

**SEPA ENVIRONMENTAL CHECKLIST
INTERIM ACTION WORK PLAN
AMERICAN LINEN SUPPLY CO-DEXTER AVE SITE
700 DEXTER AVENUE, SEATTLE WASHINGTON**

Purpose of checklist:

Governmental agencies use this checklist to help determine whether the environmental impacts of your proposal are significant. This information is also helpful to determine if available avoidance, minimization or compensatory mitigation measures will address the probable significant impacts or if an environmental impact statement will be prepared to further analyze the proposal.

Instructions for applicants:

This environmental checklist asks you to describe some basic information about your proposal. Please answer each question accurately and carefully, to the best of your knowledge. You may need to consult with an agency specialist or private consultant for some questions. You may use "not applicable" or "does not apply" only when you can explain why it does not apply and not when the answer is unknown. You may also attach or incorporate by reference additional studies reports. Complete and accurate answers to these questions often avoid delays with the SEPA process as well as later in the decision-making process.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Instructions for Lead Agencies:

Please adjust the format of this template as needed. Additional information may be necessary to evaluate the existing environment, all interrelated aspects of the proposal and an analysis of adverse impacts. The checklist is considered the first but not necessarily the only source of information needed to make an adequate threshold determination. Once a threshold determination is made, the lead agency is responsible for the completeness and accuracy of the checklist and other supporting documents.

Use of checklist for nonproject proposals: [\[help\]](#)

For nonproject proposals (such as ordinances, regulations, plans and programs), complete the applicable parts of sections A and B plus the [SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS \(part D\)](#). Please completely answer all questions that apply and note that the words "project," "applicant," and "property or site" should be read as "proposal," "proponent," and "affected geographic area," respectively. The lead agency may exclude (for non-projects) questions in Part B - Environmental Elements –that do not contribute meaningfully to the analysis of the proposal.

A. Background [\[help\]](#)

The proposal described in this SEPA Environmental Checklist includes performing an interim action on and adjacent to the property located at 700 Dexter Avenue North, Seattle, WA. For the purpose of this proposal, the word "Site" will refer to an area where contamination released at the property located at 700 Dexter Avenue North ("Property") has come to be located, consistent with the definition of "site" or "facility" in the Washington Model Toxics
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Control Act (MTCA, Chapter 173-340 of the Washington Administrative Code [WAC]). The word "Property" will refer to the area within the 700 Dexter Avenue North property boundary (Figure 1). This interim action is being conducted to treat known soil and groundwater contamination beneath the Property in order to reduce the mass of contamination and to control future migration of contaminants from the Property by installing a Perimeter Injection Well Network (PIWN) consisting of injection wells immediately adjacent to the Property's east and south property boundaries. This work will be performed in accordance with the Final Interim Action Work Plan approved by Ecology (see response to #8).

1. Name of proposed project, if applicable: [\[help\]](#)

American Linen Supply Co. Dexter Ave - Interim Action

2. Name of applicant: [\[help\]](#)

BMR-Dexter LLC

3. Address and phone number of applicant and contact person: [\[help\]](#)

John Moshy
BMR-Dexter LLC
17190 Bernardo Center Drive
San Diego, CA 92128
858-485-9840

4. Date checklist prepared: [\[help\]](#)

January 8, 2018

5. Agency requesting checklist: [\[help\]](#)

Washington State Department of Ecology (Ecology)

6. Proposed timing or schedule (including phasing, if applicable): [\[help\]](#)

BMR-Dexter LLC has prepared a Public Review Draft *Interim Action Work Plan* (Work Plan) which was submitted to Ecology for approval on January 8, 2018. The interim action involves three primary phases: (1) Source area mass reduction using *In-Situ* chemical oxidation (ISCO) and enhanced bioremediation using emulsified vegetable oil (EVO) for treatment of subsurface contamination, (2) Limited source area mass reduction by excavation and off-property disposal of contaminated soil; and (3) Control of potential contaminant migration through the installation of a PIWN that will be used for in-situ injection of biological treatment ammendments. The installation of the PIWN will be coordinated with the Property re-development utility installation activities and will be included in the Utilities Major Permit (UMP) with the City of Seattle, which is in preparation.

The following is the preliminary schedule for implementing the interim action, pending Ecology approval of the Work Plan:

Interim Action Task	Date
Permitting (UIC Registration)	Completed
Injection Well Installation and Development	February/March 2018
Monitoring Well Installation and Development	February/March 2018
Baseline Monitoring Before On-Property Injections	March 2018
ISCO/EVO Injection Rounds 1 through 4:	March through September 2018
Monitoring After Each On-Property Injection	March through September 2018
Contaminated Media Management Plan	June 2018
On-Property Well Decommissioning	August/September 2018
On-Property Excavation and Dewatering	Fourth Quarter 2018 through First Quarter 2020
Quarterly Monitoring During Dewatering	Fourth Quarter 2018 through First Quarter 2020
Perimeter Injection Well Installation	2019
EVO Injection in Perimeter Injection Wells	Second Quarter 2020
Quarterly Monitoring after Perimeter Well Injection	Third Quarter 2020 through Second Quarter 2021
Interim Action Implementation Report	TBD in coordination with Ecology
<i>Note: The dates associated with all tasks listed above will be revised once this work plan has been approved by Ecology.</i>	

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain. [\[help\]](#)

Yes, the interim actions described in this SEPA Environmental Checklist are focused on addressing contamination located on the subsurface of the Property prior to redevelopment. Once redevelopment construction activities begin and the development is completed in late 2020, the PIWN injection wells installed as part of this proposal will be used for injecting additional treatment chemicals or substrates in the groundwater to control possible future contaminant migration.

While not part of the interim action, the building design and construction have elements that will benefit the interim action and overall cleanup action. The Property redevelopment activities (i.e., building construction) are not a part of this proposal or SEPA environmental review. Redevelopment will be analyzed as part of a separate environmental analysis that is required by the City of Seattle (Master Use Permit Project No. 3026942).

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal. [\[help\]](#)

- PES Environmental, Inc. (PES). 2018. *Public Review Draft Interim Action Work Plan. American Linen Supply CO-Dexter Site, 700 Dexter Avenue North, Seattle, Washington.* Prepared for BMR-Dexter LLC. January 8, 2018.

While not directly related to the current proposal, documents that summarize the environmental conditions of the Property that is the subject of this proposal include:

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- SoundEarth Strategies, Inc (SES). 2013. *Draft Remedial Investigation Report, 700 Dexter Property, 700 Dexter Avenue North, Seattle, Washington*. Prepared for Frontier Environmental Management LLC. July 15.
- SoundEarth Strategies, Inc. 2013. *Draft Feasibility Study Report, 700 Dexter Property, 700 Dexter Avenue North, Seattle, Washington*. Prepared for Frontier Environmental Management LLC. August 16.
- SoundEarth Strategies, Inc. 2015. *Draft Cleanup Action Plan, 700 Dexter Property, 700 Dexter Avenue North, Seattle, Washington*. Prepared for Frontier Environmental Management LLC. September 28.
- SoundEarth Strategies, Inc. 2016. *Draft Interim Action Work Plan, 700 Dexter Property, 700 Dexter Avenue North, Seattle, Washington*. Prepared for Frontier Environmental Management LLC. March 8.

The documents listed above are incorporated by reference into this SEPA Environmental Checklist.

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain. [\[help\]](#)

Yes, the installation of the PIWN injection wells will be included in the utilities major permit (UMP) being prepared for the Property development utilities work in the Eighth Avenue North and Roy Street right-of-ways (ROWS). As noted, a separate SEPA Environmental Checklist will be prepared for the proposed Property development plans (including the utilities work) and will be submitted to the City of Seattle Department of Construction and Inspections, the SEPA lead agency for that action.

BMR-Dexter LLC is preparing a draft Remedial Investigation and Feasibility Study (RI/FS) Work Plan that will be submitted to Ecology for approval in early 2018. Work is being conducted pursuant to MTCA Agreed Order number DE 14302. The work described in the RI/FS work plan is not the subject of this proposal.

10. List any government approvals or permits that will be needed for your proposal, if known. [\[help\]](#)

- Ecology approval for PES's *Final Interim Action Work Plan*;
- Seattle Department of Transportation approval for the UMP for right-of-way use for the PIWN injection well installations;
- City of Seattle Right of Way Use permit for the off-Property monitoring well installations;
- Ecology approval for the PIWN injection well installations (including a variance from the prohibition of nested resource protection wells);
- Ecology approval for the well decommissioning (on-Property monitoring, injection, and electrical resistivity heating and soil vapor extraction [ERH/SVE] wells);
- Ecology approval for the waste designation (Contained In Determination);
- Ecology's Underground Injection Control (UIC) program permit for the *in-situ* injections;
- King County Industrial Waste (KCIW) approval for waste water discharges to sanitary sewer, if required for water disposal; and

- Preparation of a Cultural Resource Assessment for the property and submittal to the Washington State Department of Archeological and Historic Preservation. The Cultural Resource Assessment will be completed in January 2018.

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.) [\[help\]](#)

The proposal associated with this SEPA Environmental Checklist includes performing an interim action on the property located at 700 Dexter Avenue North, Seattle, WA. For the purpose of this proposal, the word "Site" will refer to an area where contamination released at the property located at 700 Dexter Avenue North ("Property") has come to be located, consistent with the definition of "site" or "facility" in the Washington Model Toxics Control Act (Chapter 173-340 of the Washington Administrative Code [WAC]). The word "Property" will refer to the area within the 700 Dexter Avenue North property boundary (Figure 1). This interim action is being conducted to (1) treat known soil and groundwater contamination beneath the Property in order to reduce the mass of contamination, (2) to excavate contaminated soil to a limited depth, and (3) to install a PIWN consisting of injection wells immediately adjacent to the Property's east and south boundaries. This work will be performed in accordance with the Final Interim Action Work Plan approved by Ecology (see response to #8).

Source Area Mass Reduction

One of the goals of the interim action is to reduce the mass of contamination beneath the Property (source area) using *In-Situ* chemical oxidation (ISCO) and *In-Situ* Enhanced Reductive Dechlorination (ERD) with emulsified vegetable oil (EVO), combined with soil excavation and off-property disposal.

ISCO Injections

ISCO consists of injecting a strong chemical oxidant into a groundwater source area or plume to chemically convert contaminants to less harmful or inert compounds (carbon dioxide and water). For the process to be successful, the oxidant must come into contact with the contaminant and have sufficient oxidative strength to oxidize the contaminant of concern. If those conditions are met, the chemical reactions between the oxidant and the contaminants generally proceed quickly to completion. Modified Fenton's Reagent (MFR) was selected as the oxidant.

The ISCO program addresses the four treatment zones TZ-A through TZ-D shown on Figures 2 through 5. These four 15-foot thick zones includes areas on the Property in which PCE concentrations in soil exceed 0.5 mg/kg between elevations of 5 feet and -55 feet NAVD88.

MFR will be delivered to the treatment zones through 132 injection wells located as shown on Figures 2 through 5. Depending on the thickness and depth of the soils requiring treatment at a specific location, anywhere from one to four injection wells will be installed. The number and spacing of the locations is based upon an anticipated 12.5 to 15 foot radius of influence for the reagent distribution. If an individual ISCO injection well is located at the same spot of an existing ERH/SVE well, the ERH/SVE well will be over-drilled and the injection well installed. This procedure will effectively decommission the ERH/SVE well by the installation of the ISCO injection well.

The general injection approach is to inject between 380 to 680 gallons of MFR into each injection well during each round of injections, with three rounds of injections planned. The actual amount of MFR reagents injected may be limited by conditions encountered in the field. Monitoring will be conducted between injection rounds to document the effects of each round.

Based on the available information, each injection round will take approximately 3 weeks to complete. Once a round of injections is completed, the next round will not begin for approximately 4 weeks to allow for all reagents to be consumed and the sorbed contaminants to enter the dissolved phase, and to allow for groundwater monitoring activities. The ISCO injection program is estimated to take approximately 4 to 5 months to implement.

ERD EVO Injections

As described above, when the last (third) round of ISCO injections is completed and the same 4 week waiting period has elapsed to ensure that the MFR reagents have dissipated, carbon substrate electron donor amendment in the form of EVO will be injected into the same wells to provide ongoing treatment by ERD beneath the Property during and after building construction. Given the effectiveness demonstrated during a 2016 ERD pilot test, EVO will be used as the electron donor. EVO is a slow-release carbon source that has been demonstrated to have persistence for enhancing bioremediation for 2 to 5 years. While the general approach for the EVO injection is outlined below, information gathered during the performance of the ISCO injections (e.g., ability to inject reagents in the different treatment zones, post-injection monitoring results, etc.) may be used to refine the details of the injection approach.

The application of the ERD program will be accomplished by injecting a blended mixture of EVO, sodium lactate, pH buffer, bioaugmentation cultures, and water at a target dose rate that will provide for effective distribution of the carbon substrate mixture into the subsurface and provide adequate carbon substrate to support the degradation of the residual CVOCs.

Soil Excavation

Upon completion of the in-situ treatment, contaminated soil will be excavated from the ground surface down to elevations of approximately 11.5 feet above mean sea level (AMSL), which is approximately to 28.5 feet below ground surface. Portions of the excavation will extend another 5 to 10 feet deeper to accommodate foundations and footings beneath the building cores, structural columns, the exterior garage perimeter walls, and elevators. Based on current development plans, approximately 65,000 cubic yards of contaminated soil will be excavated and disposed of off-property during the interim action.

Construction dewatering will be required for the duration of the excavation activities and will continue for approximately 14 months (ending in early 2020). The dewatering system will be designed by the building design team in coordination with the construction contractor, and will generally consist of dewatering wells located around the edge of the shoring walls. An expected flow rate has not yet been estimated by the designers but, based on similar dewatering conducted on nearby properties, flow rates could be in the range of 100 to 300 gallons per minute. Extracted groundwater will be treated prior to discharge to a City of Seattle storm drain pursuant to the requirements of an Ecology Construction Stormwater General Permit ("CSWGP") to be obtained for the project and the conditions set forth in an Administrative Order to be issued by Ecology to facilitate the treatment and establish discharge limits.

Perimeter Injection Well Network

A total of 44 PIWN injection wells will be installed just downgradient of the Property along 8th Avenue N. and Roy Street (Figure 2). These wells will be screened at a range of depths such that EVO can be applied at elevations consistent with treatment zones TZ-A through TZ-D (ranging from 5 feet to -55 feet AMSL). Given the limited space available to install these wells, the design of the perimeter injection wells will consist of dual-completion wells.

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Monitoring Well Installation

Sixteen new performance monitoring wells will be installed at the locations shown on Figure 6. Four of these wells are located on the Property and will be used, along with existing on-Property wells, to monitor the effects of the ISCO and ERD injections described above. These wells will be decommissioned following the monitoring event conducted after the final injection round. Twelve of these new wells are located across 8th Avenue North and Roy Street, and will be used in conjunction with existing monitoring well network to monitor the long-term performance of the ISCO and ERD injections downgradient of the Property. These new wells are located such that they will also be suitable for monitoring the area downgradient of the PIWN injection well network.

The new monitoring wells include two wells to monitoring the shallow water bearing zone, six wells to monitor the Intermediate A water-bearing zone, seven wells to monitor the Intermediate B water-bearing zone, and one well to monitor the deep water bearing zone.

Performance Groundwater Monitoring

There will be four phases of performance monitoring associated with the interim action: (1) baseline monitoring, (2) inter-injection round monitoring,(3) quarterly monitoring during dewatering activities, and (3) quarterly monitoring after injection into the PINW.

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist. [\[help\]](#)

The Property occupies approximately 1.41 acres (61,440 square feet) at 700 Dexter Avenue North in Seattle, Washington (Figures 1 and 2). As shown, it is bounded by Valley St. on the north, by 8th Avenue N. on the east, by Roy St. on the south, and by Dexter Avenue N. on the west. The Property is located in the northeast quarter of Section 30, Township 25 North, Range 4 East, Willamette Meridian in King County, Washington. It consists of one tax parcel (King County Assessor Parcel Number 224900-0285) and is currently zoned for mixed use (Seattle Mixed South Lake Union 175/85-280).

Legal Description:

Lots 1, 2, 3, 4, 5, 6, 7 and 8, Block 7, Eden Addition to the City of Seattle, according to the plat thereof recorded in Volume 1 of Plats, Page(s) 61A, in King County, Washington; except the West 7 feet of Lots 5, 6, 7 and 8, condemned in King County Superior Court Cause Number 61981 for street purposes, as provided by Ordinance Number 17628 of the City of Seattle.

B. ENVIRONMENTAL ELEMENTS [\[help\]](#)

1. Earth [\[help\]](#)

a. General description of the site: [\[help\]](#)

No buildings are currently present at the Property. The Property is almost entirely covered by concrete or asphalt, with small patches of vegetation or exposed soil. Concrete building foundations or slabs cover the surface of the northwest quarter of the Property, the southern half of the Property, and the southeast portion of the northeast quarter of the Property. Most of the northeast quarter of the Property is covered with asphalt. Most of the Property lies below the surrounding streets due to the now-exposed basements of the former buildings. The building formerly in the southwest quarter of the Property did not have a basement under the southern half of it, so that portion of the Property is at grade with the surrounding streets, as is the part of the Property along the northern and eastern Property lines in the northeast quarter.

(circle one): **Flat**, rolling, hilly, steep slopes, mountainous, other _____

b. What is the steepest slope on the site (approximate percent slope)? [\[help\]](#)

One small area has a slope of approximately 60% in the southwest corner of the Property. The majority of the Property is nearly level with less than 1 to 3 feet of elevation change.

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any agricultural land of long-term commercial significance and whether the proposal results in removing any of these soils. [\[help\]](#)

The subsurface lithology consists predominantly of silty sand, with lesser units of silt, sandy silt, sand, and silty gravel. Minor amounts of gravel are found in many of the silty sand and sand units. Densities of the deposits range from loose near the surface to very dense at depth. Dense to very dense soil was typically encountered in the borings at depths greater than 30 to 40 feet below ground surface (bgs), although at some locations, dense to very dense soil was encountered as shallow as 10 feet bgs. The lithologies encountered below-grade comprise the following stratigraphic units (from youngest to oldest): fill, recent (post-glacial) lacustrine deposits, glacial till or ice-contact deposits of the most recent glacial advance (Vashon Stade of the Frasier Glaciation), and Vashon or pre-Vashon glacial (outwash or drift) or inter-glacial deposits. The thickness of the fill is greatest to the east, near the southern extent of Lake Union.

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe. [\[help\]](#)

No.

e. Describe the purpose, type, total area, and approximate quantities and total affected area of any filling, excavation, and grading proposed. Indicate source of fill. [\[help\]](#)

No filling, excavation, or grading is part of this proposal.

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe. [\[help\]](#)

The interim action does not include any clearing activities. Drilling to install the injection and monitoring wells, and to decommission existing wells will not cause any erosion of existing surface soil. Soil cuttings generated during drilling will be appropriately

containerized to prevent any erosion of these materials. Erosion will not occur as a result of the drilling and well decommissioning activities.

- g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)? [\[help\]](#)

The interim actions will not modify the amount of impervious surfaces on the site.

- h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any: [\[help\]](#)

Erosion is not expected - see response to item "1f" above.

2. Air [\[help\]](#)

- a. What types of emissions to the air would result from the proposal during construction, operation, and maintenance when the project is completed? If any, generally describe and give approximate quantities if known. [\[help\]](#)

The proposed actions are not expected to cause significant emissions to air. Minor localized emissions to air will occur from the drilling rig and associated support vehicle exhaust during well installation and decommissioning activities. There will be emissions from trucks associated with transportation of materials to and from the Property during the well installation and injection activities and emissions from the on-site drilling rig during the well installation activities. During the injection activities, a gas-powered air compressor and generator will be in operation. After the project is completed, there will be no air emissions. The proposed action is not expected to result in violations of ambient air quality standards.

- b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe. [\[help\]](#)

No.

- c. Proposed measures to reduce or control emissions or other impacts to air, if any: [\[help\]](#)

There are no proposed measures beyond using well-maintained vehicles and equipment.

3. Water [\[help\]](#)

- a. Surface Water:

- 1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into. [\[help\]](#)

There are no surface water bodies on the Property. The closest surface water body to the Property is Lake Union, located approximately approximately 600 feet northeast of the Property. (Figure 1).

2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans. [\[help\]](#)

No.

3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material. [\[help\]](#)

Not applicable.

4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known. [\[help\]](#)

No.

5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan. [\[help\]](#)

No.

6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge. [\[help\]](#)

No.

b. Ground Water:

1) Will groundwater be withdrawn from a well for drinking water or other purposes? If so, give a general description of the well, proposed uses and approximate quantities withdrawn from the well. Will water be discharged to groundwater? Give general description, purpose, and approximate quantities if known. [\[help\]](#)

Water to be withdrawn

The injection and monitoring wells will require limited amounts of water to be withdrawn as part of this proposal. Well development includes removing volumes of water from each well in order to remove sediment and create a hydraulic connection to the surrounding aquifer. The well development water will be stored in tanks on-Property pending proper disposal.

As indicated in the response to Question # 11, construction dewatering will be required for the duration of the excavation activities and will continue for approximately 14 months (ending in early 2020). The dewatering system will be designed by the building design team in coordination with the construction contractor, and will generally consist of dewatering wells located around the edge of the shoring walls. An expected flow rate has not yet been estimated by the designers but, based on similar dewatering conducted on nearby properties, flow rates could be in the range of 100 to 300 gpm. Extracted groundwater will be treated prior to discharge to a City of Seattle storm drain pursuant to the requirements of an CSWGP to be obtained for the project and the conditions set forth in an Administrative Order to be issued by Ecology to facilitate the treatment and establish discharge limits.

Groundwater will also be withdrawn during this proposal to collect samples from chemical analysis. Groundwater sampling will be conducted using low-flow practices,

which include purging minor amounts of groundwater from the wells prior to sample collection. The purge water will be stored on-site in tanks pending proper disposal.

Water to be discharged to groundwater

During the ISCO source area injection activities, a 30% solution of hydrogen peroxide will be diluted with water obtained from a fire hydrant located adjacent to the property. During the initial injection round, a standard oxidizer concentration of 3 to 12 percent will be used. The concentrations of hydrogen peroxide in the first few injection wells will be low, in the 3-6% range, until injection pressures are evaluated. Concentrations will be increased as the injections proceed up to the target concentration of 12 percent, as injection pressures allow. Lower permeability zones (e.g., Treatment Zone 3) may require lower peroxide concentrations to avoid excessive buildup of gas in the soil matrix which would require excessively high injection pressures to overcome. The diluted hydrogen peroxide and a neutral pH chelated iron catalyst comprise the MFR reagents to be injected. An estimated 150,480 to 269,280 gallons of reagent will be injected over the course of the three ISCO injection events.

Reagents will be injected into the subsurface using injection wells in a five-step process. The first step is injecting approximately 10 to 25 gallons of water into the subsurface, followed by approximately 190 to 340 gallons of catalyst. An additional 10 to 25 gallons of water will then be injected to flush the catalyst away from the screen. Following the water flush, approximately 190 to 340 gallons of oxidizer will be injected into the subsurface. The last step is a final water injection to flush the oxidizer from the injection equipment. It is important to note that the actual volume injected will depend upon the lithology, surfacing, injection flow rate, pressure and radial effects noted during injection.

During the ERD source area injection activities, the ERD injections may be initiated with injection of only a sodium lactate solution to accelerate the transition from the aerobic and high ORP conditions that are likely to be present after ISCO injections to the anaerobic and reducing conditions needed to support ERD. Approximately 50 to 150 gallons of a 1 to 5 percent sodium lactate solution may be injected into select injection wells to precondition the aquifer. Sodium lactate, a fast-release carbon source, is a commonly used carbon substrate for ERD.

Following this initial pre-conditioning step, the EVO solution will be injected. The anticipated EVO dose rate, based on the Property-specific soil and groundwater characteristics, CVOC concentrations, and standard industry practices for EVO application, is initially set at 5 percent; however, actual solutions to be injected may range from 2 to 10 percent EVO. Commercially available EVO products used for remediation contain a nominal amount of sodium lactate (generally less than 5 percent). Additional sodium lactate will be added to the EVO solution to further assist the transition to anaerobic and reducing conditions. Based on an expected 15-foot radius of influence, a 15-foot injection well screen length, and the goal of injecting enough EVO solution to displace 7 to 10 percent of the pore volume, the total target injection volume for each well will be approximately 2,500 gallons (for a total of 330,000 gallons). Site conditions (e.g., required injection pressures, hydraulic conductivity) may not allow this volume of EVO to be injected in all wells.

A pH buffer may be included in the carbon substrate solution in efforts to maintain pH in a range favorable for dechlorinating bacteria. As a result of fermentation by soil microbes following carbon addition, groundwater pH can drop if the aquifer is not sufficiently buffered. Bicarbonate buffers are commonly used for ERD in order to keep groundwater pH in the injection zone to a range of 6.0 to 7.5 to maintain remedial performance. An additional benefit of injecting a pH

buffer is that reductive dechlorination rates have been observed to be approximately four times higher in the laboratory at pH 7 compared to pH 6. Site-specific bicarbonate demand is difficult to estimate prior to remediation, as different geochemical conditions and microbial activity will be generated following application of ISCO and injection of carbon substrate. A dosage approximately equivalent to 0.5 to 2 pounds of sodium bicarbonate per gallon of 60 percent EVO shipped is anticipated.

Bioaugmentation (addition of dechlorinating bacteria) will also be conducted concurrent with the EVO injections. The bioaugmentation cultures (e.g., KB-1 or SDC-9) are anaerobic bacterium, and exposure to oxygen has been demonstrated to reduce activity and viability. Therefore, the culture solution will be kept in the shipping vessels, under anoxic conditions, until they are injected. To minimize exposure to oxygen, a small volume of anaerobic water will be injected immediately before and immediately after injection of the bacterial culture (approximately 10 to 15 gallons before and after). Specific bioaugmentation dosage is anticipated to be between 0.5 and 1.5 liters per well; however, higher concentrations of bioaugmentation may be applied to targeted areas based on groundwater conditions following ISCO injections. To optimize delivery of the dechlorinating bacteria, the bioaugmentation solution will also be injected in the middle of EVO injection as follows:

- Inject approximately 1/2 to 2/3 of the EVO solution;
- Inject the bioaugmentation culture (i.e., 10 gallons anoxic water, bioaugmentation culture, 10 gallons anoxic water); and
- Inject remaining carbon substrate solution per injection point. This final injection of EVO solution will help distribute the dechlorinating bacteria into the water bearing zones.

It is important to note that the above approach may be changed based on field conditions, observations, and monitoring conducted during the three rounds of ISCO injections. For example, if injection wells in a portion of a treatment zone will not readily take 2,500 gallons of EVO, the concentration of EVO in the solution may be increased and the volume of solution injected reduced so that a similar quantity of carbon substrate can be injected in a smaller volume.

The injection of EVO and amendments into the PIWN will be performed similar to the source area EVO injections.

- 2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals. . . ; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve. [\[help\]](#)

Not applicable.

c. Water runoff (including storm water):

- 1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe. [\[help\]](#)

Storm water runoff at the property occurs from rainfall on impervious surfaces. The runoff flows into catch basins located on the Property and then into the local storm drainage system. This proposal will not result in additional runoff.

2) Could waste materials enter ground or surface waters? If so, generally describe. [\[help\]](#)

Minor amounts of soil from the drill cuttings could enter the storm sewer system; however, BMPs will be implemented (including sweeping and clean work areas) to minimize soil from entering the storm sewer catch basins.

3) Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe. [\[help\]](#)

No.

d. Proposed measures to reduce or control surface, ground, and runoff water, and drainage pattern impacts, if any: [\[help\]](#)

See response to "3.c.2" above.

4. Plants [\[help\]](#)

a. Check the types of vegetation found on the site: [\[help\]](#)

deciduous tree: alder, maple, aspen, other

evergreen tree: fir, cedar, pine, other

shrubs

grass

pasture

crop or grain

Orchards, vineyards or other permanent crops.

wet soil plants: cattail, buttercup, bullrush, skunk cabbage, other

water plants: water lily, eelgrass, milfoil, other

other types of vegetation

b. What kind and amount of vegetation will be removed or altered? [\[help\]](#)

No vegetation will be removed as part of this proposal.

c. List threatened and endangered species known to be on or near the site. [\[help\]](#)

No threatened or endangered species are known to be on or near the Property.

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any: [\[help\]](#)

None.

e. List all noxious weeds and invasive species known to be on or near the site. [\[help\]](#)

None are known.

5. Animals [\[help\]](#)

- a. List any birds and other animals which have been observed on or near the site or are known to be on or near the site. [\[help\]](#)

The Property is in an urban area and small mammals such as rodents and squirrels and birds such as sea gulls, crows, and pigeons may be present in the area.

- b. List any threatened and endangered species known to be on or near the site. [\[help\]](#)

None.

- c. Is the site part of a migration route? If so, explain. [\[help\]](#)

The areas affected by this proposal are urban and do not include rare or unique habitat or areas where migrating birds are likely to stop..

- d. Proposed measures to preserve or enhance wildlife, if any: [\[help\]](#)

None.

- e. List any invasive animal species known to be on or near the site. [\[help\]](#)

None.

6. Energy and Natural Resources [\[help\]](#)

- a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc. [\[help\]](#)

Diesel and gasoline will be used for the drilling rigs, trucks, pumping and mixing equipment, and generators.

- b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe. [\[help\]](#)

No

- c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any: [\[help\]](#)

None, other than ensuring efficient use of the drilling rig operations and injection equipment.

7. Environmental Health [\[help\]](#)

- a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe. [\[help\]](#)

The interim actions and pending cleanup actions are being designed to protect human health and the environment from Property-related contamination. See below for a discussion of the environmental health hazards associated with the interim actions.

- 1) Describe any known or possible contamination at the site from present or past uses.

[\[help\]](#)

The primary sources of contamination at the Property were: (1) spills and releases of tetrachloroethene (PCE)-containing liquids from former laundry and dry cleaning operations at the Property, and (2) spills and releases of petroleum hydrocarbons from former underground storage tanks at the Property. The primary contaminants in both soil and groundwater as a result of these releases include PCE, trichloroethene (TCE), cis-1,2-dichloroethene (cDCE), vinyl chloride (VC), gasoline range organics (GRO), diesel range organics (DRO), oil range organics (ORO), and benzene, toluene, ethylbenzene, and xylenes (BTEX). These chemicals are present in one or more of the following media beneath the Property: soil, soil vapor, and/or groundwater (see Public Review Draft Interim Action Work Plan for further details).

- 2) Describe existing hazardous chemicals/conditions that might affect project development and design. This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity. [\[help\]](#)

There are no known hazardous hazardous liquid or gas transmission lines that could affect the proposed interim actions. All underground utilities except storm water and sanitary sewer were disconnected when the buildings were demolished. There are above ground electrical wires along Roy Street, but they will be moved underground as part of the Property Development construction per the UMP approval.

The interim action will encounter subsurface soil and groundwater contamination, as described above. A health and safety plan has been prepared and is included in the Draft Interim Action Work Plan that describes the project specific health and safety requirements persons involved in performing the interim action, including procedures designed to reduce the potential for exposure or injury during implementation of the interim action, emergency response procedures, project emergency contact information, incident preparedness and spill response procedures, and a description of the types of contaminants expected to be encountered during the proposed work.

- 3) Describe any toxic or hazardous chemicals that might be stored, used, or produced during the project's development or construction, or at any time during the operating life of the project. [\[help\]](#)

Chemicals that will be used during the implementation of ISCO to reduce source mass on the Property include hydrogen peroxide at a concentration of 30% and dry catalyst required for reagent preparation. The 30% hydrogen peroxide will be stored in US Department of Transportation approved 55-gallon drums in a secure location on the Property.

The hydrogen peroxide and the catalyst will be stored at separate locations on the Property in such a way that, if a spill were to occur, the two would not come into contact with each other. The potential for combustion issues associated with the presence of hydrogen peroxide, a strong oxidizer, are minimized since a maximum solution of 30% will be delivered to the Property. Flammable materials (i.e., gasoline) will not be stored near the peroxide or in locations where a peroxide spill could occur.

The MFR components are not combined at the surface. The peroxide and catalyst only come into contact with one another in the subsurface. Additional precautions are taken to prevent reactions in the injection equipment by flushing all equipment with water between separate injections of each reagent.

Only injection contractor employees with appropriate training will handle and store hydrogen peroxide and catalyst to complete this interim action. These employees have also received specific training in the personal protective equipment required to handle these chemicals safely. A fire extinguisher and eye-wash station will be on-Property at all times during injection events.

The ERD/EVO injection materials are not considered toxic or hazardous.

- 4) Describe special emergency services that might be required. [\[help\]](#)

None are anticipated. The City of Seattle Fire Department or medical services will be called if there is an emergency.

- 5) Proposed measures to reduce or control environmental health hazards, if any: [\[help\]](#)

Site personnel will be aware of potential conditions that could cause a spill and will take preventative measures before a spill occurs. Safe storage and handling procedures are discussed above.

The tanks used to dilute the peroxide and to mix and store the catalyst are oversized to prevent spillage from the tanks. If a small spill, less than five gallons, of peroxide occurs to the ground surface, water will be used to dilute it further and actions taken to prevent the fluid from entering any storm drains while the fluid is soaked up with clay sorbent. If a larger spill of peroxide occurs, the same procedure will be followed and any excess liquid will be pumped into a clean empty storage tank or approved drum. If a small spill (less than 5 gallons) of catalyst occurs, it will be contained and soaked up with sorbent pads, then placed in a steel or poly drum. If a large spill of catalyst occurs, it will be contained and pumped into the storage tank with an air diaphragm pump. If a spill of dry catalyst occurs, it will be swept up and placed in a poly bag.

Work will stop immediately if a spill occurs and will not restart until after the spill is cleaned up and the cause of the spill is determined and corrected. All spilled materials will be disposed of properly.

In addition, the Health and Safety Plan and the use of PPE will control environmental health hazards. Personnel will be trained to work on Hazardous Waste sites, in accordance with WAC 296-843 (Safety Standards for Hazardous Waste).

- b. Noise [\[help\]](#)

- 1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)? [\[help\]](#)

Existing noise sources include traffic noise on adjacent streets and seaplane overflights. No existing noise sources in the area will adversely affect the project.

- 2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site. [\[help\]](#)

No long-term sources of noise are created by or associated with this proposal. The interim action will create short-term local noise including: typical heavy-duty construction equipment, drilling rig operations, and generator operations.

3) Proposed measures to reduce or control noise impacts, if any: [\[help\]](#)

The interim action construction activities will be conducted in accordance with the City of Seattle Noise Ordinance (SMC 25.08), which limits construction noise from 7:00 am to 10:00 pm on weekdays. It is anticipated that this project's work hours will be 7:00 am to 5:00 pm on weekdays only.

8. Land and Shoreline Use [\[help\]](#)

a. What is the current use of the site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties? If so, describe. [\[help\]](#)

The Property is currently vacant. The Property is bordered by Dexter Avenue North, Valley Street, 8th Avenue North, and Roy Street.

The proposal will not affect current land uses on nearby or adjacent properties. The block immediately west of Dexter Avenue North contains an office building with at-grade parking and an apartment complex with street level retail shops and subgrade parking. The property immediately north of Valley Street is an apartment complex with street level retail shops and subgrade parking. The property immediately east of 8th Avenue North is used by Seattle City Light as a maintenance facility for vehicles and equipment. The property immediately south of Roy Street is currently vacant and used for construction staging and parking.

b. Has the project site been used as working farmlands or working forest lands? If so, describe. How much agricultural or forest land of long-term commercial significance will be converted to other uses as a result of the proposal, if any? If resource lands have not been designated, how many acres in farmland or forest land tax status will be converted to nonfarm or nonforest use? [\[help\]](#)

The Property was likely not used for working farmlands or working forest lands. Residences existed on the Property from at least 1893 until 1925.

1) Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversize equipment access, the application of pesticides, tilling, and harvesting? If so, how: [\[help\]](#)

No, the project is in an urban area.

c. Describe any structures on the site. [\[help\]](#)

No buildings are currently present at the Property.

d. Will any structures be demolished? If so, what? [\[help\]](#)

No.

- e. What is the current zoning classification of the site? [\[help\]](#)

The Property is currently zoned Seattle Mixed South Lake Union 175/85-280.

- f. What is the current comprehensive plan designation of the site? [\[help\]](#)

The Future Land Use Map of the Seattle 2035 Comprehensive Plan indicates that the property is designated as Urban Center for commercial/mixed use and the Property is in the South Lake Union Neighborhood.

- g. If applicable, what is the current shoreline master program designation of the site? [\[help\]](#)

Not applicable.

- h. Has any part of the site been classified as a critical area by the city or county? If so, specify. [\[help\]](#)

No portion of the Property is designated by the City of Seattle as an environmentally critical area.

- i. Approximately how many people would reside or work in the completed project? [\[help\]](#)

No people would work or reside at the Property after these interim actions are completed.

- j. Approximately how many people would the completed project displace? [\[help\]](#)

None; the property is vacant.

- k. Proposed measures to avoid or reduce displacement impacts, if any: [\[help\]](#)

Not applicable.

- l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any: [\[help\]](#)

These interim actions are being performed prior to the planned development of the Property to remediate contaminated soil and groundwater at the Property. The proposal is compatible with the planned Property development and consistent with the commercial/mixed uses identified in the City of Seattle Comprehensive Plan.

- m. Proposed measures to reduce or control impacts to agricultural and forest lands of long-term commercial significance, if any: [\[help\]](#)

Not applicable.

9. Housing [\[help\]](#)

- a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing. [\[help\]](#)

No housing will be provided as part of this proposal.

- b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing. [\[help\]](#)

No housing will be eliminated as part of this proposal.

- c. Proposed measures to reduce or control housing impacts, if any: [\[help\]](#)

Not applicable.

10. Aesthetics [\[help\]](#)

- a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed? [\[help\]](#)

Not applicable.

- b. What views in the immediate vicinity would be altered or obstructed? [\[help\]](#)

None.

- b. Proposed measures to reduce or control aesthetic impacts, if any: [\[help\]](#)

Not applicable.

11. Light and Glare [\[help\]](#)

- a. What type of light or glare will the proposal produce? What time of day would it mainly occur? [\[help\]](#)

None is anticipated.

- b. Could light or glare from the finished project be a safety hazard or interfere with views? [\[help\]](#)

No, all injection and monitoring wells will be installed and completed at grade and will not interfere with views.

- c. What existing off-site sources of light or glare may affect your proposal? [\[help\]](#)

No offsite sources of light are anticipated to have any adverse effects to the proposal.

- d. Proposed measures to reduce or control light and glare impacts, if any: [\[help\]](#)

None are necessary.

12. Recreation [\[help\]](#)

- a. What designated and informal recreational opportunities are in the immediate vicinity? [\[help\]](#)

Lake Union Park is located approximately three blocks east of the Property, Denny Park is located five blocks south of the Property, and Seattle Center is located five blocks southwest of the Property.

- b. Would the proposed project displace any existing recreational uses? If so, describe. [\[help\]](#)

No.

- c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any: [\[help\]](#)

None are required as the proposal is not expected to impact recreation in the area surrounding the Property.

13. Historic and cultural preservation [\[help\]](#)

- a. Are there any buildings, structures, or sites, located on or near the site that are over 45 years old listed in or eligible for listing in national, state, or local preservation registers? If so, specifically describe. [\[help\]](#)

There are no buildings on the Property.

- b. Are there any landmarks, features, or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources. [\[help\]](#)

No.

- c. Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archeology and historic preservation, archaeological surveys, historic maps, GIS data, etc. [\[help\]](#)

A cultural resources assessment is being prepared for the Property consistent with the requirements of the Washington State Department of Archeological and Historic Preservation (DAHP) and will be completed in January 2018. The parcel is within the Government Meander Line Buffer Area making the project subject to the SEPA Historic Preservation Policy and provides guidance for identification, protection, and treatment of archaeological sites on Washington's shorelines. Many of Washington's existing and former shoreline areas may be sites of potential archaeological significance due to settlement patterns of Native Americans and early Euroamericans. Archeological sites and resources may be directly or indirectly threatened by development or redevelopment projects, and the SEPA policy provides the opportunity for analysis of these sites.

The cultural resources assessment will rely largely on information collected for the previous assessment of nearby parcels in South Lake Union. File checks will be updated and a parcel-specific review of historic maps and other resources will be completed. Any available geotechnical data from project development or other on-line sources will be reviewed for evidence of subsurface conditions.

The results of these investigations will be combined with information about depth of excavation for the project to predict the potential for affecting historic or prehistoric archaeological sites. The archaeological assessment will present the results of background research, as well as discussions as needed of ways to complete identification of archaeological sites and ways to avoid, minimize, or mitigate potential impacts. The assessment may result in recommendations for additional archaeological investigations such as subsurface testing using mechanical equipment or archaeological

monitoring during construction. The Cultural Resource Assessment and its recommendations will be submitted to DAHP

A preliminary review of the Washington Information System for Architectural & Archaeological Records Data online dataset (conducted on September 14, 2017) did not identify any potential impacts.

- d. Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required. [\[help\]](#)

Not applicable.

14. Transportation [\[help\]](#)

- a. Identify public streets and highways serving the site or affected geographic area and describe proposed access to the existing street system. Show on site plans, if any. [\[help\]](#)

Dexter Avenue North borders the Property to the west, Valley Street borders the Property to the north, 8th Avenue North borders the Property to the east, and Roy Street borders the Property to the south (Figure 2). Major arterials and highways in the vicinity of the Project include Mercer Street, Aurora Avenue North, and Interstate 5. The Property is currently accessed via a gated driveway on Valley Street.

- b. Is the site or affected geographic area currently served by public transit? If so, generally describe. If not, what is the approximate distance to the nearest transit stop? [\[help\]](#)

Yes, the Property is served by the King County Metro public bus transportation, with bus stops in both directions at the intersection of Roy Street and Dexter Avenue N.. Bus route 62 services these stops. The South Lake Union Streetcar operates nearby, with stops at Westlake Avenue North and Mercer and at the Lake Union Park.

- c. How many additional parking spaces would the completed project or non-project proposal have? How many would the project or proposal eliminate? [\[help\]](#)

Not applicable.

- d. Will the proposal require any new or improvements to existing roads, streets, pedestrian, bicycle or state transportation facilities, not including driveways? If so, generally describe (indicate whether public or private). [\[help\]](#)

No.

- e. Will the project or proposal use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe. [\[help\]](#)

A limited amount of contaminated soil generated during injection well installation will be transported by truck to the approved disposal facility. Pending waste characterization and the selection of the waste disposal company, ultimate disposal of the soil generated as a result of the drilling and well decommissioning activities may require subsequent rail transportation to the final disposal facility.

The project is not located in the immediate vicinity of water or rail-based transportation. The Property is, however, located two blocks southwest of the Kenmore Air Seaplane Base, an international facility on Lake Union.

- f. How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and nonpassenger vehicles). What data or transportation models were used to make these estimates? [\[help\]](#)

No additional vehicular trips are anticipated upon completion of the interim action described in this proposal (i.e., after all of the injection wells are installed and chemical injections have been completed). During implementation of the interim action, 2 to 4 vehicular trips per day are anticipated during the installation of the injection wells and during chemical injections.

- g. Will the proposal interfere with, affect or be affected by the movement of agricultural and forest products on roads or streets in the area? If so, generally describe. [\[help\]](#)

No.

- h. Proposed measures to reduce or control transportation impacts, if any: [\[help\]](#)

Traffic control services will assist to reduce impacts to vehicle traffic. The types of traffic control that will be implemented are temporary lane closures with signage and police officers to direct traffic as required by the UMP.

15. Public Services [\[help\]](#)

- a. Would the project result in an increased need for public services (for example: fire protection, police protection, public transit, health care, schools, other)? If so, generally describe. [\[help\]](#)

No, increased public services are not anticipated.

- b. Proposed measures to reduce or control direct impacts on public services, if any. [\[help\]](#)

None required.

16. Utilities [\[help\]](#)

- a. Circle utilities currently available at the site: [\[help\]](#)
electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system,
other _____

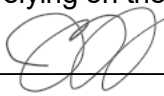
None.

- b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed. [\[help\]](#)

There are no new utilities to be installed as a part of this this interim action. As described previously, sanitary sewer and storm sewer lines are present at the Property. Water will be obtained from a nearby fire hydrant with water services provided by Seattle Public Utilities. Stormwater will continue to flow into catch basins and the local storm drainage system (operated by Seattle Public Utilities) as described above in "3. c. 1)."

C. Signature [\[help\]](#)

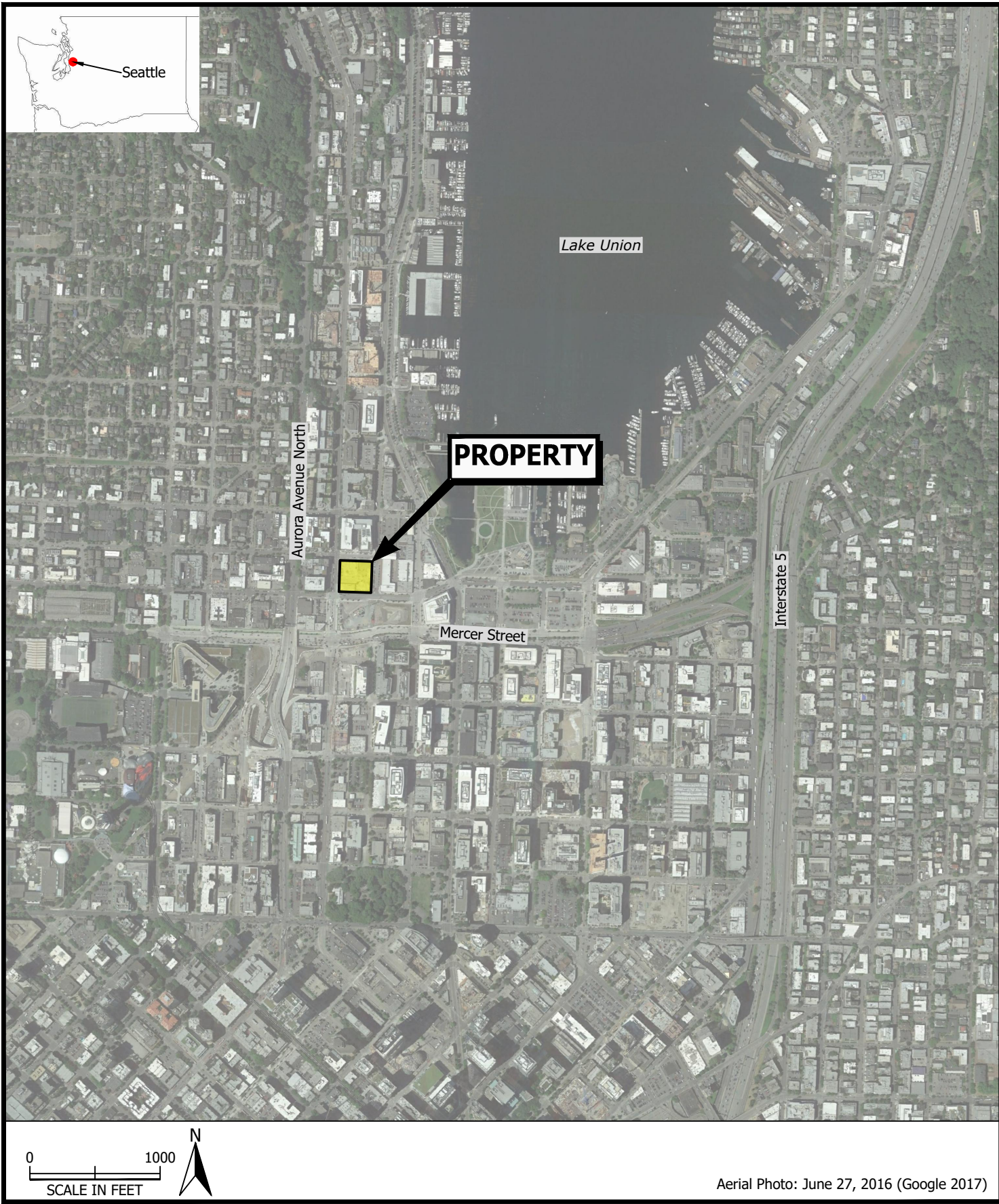
The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature:  _____

Name of signee John Moshy _____

Position and Agency/Organization Director, Development, BMR-Dexter LLC _____

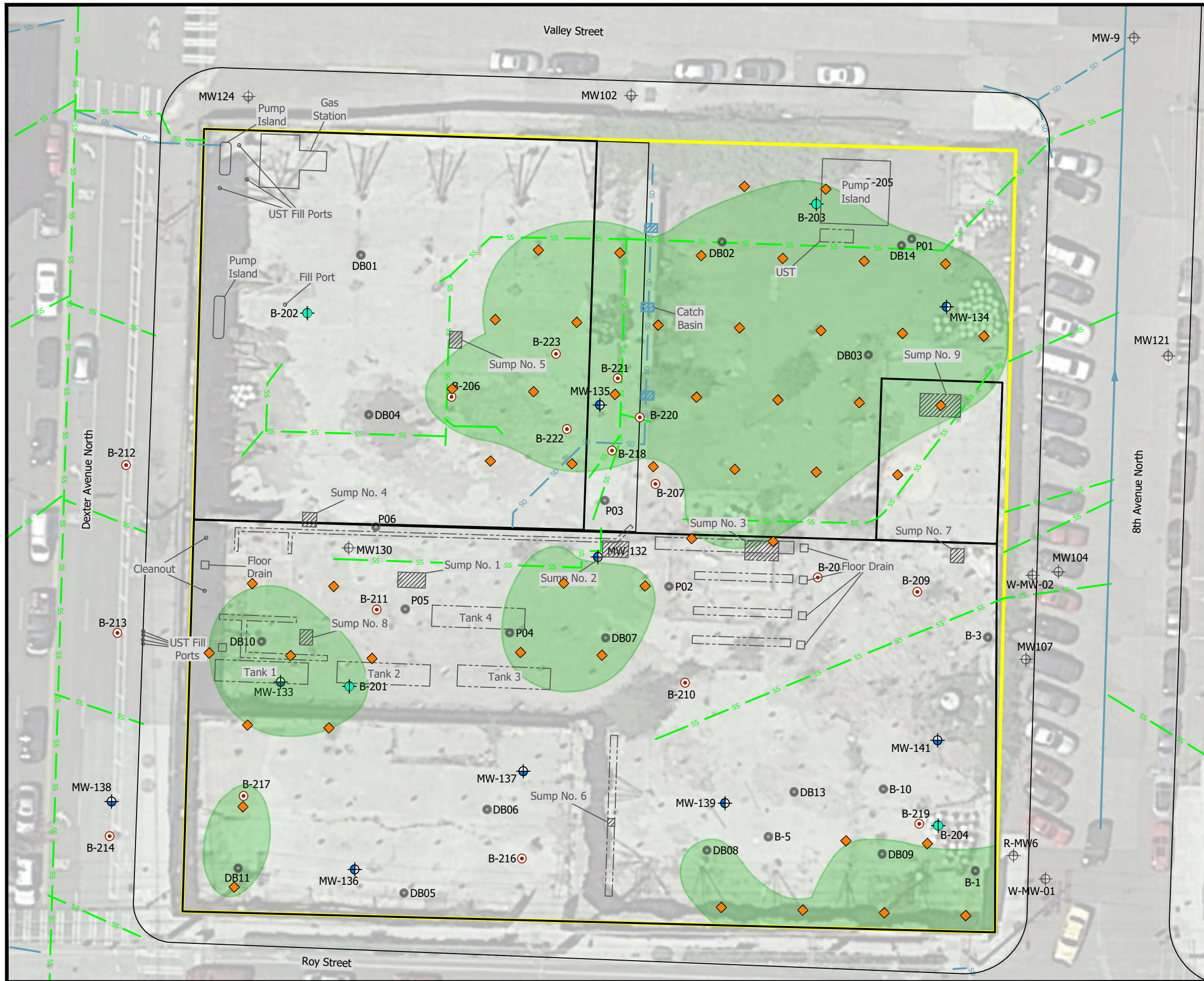
Date Submitted: 1/9/2018 _____



PES Environmental, Inc.
Engineering & Environmental Services

Property Location
Former American Linen Supply
700 Dexter Avenue North
Seattle, Washington

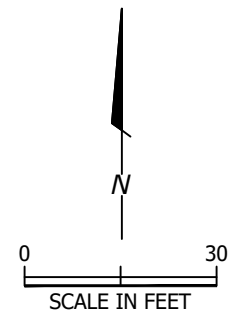
FIGURE
1



Explanation

- Approximate Property Boundary
- Sanitary Sewer Line
- Storm Drain Line
- Combined Main
- MW101 Shallow Monitoring Well
- MW107 Intermediate A Monitoring Well
- W-MW-02 Intermediate B Monitoring Well
- MW105 Deep Monitoring Well
- B-2 Soil Boring Location
- MW-132 2017 Intermediate A Monitoring Well
- MW-134 2017 Intermediate B Monitoring Well
- MW-133 2017 Deep Monitoring Well
- B-205 2017 Soil Boring Location
- B-201 2017 Geotechnical Boring Location
- N 231800
E 1268300 Coordinate Reference Point
(NAD83, Washington State Plane North, US Feet)
- Treatment Zone Horizontal Extent
- Proposed Injection Well Location

Note: Only boring and well locations with soil data used in modeling are shown for clarity.

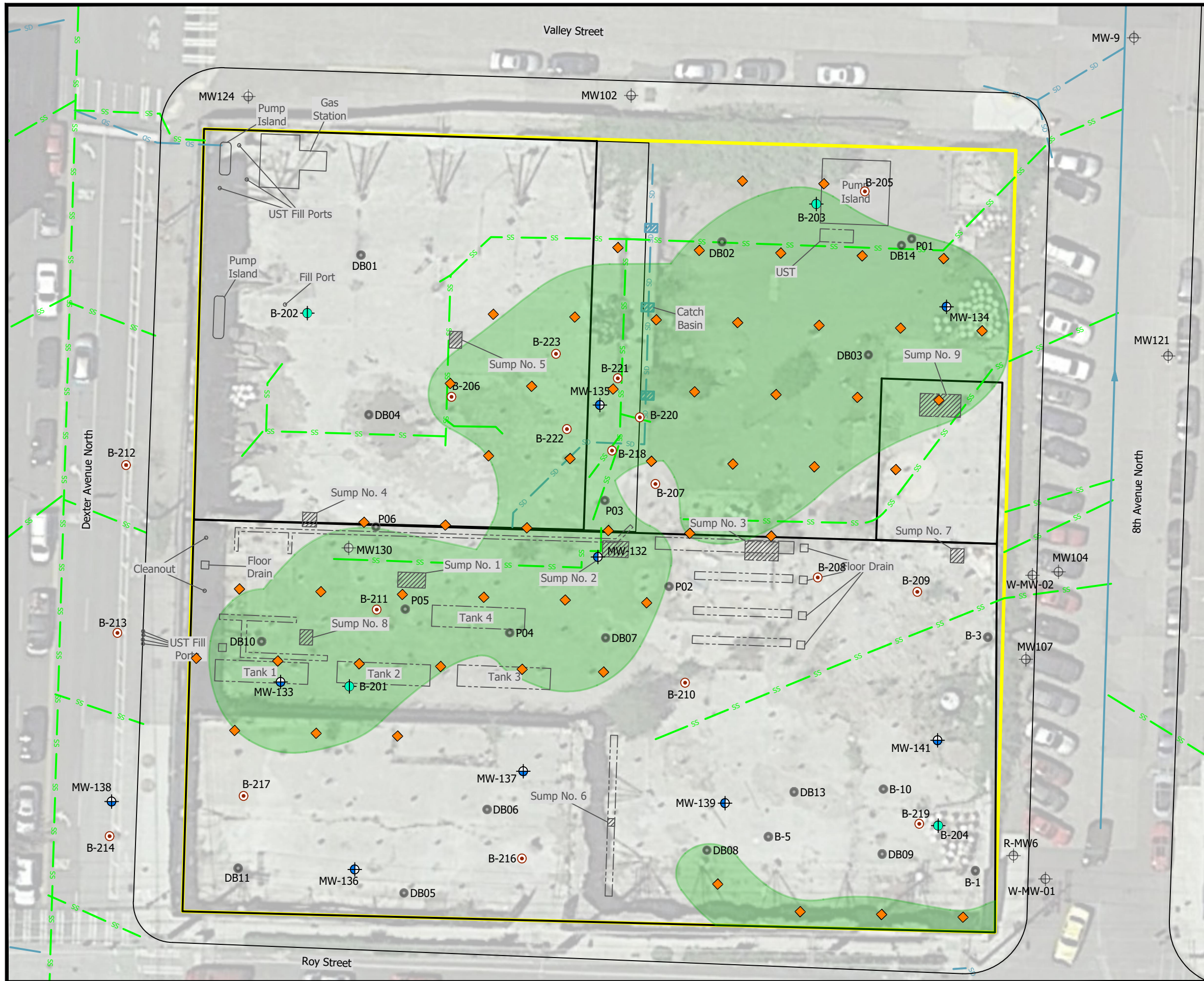


Aerial Photo: June 27, 2016 (Google 2017)

PES Environmental, Inc.
Engineering & Environmental Services

**Interim Action Treatment Zone A
Injection Well Plan**
Former American Linen Supply
700 Dexter Avenue North
Seattle, Washington

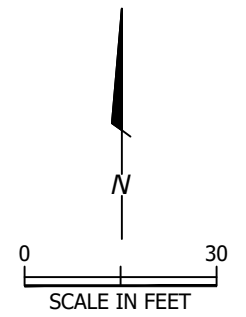
FIGURE
2



Explanation

- Approximate Property Boundary
- Sanitary Sewer Line
- Storm Drain Line
- Combined Main
- MW101 Shallow Monitoring Well
- MW107 Intermediate A Monitoring Well
- W-MW-02 Intermediate B Monitoring Well
- MW105 Deep Monitoring Well
- B-2 Soil Boring Location
- MW-132 2017 Intermediate A Monitoring Well
- MW-134 2017 Intermediate B Monitoring Well
- MW-133 2017 Deep Monitoring Well
- B-205 2017 Soil Boring Location
- B-201 2017 Geotechnical Boring Location
- Coordinate Reference Point (NAD83, Washington State Plane North, US Feet)
- Treatment Zone Horizontal Extent
- Proposed Injection Well Location

Note: Only boring and well locations with soil data used in modeling are shown for clarity.

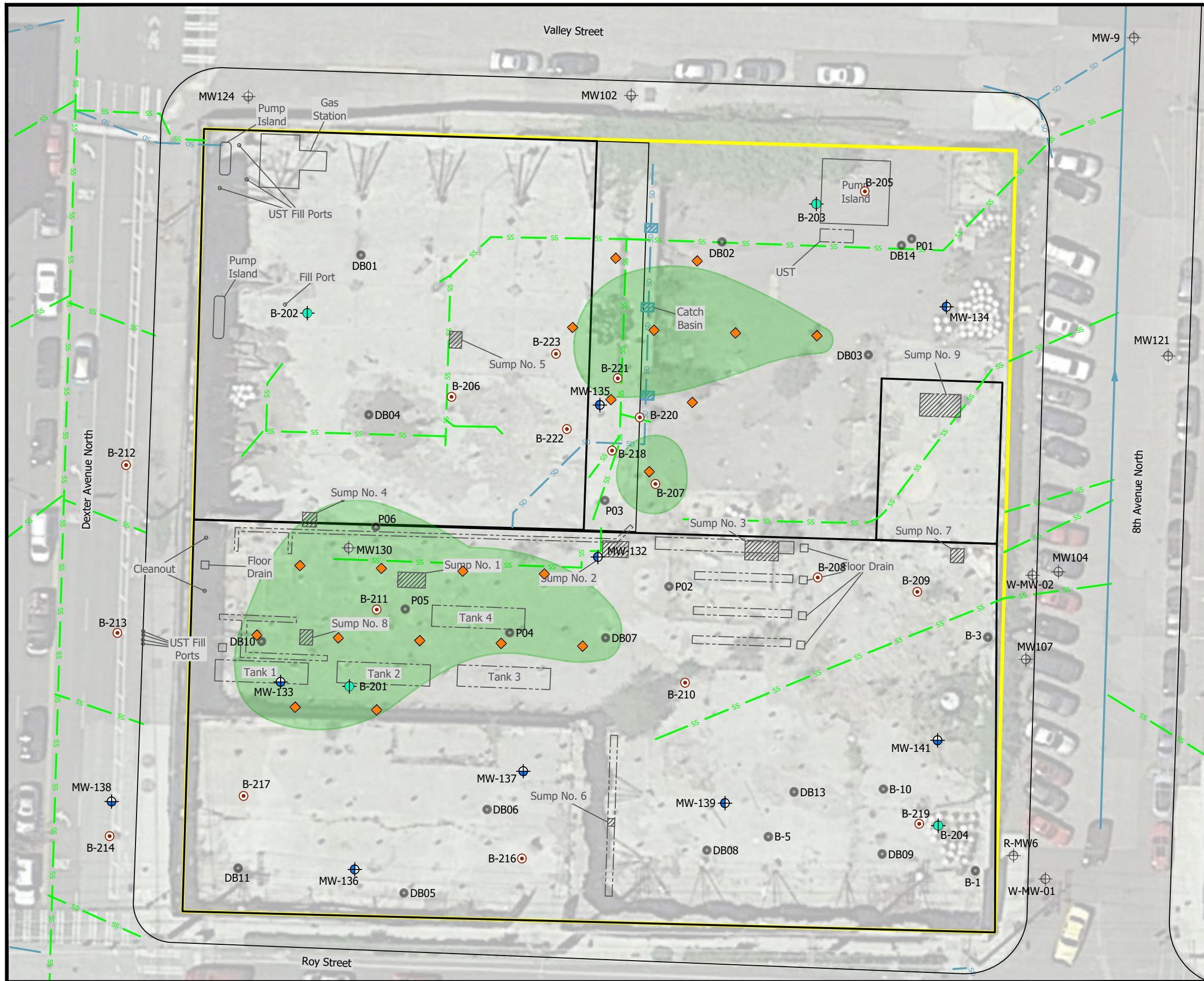


Aerial Photo: June 27, 2016 (Google 2017)

PES Environmental, Inc.
Engineering & Environmental Services

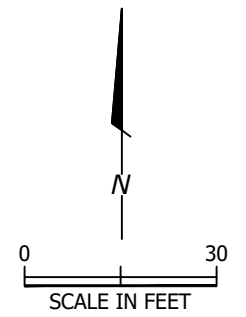
**Interim Action Treatment Zone B
Injection Well Plan**
Former American Linen Supply
700 Dexter Avenue North
Seattle, Washington

FIGURE
3



Explanation

- Approximate Property Boundary
- Sanitary Sewer Line
- Storm Drain Line
- Combined Main
- MW101 Shallow Monitoring Well
- MW107 Intermediate A Monitoring Well
- W-MW-02 Intermediate B Monitoring Well
- MW105 Deep Monitoring Well
- B-2 Soil Boring Location
- MW-132 2017 Intermediate A Monitoring Well
- MW-134 2017 Intermediate B Monitoring Well
- MW-133 2017 Deep Monitoring Well
- B-205 2017 Soil Boring Location
- B-201 2017 Geotechnical Boring Location
- N 231800
E 1268300 Coordinate Reference Point
(NAD83, Washington State Plane North, US Feet)
- Treatment Zone Horizontal Extent
- Note: Only boring and well locations with soil data used in modeling are shown for clarity.
- Proposed Injection Well Location

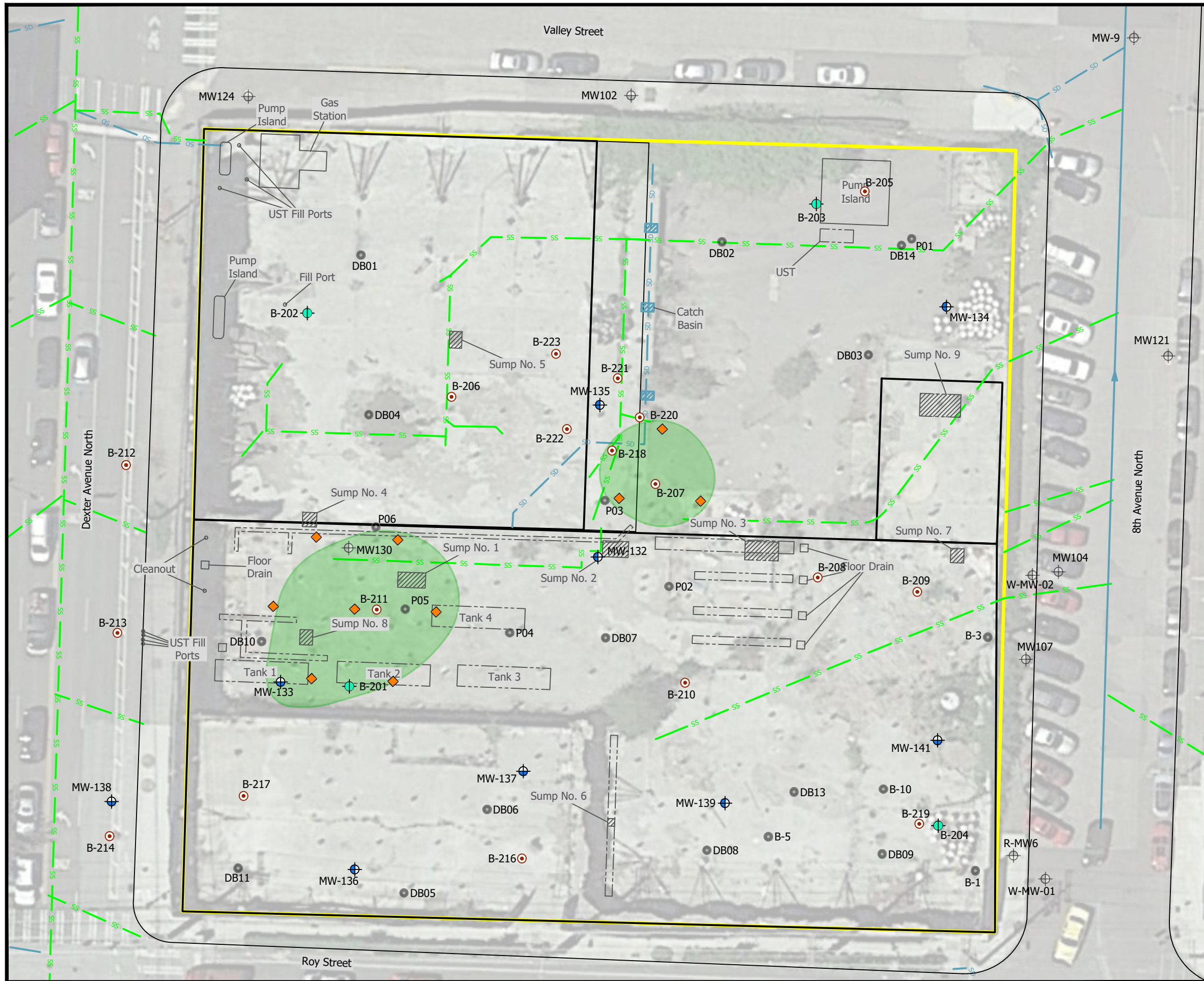


Aerial Photo: June 27, 2016 (Google 2017)

PES Environmental, Inc.
Engineering & Environmental Services

**Interim Action Treatment Zone C
Injection Well Plan**
Former American Linen Supply
700 Dexter Avenue North
Seattle, Washington

FIGURE
4

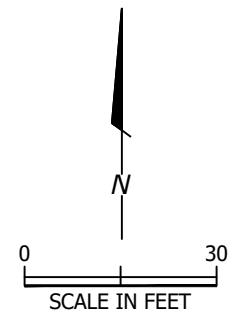


Explanation

- Approximate Property Boundary
- Sanitary Sewer Line
- Storm Drain Line
- Combined Main
- MW101 Shallow Monitoring Well
- MW107 Intermediate A Monitoring Well
- W-MW-02 Intermediate B Monitoring Well
- MW105 Deep Monitoring Well
- B-2 Soil Boring Location
- MW-132 2017 Intermediate A Monitoring Well
- MW-134 2017 Intermediate B Monitoring Well
- MW-133 2017 Deep Monitoring Well
- B-205 2017 Soil Boring Location
- B-201 2017 Geotechnical Boring Location
- N 231800
E 1268300 Coordinate Reference Point
(NAD83, Washington State Plane North, US Feet)
- Treatment Zone Horizontal Extent

Note: Only boring and well locations with soil data used in modeling are shown for clarity.

- Proposed Injection Well Location

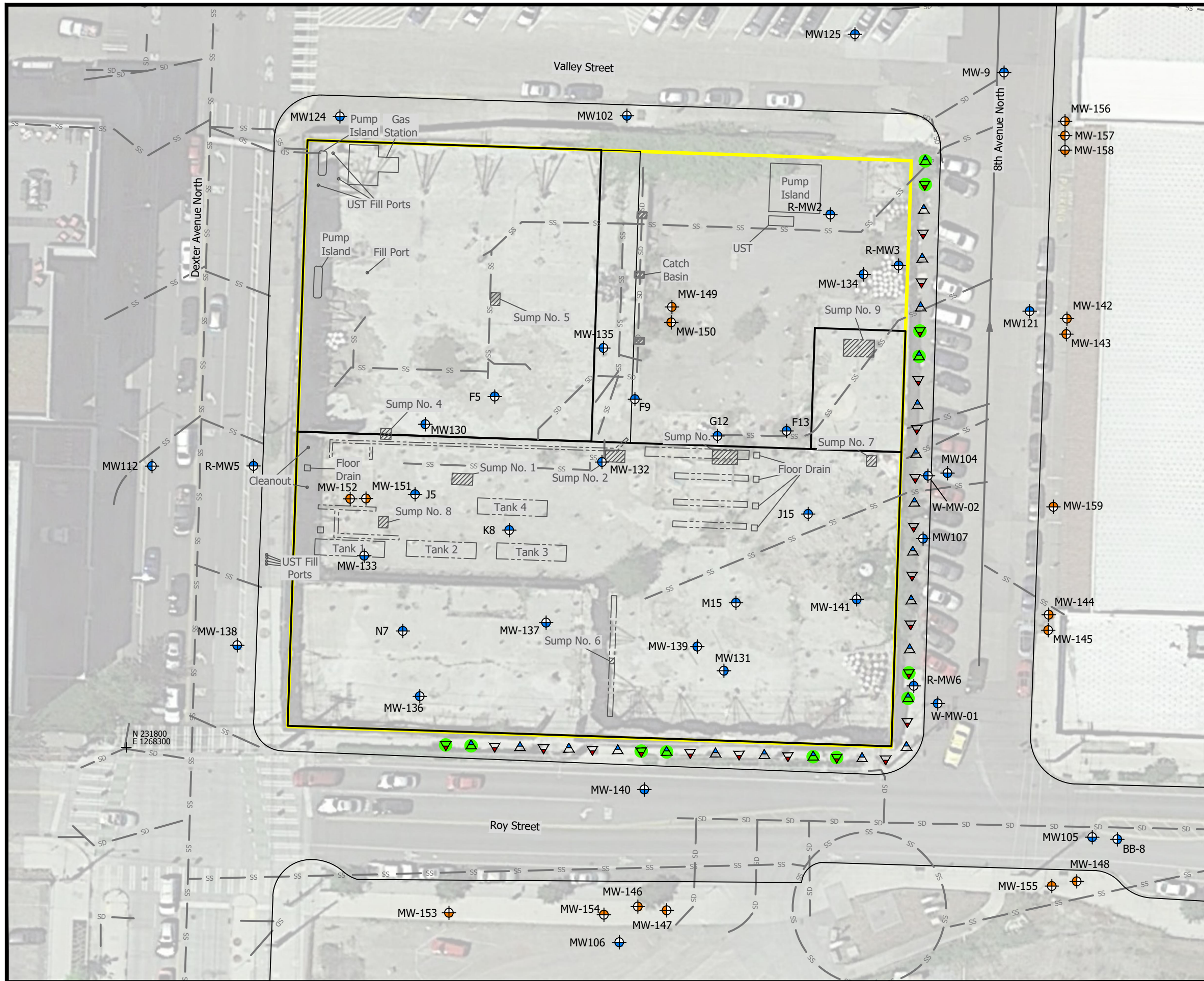


Aerial Photo: June 27, 2016 (Google 2017)

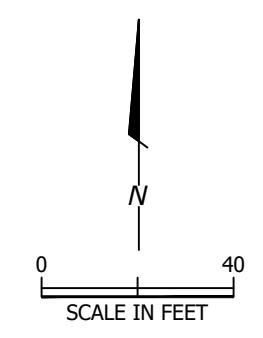
PES Environmental, Inc.
Engineering & Environmental Services

**Interim Action Treatment Zone D
Injection Well Plan**
Former American Linen Supply
700 Dexter Avenue North
Seattle, Washington

FIGURE
5



- Explanation**
- Approximate Property Boundary
 - Sanitary Sewer Line
 - Storm Drain Line
 - Combined Main
 - MW101 Shallow Monitoring Well
 - MW107 Intermediate A Monitoring Well
 - W-MW-02 Intermediate B Monitoring Well
 - MW105 Deep Monitoring Well
 - N 231800, E 1268300 Coordinate Reference Point (NAD83, Washington State Plane North, US Feet)
 - Type 1 Perimeter Injection Well
 - Type 2 Perimeter Injection Well
 - Proposed Shallow Monitoring Well
 - Proposed Intermediate A Monitoring Well
 - Proposed Intermediate B Monitoring Well
 - Proposed Deep Monitoring Well
 - Perimeter Injection wells to be sampled prior to injecting EVO



Aerial Photo: June 27, 2016 (Google 2017)

PES Environmental, Inc.
Engineering & Environmental Services

Interim Action Performance Monitoring Wells
Former American Linen Supply
700 Dexter Avenue North
Seattle, Washington

FIGURE **6**

1413.001.02.004 141300102004_SEPA_6 *DAB* 1/18
JOB NUMBER DRAWING NUMBER REVIEWED BY DATE