill rig and tested on site for TPH and VOCs. The soil samples will be collected at discrete intervals from the continuous core sampling device. Groundwater samples will be collected from a hydro-punch device or a temporary monitoring well.
- A mobile lab will be used to test the soil and groundwater samples in real time so adjustments can be made to the planned field program. If contamination is detected, additional testing for total lead will be conducted at an off-site stationary lab on same day turn-around-time to expedite the field process.

Data Gap Area #4 – Abandoned Wells

- Collect groundwater samples in the vicinity of the wells to establish water quality in this area.
- The groundwater samples will be collected using a Geoprobe drill rig and tested on site for TPH and VOCs. Groundwater samples will be collected from a hydro-punch device or a temporary monitoring well.
- A mobile lab will be used to test the soil and groundwater samples in real time so adjustments can be made to the planned field program.

Data Gap Area #6 – Former UST Release

- Conduct a GPR survey north of the fuel pump islands to locate disturbed soil and the location of the former UST excavation.
- Collect soil samples from the estimated depth of the former excavation.
- The soil samples will be collected using a Geoprobe drill rig and on site tested for TPH.
- A mobile lab will be used to test the soil and groundwater samples in real time so adjustments can be made to the planned field program.

Data Gap Area #8 – Replacement of Groundwater Well B-7

- The replacement of groundwater well B-7 is presented in Task 3 of this proposal.

Phase I ESA Update Area of Concern – Solvent Tank and Drain System in Auto Paint Shop

- Soil and groundwater samples will be collected next to the solvent tank and drain inside the auto paint shop and next to the drain along the southern perimeter of the building to evaluate subsurface conditions in this area.
- The soil and groundwater samples will be collected using a Geoprobe drill rig and tested on site for TPH and VOCs. The soil samples will be collected at discrete intervals from the continuous core sampling device. Groundwater samples will be collected from a hydro-punch device or a temporary monitoring well.
- A mobile lab will be used to test the soil and groundwater samples in real time so adjustments can be made to the planned field program.

Phase I ESA Update Area of Concern – Diesel Spill Excavation/Former Scrap Metal Area

- Soil and groundwater samples will be collected in the area where the diesel spill was reportedly excavated and where scrap metal used to be stored.

- The soil and groundwater samples will be collected using a Geoprobe drill rig and tested on site for TPH and off site for total Metals. The soil samples will be collected at discrete intervals from the continuous core sampling device. Groundwater samples will be collected from a hydro-punch device or a temporary monitoring well.
- A mobile lab will be used to test the soil and groundwater samples for TPH in real time so adjustments can be made to the planned field program. In addition, soil and groundwater samples will be tested for total metals by an off-site stationary lab with same day turn-around to expedite the field process.

Phase I ESA Update Area of Concern – Waste Oil/Battery Storage Area

- Soil and groundwater samples will be collected in the waste oil/battery storage area.
- The soil and groundwater samples will be collected using a Geoprobe drill rig and tested on site for TPH and VOCs. Additional testing will also be conducted for parameters associated with battery storage (pH, sulfate, sulfite, and metals [lead, cadmium, nickel, copper, zinc, arsenic, chromium) and waste oil (benzene, toluene, ethylbenzene, xylenes [BTEX]; semi-volatile organic chemicals [SVOCs], and polychlorinated biphenyls [PCBs]). The soil samples will be collected at discrete intervals from the continuous core sampling device. Groundwater samples will be collected from a hydro-punch device or a temporary monitoring well.
- A mobile lab will be used to test the soil and groundwater samples for TPH and VOCs in real time so adjustments can be made to the planned field program. In addition, soil and groundwater samples will be tested for the parameters associated with battery storage and waste oil by an off-site stationary lab with same day turn-around to expedite the field process.

Phase I ESA Update Area of Concern – Former Septic Tank Adjacent to Bus and Vehicle Maintenance Building

- Soil and groundwater samples will be collected next to the location of the former septic tank to evaluate subsurface conditions in this area.
- The soil and groundwater samples will be collected using a Geoprobe drill rig and tested on site for TPH and VOCs. The soil samples will be collected at discrete intervals from the continuous core sampling device. Groundwater samples will be collected from a hydro-punch device or a temporary monitoring well.
- A mobile lab will be used to test the soil and groundwater samples in real time so adjustments can be made to the planned field program.

TASK 2 – ADDITIONAL AREAS OF POTENTIAL ENVIRONMENTAL CONCERN (WESTERN PORTION OF LOT 4, LOT 3, AND LOT 7)

EHSI's scope of work addresses the other areas of potential environmental concern that were presented in Section 10.0 and Figure 14 of the RI Summary Report. The scope of work also addresses additional areas of potential concern based upon the results of the Phase I ESA Update: nature of backfill material used to fill in western portion of subject property (Lot 7); solvent wash station/drum storage area at the grounds equipment repair shop (Lot 3); pesticide storage shed (Lot 3); and the former vehicle maintenance pit and vent line at the former bus washing facility (Lot 7). A map showing the location of the proposed soil borings and test pits is shown in Figure 4.

Unpaved Storage Yard/Spray Wash Area (Lot 3 and Lot 7)

- Soil and groundwater samples will be collected in stained or discolored areas and in the areas where spray washing occurs.
- The soil and groundwater samples will be collected using a Geoprobe drill rig and tested on site for TPH and VOCs using the mobile lab. Additional testing will also be conducted at an off-site stationary lab for one or more of the following: SVOCs, Metals, PCBs, and Pesticides/Herbicides. The soil samples will be collected at discrete intervals from the continuous core sampling device. Groundwater samples will be collected from a hydro-punch device or a temporary monitoring well.

Ground Equipment Repair Shop and Storage Buildings/Drum Storage/Oil Spill/Potential UST Area (Lot 3)

- A GPR survey will be conducted at the southern end of the building where vent pipes are reportedly located to evaluate the potential presence of a UST.
- Soil and groundwater samples will be collected in the suspected UST area, oil spill area, and the former 55-gallon drum storage area.
- The soil and groundwater samples will be collected using a Geoprobe drill rig and tested on site for TPH and VOCs using the mobile lab. Additional testing will also be conducted at an off-site stationary lab for one or more of the following: SVOCs, Metals, PCBs, and Pesticides/Herbicides. The soil samples will be collected at discrete intervals from the continuous core sampling device. Groundwater samples will be collected from a hydro-punch device or a temporary monitoring well.

Facilities Maintenance Administration and Shops Building/Septic Tank (Lot 3)

- A GPR survey will be conducted to locate the septic tank and drain field.
- Soil and groundwater samples will be collected in the vicinity of the septic tank system.
- The soil and groundwater samples will be collected using a Geoprobe drill rig and tested on site for TPH and VOCs using the mobile lab. Additional testing will also be conducted at an off-site stationary lab for one or more of the following: SVOCs, Metals, PCBs, and Pesticides/Herbicides. The soil samples will be collected at discrete intervals from the continuous core sampling device. Groundwater samples will be collected from a hydro-punch device or a temporary monitoring well.

Tregoning Industries (Western Portion of Lot 4)

- Conduct a GPR survey in the western portions of Lot 4 to evaluate the presence of possible USTs and subsurface anomalies in areas formerly utilized by Tregoning Industries. The locations of the Geoprobe borings may be adjusted based upon the results of the GPR survey.
- Collect soil and groundwater samples across the area to establish soil and groundwater quality.
- The soil and groundwater samples will be collected using a Geoprobe drill rig and tested on site for TPH and VOCs using the mobile lab. Additional testing will also be conducted for one or more of the following using an off-site stationary lab: SVOCs, Metals, PCBs, and Pesticides/Herbicides. The soil samples will be collected at discrete intervals from the continuous core sampling device. Groundwater samples will be collected from a hydro-punch device or a temporary monitoring well.

Former Bus Washing Facility/Wastewater Sump Area (Lot 7)

- Soil and groundwater samples will be collected adjacent to the former wastewater sump area.
- The soil and groundwater samples will be collected using a Geoprobe drill rig and tested on site for TPH and VOCs using the mobile lab. Additional testing will also be conducted for one or more of the following using an off-site stationary lab: SVOCs, Metals, PCBs, and Pesticides/Herbicides. The soil samples will be collected at discrete intervals from the continuous core sampling device. Groundwater samples will be collected from a hydro-punch device or a temporary monitoring well.

Current Bus Wash Area/Catch Basin (Lot 4)

- Soil and groundwater samples will be collected adjacent to the catch basin for the bus wash area.
- The soil and groundwater samples will be collected using a Geoprobe drill rig and tested on site for TPH and VOCs using the mobile lab. Additional testing will also be conducted for one or more of the following using an off-site stationary lab: SVOCs, Metals, PCBs, and Pesticides/Herbicides. The soil samples will be collected at discrete intervals from the continuous core sampling device. Groundwater samples will be collected from a hydro-punch device or a temporary monitoring well.

Phase I ESA Update Area of Concern – Backfill Material/Western Portion of Lot 7/Unpaved Bus Parking Area/Unpaved Storage Yard

- Test pits will be excavated using a backhoe in the unpaved gravel parking lot to evaluate the nature of the fill material used to backfill this area.
- If contamination is suspected based upon field observations (photoionization device [PID] readings, odors, staining, etc.), then soil and groundwater samples will be collected and tested on site for TPH and VOCs using the mobile lab. Additional testing may also be conducted for one or more of the following using an off-site stationary lab: SVOCs, Metals, PCBs, and Pesticides/Herbicides. The soil samples will be collected directly from the bucket of the backhoe. The groundwater samples will be collected as grab samples from the test pits.

Phase I ESA Update Area of Concern – Solvent Wash Station/Drum Storage Area at the Grounds Equipment Repair Shop (Lot 3)

- Soil and groundwater samples will be collected adjacent to the solvent wash station area.
- The soil and groundwater samples will be collected using a Geoprobe drill rig and tested on site for TPH and VOCs using a mobile lab. Additional testing will also be conducted at an off-site stationary lab for one or more of the following: SVOCs, Metals, PCBs, and Pesticides/Herbicides. The soil samples will be collected at discrete intervals from the continuous core sampling device. Groundwater samples will be collected from a hydro-punch device or a temporary monitoring well.

Phase I ESA Update Area of Concern - Pesticide Storage Shed (Lot 3)

- Soil and groundwater samples will be collected adjacent to the entrance to the storage shed.
- The soil and groundwater samples will be collected using a Geoprobe drill rig and tested on site for TPH and VOCs using the mobile lab. Additional testing will also be conducted at an off-site stationary lab for the following: Pesticides/Herbicides and Metals. The soil samples will be collected at discrete intervals from the continuous core sampling device. Groundwater samples will be collected from a hydro-punch device or a temporary monitoring well.

Phase I ESA Update Area of Concern – Former Vehicle Maintenance Pit and Vent Line at the Former Bus Washing Facility (Lot 7)

- A GPR survey will be conducted at the northern side of the building where a vent pipe was located.
- Soil and groundwater samples will be collected in the vent line/suspected UST area and adjacent to the former vehicle maintenance pit.
- The soil and groundwater samples will be collected using a Geoprobe drill rig and tested on site for TPH and VOCs using the mobile lab. Additional testing will also be conducted at an off-site stationary lab for one or more of the following: SVOCs, Metals, PCBs, and Pesticides/Herbicides. The soil samples will be collected at discrete intervals from the continuous core sampling device. Groundwater samples will be collected from a hydro-punch device or a temporary monitoring well.

TASK 3 – WELL INSTALLATION AND GROUNDWATER MONITORING

EHSI proposes to install groundwater wells at the subject property to better define groundwater quality and to begin quarterly groundwater sampling for full site characterization and future compliance. During the Phase I ESA Update site visit, EHSI observed four additional groundwater wells (B-1, B-2, B-8, and B-9) on the subject property that appear to be associated with the ZZA-Terracon groundwater well installation event that occurred in 2008. Analytical results from one of these wells exceeded MTCA Method A cleanup levels for motor oil in a groundwater sample collected in 2009 (B-1). These four wells have been incorporated into the groundwater monitoring plan described below:

- EHSI proposes to install two new groundwater monitoring wells to replace B-7 and provide better spatial coverage down-gradient of the release areas at the hydraulic lifts and steam cleaning station. The wells will be installed on the site along the property boundary as shown on Figure 3. The wells will be installed with a Geoprobe drill rig and will be screened within the perched water-bearing zone on top of the glacial till layer. The wells will be surveyed after installation and tied into the onsite network of wells. The survey event will also include the four ZZA-Terracon wells mentioned above.
- EHSI proposes to install a shallow well within the perched water-bearing zone near S-3 and EP-26 to evaluate the high concentrations of contamination that were detected in this area in the past. The well will be installed with a Geoprobe drill rig. The well will be surveyed after installation and tied into the onsite network of wells.
- EHSI proposes to install two new groundwater monitoring wells in the deeper groundwater zone that is within the till layer. The wells will be installed in the vicinity of the most contaminated areas near AB-23 and near S-3 and EP-26 as shown on Figure 3. The wells will be installed with a hollow-stem auger drilling rig. The wells will be drilled down to the top of the till layer and a

conductor casing set to separate from the perched water-bearing zone. The deeper wells will be installed through the conductor casing and screened within the till layer. The well will be surveyed after installation and tied into the onsite network of wells.

- The five new wells described above and the existing thirteen wells (AB-19B, AB-20, AB-21, AB-22, B-1, B-2, B-3, B-8, B-9, B-10, EB-11, EB-12, and MW-1) will be sampled on a quarterly basis starting in May 2015 for one year (May 2015, August 2015, November 2015, and February 2016). The wells will be tested for TPH and VOCs. Additional parameters may be added to the analytical scheme after completion of Tasks 1 and 2 above. Quarterly groundwater reports will be produced to document groundwater quality and groundwater flow direction.

TASK 4 – FLOATING PRODUCT RECOVERY/INTERIM CLEANUP ACTION (EASTERN PORTION OF LOT 4)

Groundwater monitoring well AB-23 has approximately 3 to 5 feet of floating hydraulic oil product and is located in the vicinity of the hydraulic lift release area. EHSI proposes to begin a monthly interim action cleanup program of removing the product by utilizing a vacuum truck and transporting to a licensed disposal facility. The first removal event will occur in May 2015 and monthly cleanups will last one year (May 2015 to April 2016). EHSI will measure the thickness of product prior to removal and calculate the estimated number of gallons of product removed from the well. EHSI will also evaluate the recovery time during the first removal event by measuring the thickness of product after the well has had time to recharge. This information will be tabulated and included in the quarterly groundwater monitoring reports described in Task 3.

TASK 5 – FEASIBILITY STUDY

EHSI proposes to accomplish a remedial action feasibility study (FS). The objective of the FS will be to document the basis for selection of the preferred remedial action alternative that is determined to be the most appropriate for the site. The FS will be conducted consistent with MTCA regulations and specifically WAC 173-340-350 (8). The FS process will involve identifying applicable regulatory requirements, establishing cleanup action objectives and cleanup standards that are protective of human health and the environment. The FS will identify and evaluate potentially applicable cleanup technologies, and incorporate the cleanup technologies into cleanup action alternatives. These alternatives will be chosen such that site-related contamination that poses a risk to human health and the environment can be most effectively remediated. The cleanup action alternatives will then be evaluated and ranked against specific criteria dealing with effectiveness, implementability, and cost to help select a preferred site cleanup action. Each of these components will involve consideration of site-specific data and the findings of the human health and ecological risk analyses.

The following sections describe the tasks that will be performed in completing the FS.

Task 5.1 – Cleanup Action Objectives

EHSI will develop Cleanup Action Objectives (CAOs) for the site. CAOs are formal statements of the overall objectives for the cleanup action, and are based in part upon the conceptual site model and cleanup standards (cleanup levels, points of compliance, and other regulatory components) for the site. CAOs are chemical- and media-specific goals for the cleanup action that are protective of human health and the environment.

Task 5.2 – Cleanup Technology Identification and Screening

EHSI will evaluate cleanup technologies that can potentially address, either alone or in conjunction with other technologies, one or more of the CAOs identified in Task 5.1. EHSI will screen a preliminary list of technologies to limit the number of technologies carried into the alternative development task. EHSI will limit the list to those technologies most likely to be effective at the site. The screening process will use the following three criteria: effectiveness, implementability, and cost. The effectiveness criterion reflects the ability of a technology to meet the CAOs. The implementability criterion relates to the ability to implement the technology considering administrative issues (e.g., permitting), access constraints and technical factors such as contaminant type and concentration, and subsurface conditions (e.g., depth of contamination and the geological matrix). During the technology screening process, the cost criterion will be used only to differentiate between two or more technologies that generally have similar levels of effectiveness and implementability, but significantly different costs.

Task 5.3 - Development and Screening of Cleanup Action Alternatives

In this task, the retained list of cleanup technologies will be assembled into a range of alternatives with the specific intent of identifying alternatives that have the highest probability of meeting site CAOs and cleanup standards. As required by WAC 173-340-150(8)(c)(ii)(A), this process will include at least one alternative that is considered "permanent" as defined in WAC 173-340-200 to serve as a baseline against which other alternatives are compared.

Based on the available information, it is anticipated that at least three and not more than five alternatives will be developed. For each alternative, the evaluation will provide a description of the actions and technologies utilized, an estimate of the construction and operations and maintenance (O&M) costs, an estimate of the restoration time frame, and an evaluation of the cleanup standards achieved.

Task 5.4 - Evaluation of Cleanup Alternatives and Selection of a Cleanup Action

EHSI will subject each cleanup action alternative to a detailed evaluation to determine which alternative best meets the CAOs for the site. The primary criteria for evaluating cleanup action alternatives are specified in WAC 173-340-360 and include two types of criteria: threshold (i.e., minimum) criteria and other (i.e., balancing) criteria. In addition to these evaluation criteria, the MTCA regulations contain a series of "expectations" which provide additional guidance on the selection of a cleanup action. The following criteria will be used in the detailed evaluation of the cleanup action alternatives.

Threshold Criteria. WAC 173 340 360(2) requires that all cleanup actions conducted under MTCA meet the following threshold criteria:

- **Protect human health and the environment.** This criterion evaluates how the cleanup action, as a whole, achieves and maintains protection of human health and the environment;
- **Comply with cleanup standards.** This criterion requires that a cleanup action achieve cleanup levels at the specified point of compliance;
- **Comply with applicable state and federal laws.** The selected cleanup action must comply with all applicable laws; and

- **Provide for compliance monitoring.** MTCA requires that all cleanup actions provide compliance monitoring consisting of one or more of the following: protection monitoring, performance monitoring, and/or conformational monitoring.

These threshold criteria represent minimum standards that must be achieved for a cleanup action to be acceptable.

Other Requirements (Balancing Criteria). In addition to the threshold requirements described above, MTCA identifies a series of other requirements to be evaluated when selecting a cleanup action. These other requirements, commonly referred to as primary balancing factors are used to differentiate alternatives that meet threshold requirements. The other requirements to be evaluated under MTCA are:

- **Use of permanent solutions to the maximum extent practicable (WAC 173-340-360(3)).** MTCA guidance stipulates that preference shall be given during selection of a cleanup action alternative to those that use permanent solutions to the maximum extent practicable. Evaluation of whether an alternative uses permanent solutions to the maximum extent practicable is determined by performing a disproportionate cost analysis, which provides for the comparison of the costs and benefits of the cleanup action alternatives using the following evaluation criteria:
    - Protectiveness. Overall protectiveness of human health and environment;
    - Permanence. The degree to which the alternative permanently reduces the toxicity, mobility or volume of hazardous substances;
    - Cost. The cost to implement the alternative;
    - Effectiveness over the long term. The degree of certainty of success, the reliability of the alternative, the magnitude of residual risk, and the effectiveness of controls;
    - Management of short-term risks. The risk to human health a nd environment associated with construction and implementation of the alternatives; and
    - Technical and administrative implementability. Technical feasibility of the alternative and administrative requirements.

- **Provide for a reasonable restoration time frame (WAC 173-340-360(4)).** This criterion requires that the selected cleanup action provide for a "reasonable restoration time frame." The determination of reasonable time frame must consider a variety of factors including: potential risks posed by the site, current and future uses of the site and surrounding areas, availability of alternate water supplies, effectiveness and reliability of institutional controls, ability to control and monitor the migration of contamination, the documented presence of natural processes that reduce contaminant concentrations, and the practicability of achieving a shorter restoration time frame; and

- **Consider public concerns (WAC 173-340-360(2)(b)(iii)).** This criterion evaluates whether the public has concerns regarding the alternative and, if so, the extent to which the alternative addresses those concerns.

EHSI will develop a detailed, comparative analysis of the cleanup action alternatives that meet the MTCA minimum requirements based on the above criteria. The evaluation will rank how each alternative meets respective criterion and will provide an overall ranking. The rankings will be used in the disproportionate cost analysis and to select the preferred remedy. This evaluation will provide the basis for selection of a preferred alternative.

TASK 6 – RI/FS REPORT PREPARATION

EHSI will prepare a client draft RI/FS Report to present the results of the tasks described above in a manner that is consistent with the MTCA. The client draft RI/FS report will be submitted ESD, their legal counsel, and to their insurers for review and comment. A final draft report addressing these comments will be prepared and submitted to Ecology for review and their opinion regarding whether the site characterization and proposed cleanup action meets the substantive requirements of MTCA and its implementing regulations.

The RI/FS report will be composed of the following main elements:

Background – This section provides a description of the subject property features, and location: a summary of historical property use; a description of the local geology, hydrology, and land use pertaining to the property; and a summary of the release discovery at the site.

Remedial Investigation – This section provides a summary of the RI field work program conducted at the site between 1991 and 2014 and also includes a discussion of the scope of work and the results of the current RI.

Conceptual Site Model – This section provides a summary of the Conceptual Site Model (CSM) derived from the results of the subsurface investigations, former and current, performed at the site. Included will be a discussion of the site definition, chemicals of concern, confirmed and suspected source areas, affected media, fate and transport characteristics of the release of hazardous substances, and preliminary exposure assessment.

Feasibility Study/Remedial Alternatives Assessment – This section will develop and evaluate cleanup action alternatives and discuss cleanup regulations and levels, the screening of remedial technologies, the development and evaluation of cleanup alternatives, and the recommended cleanup alternative.

TASK 7 – MEETINGS

Project meetings will be conducted at the key milestones listed below:

- Meet with ESD and ESD legal counsel at the completion of the RI field investigation (Tasks 1 and 2). Conduct a second meeting with Ecology to get their concurrence that the site has been adequately characterized.
- Meet with ESD and ESD legal counsel at the completion of the FS and final draft RI/FS report. Conduct a second meeting with Ecology to present the results of the feasibility study and remedial alternatives assessment.

TASK 8 – CONTINGENCY

A contingency task has been added on to cover additional effort in the RI field investigation. This task will only be utilized after receiving written approval from ESD.

ASSUMPTIONS

EHSI has made the following assumptions in the preparation of this revised work plan:

- One mobilization (Geoprobe drill rig, mobile lab, GPR/utility locate) will be required for the field investigation of Lot 3, Lot 4, and Lot 7.
- The field investigation in the bus and vehicle maintenance area (eastern portion of Lot 4) will take up to one week and involve a Geoprobe drill rig and a mobile laboratory. The mobile lab will analyze the soil and groundwater samples during the same day they are collected so adjustments to the planned field program can be made in real time to maximize the efficiency and completeness of site characterization. The mobile lab will analyze soil and groundwater samples for TPH and VOCs.
- An off-site stationary lab will be utilized for sample analysis in the eastern portion of Lot 4 to test for Metals in the Diesel Spill Excavation/Scrap Metal Area (two soil samples, one groundwater sample) and for Metals, SVOCs, PCBs, Sulfate, Sulfide, and pH in the Waste Oil/Battery Storage Area (two soil samples, one groundwater sample). These samples will be specified for analysis on 24-48 hour turn-around-time (TAT) to expedite the field process.
- Two data gap areas (Data Gap Area #5 - New UST Release and Data Gap Area #7 - Fuel Pump Island and Product Line Release) were excluded from the current scope of work because of underground obstructions (existing USTs and product piping in the way of known or suspected contaminated areas). These areas should be evaluated after site demolition when the USTs and product piping have been removed from the ground.
- The field investigation involving the western portion of Lot 4, Lot 3, and Lot 7 will take up to one week and involve a Geoprobe drill rig, a test pit backhoe and a mobile laboratory. The mobile lab will analyze the soil and groundwater samples during the same day they are collected so adjustments to the field planned program can be made in real time to maximize the efficiency and completeness of site characterization. The soil and groundwater samples will be analyzed for TPH and VOCs. Up to 10 soil and up to 10 groundwater samples will be collected and analyzed by an off-site stationary laboratory for SVOCs, Metals, PCBs, and Pesticides/Herbicides on a 24-48 hour TAT basis.
- Quality Assurance/Quality Control (QA/QC) samples will include: duplicates, rinsate blanks, and trip blanks.
- The new groundwater well installation and development will take one week.
- If water is not encountered on top of the till layer or at depth within the till layer during the groundwater installation work, the wells may need to be relocated. If this happens, there would be a delay in terms of contacting Ecology and re-mobilizing to the site for new well locations. This would also result in a revised fee proposal.

- Three shallow groundwater wells and two deep groundwater wells have been assumed for this field effort. If field conditions and analytical data indicate additional wells are needed, this would result in a revised fee proposal.
- Quarterly groundwater sampling will occur in May 2015, August 2015, November 2015, and February 2016. The wells to be sampled include the five new wells proposed in this work plan plus the existing thirteen wells (AB-19B, AB-20, AB-21, AB-22, B-1, B-2, B-3, B-8, B-9, B-10, EB-11, EB-12, and MW-1). QA/QC samples will include one duplicate per event. The groundwater samples and QA/QC sample will be tested for TPH and VOCs on a 2-week TAT basis. The groundwater sampling will take two days. One groundwater sampling report will be prepared for each quarter.
- Surveying of the new wells, the four ZZA-Terracon wells, Geoprobe locations, and test pits will take two days.
- One sample of the floating product will be collected and analyzed for priority pollutants for disposal purposes on a 2-week TAT basis.
- The floating product will be removed by utilizing a vacuum truck on a monthly basis for one year (May 2015 to April 2016). Documentation of the floating product removal will be included in the quarterly groundwater monitoring reports.
- EHSI will respond to and incorporate Ecology and/or insurer comments (if any) into the RI/FS report up to the extent of the proposed budget. EHSI will respond to and incorporate additional comments received from Ecology/insurer beyond the proposed budget on a time and materials basis with written prior approval of ESD.

PROJECT SCHEDULE

Our estimated schedule to complete the scope of work is presented below:

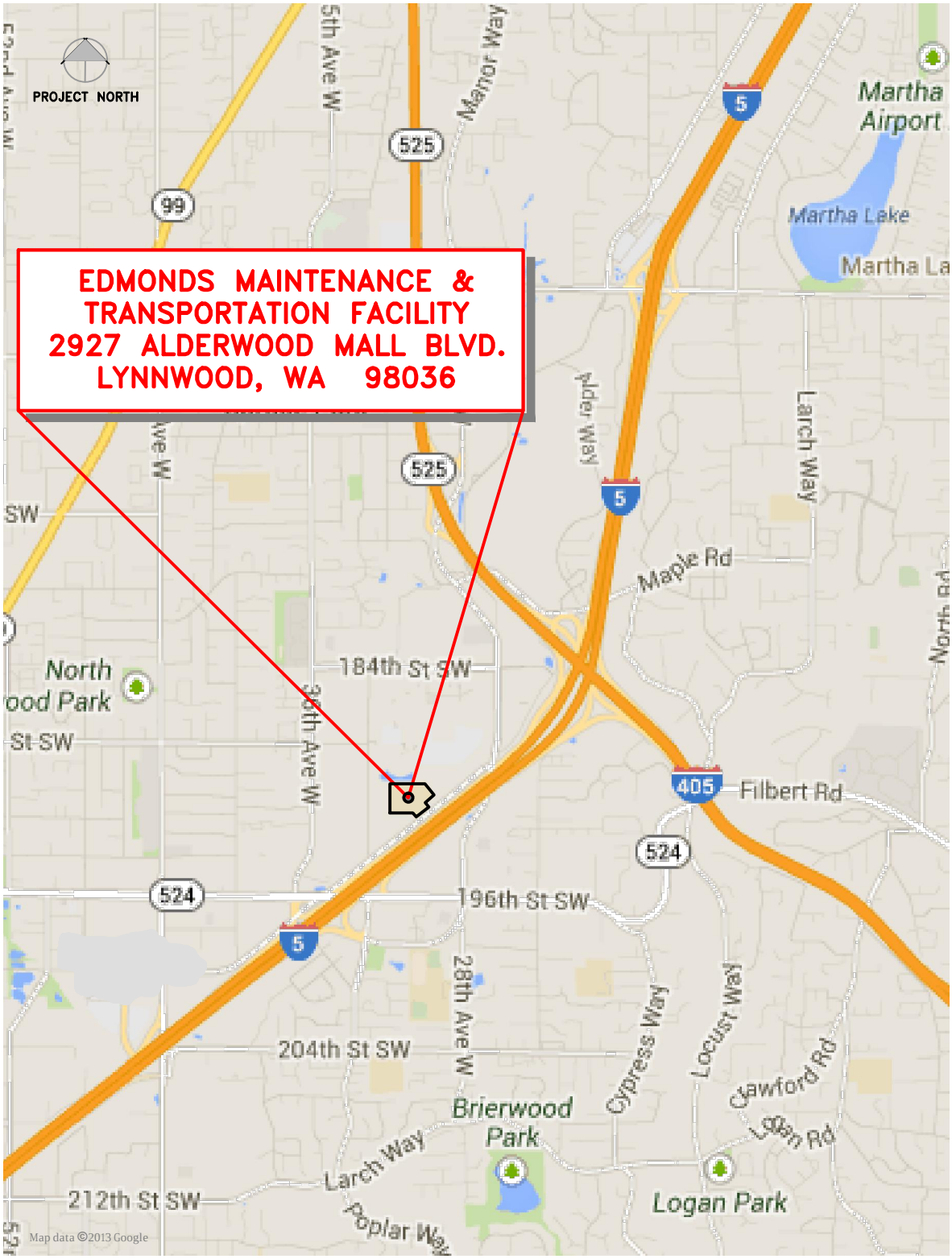
- Task 1 and Task 2 - Bus and Vehicle Maintenance Area (Eastern Portion of Lot 4) and Additional Areas of Potential Environmental Concern (Western Portion of Lot 4, Lot 3, and Lot 7): These tasks will take 3 weeks to complete.
- Task 3 – Well Installation and Groundwater Monitoring: The well installation will take 1 week to complete. The groundwater monitoring will take 1 year to complete (May 2015, August 2015, November 2015, and February 2016).
- Task 4 – Floating Product Recovery/Interim Cleanup Action (Eastern Portion of Lot 4): This task will take 1 year to complete (Monthly Basis May 2015 through April 2016).
- Task 5 and Task 6 – Feasibility Study and RI/FS Report Preparation: These tasks will take 3 months to complete.
- Task 7 – Meetings – There will be four meetings which will take less than one day each.

EHSI appreciates the opportunity to provide this revised work plan and proposal to ESD for the Remedial Investigation and Feasibility Study of the ESD Maintenance and Transportation Facility. If you have any questions or comments regarding this proposal, please feel free to contact us at any time.

Sincerely,
EHS-International, Inc.

Herb Brod, CIH
Technical Director

Enclosures: Figures 1-4
Revised Fee Proposal



ehsi
EHS-International, Inc.
13228 NE 20th Street, Suite 100
Bellevue, Washington 98005
Ph: (425) 455-2959
Fax: (425) 646-7247

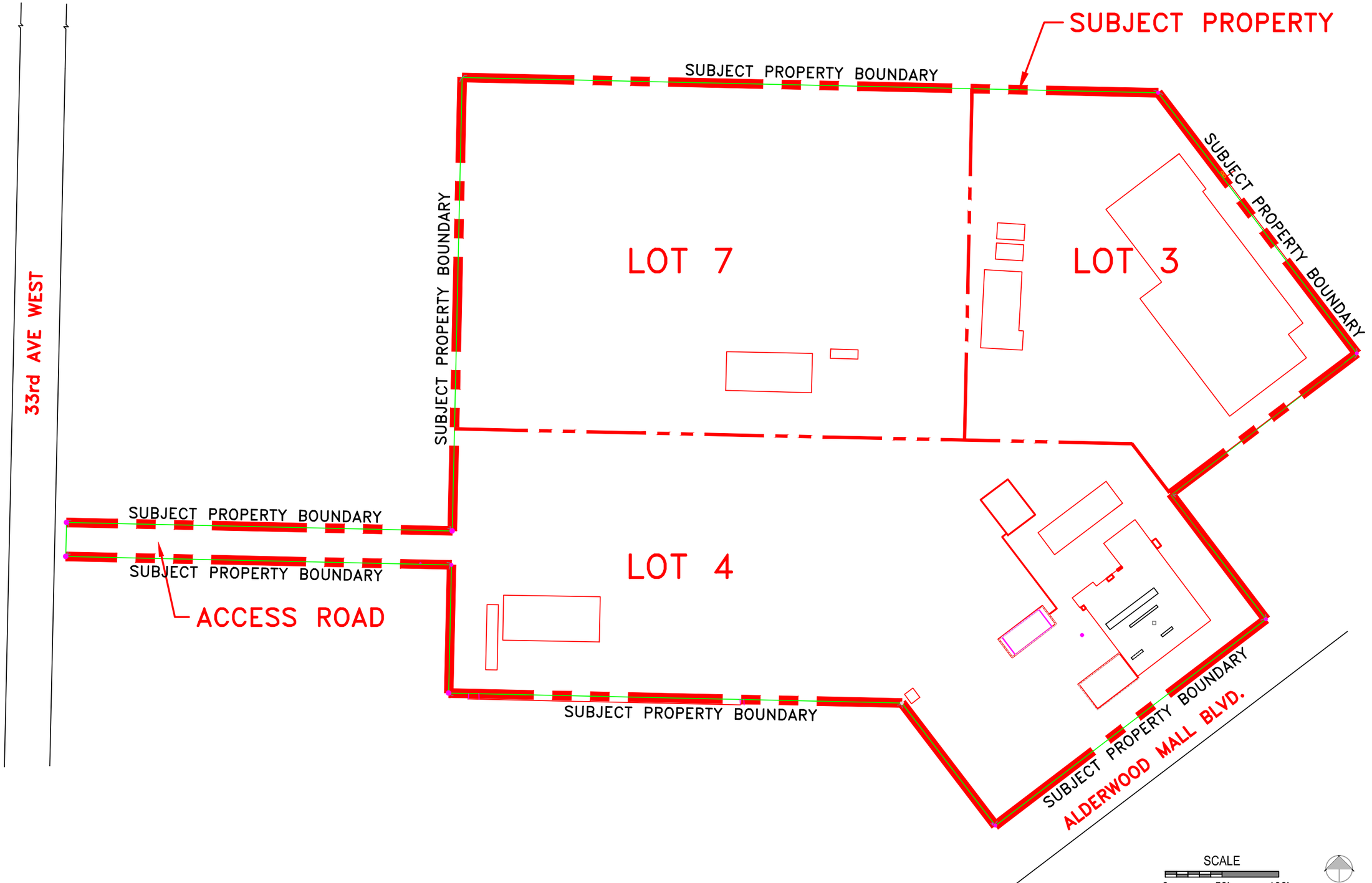
EDMONDS MAINTENANCE AND TRANSPORTATION FACILITY

LOCATION MAP

PROJECT MANAGER: KURT EASTHOUSE
INSPECTORS: JASON CASS
SURVEY DATE: 9/24/13
EHSI PROJECT #: 10719-01
DRAWN BY: DIMALANTA
SCALE: NONE
ISSUE DATE: 3/26/2015

LOCATION MAP

FIG. 1



ehsi
EHS–International, Inc.
13228 NE 20th Street, Suite 100
Bellevue, Washington 98005
Ph: (425) 455-2959
Fax: (425) 646-7247

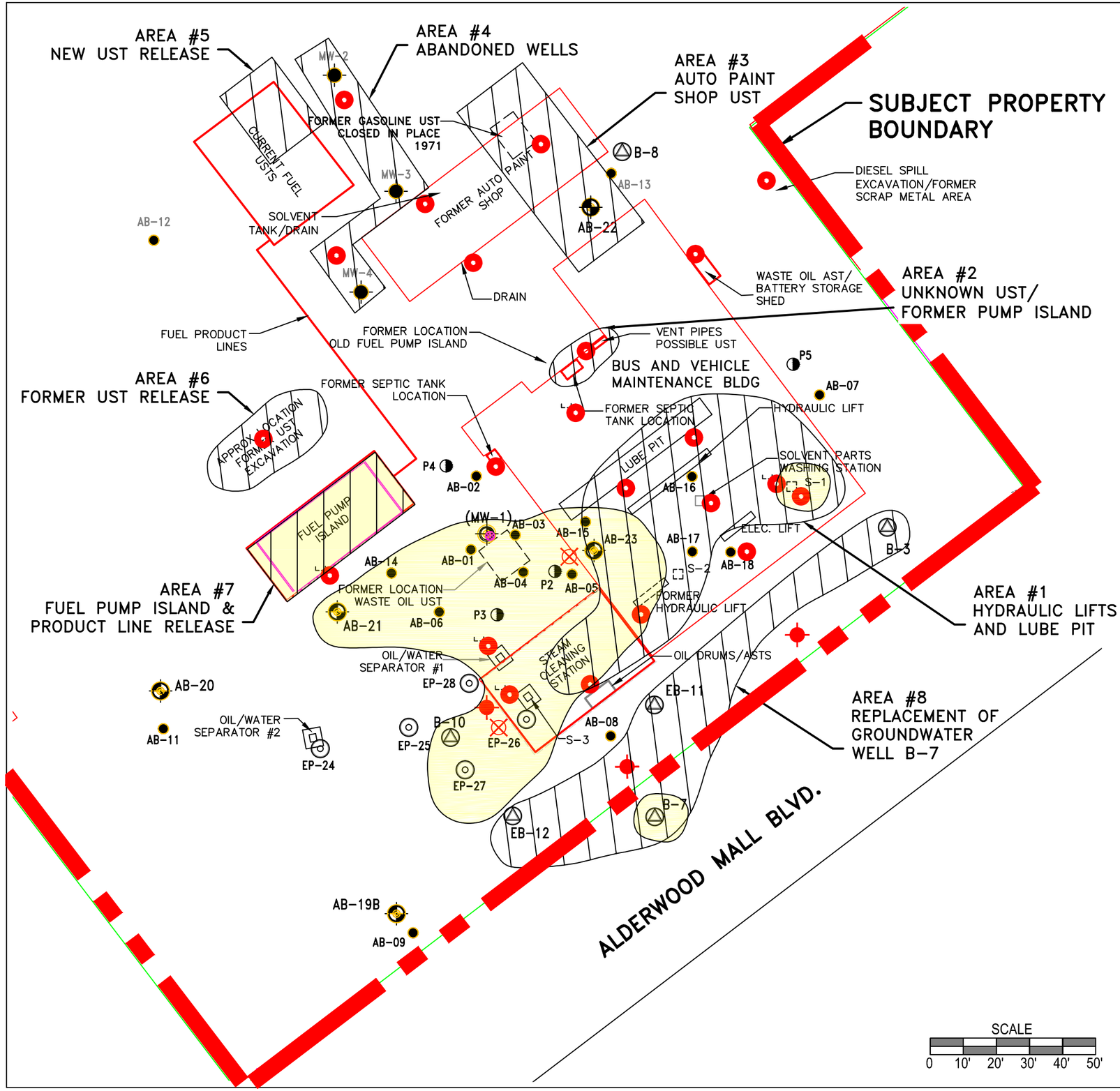
EDMONDS MAINTENANCE AND TRANSPORTATION FACILITY

SUBJECT PROPERTY LOT DIVISIONS

PROJECT MANAGER: KURT EASTHOUSE
INSPECTORS: JASON CASS
SURVEY DATE: 9/24/13
EHSI PROJECT #: 10719-01
DRAWN BY: DIMALANTA
SCALE: NOTED
ISSUE DATE: 3/26/2015

SUBJECT PROPERTY LOT DIVISIONS

FIG. 2



LEGEND

AB-23	LOCATION OF AMEC MONITORING WELL (2008)
AB-11	LOCATION OF AMEC BORING (2008)
P-1 (MW-1)	LOCATION OF ECOVA BORING, MONITORING WELL ID WHERE INSTALLED (1991)
EB-12	LOCATION OF EHSI MONITORING WELL (2012)
EB-11	LOCATION OF EHSI MONITORING WELL (2010)
EP-26	LOCATION OF EHSI PROBE BORING (2011)
B-3/B-7/B-10	LOCATION OF ZZA-TERRACON MONITORING WELL (2008)
MW-2/MW-3/MW-4	LOCATION OF MONITORING WELL INSTALLED BY OTHERS (SEE AMEC 2008)
	APPROXIMATE AREA OF TPH AND VOCS IN SOIL AND GROUNDWATER EXCEEDING MTCA CLEANUP LEVELS.
	DATA GAP AREA
	PROPOSED SOIL BORING
	PROPOSED GROUND-WATER WELL/SHALLOW PERCHED AQUIFER
	PROPOSED GROUND-WATER WELL/DEEPER AQUIFER

ehsi
EHS-International, Inc.
13228 NE 20th Street, Suite 100
Bellevue, Washington 98005
Ph: (425) 455-2959
Fax: (425) 646-7247

EDMONDS MAINTENANCE AND TRANSPORTATION FACILITY

AREAS OF EXPLORATION (EASTERN PORTION OF LOT 4)

PROJECT MANAGER: KURT EASTHOUSE
INSPECTORS: JASON CASS
SURVEY DATE: 9/24/13
EHSI PROJECT #: 10719-01
DRAWN BY: DIMALANTA
SCALE: NOTED
ISSUE DATE: 3/26/2015

AREAS OF EXPLORATION (EASTERN PORTION OF LOT 4)

FIG. 3

LEGEND

HATCHED AREA INDICATES FORMER LOCATION OF TREGONING INDUSTRIES (BOAT BUILDING AND REPAIR FACILITY)

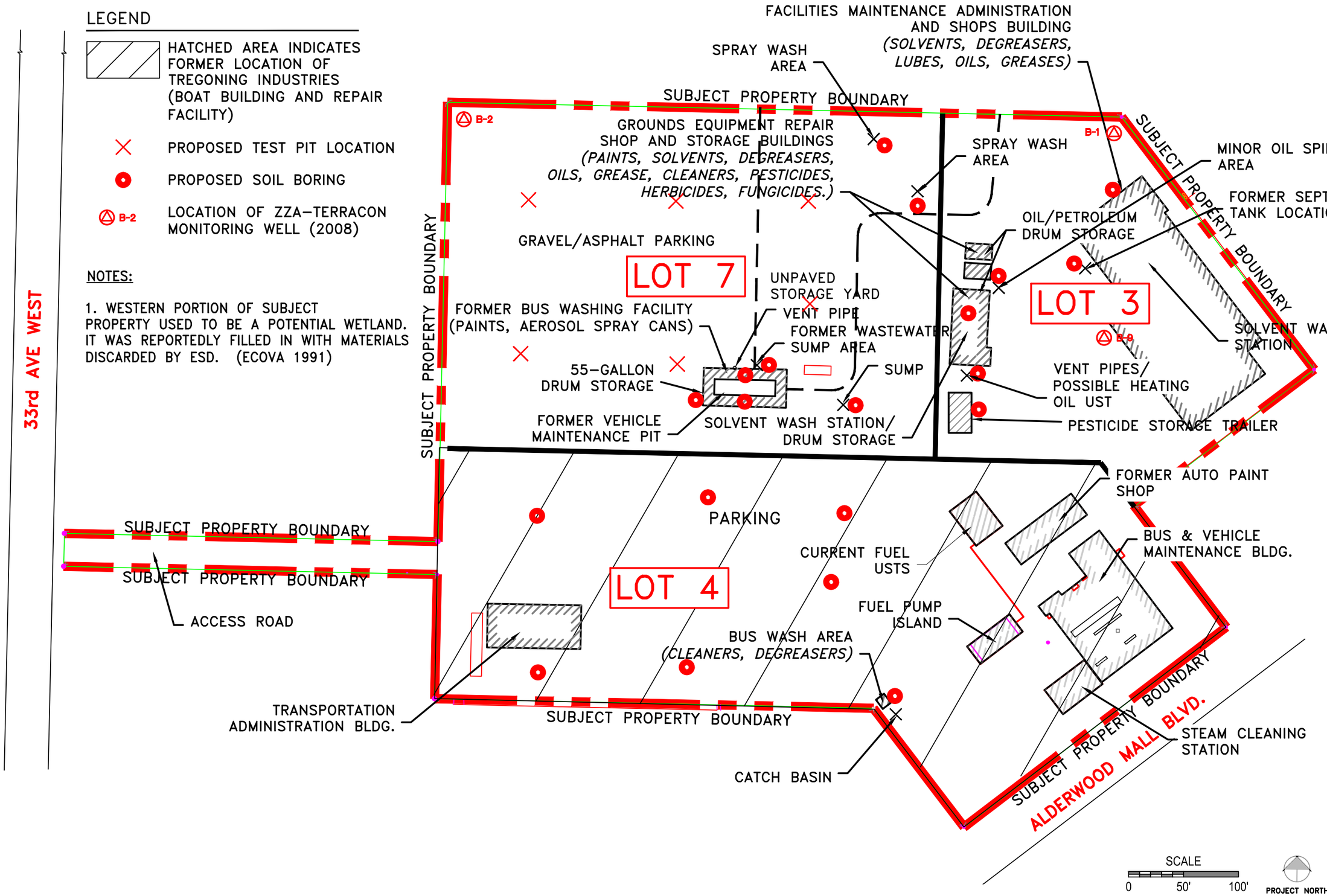
PROPOSED TEST PIT LOCATION

PROPOSED SOIL BORING

B-2 LOCATION OF ZZA–TERRACON MONITORING WELL (2008)

NOTES:

1. WESTERN PORTION OF SUBJECT PROPERTY USED TO BE A POTENTIAL WETLAND. IT WAS REPORTEDLY FILLED IN WITH MATERIALS DISCARDED BY ESD. (ECOVA 1991)



ehsi
EHS–International, Inc.
13228 NE 20th Street, Suite 100
Bellevue, Washington 98005
Ph: (425) 455-2959
Fax: (425) 646-7247

EDMONDS MAINTENANCE AND TRANSPORTATION FACILITY

AREAS OF EXPLORATION (WESTERN PORTION OF LOT 4, LOT 3, & LOT 7)

PROJECT MANAGER: KURT EASTHOUSE
INSPECTORS: JASON CASS
SURVEY DATE: 9/24/13
EHSI PROJECT #: 10719–01
DRAWN BY: DIMALANTA
SCALE: NOTED
ISSUE DATE: 3/26/2015

AREAS OF EXPLORATION (WESTERN PORTION OF LOT 4, LOT 3, & LOT 7)

FIG. 4