STATE OF WASHINGTON
KING COUNTY SUPERIOR COURT

STATE OF WASHINGTON, DEPARTMENT OF ECOLOGY, Plaintiff, v. 800 MERCER, LLC, Defendant.	NO. PROSPECTIVE PURCHASER CONSENT DECREE

TABLE OF CONTENTS

I. INTRODUCTION

A. The mutual objective of the State of Washington, Department of Ecology (Ecology) and 800 Mercer, LLC (Defendant) under this Decree is to: (1) resolve the potential liability of Defendant for contamination at the Seattle DOT Mercer Parcel (Site) arising from a release or threatened release of hazardous substances, in advance of Defendant purchasing an ownership interest in the Site, and (2) facilitate the cleanup of the Site for redevelopment and reuse as a commercial life sciences and biotech research hub with multiple community-benefit attributes. This Decree requires Defendant to perform certain remedial actions as part of redevelopment activities as outlined in Exhibit C (Cleanup Action Plan).

B. Ecology has determined that these actions are necessary to protect human health and the environment.

C. The Complaint in this action is being filed simultaneously with this Decree. An Answer has not been filed, and there has not been a trial on any issue of fact or law in this case. However, the Parties wish to resolve the issues raised by Ecology's Complaint. In addition, the Parties agree that settlement of these matters without litigation is reasonable and in the public interest, and that entry of this Decree is the most appropriate means of resolving these matters.

D. By signing this Decree, the Parties agree to its entry and agree to be bound by its terms.

E. By entering into this Decree, the Parties do not intend to discharge non-settling parties from any liability they may have with respect to matters alleged in the Complaint. The Parties retain the right to seek reimbursement, in whole or in part, from any liable persons for sums expended under this Decree.

F. This Decree shall not be construed as proof of liability or responsibility for any releases of hazardous substances or cost for remedial action nor an admission of any facts; provided, however, that Defendant shall not challenge the jurisdiction of Ecology in any proceeding to enforce this Decree.

G. The Court is fully advised of the reasons for entry of this Decree, and good cause having been shown:

Now, therefore, it is HEREBY ORDERED, ADJUDGED, AND DECREED as follows:

II. JURISDICTION

A. This Court has jurisdiction over the subject matter and over the Parties pursuant to the Model Toxics Control Act (MTCA), RCW chapter 70A.305.

B. Authority is conferred upon the Washington State Attorney General by RCW 70A.305.040(4)(a) to agree to a settlement with any potentially liable person (PLP) if, after public notice and any required public meeting, Ecology finds the proposed settlement would lead to a more expeditious cleanup of hazardous substances. In addition, under RCW 70A.305.040(5), the Attorney General may agree to a settlement with a person not currently liable for remedial action at a facility who proposes to purchase, redevelop, or reuse the facility, provided that: (1) the settlement will yield substantial new resources to facilitate cleanup; (2) the settlement will expedite remedial action consistent with the rules adopted under MTCA; and (3) Ecology determines based upon available information that the redevelopment or reuse of the facility is not likely to contribute to the existing release or threatened release, interfere with remedial actions that may be needed at the Site, or increase health risks to persons at or in the vicinity of the Site. RCW 70A.305.040(4)(b) requires that such a settlement be entered as a consent decree issued by a court of competent jurisdiction.

C. Ecology has determined that a release or threatened release of hazardous substances has occurred at the Site that is the subject of this Decree, and that the remedial actions required by this Decree are necessary to protect human health and the environment based on the planned future use of the Site as contemplated by the Parties under this Decree.

D. Defendant has not been named a PLP for the Site, and Defendant has certified under Section IX (Certification of Defendant) that it is not currently liable for the Site under MTCA. However, Defendant has entered into a purchase agreement to acquire the real property

located at 800 Mercer Street, Parcel Nos. 224900-0006 and 224900-0055 (Property) from the City of Seattle, the current owner of the Property. The Site is contained within the boundary of the Property. Defendant will incur potential liability under RCW 70A.305.040(1)(a) at the time it acquires an interest in the Site for performing remedial actions or paying remedial costs incurred by Ecology or third parties resulting from past releases or threatened releases of hazardous substances at the Site. This Decree settles Defendant's liability as described herein for this Site upon its purchase of the Property.

E. Ecology finds that this Decree will yield substantial new resources to facilitate cleanup of the Site; will lead to a more expeditious cleanup of hazardous substances at the Site in compliance with the cleanup standards established under RCW 70A.305.030(2)(e) and WAC 173-340; will promote the public interest by facilitating the redevelopment or reuse of the Site; and will not be likely to contribute to the existing release or threatened release at the Site, interfere with remedial actions that may be needed at the Site, or increase health risks to persons at or in the vicinity of the Site.

F. Defendant intends to redevelop the Property as a commercial life sciences and biotech research hub with multiple community-benefit attributes. Ecology has determined that this Decree will provide a substantial public benefit by providing for the reuse of a vacant property with a new development with multiple uses and features that will benefit the surrounding community, and by providing necessary and beneficial tax revenues for the City of Seattle.

G. Defendant has agreed to undertake the actions specified in this Decree and consents to the entry of this Decree under MTCA.

H. This Decree has been subject to public notice and comment.

III. PARTIES BOUND

This Decree shall apply to and be binding upon the Parties to this Decree, their successors and assigns. The undersigned representative of each Party hereby certifies that they are fully

authorized to enter into this Decree and to execute and legally bind such Party to comply with the Decree.

Defendant agrees to undertake all actions required by the terms and conditions of this Decree. No change in ownership or corporate status shall alter Defendant's responsibility under this Decree. Defendant shall provide a copy of this Decree to all agents, contractors, and subcontractors retained to perform work required by this Decree, and shall ensure that all work undertaken by such agents, contractors, and subcontractors complies with this Decree.

IV. DEFINITIONS

Unless otherwise specified herein, all definitions in RCW 70A.305.020 and WAC 173-340-200 shall control the meanings of the terms in this Decree.

A. Site: The Site is referred to as Seattle DOT Mercer Parcels Site and is generally located at 800 Mercer Street in Seattle, Washington. The Site is defined by those areas where a hazardous substance, other than a consumer product in consumer use, has been deposited, stored, disposed of, or placed or has otherwise come to be located, and is more generally described in the location diagram in Exhibit A. The Site constitutes a facility under RCW 70A.305.020(8). The Site is contained within the boundary of the Property as defined below, and is described in detail in the Cleanup Action Plan (CAP) attached as Exhibit C.

B. Property: Refers to the parcels located at 800 Mercer Street in Seattle, Washington (Parcel Nos. 224900-0006 and 224900-0055) that Defendant intends to purchase. A figure depicting the location of the Property is in Exhibit A. A legal description of the Property is attached as Exhibit B. The Site is contained within the boundary of the Property.

C. Parties: Refers to the State of Washington, Department of Ecology (Ecology) and 800 Mercer, LLC.

D. Defendant: Refers to 800 Mercer, LLC.

E. Consent Decree or Decree: Refers to this Prospective Purchaser Consent Decree and each of the exhibits to the Decree. All exhibits are integral and enforceable parts of this

Prospective Purchaser Consent Decree. The terms "Consent Decree" or "Decree" shall include all exhibits to this Prospective Purchaser Consent Decree.

V. FINDINGS OF FACTS

Ecology makes the following findings of fact without any express or implied admissions of such facts by Defendant.

A. The Site is located in Seattle, Washington. The Property, which contains the Site, is approximately 2.35 acres in size and is bounded by Mercer Street to the south, Roy Street to the north, Dexter Avenue to the west, and Ninth Avenue North to the east. The Property is relatively flat on the west side with an elevation of approximately 58 feet above the North American Vertical Datum of 1988 (NAVD88) and generally slopes down toward the east to an elevation of approximately 36 feet NAVD88. The Property is currently vacant with no aboveground structures. Portions of the western half of the Property are currently either paved with asphalt or concrete or are covered with gravel. The eastern portion of the Property is grass covered and contains two temporary sediment ponds for stormwater collection.

B. A King County combined sewer overflow (CSO) exists beneath the Property. The primary CSO system components include two pipelines, identified as the Lake Union and Mercer Street Tunnels, which join at a drop structure in the north central area of the Property. These underground structures were completed in 2004 and are part of the Denny Way/Lake Union Combined Sewer Overflow Control Project, a joint effort of King County and the City of Seattle. As early as 1893, the southern shoreline of Lake Union extended onto the northeast corner of the Property. By 1917, that area had been filled and the shoreline moved northward to its current location. Approximately 17 feet of fill was brought to the Property to raise the ground surface in the northeast area to its current elevation.

C. Residential dwellings were present on the Property from approximately the end of the 19th century to the 1950s. The Property was also used for a variety of commercial businesses from approximately 1917 to 2010. In the 2010s and as recently as 2019, the Property

was used for construction staging by the City of Seattle. Historical facilities and operations included:

i. A gasoline and service station that operated in the northwest corner of the Property from approximately 1929 to 1960.

ii. An automobile repair and service station operated in the central area of the Property from approximately 1930 to 1955.

iii. Several auto wrecking businesses that occupied a building on the northeast corner of the Property from approximately 1930 to 1955, while a parking lot at the southeast corner of the Property was used for storage of wrecked cars.

iv. A soap and chemical works facility that operated in the north-central portion of the Property from approximately 1925 to 1940.

v. Sign painting and/or painting companies that operated in the north-central portion of the Property from 1925 to 1930 and from 1944 to 1955.

vi. A sign painting business that operated in a building near the south-central portion of the Property from approximately 1975 to 1996.

vii. Retail painting stores that operated in the southwest portion of the Property in and around 1950.

D. Various rights-of-way (ROWs) divided the Property from approximately the end of the 19th century to 2012. The various ROWs that intersected the Property are described as follows:

i. As early as 1893, Vine Street ran north-south through the center of the Property and connected Roy and Mercer Streets. By 1905, Vine Street had been renamed Eighth Avenue North, which continued to bisect the Property until 1958.

ii. Between 1917 and 1936 until 1958, the western half of the Property was split diagonally by Broad Street, which ran from northeast-southwest along the surface from Eighth Avenue North to Dexter Avenue North.

iii. In 1958, Eighth Avenue North and Broad Street were vacated, and a new Broad Street alignment was constructed which ran diagonally across the entire Property from the northeast at Valley Street and Ninth Avenue North to the southwest at Dexter Avenue North and Mercer Street. The new Broad Street alignment (herein referred to as the Broad Street 1958–2012 alignment) sloped down about 20 feet to an underpass in the southwest corner of the Property that continued under the intersection of Dexter Avenue North and Mercer Street. Concrete retaining walls were present on the north and south sides of the Broad Street 1958–2012 alignment in the southwest corner of the Property. A secondary street that followed the former Broad Street alignment and connected Roy Street to Dexter Avene North was also constructed during this time.

E. From approximately 2012 to 2015, the Broad Street underpass was filled in to match the existing grades of Mercer Street and Dexter Avenue North, and all roadways within the boundaries of the Property were vacated as part of the City of Seattle's Mercer Corridor Project. The Mercer Corridor Project also included widening Mercer Street to its current extent, which moved the Mercer Street ROW northward onto the southeast corner of the Property. The fill material in the southwest corner of the Property in the vicinity of the former underpass is up to 30 feet thick.

F. Remedial investigation (RI) activities have been completed at the Site, including a limited Phase II environmental site assessment performed by Shannon & Wilson in 2017 to evaluate soil and groundwater conditions on the Property in support of future redevelopment, as well as subsequent investigations performed by Hart Crowser in 2019 and 2020 to further characterize the Site and delineate the extent of contamination that had been previously identified on the Property in 2017. Data from various other investigations conducted on or near the Property for other purposes were also evaluated. Some of those data were incorporated into the RI data set for confirming the extents of contamination at the Site and evaluating geologic conditions. A

comprehensive discussion of the investigation activities and the data resulting from these activities is presented in *Remedial Investigation, Seattle DOT Mercer Parcels* (RI Report) prepared by Hart Crowser dated June 25, 2021. A list of the environmental reports that were utilized in the preparation of the RI Report are provided in the CAP (Exhibit C).

G. The contaminants of concern at the Site that exceed MTCA cleanup levels for soil are petroleum hydrocarbons as gasoline-range organics (GRO) and lead. The contaminants of concern at the Site that exceed MTCA cleanup levels in groundwater consist of GRO, petroleum hydrocarbons as diesel-range organics (DRO), and benzene.

H. The GRO, DRO, and benzene exceedances in soil and/or groundwater are limited to an area within the northwest corner of the Property in the vicinity of the former gasoline and service station. GRO concentrations exceeding the soil cleanup levels are present in shallow soil at depths ranging from 5 feet to 25 feet below the ground surface (bgs) in this area (elevations between approximately 49 feet and 30 feet NAVD88). GRO, DRO, and benzene concentrations exceeding the groundwater cleanup levels are present in shallow zone groundwater in this area. These environmental impacts are attributed to historical releases of petroleum fuels from the former gas station that operated in this area from 1929 to 1960.

I. The lead exceedances in soil are present in two areas of the Property and appear to be very limited in extent. One lead exceedance is located within shallow fill material within the north-central portion of the Property at a depth of 10 feet bgs (elevation of approximately 40.5 feet NAVD88). The other lead exceedance is located within native soil near the northeast corner of the Property at a depth of 22 feet bgs (elevation of approximately 17 feet NAVD88). The source of these isolated lead exceedances in soil is not known, and the data indicate that they do not extend beyond the boundary of the Property.

J. Contaminated fill material is present throughout the former Broad Street 1958–2012 alignment that runs diagonally across the Property and extends into the public ROW beyond the southwest corner. Data collected during the RI indicates that carcinogenic polycyclic

aromatic hydrocarbons (cPAHs) and arsenic are present within the fill material at concentrations that exceed MTCA soil cleanup levels and are generally limited to the fill within the former Broad Street 1958–2012 alignment. These impacts are present on the Property and just beyond the southwest corner of the Property at depths ranging between 5 feet and 25 feet bgs (elevations between approximately 54 feet and 29 feet NAVD88). The extent of contaminated fill material beyond the Property boundary is unknown. Based on the data collected during the RI, the contaminated fill was determined to be a separate site and has been listed by Ecology as the Broad Street Alignment Contaminated Fill Site (Facility Site ID No. 26292, Cleanup Site ID No. 15446). The data collected on the Property have confirmed that the Contaminated Fill Site is not commingled with the Seattle DOT Mercer Parcels Site. As a result, this Decree does not address remedial actions associated with the Contaminated Fill Site.

K. North of the Property at 700 Dexter Avenue North is the American Linen Supply Co Dexter Ave contaminated site (Facility Site ID No. 3573, Cleanup Site ID No. 12004) or American Linen Site, where there was a large commercial dry cleaning and laundry operation (American Linen and Maryatt Electric Laundry) from approximately 1925 to the mid-1990s. Releases of chlorinated dry-cleaning solvent contamination from the American Linen Site have been confirmed to have migrated through the groundwater and have come to be located beneath the Property. This contamination includes, but is not limited to, tetrachloroethene (PCE), trichloroethene (TCE), cis-1,2-Dichloroethene (cis-DCE), and vinyl chloride (VC), and is present in saturated soil and groundwater at the Property at depths between approximately 25 feet and 110 feet bgs (elevations between approximately 23 feet and -55 feet NAVD88). A remedial investigation and subsequent feasibility study for the American Linen Site is currently being conducted with formal Ecology oversite pursuant to a separate legal agreement (Agreed Order No. DE 14302, effective as of October 24, 2014).

L. The RI performed for the Site has confirmed that the American Linen Site is not commingled with the Seattle DOT Mercer Parcels Site but is present beneath it. As a result, this Decree does not address remedial actions from releases at the American Linen Site.

M. Ecology has completed a Site Hazard Assessment and the results indicate a hazard ranking of 2. This information will be published in the Site Register pursuant to WAC 173-340-320, -330.

N. The Property is zoned for mixed use (Seattle Mixed South Lake Union 175/85-280) by the City of Seattle, which has conducted land use planning under RCW 36.70A. Future land use at the Property and surrounding area is reasonably expected to remain mixed use, which allows for a wide variety of residential, light industrial, and commercial uses, including use as a life sciences and biotech hub and office complex.

O. On May 26, 2020, Defendant entered into a disposition and development agreement with the City of Seattle, the current owner of the Property. Pursuant to this contract and its amendments, Defendant intends to purchase the Property by March 31, 2022.

P. Defendant proposes to remediate the Site and make it available for redevelopment as a life sciences and biotech hub with multiple community benefit attributes. The planned uses are consistent with MTCA and its implementing regulations, WAC chapter 173-340, and applicable City of Seattle zoning provisions and comprehensive plan designations.

Q. As documented in the CAP (Exhibit C), the cleanup action to be implemented at the Site includes excavation and off-site disposal of all soil and groundwater containing contaminants of concern for the Site (i.e., GRO, DRO, benzene, and lead), and performance of compliance monitoring. The planned excavation for redevelopment of the Property will extend laterally across the vast majority of the Property and vertically to a final depth ranging from approximately 26 feet to 51 feet bgs (elevation of approximately 7.75 feet NAVD88). This work is expected to remove cPAH and arsenic contamination that is present on the Property from the Broad Street Alignment Contaminated Fill Site and a portion of CVOC-contaminated soil

resulting from migration of contamination from the American Linen Site. Such remedial actions associated with those separate sites will likely be considered interim actions for the final cleanup action of those separate sites, as appropriate. The cleanup action and Property redevelopment plans also take into consideration the ongoing and/or future investigations, cleanup actions, and monitoring related to the Broad Street Alignment Contaminated Fill Site and the American Linen Site so as not to interfere with those efforts.

R. The application of MTCA Method A and B cleanup levels is appropriate for the soil and groundwater at the Site based on the planned future use of the Site as contemplated by the Parties under this Decree. Final cleanup levels are described in the CAP (Exhibit C).

VI. WORK TO BE PERFORMED

This Decree contains a program designed to protect human health and the environment from the known release, or threatened release, of hazardous substances or contaminants at, on, or from the Site.

A. Defendant shall perform all remedial actions contained in the CAP (Exhibit C) and prepare reports and other documents according to its scope of work and schedule of deliverables. The CAP and its deliverables are incorporated by reference and are an integral and enforceable part of this Decree.

B. Defendant agrees not to perform any remedial actions outside the scope of this Decree unless the Parties agree to modify this Decree to cover these actions. All work conducted by Defendant under this Decree shall be done in accordance with WAC 173-340 unless otherwise provided herein.

C. All plans or other deliverables submitted by Defendant for Ecology's review and approval under the CAP (Exhibit C) shall, upon Ecology's approval, become integral and enforceable parts of this Decree.

VII. DESIGNATED PROJECT COORDINATORS

The project coordinator for Ecology is:

Tena Seeds, P.E.
Senior Engineer, Uplands Unit
Northwest Region Toxics Cleanup Program
Washington State Department of Ecology
15700 Dayton Ave N
Shoreline, WA 98133
206-594-0089
tsee461@ecy.wa.gov

The project coordinator for Defendant is:

Gina M. Plantz
Principal Consultant
Haley & Aldrich, Inc.
340 Granite Street
Manchester, NH 03102
603-391-3319
603-748-3770 (c)
gplantz@haleyaldrich.com

Each project coordinator shall be responsible for overseeing the implementation of this Decree. Ecology's project coordinator will be Ecology's designated representative for the Site. To the maximum extent possible, communications between Ecology and Defendant and all documents, including reports, approvals, and other correspondence concerning the activities performed pursuant to the terms and conditions of this Decree shall be directed through the project coordinators. The project coordinators may designate, in writing, working level staff contacts for all or portions of the implementation of the work to be performed required by this Decree.

Any party may change its respective project coordinator. Written notification shall be given to the other party at least ten (10) calendar days prior to the change.

VIII. PERFORMANCE

All geologic and hydrogeologic work performed pursuant to this Decree shall be under the supervision and direction of a geologist or hydrogeologist licensed by the State of Washington or under the direct supervision of an engineer registered by the State of Washington, except as otherwise provided for by RCW 18.43 and 18.220.

All construction work performed pursuant to this Decree shall be under the direct supervision of a professional engineer or a qualified technician under the direct supervision of a professional engineer. The professional engineer must be registered by the State of Washington, except as otherwise provided for by RCW 18.43.130.

Any documents submitted containing geologic, hydrologic, or engineering work shall be under the seal of an appropriately licensed professional as required by RCW 18.43 and 18.220.

Defendant shall notify Ecology in writing of the identity of any engineer(s) and geologist(s), contractor(s) and subcontractor(s), and others to be used in carrying out the terms of this Decree, in advance of their involvement at the Site.

IX. CERTIFICATION OF DEFENDANT

Defendant represents and certifies that, to the best of its knowledge and belief, it has fully and accurately disclosed to Ecology the information currently in its possession or control that relates to the environmental conditions at and in the vicinity of the Site, or to Defendant's right and title thereto.

Defendant represents and certifies that it did not cause or contribute to a release or threatened release of hazardous substances at the Site and is not otherwise currently potentially liable for the Site under RCW 70A.305.040(1).

X. ACCESS

Ecology or any Ecology authorized representative shall have access to enter and freely move about all property at the Site that Defendant either owns, controls, or has access rights to at all reasonable times for the purposes of, *inter alia*: inspecting records, operation logs, and contracts related to the work being performed pursuant to this Decree; reviewing Defendant's progress in carrying out the terms of this Decree; conducting such tests or collecting such samples as Ecology may deem necessary; using a camera, sound recording, or other documentary type equipment to record work done pursuant to this Decree; and verifying the data submitted to Ecology by Defendant. Defendant shall make all reasonable efforts to secure access rights for

those properties within the Site not owned or controlled by Defendant where remedial activities or investigations will be performed pursuant to this Decree.

Ecology or any Ecology authorized representative shall give reasonable notice before entering any property within the Site owned or controlled by Defendant, unless an emergency prevents such notice. All Parties who access the Site pursuant to this section shall comply with any applicable health and safety plan(s) prepared and maintained by Defendant. Ecology employees and their representatives shall not be required to sign any liability release or waiver as a condition of access to property owned or controlled by Defendant.

XI. SAMPLING, DATA SUBMITTAL, AND AVAILABILITY

With respect to the implementation of this Decree, Defendant shall make the results of all sampling, laboratory reports, and/or test results generated by it or on its behalf available to Ecology. Pursuant to WAC 173-340-840(5), all sampling data shall be submitted to Ecology in both printed and electronic formats in accordance with Section XII (Progress Reports), Ecology's Toxics Cleanup Program Policy 840 (Data Submittal Requirements), and/or any subsequent procedures specified by Ecology for data submittal.

If requested by Ecology, Defendant shall allow Ecology and/or its authorized representative to take split or duplicate samples of any samples collected by Defendant pursuant to the implementation of this Decree. Defendant shall notify Ecology seven (7) days in advance of any sample collection or work activity at the Site. Ecology shall, upon request, allow Defendant and/or its authorized representative to take split or duplicate samples of any samples collected by Ecology pursuant to the implementation of this Decree, provided that doing so does not interfere with Ecology's sampling. Without limitation on Ecology's rights under Section X (Access), Ecology shall notify Defendant prior to any sample collection activity, unless an emergency prevents such notice.

In accordance with WAC 173-340-830(2)(a), all hazardous substance analyses shall be conducted by a laboratory accredited under WAC 173-50 for the specific analyses to be conducted, unless otherwise approved by Ecology.

XII. PROGRESS REPORTS

Defendant shall submit to Ecology written monthly Progress Reports that describe the actions taken during the previous month to implement the requirements of this Decree. The Progress Reports shall include the following:

A. A list of on-site activities that have taken place during the month.

B. Detailed description of any deviations from required tasks not otherwise documented in project plans or amendment requests.

C. Description of all deviations from the CAP (Exhibit C) during the current month and any planned deviations in the upcoming month.

D. For any deviations from the schedule, a plan for recovering lost time and maintaining compliance with the schedule.

E. All raw data (including laboratory analyses) received by Defendant during the past quarter (if not previously submitted to Ecology) and an identification of the source of the sample.

F. A list of planned activities and deliverables for the upcoming month if different from the schedule.

G. Upon mutual agreement by the Parties, the Progress Reports may be submitted quarterly, depending on the current activities at the Site. The Defendant must request the change to quarterly Progress Reports.

Progress Reports will be submitted on the 15th day of each month following the effective date of this Decree. Unless otherwise specified, Progress Reports and any other documents submitted pursuant to this Decree shall be sent by electronic mail to Ecology's project coordinator.

XIII. RETENTION OF RECORDS

During the pendency of this Decree, and for ten (10) years from the date this Decree is no longer in effect as provided in Section XXIX (Duration of Decree), Defendant shall preserve all records, reports, documents, and underlying data in its possession relevant to the implementation of this Decree and shall insert a similar record retention requirement into all contracts with project contractors and subcontractors. Upon written request of Ecology, Defendant shall make all records available to Ecology and allow access for review within a reasonable time.

Nothing in this Decree is intended by Defendant to waive any right it may have under applicable law to limit disclosure of documents protected by the attorney work-product privilege and/or the attorney-client privilege. If Defendant withholds any requested records based on an assertion of privilege, Defendant shall provide Ecology with a privilege log specifying the records withheld and the applicable privilege. No Site-related data collected pursuant to this Decree shall be considered privileged.

XIV. TRANSFER OF INTEREST IN PROPERTY

No voluntary conveyance or relinquishment of title, easement, leasehold, or other interest in any portion of the Site shall be consummated by Defendant without provision for continued operation and maintenance of any containment system, treatment system, and/or monitoring system installed or implemented pursuant to this Decree.

Prior to Defendant's transfer of any title or ownership interest in all or any portion of the Property, and during the effective period of this Decree, Defendant shall provide a copy of this Decree to any prospective purchaser, lessee, transferee, assignee, or other successor in interest. Upon transfer of any title or ownership interest, including any covenant or easement granted, Defendant shall notify all transferees of the restrictions on activities and uses of the Property under this Decree, and shall incorporate any such use restrictions into the transfer documents.

Defendant shall notify Ecology of any transfer of title or ownership interest at least thirty (30) days prior to any transfer of ownership interest.

XV. RESOLUTION OF DISPUTES

A. In the event that Defendant elects to invoke dispute resolution, Defendant must utilize the procedure set forth below.

1. Upon the triggering event (receipt of Ecology's project coordinator's written decision or an itemized billing statement), Defendant has fourteen (14) calendar days within which to notify Ecology's project coordinator in writing of its dispute (Informal Dispute Notice).

2. The Parties' project coordinators shall then confer in an effort to resolve the dispute informally. The Parties shall informally confer for up to fourteen (14) calendar days from receipt of the Informal Dispute Notice. If the project coordinators cannot resolve the dispute within those 14 calendar days, then within seven (7) calendar days Ecology's project coordinator shall issue a written decision (Informal Dispute Decision) stating: the nature of the dispute; the Defendant's position with regards to the dispute; Ecology's position with regards to the dispute; and the extent of resolution reached by informal discussion.

3. Defendant may then request regional management review of the dispute. This request (Formal Dispute Notice) must be submitted in writing to the Toxics Cleanup Section Manager for the Northwest Regional Office within seven (7) calendar days of receipt of Ecology's Informal Dispute Decision. The Formal Dispute Notice shall include a written statement of dispute setting forth: the nature of the dispute; the disputing Party's position with respect to the dispute; and the information relied upon to support its position.

4. The Section Manager shall conduct a review of the dispute and shall issue a written decision regarding the dispute (Decision on Dispute) within thirty (30) calendar days of receipt of the Formal Dispute Notice.

5. If Defendant finds the decision of the Toxics Cleanup Section Manager for the Northwest Regional Office unacceptable, then Defendant may then request final management review of the decision. This request (Final Review Request) shall be submitted in writing to Ecology's Toxics Cleanup Program Manager within seven (7) calendar days of Defendant's receipt of the Decision on Dispute. The Final Review Request shall include a written statement of dispute setting forth: the nature of the dispute; the disputing Party's position with respect to the dispute; and the information relied upon to support its position.

6. Ecology's Toxics Cleanup Program Manager shall conduct a review of the dispute and shall issue a written decision regarding the dispute (Final Decision on Dispute) within thirty (30) calendar days of receipt of the Final Review Request. The Toxics Cleanup Program Manager's decision shall be Ecology's final decision on the disputed matter.

B. If Ecology's Final Decision on Dispute is unacceptable to Defendant, Defendant has the right to submit the dispute to the Court for resolution. The Parties agree that one judge should retain jurisdiction over this case and shall, as necessary, resolve any dispute arising under this Decree. In the event Defendant presents an issue to the Court for review, the Court shall review the action or decision of Ecology on the basis of whether such action or decision was arbitrary and capricious and render a decision based on such standard of review.

C. The Parties agree to only utilize the dispute resolution process in good faith and agree to expedite, to the extent possible, the dispute resolution process whenever it is used. Where either party utilizes the dispute resolution process in bad faith or for purposes of delay, the other party may seek sanctions.

D. Implementation of these dispute resolution procedures shall not provide a basis for delay of any activities required in this Decree, unless Ecology agrees in writing to a schedule extension or the Court so orders.

E. In case of a dispute, failure to either proceed with the work required by this Decree or timely invoke dispute resolution may result in Ecology's determination that insufficient progress is being made in preparation of a deliverable, and may result in Ecology undertaking the work under Section XXV (Implementation of Remedial Action).

XVI. AMENDMENT OF DECREE

The project coordinators may agree to minor changes to the work to be performed without formally amending this Decree. Minor changes will be documented in writing by Ecology.

Substantial changes to the work to be performed shall require formal amendment of this Decree. This Decree may only be formally amended by a written stipulation among the Parties that is entered by the Court, or by order of the Court. Such amendment shall become effective upon entry by the Court. Agreement to amend the Decree shall not be unreasonably withheld by any party.

When requesting a substantial change to the work to be performed, Defendant shall submit a written request for amendment to Ecology for approval. Ecology shall indicate its approval or disapproval in writing in a timely manner after the written request for amendment is received. If the amendment to the Decree is a substantial change, Ecology will provide public notice and opportunity for comment. Reasons for the disapproval of a proposed amendment to the Decree shall be stated in writing. If Ecology does not agree to a proposed amendment, the disagreement may be addressed through the dispute resolution procedures described in Section XV (Resolution of Disputes).

XVII. EXTENSION OF SCHEDULE

A. An extension of schedule shall be granted only when a request for an extension is submitted in a timely fashion, generally at least thirty (30) days prior to expiration of the deadline for which the extension is requested, and good cause exists for granting the extension. All extensions shall be requested in writing. The request shall specify:

1. The deadline that is sought to be extended.

2. The length of the extension sought.

3. The reason(s) for the extension.

4. Any related deadline or schedule that would be affected if the extension were granted.

B. The burden shall be on Defendant to demonstrate to the satisfaction of Ecology that the request for such extension has been submitted in a timely fashion and that good cause exists for granting the extension. Good cause may include, but may not be limited to:

1. Circumstances beyond the reasonable control and despite the due diligence of Defendant including delays caused by unrelated third parties or Ecology, such as (but not limited to) delays by Ecology in reviewing, approving, or modifying documents submitted by Defendant.

2. A shelter in place or work stoppage mandated by government order due to public health and safety emergencies.

3. Acts of God, including fire, flood, blizzard, extreme temperatures, storm, or other unavoidable casualty.

4. Endangerment as described in Section XVIII (Endangerment).

However, neither increased costs of performance of the terms of this Decree nor changed economic circumstances shall be considered circumstances beyond the reasonable control of Defendant.

C. Ecology shall act upon any written request for extension in a timely fashion. Ecology shall give Defendant written notification of any extensions granted pursuant to this Decree. A requested extension shall not be effective until approved by Ecology or, if required, by the Court. Unless the extension is a substantial change, it shall not be necessary to amend this Decree pursuant to Section XVI (Amendment of Decree) when a schedule extension is granted.

D. An extension shall only be granted for such period of time as Ecology determines is reasonable under the circumstances. Ecology may grant schedule extensions exceeding ninety (90) days only as a result of:

1. Delays in the issuance of a necessary permit which was applied for in a timely manner.

2. Other circumstances deemed exceptional or extraordinary by Ecology.

3. Endangerment as described in Section XVIII (Endangerment).

XVIII. ENDANGERMENT

In the event Ecology determines that any activity being performed at the Site under this Decree is creating or has the potential to create a danger to human health or the environment, Ecology may direct Defendant to cease such activities for such period of time as it deems necessary to abate the danger. Defendant shall immediately comply with such direction.

In the event Defendant determines that any activity being performed at the Site under this Decree is creating or has the potential to create a danger to human health or the environment, Defendant may cease such activities. Defendant shall notify Ecology's project coordinator as soon as possible, but no later than twenty-four (24) hours after making such determination or ceasing such activities. Upon Ecology's direction, Defendant shall provide Ecology with documentation of the basis for the determination or cessation of such activities. If Ecology disagrees with Defendant's cessation of activities, it may direct Defendant to resume such activities.

If Ecology concurs with or orders a work stoppage pursuant to this section, Defendant's obligations with respect to the ceased activities shall be suspended until Ecology determines the danger is abated, and the time for performance of such activities, as well as the time for any other work dependent upon such activities, shall be extended, in accordance with Section XVII (Extension of Schedule), for such period of time as Ecology determines is reasonable under the circumstances.

Nothing in this Decree shall limit the authority of Ecology, its employees, agents, or contractors to take or require appropriate action in the event of an emergency.

XIX. COVENANT NOT TO SUE

A. Covenant Not to Sue: In consideration of Defendant's compliance with the terms and conditions of this Decree, Ecology covenants not to institute legal or administrative actions against Defendant regarding the release or threatened release of hazardous substances covered by this Decree.

This Decree covers only the Site specifically identified in the Cleanup Action Plan (Exhibit C) and those hazardous substances that Ecology knows are located at the Site as of the date of entry of this Decree. This Decree does not cover any other hazardous substance or area.

Ecology retains all of its authority relative to any substance or area not covered by this Decree. In addition, this Decree does not settle any potential liability Defendant may incur for acquiring any further interest in the Site not addressed under this Decree.

This Covenant Not to Sue shall have no applicability whatsoever to:

1. Criminal liability.
2. Liability for damages to natural resources.
3. Any Ecology action, including cost recovery, against PLPs not a party to this Decree.

If facts not known at the time of entry of this Decree are discovered and present a previously unknown threat to human health or the environment, the Court shall amend this Covenant Not to Sue.

B. Reopeners: Ecology specifically reserves the right to institute legal or administrative action against Defendant to require it to perform additional remedial actions at the Site and to pursue appropriate cost recovery, pursuant to RCW 70A.305.050 under the following circumstances:

1. Upon Ecology's determination that Defendant has failed to meet the requirements of this Decree, but only in order to enforce the existing requirements, including amendments, of this Decree.

2. Upon Ecology's determination that the remedial actions have failed to meet the cleanup standards identified in the CAP (Exhibit C) and/or additional remedial action(s) are necessary to achieve the cleanup standards identified in the CAP (Exhibit C) in the reasonable restoration time frame.

3. Upon Ecology's determination that remedial action beyond the terms of this Decree is necessary to abate an imminent and substantial endangerment to human health or the environment.

4. Upon the availability of new information regarding factors previously unknown to Ecology, including the nature or quantity of hazardous substances at the Site, and Ecology's determination, in light of this information, that further remedial action is necessary at the Site to protect human health or the environment.

C. Except in the case of an emergency, prior to instituting legal or administrative action against Defendant pursuant to this section, Ecology shall provide Defendant with fifteen (15) calendar days notice of such action.

XX. CONTRIBUTION PROTECTION

With regard to claims for contribution against Defendant, the Parties agree that Defendant is entitled to protection against claims for contribution for matters addressed in this Decree as provided by RCW 70A.305.040(4)(d).

XXI. LAND USE RESTRICTIONS

In consultation with Defendant, Ecology will prepare an Environmental (Restrictive) Covenant consistent with WAC 173-340-440 and RCW 64.70 to address the residual groundwater contamination associated with the American Linen Site that will remain following implementation and completion of the CAP. After approval by Ecology, Defendant shall record the Environmental (Restrictive) Covenant with the office of the King County Auditor within ten (10) days of receipt of Ecology's written approval of the Environmental (Restrictive) Covenant. Defendant and Ecology will consult on the specific requirements of the required Environmental (Restrictive) Covenant upon completion of the first Periodic Review (as required by Section XXVII (Periodic Review)) for groundwater, or when determined necessary by Ecology, whichever occurs first. The Environmental (Restrictive) Covenant shall restrict future activities and uses of the Property as agreed to by Ecology and Defendant. Defendant shall provide Ecology with the original recorded Environmental (Restrictive) Covenant within thirty (30) days of the recording date.

XXII. FINANCIAL ASSURANCES

Pursuant to WAC 173-340-440(11), Defendant shall maintain sufficient and adequate financial assurance mechanisms to cover all costs associated with the operation and maintenance of the remedial action at the Site, including institutional controls, compliance monitoring, and corrective measures.

Upon Ecology's request, Defendant shall submit to Ecology for review and approval an estimate of the costs that it will incur in carrying out the terms of this Decree, including operation and maintenance, and compliance monitoring. Within sixty (60) days after Ecology approves the

aforementioned cost estimate, Defendant shall provide proof of financial assurances sufficient to cover all such costs in a form acceptable to Ecology.

Defendant shall adjust the financial assurance coverage and provide Ecology's project coordinator with documentation of the updated financial assurance for:

A. Inflation, annually, within thirty (30) days of the anniversary date of the entry of this Decree; or if applicable, the modified anniversary date established in accordance with this section, or if applicable, ninety (90) days after the close of Defendant's fiscal year if the financial test or corporate guarantee is used.

B. Changes in cost estimates, within thirty (30) days of issuance of Ecology's approval of a modification or revision to the CAP that result in increases to the cost or expected duration of remedial actions. Any adjustments for inflation since the most recent preceding anniversary date shall be made concurrent with adjustments for changes in cost estimates. The issuance of Ecology's approval of a revised or modified CAP will revise the anniversary date established under this section to become the date of issuance of such revised or modified CAP.

XXIII. INDEMNIFICATION

Defendant agrees to indemnify and save and hold the State of Washington, its employees, and agents harmless from any and all claims or causes of action: (1) for death or injuries to persons, or (2) for loss or damage to property to the extent arising from or on account of acts or omissions of Defendant, its officers, employees, agents, or contractors in entering into and implementing this Decree. However, Defendant shall not indemnify the State of Washington nor save nor hold its employees and agents harmless from any claims or causes of action to the extent arising out of the negligent acts or omissions of the State of Washington, or the employees or agents of the State, in entering into or implementing this Decree.

XXIV. COMPLIANCE WITH APPLICABLE LAWS

A. All actions carried out by Defendant pursuant to this Decree shall be done in accordance with all applicable federal, state, and local requirements, including requirements to

obtain necessary permits, except as provided in RCW 70A.305.090. The permits or other federal, state, or local requirements that the agency has determined are applicable and that are known at the time of entry of this Decree have been identified in the CAP (Exhibit C).

B. Pursuant to RCW 70A.305.090(1), Defendant is exempt from the procedural requirements of RCW 70A.15, 70A.205, 70A.300, 77.55, 90.48, and 90.58 and of any laws requiring or authorizing local government permits or approvals. However, Defendant shall comply with the substantive requirements of such permits or approvals. The exempt permits or approvals and the applicable substantive requirements of those permits or approvals, as they are known at the time of entry of this Decree, have been identified in the CAP (Exhibit C).

Defendant has a continuing obligation to determine whether additional permits or approvals addressed in RCW 70A.305.090(1) would otherwise be required for the remedial action under this Decree. In the event either Defendant or Ecology determines that additional permits or approvals addressed in RCW 70A.305.090(1) would otherwise be required for the remedial action under this Decree, it shall promptly notify the other party of this determination. Ecology shall determine whether Ecology or Defendant shall be responsible to contact the appropriate state and/or local agencies. If Ecology so requires, Defendant shall promptly consult with the appropriate state and/or local agencies and provide Ecology with written documentation from those agencies of the substantive requirements those agencies believe are applicable to the remedial action. Ecology shall make the final determination on the additional substantive requirements that must be met by Defendant and on how Defendant must meet those requirements. Ecology shall inform Defendant in writing of these requirements. Once established by Ecology, the additional requirements shall be enforceable requirements of this Decree. Defendant shall not begin or continue the remedial action potentially subject to the additional requirements until Ecology makes its final determination.

C. Pursuant to RCW 70A.305.090(2), in the event Ecology determines that the exemption from complying with the procedural requirements of the laws referenced in

RCW 70A.305.090(1) would result in the loss of approval from a federal agency that is necessary for the state to administer any federal law, the exemption shall not apply and Defendant shall comply with both the procedural and substantive requirements of the laws referenced in RCW 70A.305.090(1), including any requirements to obtain permits.

XXV. REMEDIAL ACTION COSTS

Defendant shall pay to Ecology costs incurred by Ecology pursuant to this Decree and consistent with WAC 173-340-550(2). These costs shall include work performed by Ecology or its contractors for, or on, the Site under RCW 70A.305, including remedial actions and Decree preparation, negotiation, oversight, and administration. These costs shall include work performed both prior to and subsequent to the entry of this Decree. Ecology's costs shall include costs of direct activities and support costs of direct activities as defined in WAC 173-340-550(2). Additional informal technical assistance costs may accumulate and continue to be invoiced independently pursuant to the separate Voluntary Cleanup Program (VCP) agreement for the Site.

Ecology has accumulated $21,747.77 in remedial action costs related to this Site as of September 30, 2021. Payment for this amount shall be submitted within thirty (30) days of the effective date of this Decree. For all remedial action costs incurred by Ecology subsequent to September 30, 2021, Defendant shall pay the required amount within thirty (30) days of receiving from Ecology an itemized statement of costs that includes a summary of costs incurred, an identification of involved staff, and the amount of time spent by involved staff members on the project. A general statement of work performed will be provided upon request. Itemized statements shall be prepared quarterly. Pursuant to WAC 173-340-550(4), failure to pay Ecology's costs within ninety (90) days of receipt of the itemized statement of costs will result in interest charges at the rate of twelve percent (12%) per annum, compounded monthly.

In addition to other available relief, pursuant to RCW 70A.305.055, Ecology has authority to recover unreimbursed remedial action costs by filing a lien against real property subject to the remedial actions.

XXVI. IMPLEMENTATION OF REMEDIAL ACTION

If Ecology determines that the Defendant has failed to make sufficient progress or failed to implement the remedial action, in whole or in part, Ecology may, after notice to Defendant, perform any or all portions of the remedial action or at Ecology's discretion allow the Defendant opportunity to correct. The Defendant shall reimburse Ecology for the costs of doing such work in accordance with Section XXIV (Remedial Action Costs).

Except where necessary to abate an emergency situation, Defendant shall not perform any remedial actions at the Site outside those remedial actions required by this Decree, unless Ecology concurs, in writing, with such additional remedial actions pursuant to Section XVI (Amendment of Decree).

XXVII. PERIODIC REVIEW

As remedial actions continue at the Site, the Parties agree to review the progress of remedial actions at the Site, and to review the data accumulated as a result of monitoring the Site as often as is necessary and appropriate under the circumstances. At least every five (5) years after the initiation of cleanup action at the Site, the Parties shall meet to discuss the status of the Site and the need, if any, for further remedial action at the Site. At least ninety (90) days prior to each periodic review, Defendant shall submit a report to Ecology that documents whether human health and the environment are being protected based on the factors set forth in WAC 173-340-420(4). Under Section XVIII (Covenant Not to Sue), Ecology reserves the right to require further remedial action at the Site under appropriate circumstances. This provision shall remain in effect for the duration of this Decree.

XXVIII. PUBLIC PARTICIPATION

A Public Participation Plan is required for this Site. Ecology has developed the plan and shall maintain the responsibility for public participation at the Site. However, Defendant shall cooperate with Ecology, and shall:

A. If agreed to by Ecology, develop appropriate mailing lists, prepare drafts of public notices and fact sheets at important stages of the remedial action, such as the submission of additional work plans, remedial investigation/feasibility study reports, cleanup action plans, and engineering design reports. As appropriate, Ecology will edit, finalize, and distribute such fact sheets and prepare and distribute public notices of Ecology's presentations and meetings.

B. Notify Ecology's project coordinator prior to the preparation of all press releases and fact sheets, and before major meetings with the interested public and local governments. Likewise, Ecology shall notify Defendant prior to the issuance of all press releases and fact sheets, and before major meetings with the interested public and local governments. For all press releases, fact sheets, meetings, and other outreach efforts by Defendant that do not receive prior Ecology approval, Defendant shall clearly indicate to its audience that the press release, fact sheet, meeting, or other outreach effort was not sponsored or endorsed by Ecology.

C. When requested by Ecology, participate in public presentations on the progress of the remedial action at the Site. Participation may be through attendance at public meetings to assist in answering questions, or as a presenter.

D. When requested by Ecology, arrange and/or continue information repository at the following location:

Ecology's Northwest Regional Office
15700 Dayton Ave N
Shoreline, WA 98133

At a minimum, copies of all public notices, fact sheets, and documents relating to public comment periods shall be promptly placed in this repository. A copy of all documents related to this Site shall be maintained in the repository at Ecology's Northwest Regional Office in

Shoreline, Washington. Additional repositories may be established by Ecology based on public health conditions and the availability of additional public facilities.

XXIX. DURATION OF DECREE

The remedial program required pursuant to this Decree shall be maintained and continued until Defendant has received written notification from Ecology that the requirements of this Decree have been satisfactorily completed. This Decree shall remain in effect until dismissed by the Court. When dismissed, Section XIX (Covenant Not to Sue) and Section XX (Contribution Protection) shall survive. In the event Defendant assigns this Decree and that successor in interest or assign becomes party to this Decree as specified in Section XVI (Amendment of Decree), Section XIX (Covenant Not to Sue) and Section XX (Contribution Protection) shall remain applicable to Defendant.

XXX. CLAIMS AGAINST THE STATE

Defendant hereby agrees that it will not seek to recover any costs accrued in implementing the remedial action required by this Decree from the State of Washington or any of its agencies; and further, that Defendant will make no claim against the State Toxics Control Account or any local Toxics Control Account for any costs incurred in implementing this Decree. Except as provided above, however, Defendant expressly reserves its right to seek to recover any costs incurred in implementing this Decree from any other PLP. This section does not limit or address funding that may be provided under WAC 173-322.

XXXI. EFFECTIVE DATE

This Decree is effective only upon the date (Effective Date) that title to the Property vests in Defendant, following entry of this Decree by the Court. If Defendant does not purchase the Property by March 31, 2022, this Decree shall be null and void, and Defendant will be under no obligation to perform the work required by this Decree.

XXXII. WITHDRAWAL OF CONSENT

If the Court withholds or withdraws its consent to this Decree, it shall be null and void at the option of any party and the accompanying Complaint shall be dismissed without costs and without prejudice. In such an event, no party shall be bound by the requirements of this Decree.

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

_____
Brock Milliern
Program Manager
Toxics Cleanup Program
360-407-7177

Date:_____

ROBERT W. FERGUSON
Attorney General

_____
Allyson C. Bazan, WSBA #44221
Assistant Attorney General
360-586-3589

Date:_____

800 MERCER, LLC
a Delaware limited liability company

By: ALEXANDRIA REAL ESTATE EQUITIES, L.P.,
a Delaware limited partnership,
managing member

By: ARE-QRS CORP.,
a Maryland corporation,
general partner

By: _____

Name: _____

Its: _____

Date:_____

ENTERED this _____ day of _____2022.

_____
JUDGE
King County Superior Court

EXHIBIT A – LOCATION DIAGRAM

Seattle DOT Mercer Parcels Property Boundary

PUBLIC REVIEW DRAFT

EXHIBIT B – LEGAL DESCRIPTION OF PROPERTY

PARCEL	
Parcel Number	224900-0006
Name	SEATTLE CITY OF SDOT
Site Address	816 MERCER ST 98109
Legal	EDEN ADD PARCEL "B" CITY OF SEATTLE LOT BOUNDARY ADJUSTMENT NO 3033220-LU RECORDING NO 20190524900001 (BEING A PORTION OF SW QTR NE QTR AND NW QTR SE QTR STR 30-25-04)
BUILDING 1	

PARCEL	
Parcel Number	224900-0055
Name	SEATTLE CITY OF SDOT
Site Address	714 W MERCER ST 98109
Legal	EDEN ADD PARCEL "A" CITY OF SEATTLE LOT BOUNDARY ADJUSTMENT NO 3033220-LU RECORDING NO 20190524900001 (BEING A PORTION OF SW QTR NE QTR AND NW QTR SE QTR STR 30-25-04)
BUILDING 1	

EXHIBIT C – CLEANUP ACTION PLAN

DEPARTMENT OF ECOLOGY
State of Washington

Public Review Draft Cleanup Action Plan

Seattle DOT Mercer Parcels Site
Seattle, WA

Facility Site ID: 27913
Cleanup Site ID: 14784

November 2021

Publication and Contact Information

This document is available on the Department of Ecology's Seattle DOT Mercer Parcels website at: https://apps.ecology.wa.gov/gsp/Sitepage.aspx?csid=14784. Other ways to access this document in electronic or hard copy form can be found at www.ecology.wa.gov.

For more information contact:

Kelsey Ketcheson
Public Outreach Coordinator
Ecology – Northwest Regional Office
15700 Dayton Avenue North
Shoreline, WA 98133
Phone: 425-240-4353

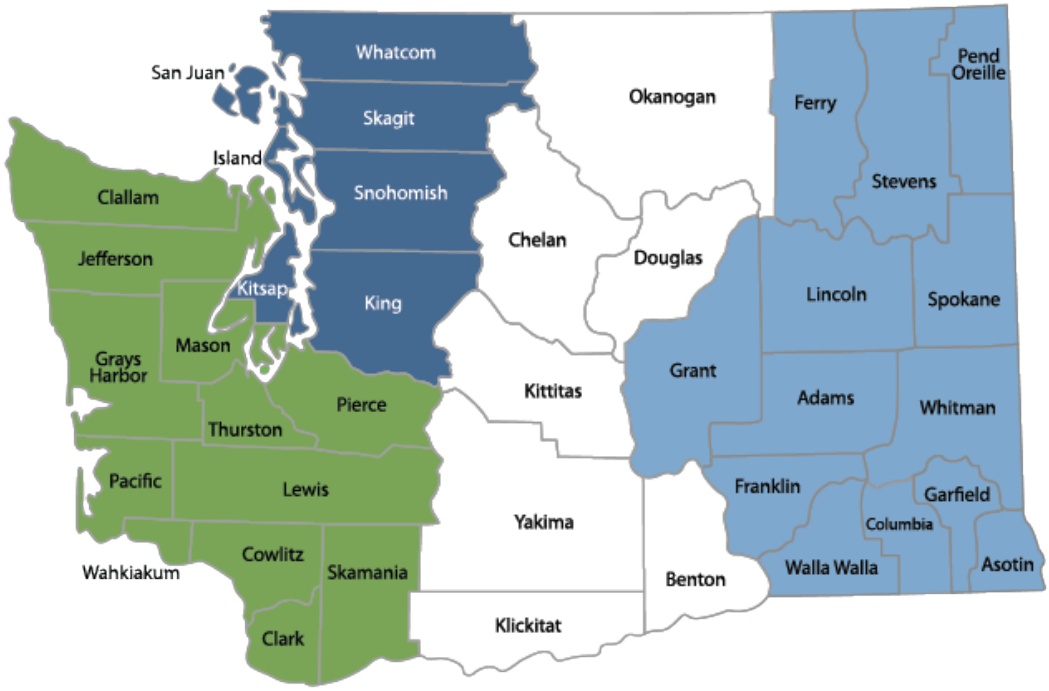
Tena Seeds
Site Manager
Ecology – Northwest Regional Office
15700 Dayton Avenue North
Shoreline, WA 98133
Phone: 425-457-3143

ADA Accessibility

To request an ADA accommodation, contact Ecology by phone at (360) 407-6831 or visit https://ecology.wa.gov/accessibility. For Relay Service or TTY call 711 or 877-833-6341.

Department of Ecology's Regional Offices

Map of Counties Served



Southwest Region 360-407-6300	Northwest Region 425-594-0000	Central Region 509-575-2490	Eastern Region 509-329-3400

Region	Counties served	Mailing Address	Phone
Southwest	Clallam, Clark, Cowlitz, Grays Harbor, Jefferson, Mason, Lewis, Pacific, Pierce, Skamania, Thurston, Wahkiakum	PO Box 47775 Olympia, WA 98504	360-407-6300
Northwest	Island, King, Kitsap, San Juan, Skagit, Snohomish, Whatcom	PO Box 330316 Shoreline, WA 98133	206-594-0000
Central	Benton, Chelan, Douglas, Kittitas, Klickitat, Okanogan, Yakima	1250 W Alder St Union Gap, WA 98903	509-575-2490
Eastern	Adams, Asotin, Columbia, Ferry, Franklin, Garfield, Grant, Lincoln, Pend Oreille, Spokane, Stevens, Walla Walla, Whitman	4601 N Monroe Spokane, WA 99205	509-329-3400
Headquarters	Across Washington	PO Box 46700 Olympia, WA 98504	360-407-6000

This page is purposely left blank

Public Review Draft Cleanup Action Plan

Seattle DOT Mercer Parcels Site
Seattle, WA

Facility Site ID: 27913
Cleanup Site ID: 14784

Toxics Cleanup Program

Washington State Department of Ecology

Northwest Regional Office

Shoreline, Washington

This page is purposely left blank

Table of Contents

List of Tables and Figures

Tables

Figures

List of Acronyms and Abbreviations

Acronym/ Abbreviation	Definition
µg/L	Microgram per liter
ARAR	Applicable or Relevant and Appropriate Requirements
bgs	Below ground surface
CAO	Cleanup action objective
CAP	Cleanup Action Plan
CFR	Code of Federal Regulations
Cis-1,2-DCE	Cis-1,2-dichloroethene
CLARC	Cleanup Levels and Risk Calculation
CMMP	Contaminated Media Management Plan
COC	Constituent of Concern
cPAH	Carcinogenic Polycyclic Aromatic Hydrocarbon
cPAH-TEQ	Carcinogenic Polycyclic Aromatic Hydrocarbon Toxic Equivalency
CSO	Combined sewer overflow
CSWGP	Construction Stormwater General Permit
CUL	Cleanup level
CVOC	Chlorinated Volatile Organic Compounds
CWA	Clean Water Act
DCA	Disproportionate Cost Analysis
DDA	Disposition and Development Agreement
DOSH	Division of Occupational Safety and Health
DRO	Diesel-range organics
Ecology	Washington State Department of Ecology
EPA	U.S. Environmental Protection Agency
FFS	Focused Feasibility Study
GAC	Granular activated carbon
GRO	Gasoline-range organics
KCC	King County Code
MCL	Maximum Contaminant Level
mg/kg	Milligrams per kilogram
MTCA	Model Toxics Control Act
NAVD88	North American Vertical Datum of 1988
NPDES	National Pollutant Discharge Elimination System

Acronym/ Abbreviation	Definition
OSHA	Occupational Safety and Health Act
PAH	Polycyclic Aromatic Hydrocarbon
PCE	Tetrachloroethene
POC	Point of Compliance
PPCD	Prospective Purchaser Consent Decree
PPE	Personal protective equipment
RCRA	Resource Conservation and Recovery Act
RCW	Revised Code of Washington
RI	Remedial Investigation
ROW	Right of way
SAP/QAPP	Sampling and Analysis Plan/Quality Assurance Project Plan
SDOT	Seattle Department of Transportation
SEPA	State Environmental Policy Act
SMC	Seattle Municipal Code
TCE	Trichloroethene
U.S.	United States
USC	United States Code
UST	Underground Storage Tank
VC	Vinyl chloride
VCP	Voluntary Cleanup Program
WAC	Washington Administrative Code
WISHA	Washington Industrial Safety and Health Act

1.0 Introduction

This document presents the Cleanup Action Plan (CAP) for the Seattle DOT Mercer Parcels Site (**Site**) located in Seattle, Washington (Figure 1-1).

1.1 General Facility Information and Site/Property Definitions

Site Name: Seattle DOT Mercer Parcels
Facility Site ID No.: 27913
Cleanup Site ID No.: 14784

Property Address: 800 Mercer Street, Seattle, King County, WA 98109
Parcel Numbers: 224900-0006 and 224900-0055
Owner: City of Seattle

The Site, as defined under the Model Toxics Control Act (MTCA; Revised Code of Washington [RCW] 70A.305) and its implementing regulations (Washington Administrative Code [WAC] 173-340), is generally defined by where a hazardous substance, other than a consumer product in consumer use, has been deposited, stored, disposed of, or placed, or has otherwise come to be located. The Site includes multiple parcels where hazardous substances were released or have come to be located from historical gasoline service station operations and other property uses.

The two parcels that are associated with the Site are the subject of a Disposition and Development Agreement (DDA) between 800 Mercer, LLC and the City of Seattle (City), the current owner of the parcels. The parcels subject to the DDA are King County Parcel Nos. 224900-0006 and 224900-0055 (Figure 2-1). These parcels are collectively termed the **Property** for purposes of this CAP.

1.2 Purpose

This document is a requirement of MTCA, RCW Chapter 70A.305, and WAC Chapter 173-340. The purpose of the CAP is to identify the proposed cleanup action at the Site; to establish the actions required to achieve a reasonable restoration time frame, including engineered and institutional controls, if necessary; and to identify the necessary requirements of engineering and monitoring plans, as further described in this document.

Specific MTCA requirements for CAPs are set forth in WAC 173-340-380(1). Consistent with these requirements, this CAP provides the following:

- Cleanup standards for each hazardous substance in each medium of concern
- Description of the proposed cleanup action, including justification for selection of the proposed cleanup action

- Implementation schedule
- Restoration time frame
- Applicable state and federal laws
- A preliminary determination that the proposed cleanup action will comply with WAC 173-340-360

In addition, this CAP includes contingency planning requirements.

1.3 Preliminary Determination

Ecology has made a preliminary determination that the cleanup described in this CAP will comply with the requirements for selection of a remedy under WAC 173-340-360. Specifically, these requirements include a cleanup action that will be protective of human health and the environment, attain federal and state requirements that are applicable or relevant and appropriate, comply with cleanup standards, provide for compliance monitoring, use permanent solutions to the maximum extent practicable, provide for a reasonable restoration time frame, and consider public concerns.

1.4 Project Background and Regulatory Overview

Contamination was discovered in soil and groundwater beneath the Property in 2017 during an investigation conducted on behalf of the City of Seattle Department of Transportation (SDOT) to support sale of the Property as part of the City's Mercer Corridor West improvements project. Following the investigation, a release notification was submitted to Ecology and the Site was listed on the Confirmed and Suspected Contaminated Sites list in 2018 with Cleanup Site ID 14784.

Remedial investigation (RI) activities have since been performed at the Property as part of transactional due diligence associated with the DDA. During this process 800 Mercer, LLC enrolled the Site into Ecology's Voluntary Cleanup Program (VCP) to complete the RI and evaluate other feasibility issues associated with cleanup of the Property. Ecology accepted the VCP application on January 27, 2020 and identified the Site as Seattle DOT Mercer Parcels with VCP Project No. NW3258.

Between March 2019 and February 2021, prior to and following enrollment in the VCP, RI activities were conducted by Hart Crowser, a division of Haley & Aldrich (Hart Crowser) on behalf of 800 Mercer, LLC. The work included collection of additional soil and groundwater data to fill data gaps necessary to complete the RI and a Focused Feasibility Study (FFS) for the Property. An initial draft RI Report was submitted by Hart Crowser in July 2020. After identifying and investigating additional data gaps, a final draft RI Report was submitted in June 2021 for public review and comment (Hart Crowser 2021a). A draft FFS report was also submitted to Ecology in

June 2021 following completion of the RI, and was finalized for public review and comment in July 2021 (Hart Crowser 2021b).

In addition to the data collected by Hart Crowser between 2019 and 2021, the RI incorporated data from multiple investigations completed by others in the area around the Property between 1970 and 2020. Those investigations were conducted in support of both geotechnical and environmental studies for surrounding properties/sites, various government road and utility projects, and the Property. Relevant data from those investigations were used for characterizing subsurface conditions and contamination extents at the Site and evaluating potential off-Property sources. Based on the results of the RI, shallow soil and groundwater at the Site are impacted by petroleum-related contamination from a historical gasoline service station that operated on the Property. Lead impacts from unknown sources are also present, to a limited extent but above applicable cleanup standards, in soil at the Site.

Other contamination from off-Site sources was also identified on the Property during the RI. Shallow soil is impacted by contaminated fill material that was utilized for realignments of roads that previously ran through the Property. The contaminated fill is associated with a separate site and is not commingled with the petroleum or lead contamination on the Property. Deeper soil and groundwater beneath the Property are also impacted by chlorinated solvent contamination that migrated from an upgradient off-site source. The deeper chlorinated solvent contamination is not commingled with the shallower contamination on the Property and is associated with a separate site that is being addressed by another party under an Agreed Order with Ecology. Further details of these separate sites are provided in Section 2.3.5.

The RI and FFS documents prepared by Hart Crowser are the technical basis for the cleanup action to be conducted at the Property.

2.0 Site Description and Background

The following sections summarize the Property setting and history and the nature and extent of contamination at the Site. The RI Report prepared by Hart Crowser (Hart Crowser 2021a) includes more detail on the Site background, RI procedures, and analytical results.

2.1 Site Description and History

2.1.1 Location and Description

The Site is located in the South Lake Union neighborhood in Seattle, Washington. The Property consists of two King County tax parcels as noted previously: Parcel No. 224900-0055 comprising the west half and Parcel No. 224900-0006 comprising the east half. The Property encompasses approximately 2.35 acres and is bounded by Roy Street to the north, Mercer Street to the south, Dexter Avenue North to the west, and Ninth Avenue North to the east. The Property is relatively flat on the west side (elevation 58 feet[1]) and generally slopes down toward the east (elevation 36 feet on the east side) (Figure 2-1).

2.1.2 Subsurface Conditions

Soil on the Property consists of fill, glacial deposits, and non-glacial deposits consistent with other studies in the area (SoundEarth Strategies 2013, 2016; PES Environmental 2018, 2019). The fill comprises sand with silt, gravel, and cobbles and brick, concrete, and glass debris. In most areas the fill is 12 to 18 feet deep, but it ranges up to 31 feet in some areas. In areas without fill, silt and/or clay with or without sand are present to a depth of 27 feet below ground surface (bgs). Below that is a layer of silty sand and silty gravel with varying degrees of gravel and cobbles to a depth of 73 feet bgs.

The hydrogeology at the Site is described as four water-bearing zones. The Shallow zone is discontinuous and unconfined in fill, lacustrine deposits, and glacial deposits. The intermediate zone is divided into two depth intervals called Intermediate A (upper, coarser zone) and Intermediate B (deeper, finer zone). The Deep zone consists of materials similar to the intermediate zones. Groundwater generally flows eastward across the property in all four zones. The water table is generally at 25 feet bgs. Water levels at the property have been influenced at times by temporary construction dewatering at nearby properties.

2.1.3 Zoning

The Property is currently zoned for mixed use (Seattle Mixed South Lake Union 175/85-280). Based on the current and proposed redevelopment of the area, the future land use at the Property is reasonably expected to remain mixed use. Based on the mixed-use zoning code, a wide variety of light industrial, residential, and commercial uses are allowed.

[1] All elevations in this CAP Report are referenced to the North American Vertical Datum of 1988 (NAVD88).

2.1.4 Historical Property Use

As early as 1893, the southern shoreline of Lake Union extended onto the northeast corner of the Property. By 1917, that area had been filled and the shoreline moved northward to its current location. An estimated 17 feet of fill was brought in to raise the ground surface in the northeast corner of the Property to its current elevation.

Residential dwellings were present on the Property from approximately the end of the 19th century to the 1950s. Various rights-of-way (ROWs) divided the Property from approximately the end of the 19th century to 2012. The Property was also used for a variety of commercial businesses from approximately 1917 to 2010. In the 2010s and as recently as 2019, the Property was used for construction staging.

Historical facilities and operations are shown on Figure 2-2 and included the following:

- A gasoline and service station that operated in the northwest corner of the Property from approximately 1929 to 1960
- An automobile repair and service station that operated in the central area of the Property from approximately 1930 to 1955
- Several auto wrecking businesses that occupied a building on the northeast corner of the Property from approximately 1930 to 1955, with a nearby large parking lot covering the southeast corner of the Property for the storage of wrecked cars
- A soap and chemical works facility that operated in the north-central portion of the Property from 1925 to 1940
- Sign painting companies that operated in the north-central portion of the Property between 1925 and 1955
- A sign painting business that operated near the south-central portion of the Property from approximately 1975 to 1996
- Retail painting stores that operated in the southwest quadrant of the Property in 1950

ROWs that historically bisected the Property are also illustrated on Figure 2-2. As early as 1893, Vine Street ran north-south through the center of the Property, connecting Roy and Mercer Streets. By 1905, Vine Street had been renamed Eighth Avenue North, which remained in this configuration until 1958. Sometime between 1917 and 1936 until 1958, the western half of the Property was split diagonally by Broad Street, which ran northeast to southwest along the surface from Eighth Avenue North to Dexter Avenue North. In 1958, Eighth Avenue North and Broad Street were vacated, and a new Broad Street alignment was constructed that again ran diagonally, northeast to southwest, across the surface of the entire Property, from the intersection of Valley Street and Ninth Avenue North to the intersection of Dexter Avenue North and Mercer Street and beyond.

The new Broad Street alignment (herein referred to as the Broad Street 1958-2012 alignment) sloped down about 20 feet to an underpass in the southwest corner of the Property that continued under the intersection of Dexter Avenue North and Mercer Street. Concrete retaining walls were present on the north and south sides of the Broad Street 1958-2012 alignment in the southwest corner of the Property. A secondary street that followed the former Broad Street alignment and connected Roy Street to Dexter Avenue North was also constructed during this time.

From approximately 2012 to 2015, the Broad Street 1958-2012 alignment was filled in to match the existing grades of Mercer Street and Dexter Avenue North, and all roadways within the boundaries of the Property were subsequently vacated as part of the City's Mercer Corridor Project. The Mercer Corridor Project also included widening Mercer Street to its current extent, which moved the Mercer right-of-way northward onto the southeast corner of the Property.

2.1.5 Current Property Conditions, Utilities, and Use

Currently, the Property is vacant and no aboveground structures are present. Portions of the western half of the Property are either paved with asphalt or concrete or are covered with gravel. The eastern portion of the Property is covered with grass and contains two temporary sediment ponds for stormwater collection.

A King County underground combined sewer overflow (CSO) drop structure is located near the center of the northern boundary of the Property, and underground CSO overflow pipes extend west (Central Trunk CSO Pipeline), northeast (South Lake Union CSO Pipeline), and south (Lake Union Tunnel) from the structure. The underground CSO infrastructure also includes a large-diameter tunnel (Mercer Street Tunnel), which extends southwest from the drop structure. The CSO infrastructure is owned by King County via an easement and will remain on the Property after redevelopment. Other utilities on the Property include an abandoned Seattle City Light duct bank and deactivated gas line that extend from north to south across the middle of the Property, as well as several abandoned Seattle Public Utilities drainage structure lines across the Property.

2.1.6 Future Property Use

The Property is planned to be redeveloped with two 13-story towers—one on the western half and one on the eastern half of the Property—separated above grade by the vacated Eighth Avenue North ROW. The two separate towers will share a below-grade parking garage that will underlie the vast majority of the Property footprint. Four levels of below-grade parking are planned, resulting in a uniform lowest finished floor elevation of approximately 10.75 feet (approximately 23 to 48 feet bgs). The foundation for the buildings and garage will consist of a 3-foot to 8-foot thick concrete mat, resulting in a bottom of excavation ranging from elevation 2.75 to 7.75 feet. The buildings will be occupied by biotech and life science companies, with commercial space and public amenities on the ground level. Redevelopment is expected to begin in 2022 and is expected to be completed by late 2024.

2.2 Summary of Investigations

Environmental investigations that have been completed at the Property to characterize the Site are summarized as follows:

- After a Phase I environmental site assessment indicated recognized environmental conditions on the Property (Shannon & Wilson 2018a), a limited Phase II environmental site assessment was performed by Shannon & Wilson in 2017 to evaluate soil and groundwater conditions on the Property to support future redevelopment (Shannon & Wilson 2018b). The investigation included advancement of 11 soil probes (identified as 21417-MB1 through 21417-MB11 on Figure 2-3) and collection and analysis of 15 soil samples and 4 grab groundwater samples from the shallow zone. The investigation results indicated detectable concentrations of various compounds in soil and groundwater, confirming that one or more releases of hazardous substances had occurred on the Property.

- Subsequent remedial investigation activities were performed by Hart Crowser in 2019 and 2020 to further characterize the Site and delineate the extent of contamination that was previously identified on the Property (Hart Crowser 2021a). These activities included installation and sampling of 50 soil borings (identified with prefixes of "MBB," "MBPP," and "MBGW" on Figure 2-3) and 36 monitoring wells (identified with prefix of "HMW" on Figure 2-3), water level monitoring, and hydraulic conductivity testing. A total of 344 soil samples and 80 groundwater samples (grab and well samples) were collected for laboratory analysis.

Data from other investigations conducted on or near the Property for other purposes were also used to supplement the RI data set and confirm the extents of contamination at the Site and evaluate geologic conditions. The supplemental data included more than 170 soil samples and 140 groundwater samples from 31 explorations from the following investigations (locations included on Figure 2-3):

- A comprehensive foundation investigation conducted between 1970 and 1971 by Shannon & Wilson (Shannon & Wilson 1971). This investigation was performed near the east side of the Property and in the north-adjacent and south-adjacent ROWs to support a proposed property redevelopment project. Data collected from four of the soil explorations (borings B-404, B-414, B-432, and B-434) provided relevant information to evaluate subsurface geologic conditions on and near the Property.

- July 1996 HWA Geosciences investigation in ROW north of Property to document conditions in vicinity of the then-planned underground CSO infrastructure (HWA 1998). Data from a deep well (PB-9) provided relevant information to evaluate subsurface geologic conditions on and near the Property.

- A Phase II Environmental Site Assessment conducted in 1997 by Black & Veatch to document environmental conditions in the vicinity of the planned CSO infrastructure on the Property

(Black & Veatch 1998). Soil and groundwater data from three monitoring wells in the vicinity of the Property (BB-5, BB-8, and BB-10) were used to support the RI.

- An environmental investigation conducted in 2012 by Shannon & Wilson to document conditions in the vicinity of the planned Mercer Corridor project (Shannon & Wilson 2012). Soil data from three of the soil explorations advanced in the west-adjacent ROW (borings GP-7, GP-8, and GP-9) were used to support the RI.

- Remedial investigation activities associated with the north-adjacent American Linen Supply Co Dexter Ave site (Cleanup Site ID 12004; herein referred to as the American Linen Site), performed by Dalton, Olmsted & Fuglevand in 2009 (DOF 2009), SoundEarth Strategies in 2012 and 2013 (SoundEarth Strategies 2013), and by PES Environmental from 2017 through 2020 (PES Environmental 2019, 2020). Soil and groundwater data from 13 investigation locations on and surrounding the Property (BB-8A, B-215, MW-105, MW-106, MW-114, MW-117, MW-118, MW-119, MW-140, MW-146, MW-147, MW-148, MW-153, MW-154, MW-155, MW-315, MW-316, MW-325, MW-326) were used to support the RI.

- Remedial investigation activities associated with the east-adjacent AIBS Building Block 43 site (Cleanup Site ID 12637), performed by Farallon Consulting in 2014. Groundwater data from one well (FMW-129) located on the northeast side of the Property was used to support the RI (Farallon 2018).

Additional information about the investigations identified above can be found in the RI Report (Hart Crowser 2021a) and the source documents referenced above.

2.3 Nature and Extent of Contamination

This section summarizes the nature and extent of contamination at the Site based on the results of the RI, which included evaluation of more than 300 soil and 150 groundwater samples collected from the Property and surrounding areas. RI sampling locations are depicted on Figure 2-3 and detailed information and analytical data are presented in the RI Report.

2.3.1 Constituents of Concern

Hazardous substances investigated during the RI were based on Property data and historical operations, and on potential off-Property sources from surrounding sites. Concentrations of detected compounds were compared to screening levels protective of human health and the environment to determine constituents of concern (COCs). Based on the evaluation and on sources of contamination, the following are COCs for the Site:

- Soil COCs:
  - Petroleum hydrocarbons as gasoline-range organics (GRO)
  - Lead
- Groundwater COCs:

- GRO
- Petroleum hydrocarbons as diesel-range organics (DRO)
- Benzene

Other hazardous substances are present in soil and/or groundwater on the Property at concentrations that exceed screening levels protective of human health and the environment but are not considered COCs for the Site. These substances include carcinogenic polycyclic aromatic hydrocarbons (cPAHs), arsenic, and chlorinated volatile organic compounds (CVOCs), and are associated with other listed contaminated sites. The cPAHs and arsenic are impacting shallow soil on the Property and CVOCs are impacting saturated soil and groundwater beneath the Property.

2.3.2 COC Sources

The petroleum impacts (GRO, DRO, and benzene) observed in soil and groundwater are attributed to historical fuel releases from the former gas and auto repair station that operated in the northwest corner of the Property from 1929 to 1960.

Lead impacts in soil on the Property are relatively isolated in small areas and very limited in extent. The source of the isolated lead exceedances in soil is not known, as further explained in Section 2.3.3.

2.3.3 Distribution of COCs in Soil

GRO concentrations in soil that exceed the screening level are limited to an area within the northwest corner of the Property, as illustrated on Figure 2-4a. These impacts are present at depths ranging from 5 to 25 feet below ground surface (bgs), corresponding to elevations between approximately 48.7 and 29.8 feet. The GRO concentrations detected in this area range from 7.3 to 1,200 milligrams per kilogram (mg/kg). The lateral and vertical extents of GRO contamination in soil have been adequately delineated and appear to be fully contained within the Property boundary.

Detections of lead in soil that exceed screening levels are present in two areas of the Property, as illustrated on Figure 2-4b. These impacts appear to be very limited in extent and include:

- A detected lead concentration of 591 mg/kg in fill material within the north-central portion of the Property at a depth of 10 feet bgs, corresponding to an elevation of approximately 40.53 feet; and
- A detected lead concentration of 279 mg/kg in native material near the northeast corner of the Property at a depth of 22 feet bgs, corresponding to an elevation of approximately 17.05 feet.

Lead was also detected in other soil samples throughout the Property, but at concentrations generally consistent with natural background. The isolated occurrence of lead in the fill material was in an area without a known source of lead (e.g., leaded gasoline) and no other exceedances were reported in any other soil samples in the vicinity; therefore, this sample presents an anomalous lead-bearing hot spot within the fill material. The concentration of lead in native

material was slightly above the screening level of 250 mg/kg. Neither sample was associated with high concentrations of GRO that might have indicated a leaded-gasoline source. These isolated results do not support the existence of lead contamination in soils throughout the Property, and do not suggest any on-Property sources or releases of lead. The lateral and vertical extents of lead contamination in soil have been adequately delineated and appear to be fully contained within the Property boundary.

2.3.4 Distribution of COCs in Groundwater

Petroleum-related impacts in groundwater that exceed screening levels are limited to an area of GRO, DRO, and benzene contamination in the northwest corner of the Property, as illustrated on Figure 2-5. These impacts are present in the Shallow zone at concentrations detected as high as 1,600 micrograms per liter (µg/L) for GRO, 650 µg/L for DRO, and 34 µg/L for benzene.

The GRO, DRO, and benzene exceedances in the northwest corner of the Property are bounded by groundwater samples within the Property boundary that do not exceed screening levels, indicating that the petroleum-related impacts in groundwater are not migrating off of the Property. The lateral extents of GRO, DRO, and benzene contamination in groundwater have been delineated, as discussed in detail in the RI Report and shown on Figure 2-5.

2.3.5 Contaminants from Other Sites

The cPAH and arsenic impacts in shallow soil on the Property are outside of the area of petroleum contamination and are attributed to contaminated fill that was placed within the former Broad Street 1958-2012 alignment. Based on the data collected during the RI, the contaminated fill was determined to be a separate site and has been listed by Ecology as the Broad Street Alignment Contaminated Fill Site with Cleanup Site ID 15446 (herein referred to as the Broad Street Fill Site). The data collected on the Property have confirmed that the contaminated fill site is not commingled with the Seattle DOT Mercer Parcels Site.

The CVOC impacts in saturated soil and groundwater on the Property are attributed to chlorinated solvent releases from historical laundry and dry-cleaning operations on the American Linen Site (Cleanup Site ID 12004), originating at 700 Dexter Avenue North (Figure 2-1). The chlorinated solvent contamination migrated through the groundwater and has come to be located beneath the Property. The American Linen CVOC plume is being addressed under a separate agreed order with Ecology (Agreed Order No. DE 14302) and includes ongoing remedial investigation and feasibility study activities as well as an ongoing interim cleanup action. The data collected on the Property have confirmed that the CVOC contamination from the American Linen Site is not commingled with the Seattle DOT Mercer Parcels Site.

Based on the determinations that the above contaminants are not commingled and are separate sites pursuant to MTCA, the following areas will not be included in this cleanup action but will instead be remediated pursuant to separate legal agreement(s). For the purposes of this CAP, these contaminants are not included as COCs at this Site.

Broad Street Fill Site. cPAHs in soil at concentrations that exceed the RI screening levels are limited to two areas of the Property, as illustrated on Figure 2-6a. These impacts are present in shallow fill material, primarily within the former Broad Street 1958-2012 alignment, in and near the southwest corner of the Property and within the east-central area of the Property.

- The cPAH toxic equivalency (cPAHs-TEQ) concentrations detected in and near the southwest corner are present at depths ranging from 5 to 25 feet bgs, corresponding to elevations between approximately 53.6 and 33.6 feet. The cPAH-TEQ concentrations detected in this area range from 0.016 to 0.44 mg/kg. Benzo(a)pyrene, which is included in the calculation for determining cPAH-TEQ concentrations, was detected in this area at concentrations ranging from 0.054 to 0.29 mg/kg.

- The cPAH-TEQ concentrations detected in the east-central area of the Property are present at two locations: one at a depth of approximately 5 feet bgs and the other at a depth of approximately 10 feet bgs, both of which correspond to an approximate elevation of 37 feet. The cPAH-TEQ concentrations detected in this area are 0.42 mg/kg and 2.4 mg/kg, with benzo(a)pyrene also detected at concentrations of 0.33 mg/kg and 1.8 mg/kg, respectively.

The lateral and vertical extents of cPAH contamination in soil are adequately delineated within the Property boundary. However, the data indicate that cPAH contamination within the Broad Street 1958-2012 alignment fill material extends beyond the Property boundary to the southwest. The extent of off-Property cPAH contamination within the fill material is unknown.

Arsenic concentrations in soil that exceed the screening level are primarily located within the Broad Street 1958-2012 alignment in the central and southwest portions of the Property, as illustrated on Figure 2-6b. These impacts are present in the fill material at depths ranging from 5 to 30 feet bgs, corresponding to elevations between approximately 53.7 to 28.7 feet. The arsenic concentrations detected in these areas range from 1.1 to 25.6 mg/kg. The lateral and vertical extents of arsenic contamination in soil are adequately delineated within the Property boundary. However, the data suggest that arsenic contamination within the Broad Street 1958-2012 alignment fill material is co-located with cPAH contamination and may also extend beyond the Property boundary to the southwest.

American Linen Site. CVOC contamination in soil from the American Linen plume includes, but is not limited to, tetrachloroethene (PCE), trichloroethene (TCE), cis-1,2-dichloroethene (cis-1,2-DCE), and vinyl chloride (VC). These compounds are present in saturated soil throughout the Property at depths between approximately 25 and 110 feet bgs, corresponding to elevations between approximately 25 feet and -55 feet (Figure 2-7a). Concentrations of PCE, TCE, cis-1,2-DCE, and VC were detected in soil on the Property as high as 8.8 mg/kg, 0.47 mg/kg, 0.26 mg/kg, and 0.0615 mg/kg, respectively. These impacts are all present in saturated soil beneath the other hazardous substances.

CVOC contamination in groundwater from the American Linen plume are present in the shallow, intermediate, and deep zones beneath the Property and surrounding areas (Figures 2-7b and

2-7c). During the 2019-2020 RI activities, dissolved PCE concentrations beneath the Property were detected as high 9,100 µg/L, TCE as high as 660 µg/L, cis-1,2-DCE as high as 420 µg/L, and VC as high as 7,400 µg/L. As noted previously, data confirm that the CVOC plume from the American Linen Site is not commingled with the petroleum hydrocarbon plume at the Seattle DOT Mercer Parcels Site.

2.4 Receptors and Exposure Pathways

Receptors at the Site currently and in the future include construction workers, workers and patrons of commercial and retail facilities, and area residents. Receptors and associated exposure pathways for contamination originating on or from the Property are:

- Any person in contact with contaminated soil.
- Any person that incidentally ingests contaminated soil.
- Any future building occupant breathing potentially contaminated air impacted from volatile compounds in vadose-zone soil and/or shallow groundwater.
- Any person ingesting shallow contaminated groundwater.

Terrestrial ecological receptors are not a concern for the Site based on the planned future land use, as discussed in more detail in the RI Report.

A conceptual site model summarizing sources of contamination, contaminant transport pathways, and current and potential human and ecologic exposure pathways is illustrated in the diagram presented in Figure 2-8. A conceptual cross section illustrating the separation of sites and sources is presented in Figure 2-9.

3.0 Cleanup Standards

Cleanup actions must comply with cleanup standards set forth in WAC 173-340-700 through 173-340-760. Cleanup standards include cleanup levels (CULs) for Site COCs, the location where CULs must be met (i.e., point of compliance), and other regulatory requirements that apply to the Site because of the type of cleanup action and/or location of the Site (i.e., applicable state and federal laws). The CULs and points of compliance (POCs) are presented in Section 3.1, and applicable state and federal laws are presented in Section 3.2.

3.1 Cleanup Levels and Points of Compliance

CULs are concentrations of hazardous substances that are determined by Ecology to be protective of human health and the environment under specified exposure conditions. The MTCA regulations (WAC 173-340-350[9][a]) require that CULs be established for hazardous substances in each medium (soil and groundwater) and for each exposure pathway where a release has occurred. For the Site, CULs have been developed for soil and groundwater COCs (petroleum compounds and lead) to address the exposure pathways identified in Section 2.4.

In general, standard MTCA Method B CULs have been selected for this Site, which are applicable to all sites and are developed with default formulas, assumptions, and procedures (WAC 173-340-705[1] and [2]). The minimum CUL (most protective) for all applicable exposure pathways was selected for each COC identified in Section 2.3.1. Where appropriate, MTCA Method A default values may be used to substitute for Method B CULs.

The POC is the point or location on a site where CULs must be attained and is summarized for each COC in Tables 3-1a and 3-1b below.

3.1.1 Soil

The POC is the point or points where the soil cleanup levels established shall be attained, as outlined in WAC 173-340-740(6)(b-d) and summarized below:

- For CULs based on the protection of groundwater, soils throughout the Site.
- For CULs based on protection from vapors, soils throughout the Site from the ground surface to the uppermost groundwater saturated zone.
- For CULs based on human exposure via direct contact, soils throughout the Site from the ground surface to 15 feet bgs.

The lowest soil CUL (most protective) for the following two exposure pathways was selected:

- Protection of direct contact, using the lower of the CULs calculated using MTCA Equations 740-1 and 740-2 (WAC 173-340-740[3][b][iii][B]).[2]
- Leaching from soil to groundwater protective of a full-time residential user of groundwater as a drinking water source for the appropriate soil zone (saturated or vadose), developed using the fixed parameter three-phase partitioning model in accordance with WAC 173-340-747(4).[3]

The soil CULs for Site COCs, their basis, and associated POCs are listed below in Table 3-1a.

Table 3-1a: Soil Cleanup Standards

COC	CUL (mg/kg)	Basis of CUL	POC
GRO	30[a,b]	Protection of groundwater	Sitewide
Lead	250[a]	Direct contact[c]	0 to 15 feet bgs

Notes:

a. MTCA Method A CUL was used since a MTCA Method B CUL is not available. The MTCA Method A CUL is presented in WAC 173-340-900, Table 740-1.

b. The CUL is calculated according to the procedures in WAC 173-340-747 and assumes benzene is present.

c. The protection of groundwater from saturated soil pathway has an equal or lower CUL but is not applicable because this constituent was either never detected in saturated soil or was detected at a concentration below the screening level protective of the saturated soil-to-groundwater pathway and was not detected in any groundwater samples at concentrations that pose a risk.

3.1.2 Groundwater

The standard POC was selected for groundwater, which is throughout the Site from the uppermost level of the saturated zone extending vertically to the lowest most depth that could potentially be affected by the Site (WAC 173-340-720[8][b]).

The lowest groundwater CUL (most protective) for the following two exposure pathways was selected:

- Protection of drinking water, developed by identifying maximum contaminant levels (MCLs) and calculating levels per MTCA Equations 720-1 and 720-2 (WAC 173-340-720[4][b][iii][A] and -720[4][b][iii][B]) using the toxicity values in Ecology's online cleanup levels and risk calculation (CLARC) database (Ecology 2021a), and adjusting the MCLs as follows:[4]

[2] Except for GRO, which is based on Ecology's model remedy guidance for sites with petroleum contaminated soil (Ecology 2017).

[3] Except for GRO, which is developed using the four-phase partitioning model in accordance with WAC 173-340-747(6).

[4] Except GRO and DRO, which are based on the MTCA Method A listed values.

- If the ratio of the minimum MCL to the Equation 720-1 value does not exceed 1, then the hazard quotient associated with the MCL does not exceed 1 and the MCL requires no adjustment.
- If the ratio of the minimum MCL to the Equation 720-1 value exceeds 1, the MCL is adjusted to the Equation 720-1 value to achieve a hazard quotient of 1.
- If the ratio of the minimum MCL to the Equation 720-2 value does not exceed 10, then the cancer risk associated with the MCL does not exceed 1E-5 and the MCL requires no adjustment.
- If the ratio of the minimum MCL to the Equation 720-2 value exceeds 10, the MCL is adjusted to 10 times the Equation 720-2 value to achieve a cancer risk of 1E-5.
- If an MCL is available but no oral toxicity values are available to evaluate it, the MCL is used without adjustment.
- If no MCL is available but an oral toxicity value is available, the minimum of the values from Equations 720-1 and 720-2 is used.

- Protection of ambient air, calculated per Ecology guidance (Ecology 2018a and 2018b).

The groundwater CULs for Site COCs, their basis, and associated POCs are listed below in Table 3-1b.

Table 3-1b: Groundwater Cleanup Standards

COC	CUL (µg/L)	Basis of CUL	POC
GRO	800[a,b]	Protection of drinking water	Sitewide
DRO	500[a]	Protection of drinking water	Sitewide
Benzene	2.4[c]	Protection of indoor air	Sitewide

Notes:

a. MTCA Method A CUL was used since MTCA Method B is not available without petroleum fractionation analysis. The MTCA Method A CUL is presented in WAC 173-340-900, Table 720-1.

b. The CUL assumes benzene is present.

c. Based on groundwater screening level protective of vapor intrusion calculated using Equation 1 of Ecology's April 2018 revised *Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action* (Ecology 2018a).

3.2 Screening Levels for Other Hazardous Substances

The proposed cleanup action for the Site and planned redevelopment of the Property will concurrently address some of the contamination that is present on the Property from the Broad Street Fill Site (cPAHs and arsenic) and the American Linen Site (CVOCs). Such incidental remedial actions associated with those other sites will likely be considered interim actions for the final

cleanup action of those sites, as appropriate. For reference, the soil and groundwater screening levels selected for those other hazardous substances and their basis are provided below in Tables 3-2a and 3-2b.

Table 3-2a: Soil Screening Levels for Other Hazardous Substances

Hazardous Substance	Screening Level (mg/kg)	Basis of Screening Level
cPAHs	0.19	Direct contact
Arsenic	7.3[a]	Direct contact, adjusted to practical quantitation limit (PQL)
PCE	0.0028	Saturated soil leaching to groundwater
TCE	0.0015	Saturated soil leaching to groundwater
Cis-1,2-DCE	0.0052	Saturated soil leaching to groundwater
VC	0.0015	Saturated soil leaching to groundwater, adjusted to PQL

Notes:

a. Screening level adjusted in accordance with WAC 173-340-740(5)(c); background value for arsenic from *Natural Background Soil Metals Concentrations in Washington State* (Ecology 1994).

Table 3-2b: Groundwater Screening Levels for Other Hazardous Substances

Hazardous Substance	Screening Level (µg/L)	Basis of Screening Level
PCE	5	Protection of drinking water
TCE	1.4	Protection of indoor air
Cis-1,2-DCE	16	Protection of drinking water
VC	0.29	Protection of drinking water

3.3 Applicable or Relevant and Appropriate Requirements

This section identifies applicable or relevant and appropriate requirements (ARARs) for implementing the cleanup action at the Site. The ARARs focus on local, state, or federal statutes, regulations, criteria, and guidelines. The specific types of ARARs for the cleanup action include contaminant-, location-, and action-specific ARARs, as defined in the following paragraphs. Each type of ARAR was evaluated in the FFS, and applicable ARARs are listed below.

In general, only the substantive requirements of ARARs are applied to MTCA cleanup sites being conducted under a legally binding agreement with Ecology (WAC 173-340-710[9][b]). Thus, cleanup actions under a formal agreement with Ecology are exempt from the administrative and procedural

requirements specified in certain state and federal laws.[5] This exemption also applies to permits or approvals required by local governments.

Contaminant-specific ARARs. Contaminant-specific ARARs are usually health- or risk-based numerical values or methodologies that, when applied to site-specific conditions, result in the establishment of numerical contaminant values that regulatory agencies generally recognize as protective of human health and the environment.

Applicable contaminant-specific ARARs include:

- Washington MTCA (RCW 70A.305; Chapter 173-340 WAC) regulating soil and groundwater cleanup levels.

Action-specific ARARs. Action-specific ARARs are pertinent to particular remediation methods and technologies, and to actions conducted to support cleanup. Action-specific ARARs are requirements that may need to be satisfied during the performance of specific cleanup actions because they prescribe how certain activities (e.g., treatment and disposal practices, media monitoring programs) must occur.

Applicable action-specific ARARs include:

- United States (U.S.) Clean Air Act (42 United States Code [USC] § 7401 et seq. and 40 Code of Federal Regulations [CFR] Part 50) and Washington Clean Air Act and Implementing Regulations (RCW 70A.15; Chapter 173-400 WAC) to protect ambient air quality by limiting air emissions and taking reasonable precautions to prevent fugitive dust from becoming airborne, which are applicable since the selected cleanup action involves construction.
- U.S. Resource Conservation and Recovery Act (RCRA) (42 USC § 6901 et seq.), Subtitle D—Managing Municipal and Solid Waste (40 CFR Parts 257 and 258) and Washington Solid Waste Handling Standards (RCW 70A.205; Chapter 173-350 WAC) to establish guidelines and criteria for management of non-hazardous solid waste, which are applicable since the selected cleanup action involves off-site disposal of contaminated soil and/or groundwater designated as non-hazardous waste.
- U.S. Land Disposal Restrictions (40 CFR Part 268) and Washington Land Disposal Restrictions (Chapter 173-303 WAC) to establish guidelines and criteria for disposal of dangerous waste, which are applicable to determine whether listed dangerous wastes disposed of off-site during the planned cleanup action will qualify as “contained-in”.

[5] The exemption applies to the following Washington State laws: Clean Air Act (RCW 70A.15), Solid Waste Management (RCW 70A.205), Hazardous Waste Management (RCW 70A.300), Construction Projects in State Waters (RCW 77.55), Water Pollution Control (RCW 90.48), and Shoreline Management Act (RCW 90.58). Exemption does not apply if Ecology determines that it would result in loss of approval from a federal agency necessary for the state to administer any federal law.

- Washington Contained-in Policy (Ecology memo dated February 19, 1993) to allow for listed dangerous wastes to be exempt from management as dangerous wastes if the concentrations are below risk-based levels, which is applicable since the selected cleanup action involves off-site disposal of listed dangerous wastes at concentrations that would qualify as contained-in.
- U.S. Occupational Safety and Health Act (OSHA) (29 CFR Parts 1904, 1910, and 1926) and Washington Industrial Safety and Health Act (WISHA) (RCW 49.17; Title 296 WAC) to establish site worker and visitor health and safety requirements during implementation of the cleanup action.
- Washington State Environmental Policy Act (SEPA) (RCW 43.21C; Chapter 197-11 WAC) to identify and analyze environmental impacts associated with the selected cleanup action.
- King County Stormwater Runoff and Surface Water and Erosion Control (King County Code [KCC] Chapter 9.04), King County Water Quality (KCC Chapter 9.12), and Seattle Stormwater Code (Seattle Municipal Code [SMC] Title 22, Subtitle VIII) to establish guidelines for erosion control and construction stormwater management, which are applicable since the selected cleanup action involves construction.
- Washington Noise Control (RCW 70A.20; Chapter 173-60 WAC) and Seattle Noise Control (SMC Chapter 25.08) to minimize noise impacts during implementation of the selected cleanup action.
- Seattle Grading Code (SMC Chapter 22.170) to establish guidelines for grading, which is applicable since the selected cleanup action involves an excavation and filling volume greater than 500 cubic yards.
- U.S. Federal Water Pollution Control Act—National Pollutant Discharge Elimination System (NPDES) (Clean Water Act [CWA]; 33 USC § 1342, Section 402) and Implementing Regulations and Washington Waste Discharge General Permit Program (RCW 90.48; Chapter 173-226 WAC) to establish requirements for point source discharges, including stormwater runoff, which are applicable since the selected cleanup action involves point source discharge of stormwater.
- Washington Minimum Standards for Construction and Maintenance of Wells (RCW 18.104; Chapter 173-160 WAC) to establish standards for constructing and decommissioning monitoring wells, which is applicable since the selected cleanup action involves drilling or decommissioning wells.

Location-specific ARARs. Location-specific ARARs are restrictions placed on the concentration of hazardous substances or the conduct of activities solely because they are in a specific location. Some examples of special locations include floodplains, wetlands, historic sites, and sensitive ecosystems or habitats.

Applicable location-specific ARARs include:

- U.S. Archaeological and Historical Preservation Act (16 USC § 469, 470 et seq.; 36 CFR Parts 65 and 800) and Washington Archaeological Sites and Resources (RCW 27.44, 27.48, and 27.53; Chapter 25-48 WAC) to establish guidelines to preserve and recover significant artifacts, preserve historic and archaeological properties and resources, and minimize harm to national landmarks. There are no known historic or archaeological sites in the vicinity of the Site, but these regulations may be applicable if archaeological resources are discovered during construction.
- Seattle Clarification of SEPA Historic Preservation Policy for Potential Archaeologically Significant Sites and Requirements for Archaeological Assessments (Director's Rule 2-98; SMC Chapter 25.05.675 H) to provide guidance for the identification, protection, and treatment of archaeological sites on the City of Seattle's shorelines, which is applicable as the Site is within 200 feet of the historical Lake Union shoreline.

4.0 Remedy Selection

This section identifies cleanup action objectives (CAOs), describes the selection process for the cleanup action, and explains how the selected cleanup action meets the minimum MTCA requirements.

4.1 Cleanup Action Objectives

CAOs were developed to identify goals that should be accomplished by the selected cleanup action to meet the minimum requirements of the MTCA regulations and provide adequate protection of human health and the environment. The CAOs for soil and groundwater consider the applicable receptors and exposure pathways for those media (Section 2.4).

The CAOs for the Site COCs and other hazardous substances that are present on the Property are:

1. Prevent any person from direct contact with contaminated soil.
2. Protect groundwater from being contaminated by impacted soil.
3. Mitigate the potential for future building indoor air to be impacted by contaminated soil and groundwater.
4. Prevent any person from ingesting contaminated groundwater.

Each CAO will be achieved by terminating the associated exposure pathway. This objective can be achieved through contaminant removal or treatment to meet constituent- and media-specific cleanup standards (cleanup levels at points of compliance; Section 3.1) that are based on the specific exposure pathways, and preventing any potential residual exposure through containment with associated institutional controls.

4.2 Selected Cleanup Action

The selected cleanup action is described in detail in Section 5.0 and consists of:

- Excavating contaminated soil within the planned redevelopment excavation required for construction of the new buildings to an approximate elevation of at least 7.75 feet (approximately 26 to 51 feet bgs).
- Performing compliance monitoring.

The selected cleanup action is a permanent cleanup action that will address Site COCs as defined in WAC 173-340-200.

4.2.1 Considerations Related to Other Sites on the Property

The cleanup action and Property redevelopment plans take into consideration the ongoing and/or future investigations, cleanup actions, and monitoring related to the Broad Street Fill Site and the American Linen Site so as not to interfere with those efforts. The American Linen CVOC plume is being investigated and cleaned up under an Agreed Order with Ecology by others and therefore is not within the scope of this CAP. If investigation or remediation related activities are required beneath the proposed building footprint at the Property for either of the two sites (other than the incidental actions noted below), those activities will need to be completed prior to the beginning of construction (anticipated in mid-2022). Considerations related to both sites are summarized below:

Groundwater Management. The cleanup action at the Property will address management and disposal of CVOC-impacted groundwater encountered during excavation and associated construction dewatering. The construction dewatering treatment system will be designed to reduce CVOC concentrations in accordance with discharge permit requirements. During construction dewatering, effluent will be evaluated and treated as necessary to comply with the discharge permit.

Additionally, a secant pile wall will be installed along the perimeter of the approximate eastern half of the Property which will serve as the temporary support of excavation and will also reduce construction dewatering flow rates. The secant pile wall will be embedded in the underlying dense glacial till soils to an elevation of approximately -20 feet. Due to the presence of dense low-permeability glacial till soils at a shallower depth within the western portion of the Property, dewatering flow rates are estimated to be minimal; therefore, a conventional soldier pile and lagging wall will serve as the temporary support of excavation wall.

Soil Management. Shallow contaminated fill will be removed from the Property as an interim action for the Broad Street Fill Site. Those fill soils containing elevated cPAHs and arsenic above the screening levels will be managed and disposed of as non-hazardous waste at a Subtitle D landfill. Saturated soils with CVOC detections are expected to be managed and disposed of as non-dangerous solid waste at a Subtitle D landfill under a contained-in designation from Ecology.

Vapor Intrusion Mitigation. An Ecology-approved vapor barrier will be installed beneath the slabs and along the below-grade walls of the new building structures at the Property as a mitigation measure to prevent soil vapors containing CVOCs from migrating into the buildings.

Environmental Covenant. An environmental covenant will be filed for the Property to place limitations on the use of the Property (i.e., prohibit extraction and use of groundwater) and require that engineering controls (i.e., vapor barrier, protective cap) remain in place and be monitored and maintained appropriately until the American Linen CVOC plume is remediated.

Additional details for managing waste soils and water from the excavation, implementing the vapor barrier, and any other controls to be implemented on the Property in consideration of these other

sites will be provided in a Contaminated Media Management Plan (CMMP). The CMMP will be submitted to Ecology for review and approval in conjunction with the Engineering Design Report (EDR) for the cleanup action.

4.3 Justification for Selected Cleanup Action

As described in WAC 173-340-360(2) (and presented in the FFS), four threshold requirements and three other requirements need to be met for a cleanup action to be selected. Additionally, several action-specific requirements—which vary depending on the nature of the Site and the cleanup action being considered—need to be met if applicable. This section describes the minimum MTCA requirements and summarizes how the selected cleanup action meets these criteria, with more detailed information presented in the FFS.

Threshold requirements for cleanup actions are defined in WAC 173-340-360(2)(a) and listed below.

- **Protect human health and the environment.** The selected cleanup action eliminates exposure pathways and provides for overall protection of human health and the environment by removing and disposing of soil and groundwater with COC concentrations above the CULs.
- **Comply with cleanup standards.** The selected cleanup action complies with cleanup standards by removing and disposing of soil and groundwater with COC concentrations above the CULs.
- **Comply with applicable state and federal laws.** The selected cleanup action will attain and comply with all applicable ARARs, which are summarized in Section 3.3.
- **Provide for compliance monitoring.** The selected cleanup action complies with this requirement as it includes varying levels of all three types of compliance monitoring: protection, performance, and confirmational.

Other requirements for cleanup actions are defined in WAC 173-340-360(2)(b) and listed below.

- **Use permanent solutions to the maximum extent practicable.** This requirement involves conducting a DCA when evaluating multiple cleanup action alternatives. Since the selected cleanup action is a permanent cleanup action and is the proposed cleanup action in this CAP, other alternatives do not need to be evaluated and a DCA is not required.
- **Provide for a reasonable restoration time frame.** The restoration time frame for the selected cleanup action is during redevelopment of the Property, approximately two years. This is a reasonable restoration time frame based on the factors listed in WAC 173-340-360(4)(b).
- **Consideration of public concerns.** This draft document is being presented to the public and stakeholders for public review and comment. The RI Report and FFS are also being

presented for public comment. Any comments received during the public comment period will be reviewed by Ecology prior to issuance of a final CAP and addressed in a responsiveness summary. All public comments and concerns will be taken into consideration when finalizing the CAP.

Action-specific requirements for cleanup actions are defined in WAC 173-340-360(2)(c-h) and listed below.

- **Groundwater cleanup actions.** The selected cleanup action meets this requirement because it is a permanent cleanup action used to achieve the CULs for Site groundwater COCs at the standard POC.
- **Soil at current or potential future residential areas and childcare centers.** The selected cleanup action complies with this requirement because all soils with concentrations of Site COCs exceeding CULs will be removed and disposed of off-site.
- **Institutional controls.** This requirement is not applicable because the selected cleanup action for Site COCs does not include institutional controls. However, as noted in Section 4.2.1, institutional controls in the form of an environmental covenant on the Property will be implemented to mitigate exposure risks associated with the American Linen Site.
- **Releases and migration.** The selected cleanup action complies with this requirement because releases and migration of hazardous substances are prevented by removing soil and groundwater with concentrations of Site COCs above CULs and any potentially remaining contaminant sources (i.e., underground storage tanks [USTs]), if any are still present on the Property.
- **Dilution and dispersion.** The selected cleanup action meets this requirement because it does not rely at all on dilution and dispersion.
- **Remediation levels.** This requirement is not applicable because the selected cleanup action does not involve use of remediation levels.

5.0 Description of Selected Cleanup Action

As described in more detail below, the selected cleanup action for the Site COCs consists of excavating contaminated soil, hauling the contaminated soil off-site for treatment and/or disposal, and performing compliance monitoring. Implementation of this cleanup action will address the CAOs for the Site (Section 4.1). The conceptual components of the selected cleanup action are shown on Figure 5-1.

5.1 Excavation and Off-Site Disposal

The selected cleanup action includes excavation and off-site disposal of soil containing COC concentrations that exceed the CULs. This will include removal of the GRO-contaminated soil in the northwest corner of the Property and lead-contaminated soil in the central and eastern areas of the Property.

Excavation will continue until the limit of the planned redevelopment excavation required for construction of the new buildings is reached, which will remove all COC-contaminated soil on the Property as well as the portion of the Broad Street Fill Site that exists on the Property. As shown in plan view on Figure 5-1 and in cross-section view on Figures 5-2a and 5-2b, the planned redevelopment excavation extends laterally across the vast majority of the Property, with the exception of the King County sewer overflow infrastructure and small areas in the northwest corner and along the southern Property boundary. The vertical excavation extent is to approximately elevation 7.75 feet (approximately 26 to 51 feet bgs), except for the shear wall cores which will extend to approximately elevation 2.75 feet (approximately 31 to 56 feet bgs).

For purposes of this CAP, it is assumed that excavated COC-contaminated soil can be characterized as non-hazardous and will be sent off-site for disposal at a regulated Subtitle D landfill facility or other permitted landfill or thermal treatment facility. It is assumed that excavated soils containing other hazardous substances associated with the Broad Street Fill Site and the American Linen Site can also be characterized as non-hazardous for disposal at a regulated Subtitle D landfill facility. Erosion control, site stabilization measures, underground utility protection measures, and dewatering (including properly treating and/or disposing of impacted construction dewatering water) will be implemented during construction activities to prevent adverse impact to human health and the environment.

5.1.1 Excavation Dewatering

The planned redevelopment excavation will remove shallow groundwater contamination on the Property (e.g., GRO, DRO, and benzene in the northwest corner) during temporary construction dewatering. The dewatering system is anticipated to include a combination of localized sumps within the excavation footprint, well points, and dewatering wells. The groundwater table will be maintained approximately 2 feet below the bottom of the excavation. As discussed in Section 4.2.1,

a secant pile wall will be installed along the perimeter of the eastern portion of the Property to reduce construction dewatering flow rates.

Construction dewatering will be required for the duration of excavation activities and will continue until the foundation and parking garage structure are completed to above the adjacent ground surface. The total estimated duration of temporary construction dewatering is anticipated to be approximately 22 months.

The groundwater from the excavation will be pumped into storage tanks temporarily located on the Property. Excavated groundwater will be considered to be contaminated and will therefore be treated. The treatment system is anticipated to include a sediment filter, granular activated carbon (GAC) vessel(s) (connected in series), and/or air stripping. If air stripping is conducted, associated air stripper vapors will also be collected and treated before discharge to the air, as permitted by the Puget Sound Clean Air Agency. Once treated, the water will be discharged to the storm sewer under the Construction Stormwater General Permit (CSWGP) issued by Ecology. Monitoring ports would be installed after each vessel in order to allow for sampling/testing of the post-treated water for the potential presence of COCs and CVOCs. Treatment, discharge monitoring, and reporting will be conducted in accordance with the CSWGP issued by Ecology.

5.2 Compliance Monitoring

Compliance monitoring will be implemented in accordance with WAC 173-340-410 and includes:

- **Protection monitoring** to confirm that human health and the environment are adequately protected during construction and the operation and maintenance period of the cleanup action. Protection monitoring elements, including dust monitoring and vapor monitoring during excavation, will be addressed in the health and safety plan that will be created for the project.
- **Performance monitoring** to confirm that the cleanup action has attained cleanup standards and other performance standards. Performance monitoring following soil excavation will include collection and analysis of soil samples from the base and walls of the excavation and groundwater samples to confirm that the target CULs have been achieved, or to document the concentration of COCs that remain on the Site. Performance monitoring specifics, including monitoring procedures, locations, frequency, and analyses, will be established in a Sampling and Analysis Plan/Quality Assurance Project Plan (SAP/QAPP) to be submitted to Ecology for review and approval in conjunction with the EDR.
- **Confirmational monitoring** to confirm the long-term effectiveness of the cleanup action once cleanup standards and other performance standards have been attained. Confirmational monitoring is not anticipated because Site COCs are expected to meet compliance upon completion of remedial construction and Property redevelopment. Final performance sampling results will serve as confirmation of meeting compliance with the CULs.

Results of compliance monitoring will be documented in a Cleanup Action Completion Report for the Site.

5.3 Contingency Actions

Contingency actions may be required if additional risk reduction measures are needed during or after remedy implementation. During excavation, there is the potential for unanticipated discoveries including contaminated soil or other hazardous substances outside of the known areas, and historical USTs and piping from former gas station operations. Details on how the discoveries will be managed are summarized below and will be further discussed in a Contingency Action Plan to be part of the EDR.

5.3.1 Unanticipated Soil Contamination

Unanticipated contaminated soil or other hazardous substances may be encountered outside of the known areas by site workers during the planned excavation activities at the Property. This may include observable evidence of one or more of the following:

- Oily or greasy material with visible oil droplets, film, or sheen
- Tar, chemical sludge, or gummy resinous substance
- Distinct color changes
- Foam, scum, gel, slime, or soapy liquid material
- Fibrous material, particularly white or gray
- Powder, grit, or machine-formed pellets indicative of chemicals
- Abandoned containers such as drums and tanks or pipelines
- Molten slag with glassy, metallic, rock-like, or clinker appearance
- Electrical equipment such as transformers, batteries, or capacitors
- Mist or smoky discharge
- Unnatural color flecks or smears in the soil
- Unusual odors, including gasoline, paint thinner, furniture polish, “magic marker” pen, rotten eggs or skunky spray, mothballs, sewage, or other solvent or chemical-like odors[6]

If suspected hazardous material is discovered outside of the known areas, normal excavation and construction activities in the suspected area will cease, pending evaluation/testing by designated field oversight personnel. The Ecology cleanup site manager will be notified of the discovery of hazardous material outside of the known areas within 24 to 72 hours of its presence being confirmed. The suspected hazardous material will not be further disturbed or touched without

[6] It is not recommended that site personnel smell suspected hazardous substances; doing so could present a health and safety hazard. However, if odors are detected inadvertently, it may indicate potential adverse environmental conditions.

appropriate worker protection (personal protective equipment [PPE] and/or engineering controls) and environmental precautions.

Upon discovery, samples will be collected for chemical analysis of hazardous substances to verify constituent types and concentrations. Soil samples will be analyzed for chemical parameters appropriate to the conditions of the excavation area and Property history in the suspected area. Suspected hazardous material will not be removed from the Property until it is appropriately characterized and the materials are designated for final disposition. Once characterization sample results are received, soil will be excavated and disposed of off-site at an appropriate facility depending on the constituent types and concentrations. Specifics on sampling procedures, frequency, and analyses of unanticipated soil contamination will be outlined in the SAP/QAPP to be submitted to Ecology for review and approval in conjunction with the EDR.

When excavation side wall and bottom field screening measurements (e.g., odors, sheen, photoionization detector) indicate that the impacted soil has been removed (or the limit of the planned redevelopment excavation required for construction of the new buildings is reached), verification soil samples will be collected and analyzed to verify the characteristics of soil remaining in areas where impacted soil or suspected hazardous materials have been excavated. Analytical results will be provided to Ecology and to the Property owner and General Contractor to verify that the excavation has met regulatory and/or disposal facility criteria prior to continued excavation.

5.3.2 USTs

Because of the historical use of the Property, unknown USTs and/or piping may be discovered during excavation and construction activities. If USTs and/or piping are encountered, designated field oversight personnel will notify the Ecology cleanup site manager and will follow UST notification protocol. Ecology requires a 30-day notification period before removal of regulated USTs but may approve expedited closure in emergency situations where product release may be a concern. USTs used for storing heating oil that is used solely for the purpose of heating structures on a property are exempt from the Ecology UST notification requirements.

A licensed UST decommissioner will perform the removal and closure of any discovered USTs and a UST site assessment will be conducted under the oversight of a Washington State certified UST site assessor.

The UST decommissioner will follow the protocols established under the following regulations and guidance documents for removal or closure of USTs:

- UST Regulations (Chapter 173-360A WAC).
- *Site Assessment Guidance for Underground Storage Tank Systems* (Ecology 2021b).
- *Site Check/Site Assessments Checklist for Underground Storage Tanks* (Ecology 2018c).
- International Fire Code 3404.2.13.1.

- Washington Division of Occupational Safety and Health (DOSH) Confined Space Regulations (WAC 296-155-203).

The UST site assessor will collect representative soil samples for chemical analysis to document subsurface conditions per the *Site Assessment Guidance for Underground Storage Tank Systems* (Ecology 2021b). Regardless of whether contamination is present, the UST site assessor will complete the site assessment checklist and the decommissioner will complete the permanent closure checklist, and these documents will be submitted to Ecology within 30 days.

If a release from a UST or its associated piping that poses a threat to human health or the environment is discovered, the release must be reported to Ecology within 24 hours, whether or not the UST is regulated under the UST regulations. If impacts to soils are observed, soil will be excavated and disposed of off-site and verification soil samples will be collected and analyzed in accordance with the protocols to be described in the SAP/QAPP, and a site characterization report will be submitted to Ecology within 90 days.

If no contamination is present, the site assessment sampling report will be submitted to Ecology within 30 days.

6.0 Schedule for Implementation

Implementation of the proposed cleanup action is expected to occur over the next few years in conjunction with Property redevelopment. The following table outlines a generalized schedule for the proposed cleanup action based on the expected chronology of key activities and deliverables.

Table 6-1: Schedule of Deliverables and Activities

Implementation Step or Deliverable	Due Date[a] or Time Frame
Pre-Construction Design Activities	Currently underway
Submit Agency Review Draft EDR	Within 120 days of effective date of Prospective Purchaser Consent Decree (PPCD)
Submit Agency Review Draft CMMP	Concurrent with submittal of Agency Review Draft EDR
Finalize EDR and CMMP	60 days after receipt of Ecology final comments
Acquire Project Permits	Prior to start of remedial action construction
Remedial Action Construction	Initiate within 180 days of Ecology approval of the EDR or after permit acquisition
Submit Agency Review Draft Cleanup Action Completion Report	180 days following completion of cleanup action
Submit Final Cleanup Action Completion Report	60 days after receipt of Ecology's final comments
Submit Monthly Progress Reports	15 days after the end of each month following the effective date of the PPCD[b]

Notes:

a. Schedule is in calendar days.

b. Upon mutual agreement by Ecology and 800 Mercer, LLC, the Progress Reports may be submitted quarterly, depending on the current activities at the Site.

7.0 References

Black & Veatch 1998. *Denny Way/Lake Union CSO Project, Phase II Environmental Site Assessment*. Prepared for King County Department of Natural Resources, September 1998.

Dalton, Olmsted & Fuglevand, Inc. (DOF) 2009. *Results of January 2009 Sampling, American Linen Site, Seattle, WA*. Memorandum prepared for Dave Maryatt, March 6, 2009.

Ecology 1994. *Natural Background Soil Metals Concentrations in Washington State*. Publication No. 94-115. Washington State Department of Ecology, Olympia, WA.

Ecology 2017. *Model Remedies for Sites with Petroleum Contaminated Soils*. Publication No. 15-09-043. Washington State Department of Ecology, Olympia, WA.

Ecology 2018a. *Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action*. Publication No. 09-09-047. Washington State Department of Ecology, Lacey, WA. Review Draft, October 2009; revised February 2016 and April 2018.

Ecology 2018b. *Petroleum Vapor Intrusion (PVI): Updated Screening Levels, Cleanup Levels, and Assessing PVI Threats to Future Buildings.* Implementation Memorandum No. 18. Washington State Department of Ecology. January 10, 2018.

Ecology 2018c. *Site Check/Site Assessment Checklist for Underground Storage Tanks*. Form No. ECY 010-158. Washington State Department of Ecology, Olympia, WA.

Ecology 2021a. Cleanup Levels and Risk Calculation (CLARC) online data tables, February 2021 update. http://fortress.wa.gov/ecy/clarc/CLARCHome.aspx. Washington State Department of Ecology, Olympia, WA. Accessed March 2021.

Ecology 2021b*. Site Assessment Guidance for Underground Storage Tank Systems*. Publication No. 21-09-050. Washington State Department of Ecology, Olympia, WA.

Farallon 2018. *Groundwater Cleanup Report (Revised), South Lake Union Block 43 Site, 601 Westlake Avenue North, Seattle, Washington*. Prepared for Washington Builders LLC, November 2, 2018.

Hart Crowser 2021a. Remedial Investigation, Seattle DOT Mercer Parcels, 800 Mercer Street, Seattle, Washington. Prepared for 800 Mercer, LLC, by Hart Crowser, a division of Haley & Aldrich, June 25, 2021.

Hart Crowser 2021b. Public Review Draft Focused Feasibility Study, Seattle DOT Mercer Parcels, 800 Mercer Street, Seattle, Washington. Prepared for 800 Mercer, LLC, by Hart Crowser, a division of Haley & Aldrich, July 13, 2021.

HWA 1998. *Revised Draft Geotechnical Report, Denny Way—Lake Union CSO, Contract B, Seattle, Washington*. HWA Geosciences, Inc., September 23, 1998.

PES Environmental 2018. *Final Interim Action Work Plan, American Linen Co Dexter Ave Site, 700 Dexter Ave, Seattle, Washington*. August 2018.

PES Environmental 2019. Final Remedial Investigation/Feasibility Study Work Plan, American Linen Supply Co-Dexter Avenue Site, 700 Dexter Avenue North, Seattle, Washington. Prepared for BMR-Dexter LLC, December 4, 2019.

PES Environmental 2020. *Final Remedial Investigation/Feasibility Study Work Plan Addendum, American Linen Supply Co-Dexter Avenue Site, 700 Dexter Avenue North, Seattle, Washington*. Prepared for BMR-Dexter LLC, June 11, 2020.

Shannon & Wilson 1971. *Comprehensive Foundation Investigation, Proposed Bay Freeway, Seattle, Washington*. Prepared for City of Seattle, September 1, 1971.

Shannon & Wilson 2012. *Limited Environmental Explorations Report, Mercer Corridor Project West Phase, Seattle, Washington*. Prepared for KPFF Consulting Engineers, August 22, 2012.

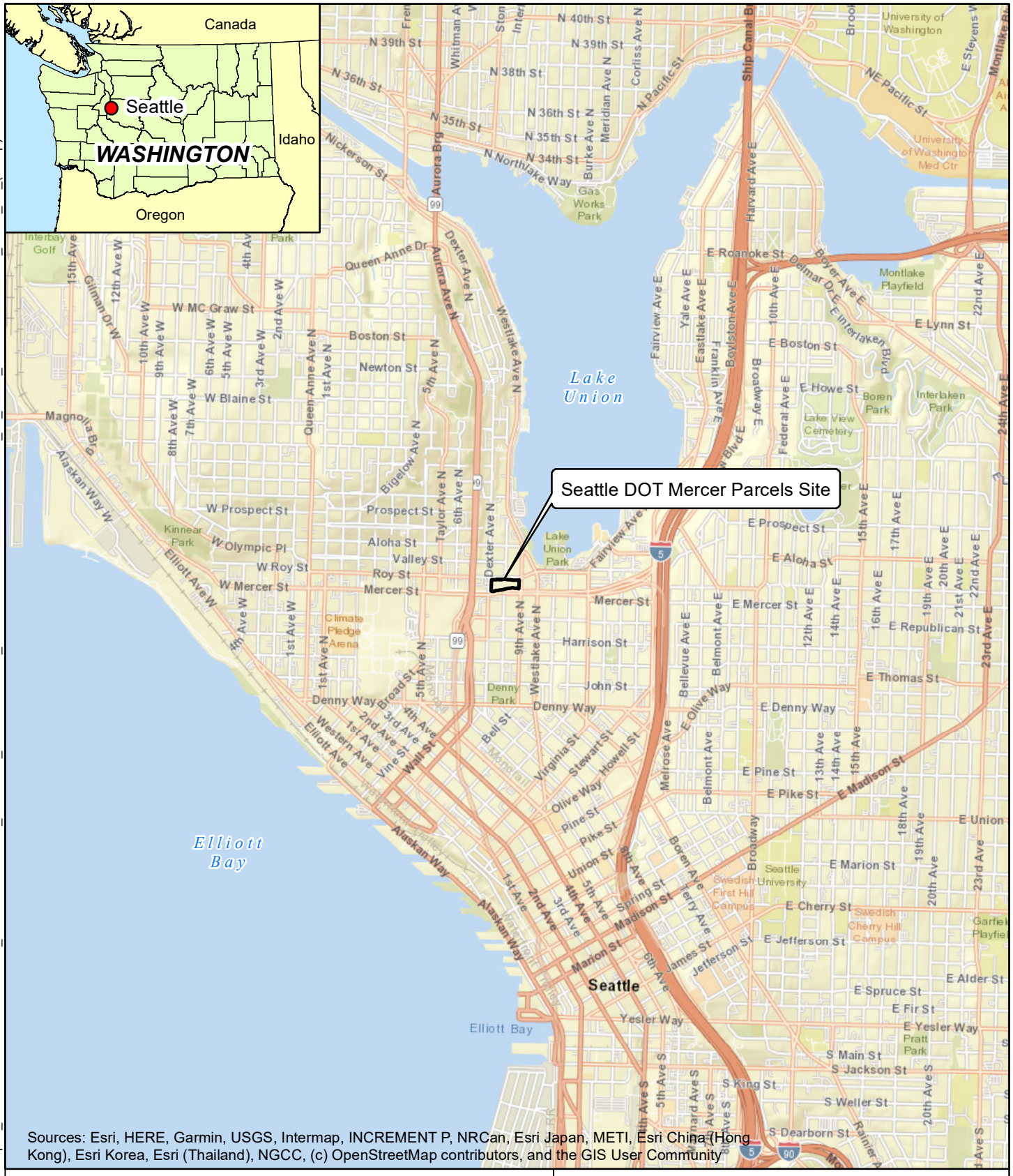
Shannon & Wilson 2018a. *Phase I Environmental Site Assessment, Mercer Corridor Project West, Broad MegaBlock Site, Seattle, Washington*. Prepared for KPFF Consulting Engineers, January 5, 2018.

Shannon & Wilson 2018b. *Phase II Environmental Site Assessment, Mercer Corridor Project West, Broad MegaBlock Site, Seattle, Washington*. Prepared for KPFF Consulting Engineers, January 25, 2018.

SoundEarth Strategies 2013. *Remedial Investigation Report, 700 Dexter Property, 700 Dexter Avenue North, Seattle, Washington* [Draft]. Prepared for Frontier Environmental Management LLC, July 15, 2013.

Sound Earth Strategies 2016. *Interim action work plan, 700 Dexter property, 700 Dexter Avenue North, Seattle, Washington* [Draft]: Report prepared for Frontier Environmental Management LLC, Denver, Colo. March 8, 2016.

Figures



0 0.25 0.5 1 Miles

N

Seattle DOT Mercer Parcels Site
Seattle, Washington

Vicinity Map

19409-04 10/21

HARTCROWSER
A division of Haley & Aldrich

Figure
1-1

Document Path: \\haleyaldrich.com\share\pdx_data\Geomatics\GEOSPATIAL_LIBRARY\MASTER_PROJECT_FILES\MERCER_MEGABLOCK\1940904\MGIS\2021_10_DCAP_BB\1940904-DCAP_Broad_AA_(VMap).mxd Date: 10/4/2021 User N

815 6TH AVE N
811 6TH AVE N
807 6TH AVE N
801 6TH AVE N
810 TAYLOR AVE N
818 6TH AVE N
607 ALOHA ST
810 6TH AVE N
807 AURORA AVE N
801 AURORA AVE N
801 DEXTER AVE N
810 DEXTER AVE N
753 9TH AVE N
739 9TH AVE N
701 9TH AVE N
701 9TH AVE N (BLOCK 79 EAST)
800 ROY ST (SEATTLE ROY ALOHA SHOPS SITE)
900 WESTLAKE AVE N
731 WESTLAKE AVE N
707 WESTLAKE AVE N
900 ROY ST
Lake Union
PARCEL 3230
1010 VALLEY ST
VALLEY ST
567 VALLEY ST
565 VALLEY ST
571 VALLEY ST
720 TAYLOR AVE N
714 TAYLOR AVE N
706 TAYLOR AVE N
560 ROY ST
711 6TH AVE N
703 6TH AVE N
601 VALLEY ST
721 AURORA AVE N
712 6TH AVE N
708 5TH AVE N
708 6TH AVE N
708 5TH AVE N
702 6TH AVE N
703 AURORA AVE N
712 AURORA AVE N
717 DEXTER AVE N
701 DEXTER AVE N (701 DEXTER SITE)
700 DEXTER AVE N (AMERICAN LINEN SUPPLY CO DEXTER AVE SITE)
6TH AVE N
8TH AVE N
ROY ST
ROY ST
ROY ST
ROY ST
557 ROY ST
570 MERCER ST
570 MERCER ST
557 ROY ST
601 ROY ST
601 AURORA AVE N
615 DEXTER AVE N (SEATLE DOT DEXTER PARCEL SITE)
601 DEXTER AVE N (601 DEXTER SITE)
AURORA AVE N
DEXTER AVE N
800 MERCER ST (SEATTLE DOT MERCER PARCELS SITE)
PARCEL NO. 224900-0055
PARCEL NO. 224900-0006
9TH AVE N
601 WESTLAKE AVE N (AIBS BUILDING BLOCK 43)
WESTLAKE AVE N
PARCEL 3235
PARCEL 3240
670 TERRY AVE N
PARCEL 3355
PARCEL 0015
TERRY AVE N
625 BOREN AVE N
MERCER ST
MERCER ST
MERCER ST
MERCER ST
500 5TH AVE N
501 AURORA AVE N
520 AURORA AVE N
500 AURORA AVE N
525 DEXTER AVE N
513 DEXTER AVE N
509 DEXTER AVE N
501 DEXTER AVE N
PARCEL 1410
500 DEXTER AVE N
501 8TH AVE N
8TH AVE N
850 REPUBLICAN ST
850 REPUBLICAN ST
515 WESTLAKE AVE N
535 WESTLAKE AVE N (BLOCK 44)
507 WESTLAKE AVE N
503 WESTLAKE AVE N
534 WESTLAKE AVE N
520 WESTLAKE AVE (BLOCK 38)
535 TERRY AVE N (BLOCK 38)
500 WESTLAKE AVE N
964 REPUBLICAN ST
550 TERRY AVE N
551 BOREN AVE N
525 BOREN AVE N
PARCEL 0360
511 BOREN AVE N

Legend

- Other Parcel Boundary
- Property Boundary

Underground Sewer Lines

- King County Main
- SPU Drainage Main
- SPU Combined Main

- King County Main Facility Structures
- Elevation Contour (King County LiDAR, 2016)

0 75 150 300 Feet

N

Sources: Aerial photograph provided by Hexagon Imagery Program Data. Address information obtained from King County GIS Open Data portal's Parcel Address Area shapefile, published April 4, 2019. Stormwater line data obtained from City of Seattle ArcGIS Online data, published August 6, 2019.

Seattle DOT Mercer Parcels Site
Seattle, Washington

Site Conditions Map

19409-04 10/21

HARTCROWSER
A division of Haley & Aldrich

Figure
2-1

701 DEXTER AVE N
(701 DEXTER SITE)

700 DEXTER AVE N
(AMERICAN LINEN SUPPLY
CO DEXTER AVE SITE)
PREVIOUS DRY CLEANERS
Approximate Period of Operation: 1925 - 1990s
PREVIOUS GAS STATION
Approximate Period of Operation: 1930s

800 ROY ST
(SEATTLE ROY
ALOHA SHOPS SITE)
PREVIOUS SEATTLE CITY LIGHT MAINTENANCE FACILITY
Approximate Period of Operation: 1926 - Present

701 9TH AVE N

900 ROY ST

701 9TH AVE N
(BLOCK 79 EAST)

DEXTER AVE N

8TH AVE N

ROY ST

VALLEY ST

PREVIOUS GAS STATION AND AUTO REPAIR STATION
Approximate Period of Operation: 1929 to 1960

PREVIOUS GAS STATION AND AUTO REPAIR STATION
Approximate Period of Operation: 1930 to 1955

PREVIOUS CHEMICAL WORKS CO. AND SOAP MANUFACTURING
Approximate Period of Operation: 1925 to 1940
PREVIOUS PAINTING/SIGN PAINTING
Approximate Period of Operation: 1925-1930 and 1944-1955

615 DEXTER AVE N
(SEATTLE DOT DEXTER
PARCEL SITE)

PREVIOUS AUTO WRECKING
Approximate Period of Operation: 1930 to 1955

601 WESTLAKE
AVE N
(AIBS BUILDING
BLOCK 43)

FORMER EXTENT OF BROAD STREET
(1936-1958)

FORMER EXTENT OF BROAD STREET (1958-2012)

9TH AVE N

601 DEXTER AVE N
(601 DEXTER SITE)

PREVIOUS AUTO WRECKING
(PARKING LOT)

MERCER ST

PREVIOUS PAINTING STORES
Approximate Period of Operation: 1950s

PREVIOUS SIGN PAINTING
Approximate Period of Operation: 1975 to 1996

FORMER EXTENT OF 8TH AVENUE N
(Late 1800s to 1950s)

FORMER EXTENT OF LAKE UNION
(Late 1800s to 1917)

PARCEL 1410

850
REPUBLICAN
ST

850 REPUBLICAN ST

515 WESTLAKE
AVE N

Source: Aerial photograph provided by Hexagon Imagery Program Data.

Legend
- Other Parcel Boundary
- Property Boundary
- Former Edge of Lake Union (1905 Sanborn)
- Former Street Alignment
- Pre-1958 Street Alignment

0 25 50 100 Feet
Note: Feature locations are approximate.

N

Seattle DOT Mercer Parcels Site
Seattle, Washington

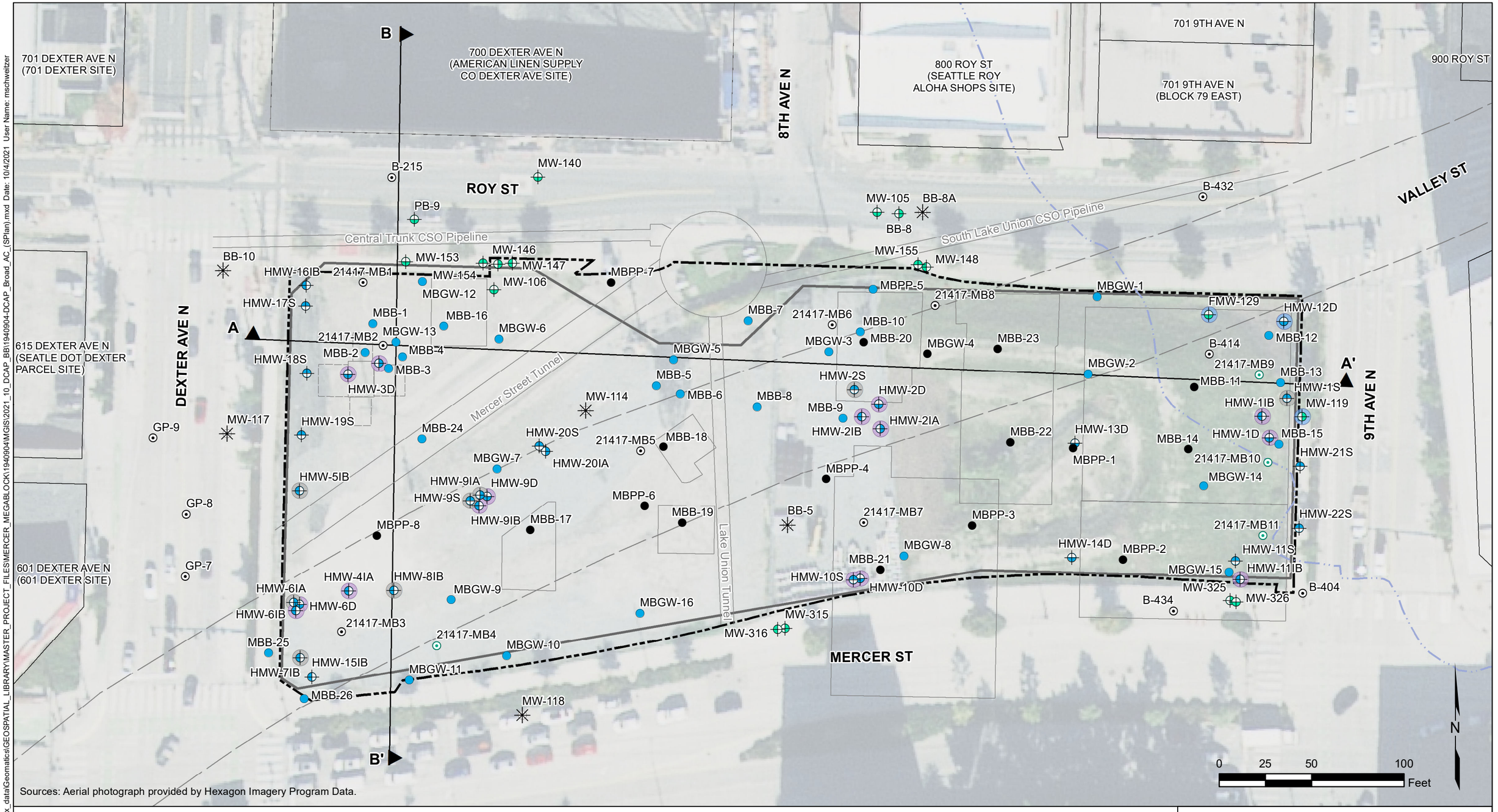
Historical Property Features and Uses

19409-04 10/21

HARTCROWSER
A division of Haley & Aldrich

Figure
2-2

Document Path: G:\GEOSPATIAL_LIBRARY\MASTER_PROJECT_FILES\MERCER_MEGABLOCK\19409041\MGIS\19409041-RI_Broad_AB_(PotentialSource).mxd Date: 1/14/2021 User Name: ericlindquist



Legend

RI Investigations

- Soil Boring
- Soil Boring with Grab Groundwater Sample
- Shallow Zone Monitoring Well
- Intermediate A Zone Monitoring Well
- Intermediate B Zone Monitoring Well
- Deep Zone Monitoring Well
- Slug Test Performed
- Slug Test Performed & Transducer/Datalogger Deployed
- Transducer/Datalogger Deployed
- Potential Historical Contaminant Source

Other Investigations

- Soil Boring
- Soil Boring with Grab Groundwater Sample
- Shallow Zone Monitoring Well
- Intermediate A Zone Monitoring Well
- Intermediate B Zone Monitoring Well
- Deep Zone Monitoring Well
- Abandoned or Decommissioned Monitoring Well
- Cross Section
- Excavation Limits (Shoring Permit Plans by NBBJ dated 12/17/2020)
- King County Main Facility Structures
- Other Parcel Boundary
- Property Boundary

Seattle DOT Mercer Parcels Site
Seattle, Washington

Investigation Locations

19409-04 10/21

HARTCROWSER
A division of Haley & Aldrich

Figure
2-3

Document Path: \\haleyaldrich.com\share\pdx_data\Geomatics\GEOSPATIAL_LIBRARY\MASTER_PROJECT_FILES\MERCER_MEGABLOCK\19409041\MGIS\2021_10_DCAP_BB\19409041-DCAP_Broad_AC_(SPlan).mxd Date: 10/4/2021 User Name: mschweitzer

MBB-1	02/27/2020 5 ft el 50.02	02/27/2020 10 ft el 45.02	02/27/2020 15 ft el 40.02	02/27/2020 20 ft el 35.02	02/27/2020 25 ft el 30.02
GRO	5 U	5 U	7.7	570	5 U

MBGW-13	03/14/2019 5 ft el 49.47	03/14/2019 10 ft el 44.47	03/14/2019 15 ft el 39.47	03/14/2019 20 ft el 34.47
GRO	5 U	730 J	16	5 U

MBB-16	09/02/2020 5 ft el 48.7	09/02/2020 10 ft el 43.7	09/02/2020 15 ft el 38.7	09/02/2020 20 ft el 33.7
GRO	1200	200	20	5 U

HMW-18S	09/03/2020 5 ft el 52.61	09/03/2020 10 ft el 47.61	09/03/2020 15 ft el 42.61	09/03/2020 20 ft el 37.61	09/03/2020 25 ft el 32.61
GRO	5 U	45	5 U	5 U	5 U

MBB-3	02/27/2020 5 ft el 49.84	02/27/2020 10 ft el 44.84	02/27/2020 15 ft el 39.84	02/27/2020 20 ft el 34.84	02/27/2020 25 ft el 29.84
GRO	5 U	350	5 U	5 U	52

MBB-4	02/27/2020 5 ft el 49.61	02/27/2020 10 ft el 44.61	02/27/2020 15 ft el 39.61	02/27/2020 20 ft el 34.61	02/27/2020 25 ft el 29.61
GRO	5 U	5 U/7.3	5 U	210	5 U

GRO IN SOIL (mg/kg)

- ≥ 300
- ≥ 60 TO 300
- ≥ 30 TO 60
- ND/0 TO < 30
- NO DATA

SAMPLE DEPTH INTERVALS

- ≤ 5 FT BELOW GROUND SURFACE (BGS)
- 5 TO 10
- 10 TO 15
- 15 TO 20
- 20 TO 25
- > 25

- EXCAVATION LIMITS; TO BE EXCAVATED DOWN TO ELEVATION 8 FT OR LOWER
- POTENTIAL HISTORICAL CONTAMINANT SOURCE
- PROPERTY BOUNDARY
- FORMER LAKE UNION SHORELINE
- FORMER BROAD STREET AND 8TH AVENUE N, THROUGH 1950s
- FORMER BROAD STREET 1958-2012

SOME SAMPLING LOCATIONS MAY HAVE BEEN SLIGHTLY OFFSET ON THIS MAP TO REDUCE SYMBOL OVERLAP

RED TEXT INDICATES EXCEEDANCE OF PROTECTIVE OF GROUNDWATER SCREENING LEVELS

SCREENING LEVELS PROVIDED BY ECOLOGY (NOVEMBER 17, 2020)

CONCENTRATIONS IN MILLIGRAMS PER KILOGRAM (mg/kg)

DEPTH IN FEET BELOW GROUND SURFACE (BGS)

ELEVATION IN FEET (NAVD 88); EL. = GROUND SURFACE ELEVATION

U = NON-DETECT AT DETECTION LIMIT AS INDICATED
J = ESTIMATED VALUE
/ = MULTIPLE RESULTS INDICATE THAT A FIELD DUPLICATE WAS TAKEN

AERIAL IMAGERY SOURCE: EAGLEVIEW

SCREENING LEVELS FOR GASOLINE RANGE ORGANICS (GRO) IN SOIL (mg/kg)

ZONE	PROTECTIVE OF GW
Vadose (0 to 25 ft bgs) and Saturated (>25 ft bgs)	30

Seattle DOT Mercer Parcels Site
Seattle, Washington

GRO Distribution in Soil

19409-04 10/21

HARTCROWSER A division of Haley & Aldrich

Figure **2-4a**

GIS FILE PATH: C:\Users\craumann\Desktop\LOCAL_DATA\135568_Broad_Block\Maps\2021_05_BB_FS\135568_00MB_BB_SOIL_SMARTIES_FS.mxd - USER: craumann - LAST SAVED: 7/6/2021 8:39:27 PM

MBB-5	03/02/2020 5 ft el 45.53	03/02/2020 10 ft el 40.53	03/02/2020 15 ft el 35.53	03/02/2020 20 ft el 30.53	03/02/2020 25 ft el 25.53
Lead	17.6	591	1.57	1.24	1.29

21417-MB9	05/11/2017 13 ft el 26.05	05/11/2017 22 ft el 17.05
Lead	19.3	279

ROY ST

8TH AVE N

DEXTER AVE N

MERCER ST

21417-MB1 EL 55.4
MBGW-12 EL 54.0
HMW-17S EL 57.7
MBB-1 EL 55.0
MBB-16 EL 53.7
MBGW-6 EL 52.5
MBB-2 EL 55.5
MBB-4 EL 54.6
HMW-18S EL 57.5
HMW-3IA EL 55.0
MBB-3 EL 54.8
GP-9 EL 58.0
HMW-19S EL 58.4
MBB-24 EL 54.1
HMW-20S EL 53.6
HMW-5IB EL 58.4
MBGW-7 EL 53.8
HMW-9S EL 55.4
HMW-9IA EL 55.3
HMW-9D EL 55.3
GP-8 EL 58.3
HMW-9IB EL 55.4
MBPP-8 EL 57.5
MBB-17 EL 54.9
GP-7 EL 58.5
HMW-8IB EL 58.0
HMW-6IA EL 58.6
HMW-6IB EL 58.7
HMW-6D EL 58.6
MBGW-9 EL 56.8
21417-MB4 EL 57.2
HMW-7IB EL 58.7
MBGW-10 EL 55.3
MBGW-11 EL 57.5
MBPP-7 EL 49.8
MBGW-5 EL 49.9
MBB-5 EL 50.5
MBB-6 EL 50.3
MBB-18 EL 51.3
MBB-19 EL 51.7
MBB-7 EL 49.4
MBB-8 EL 49.7
MBPP-5 EL 45.9
21417-MB6 EL 48.2
MBB-10 EL 49.7
MBB-20 EL 47.5
MBGW-3 EL 47.8
21417-MB8 EL 45.3
MBGW-4 EL 47.3
MBB-9 EL 47.5
HMW-2IB EL 47.4
MBPP-4 EL 48.3
MBB-23 EL 47.2
MBB-22 EL 42.0
MBPP-3 EL 45.9
MBGW-1 EL 40.0
MBB-12 EL 33.7
MBGW-2 EL 46.1
21417-MB9 EL 39.0
MBB-13 EL 36.0
MBB-11 EL 46.4
MBPP-1 EL 45.3
21417-MB10 EL 38.1
21417-MB11 EL 39.0
MBPP-2 EL 44.5
HMW-11S EL 41.5
MBGW-15 EL 40.9
HMW-11IB EL 39.7
MBGW-8 EL 47.1
MBB-21 EL 47.6
HMW-10S EL 48.2
HMW-10D EL 48.2

N

0 20 40 80 Feet

LEAD IN SOIL (mg/kg)
- ≥ 2,500
- ≥ 500 TO 2,500
- ≥ 250 TO 500
- ND/0 TO < 250
- NO DATA

SAMPLE DEPTH INTERVALS
- ≤ 5 FT BELOW GROUND SURFACE (BGS)
- 5 TO 10
- 10 TO 15
- 15 TO 20
- 20 TO 25
- > 25

- EXCAVATION LIMITS; TO BE EXCAVATED DOWN TO ELEVATION 8 FT OR LOWER
- POTENTIAL HISTORICAL CONTAMINANT SOURCE
- PROPERTY BOUNDARY
- FORMER LAKE UNION SHORELINE
- FORMER BROAD STREET AND 8TH AVENUE N, THROUGH 1950s
- FORMER BROAD STREET 1958-2012

SOME SAMPLING LOCATIONS MAY HAVE BEEN SLIGHTLY OFFSET ON THIS MAP TO REDUCE SYMBOL OVERLAP

RED TEXT INDICATES EXCEEDANCE OF DIRECT CONTACT OR PROTECTIVE OF GROUNDWATER SCREENING LEVELS

SCREENING LEVELS PROVIDED BY ECOLOGY (NOVEMBER 17, 2020)

CONCENTRATIONS IN MILLIGRAMS PER KILOGRAM (mg/kg)

DEPTH IN FEET BELOW GROUND SURFACE (BGS)

ELEVATION IN FEET (NAVD 88); EL. = GROUND SURFACE ELEVATION

U = NON-DETECT AT DETECTION LIMIT AS INDICATED
J = ESTIMATED VALUE
/ = MULTIPLE RESULTS INDICATE THAT A FIELD DUPLICATE WAS TAKEN

AERIAL IMAGERY SOURCE: EAGLEVIEW

SCREENING LEVELS FOR LEAD (mg/kg) IN SOIL		
ZONE	DIRECT CONTACT	PROTECTIVE OF GW
Vadose (0 to 25 ft bgs)	250	3000
Saturated (>25 ft bgs)	250	150

Seattle DOT Mercer Parcels Site
Seattle, Washington

Lead Distribution in Soil

19409-04 10/21

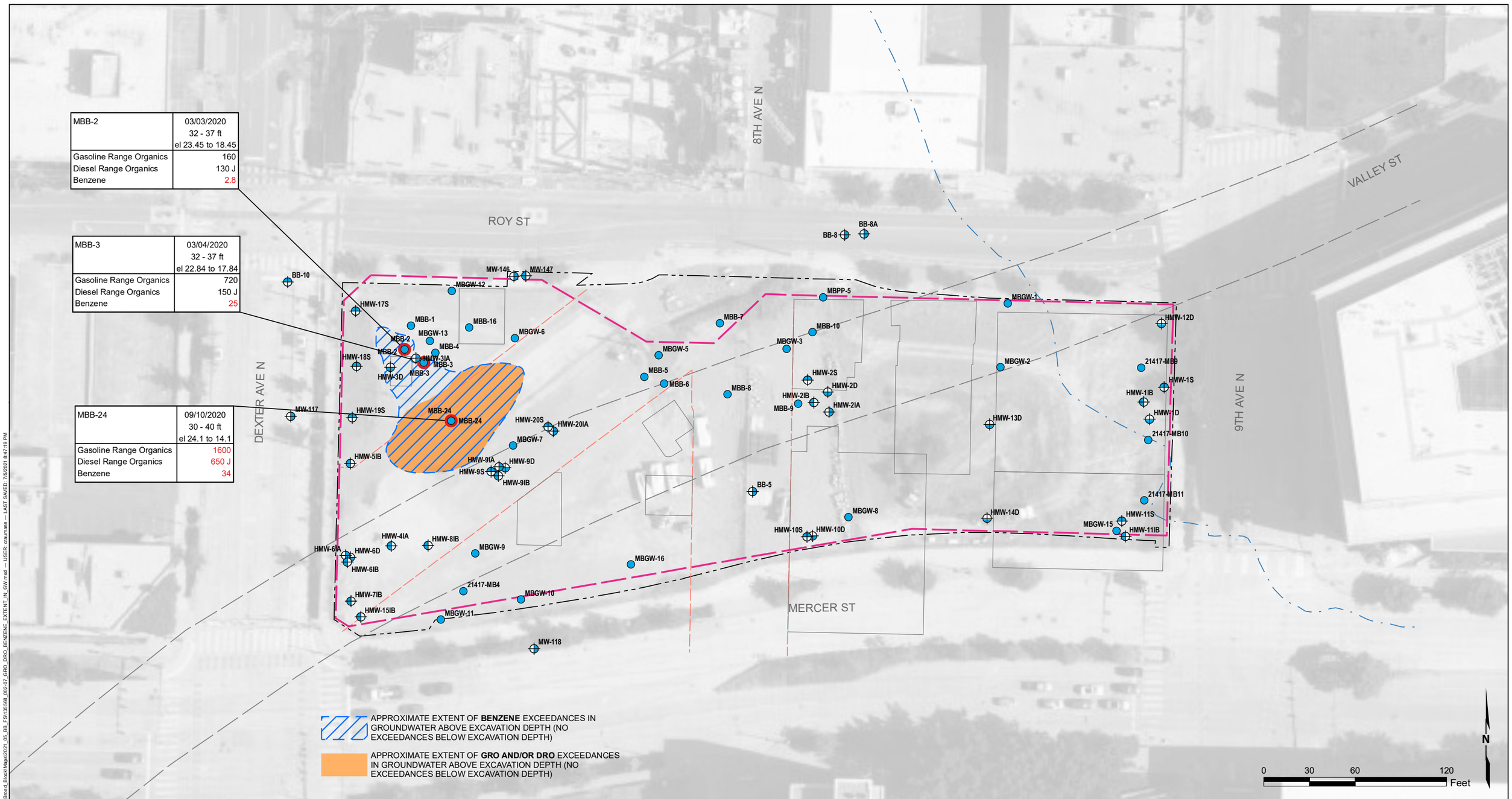
HARTCROWSER
A division of Haley & Aldrich

Figure
2-4b

MBB-2	03/03/2020 32 - 37 ft el 23.45 to 18.45
Gasoline Range Organics	160
Diesel Range Organics	130 J
Benzene	2.8

MBB-3	03/04/2020 32 - 37 ft el 22.84 to 17.84
Gasoline Range Organics	720
Diesel Range Organics	150 J
Benzene	25

MBB-24	09/10/2020 30 - 40 ft el 24.1 to 14.1
Gasoline Range Organics	1600
Diesel Range Organics	650 J
Benzene	34



APPROXIMATE EXTENT OF **BENZENE** EXCEEDANCES IN GROUNDWATER ABOVE EXCAVATION DEPTH (NO EXCEEDANCES BELOW EXCAVATION DEPTH)

APPROXIMATE EXTENT OF **GRO AND/OR DRO** EXCEEDANCES IN GROUNDWATER ABOVE EXCAVATION DEPTH (NO EXCEEDANCES BELOW EXCAVATION DEPTH)

N

0 30 60 120 Feet

SAMPLE LOCATIONS ANALYZED FOR GRO, DRO, AND BENZENE (ALL LOCATIONS SHOWN HERE WERE SAMPLED FOR ALL THREE COMPOUNDS)

- SHALLOW ZONE MONITORING WELL
- INTERMEDIATE A ZONE MONITORING WELL
- INTERMEDIATE B ZONE MONITORING WELL
- DEEP ZONE MONITORING WELL
- SOIL BORING WITH GRAB GROUNDWATER SAMPLE
- GROUNDWATER SAMPLE LOCATION WITH EXCEEDANCE

- EXCAVATION LIMITS; TO BE EXCAVATED DOWN TO ELEVATION 8 FT OR LOWER
- POTENTIAL HISTORICAL CONTAMINANT SOURCE
- PROPERTY BOUNDARY
- FORMER LAKE UNION SHORELINE
- FORMER BROAD STREET AND 8TH AVENUE N, THROUGH 1950s
- FORMER BROAD STREET 1958-2012

RED TEXT INDICATES EXCEEDANCE OF PROTECTIVE OF DRINKING WATER OR PROTECTIVE OF INDOOR AIR SCREENING LEVELS

CONCENTRATIONS IN MICROGRAMS PER LITER (µg/L)

SCREENING LEVELS WERE PROVIDED BY ECOLOGY (NOVEMBER 17, 2020)

DEPTH IN FEET BELOW GROUND SURFACE (BGS)

ELEVATION IN FEET (NAVD 88)

U = NON-DETECT AT DETECTION LIMIT AS INDICATED
J = ESTIMATED VALUE
- = ANALYTE WAS NOT ANALYZED/NOT APPLICABLE
/ = MULTIPLE RESULTS INDICATE THAT A FIELD DUPLICATE WAS TAKEN

AERIAL IMAGERY SOURCE: EAGLEVIEW

SCREENING LEVELS FOR GRO, DRO, AND BENZENE IN GROUNDWATER (µg/L)

CONSTITUENT	PROTECTIVE OF DRINKING WATER	PROTECTIVE OF INDOOR AIR
Gasoline Range Organics (GRO)	800	-
Diesel Range Organics (DRO)	500	-
Benzene	5	2.4

Seattle DOT Mercer Parcels Site
Seattle, Washington

GRO, DRO, and Benzene Distribution in Groundwater

19409-04 10/21

HARTCROWSER A division of Haley & Aldrich

Figure **2-5**

MBB-25	10/30/2020 5 ft el 53.63	10/30/2020 10 ft el 48.63	10/30/2020 15 ft el 43.63	10/30/2020 20 ft el 38.63	10/30/2020 25 ft el 33.63
cPAHs-TEQ	0.002 U	0.09	0.002 U	0.00041 U/0.00041 U	0.32

HMW-4IA	03/07/2019 7.5 ft el 51.2
cPAHs-TEQ	0.36

MBB-23	09/21/2020 5 ft el 42.18	09/21/2020 10 ft el 37.18	09/21/2020 15 ft el 32.18	09/21/2020 20 ft el 27.18	09/21/2020 25 ft el 22.18
cPAHs-TEQ	0.0097 U	2.4	0.0019 U	0.0019 U	0.0019 U

MBB-22	09/21/2020 5 ft el 37.05	09/21/2020 15 ft el 27.05	09/21/2020 20 ft el 22.05	09/21/2020 25 ft el 17.05
cPAHs-TEQ	0.42	0.0019 U	0.0019 U	0.0019 U

HMW-7IB	02/28/2020 5 ft el 53.69	02/28/2020 10 ft el 48.69	02/28/2020 15 ft el 43.69	02/28/2020 20 ft el 38.69	02/28/2020 25 ft el 33.69
cPAHs-TEQ	0.089	0.017	0.44	0.016	0.072

DEXTER AVE N

8TH AVE N

ROY ST

MERCER ST

HMW-17S EL 57.7
HMW-18S EL 57.5
HMW-19S EL 58.4
HMW-5IB EL 58.4
HMW-6IA EL 58.6
HMW-6IB EL 58.7
HMW-6D EL 58.6
MBB-25 EL 58.6
HMW-7IB EL 58.7
MBB-26 EL 58.8
MBB-1 EL 55.0
21417-MB2 EL 54.7
MBB-2 EL 55.5
MBB-4 EL 54.6
MBB-3 EL 54.8
MBB-16 EL 53.7
MBB-24 EL 54.1
HMW-20S EL 53.6
MBB-17 EL 54.9
HMW-4IA EL 58.7
21417-MB3 EL 58.6
HMW-8IB EL 58.0
MBB-18 EL 51.3
MBB-19 EL 51.7
MBGW-3 EL 47.8
MBB-20 EL 47.5
MBB-21 EL 47.6
MBB-23 EL 47.2
MBB-22 EL 42.0
MBGW-1 EL 40.0
MBGW-2 EL 46.1
MBB-14 EL 47.1
MBB-15 EL 37.7

N

0 20 40 80 Feet

cPAHs-TEQ IN SOIL (mg/kg)
- ≥ 1.90
- ≥ 0.38 TO 1.90
- ≥ 0.19 - 0.38
- ND/0 TO < 0.19
- NO DATA

SAMPLE DEPTH INTERVALS
- ≤ 5 FT BELOW GROUND SURFACE (BGS)
- 5 TO 10
- 10 TO 15
- 15 TO 20
- 20 TO 25
- > 25

- EXCAVATION LIMITS; TO BE EXCAVATED DOWN TO ELEVATION 8 FT OR LOWER
- POTENTIAL HISTORICAL CONTAMINANT SOURCE
- PROPERTY BOUNDARY
- FORMER LAKE UNION SHORELINE
- FORMER BROAD STREET AND 8TH AVENUE N, THROUGH 1950s
- FORMER BROAD STREET 1958-2012

SOME SAMPLING LOCATIONS MAY HAVE BEEN SLIGHTLY OFFSET ON THIS MAP TO REDUCE SYMBOL OVERLAP

RED TEXT INDICATES EXCEEDANCE OF DIRECT CONTACT OR PROTECTIVE OF GROUNDWATER SCREENING LEVELS

SCREENING LEVELS PROVIDED BY ECOLOGY (NOVEMBER 17, 2020)

CONCENTRATIONS IN MILLIGRAMS PER KILOGRAM (mg/kg)

DEPTH IN FEET BELOW GROUND SURFACE (BGS)

ELEVATION IN FEET (NAVD 88); EL. = GROUND SURFACE ELEVATION

U = NON-DETECT AT DETECTION LIMIT AS INDICATED
J = ESTIMATED VALUE
/ = MULTIPLE RESULTS INDICATE THAT A FIELD DUPLICATE WAS TAKEN

AERIAL IMAGERY SOURCE: EAGLEVIEW

SCREENING LEVELS FOR cPAHs-TEQ IN SOIL (mg/kg)		
ZONE	DIRECT CONTACT	PROTECTIVE OF GW
Vadose (0 to 25 ft bgs)	0.19	0.45
Saturated (>25 ft bgs)	0.19	0.022

Seattle DOT Mercer Parcels Site
Seattle, Washington

cPAH Distribution in Soil (Broad Street Fill Site Contaminants)

19409-04 10/21

HARTCROWSER A division of Haley & Aldrich

Figure **2-6a**

GIS FILE PATH: C:\Users\craumann\Desktop\LOCAL_DATA\135568_Broad_Block\Maps\2021_05_BB_FS\135568_00MB_BB_SOIL_SMARTIES_FS.mxd - USER: craumann - LAST SAVED: 7/5/2021 8:39:27 PM

HMW-6D	03/02/2020 5 ft el 53.58	03/02/2020 10 ft el 48.58	03/02/2020 15 ft el 43.58	03/02/2020 25 ft el 33.58	03/02/2020 30 ft el 28.58
As	16.4	21.8	24.4	18	1.61/1.42

HMW-6IB	03/03/2020 5 ft el 53.67	03/03/2020 10 ft el 48.67	03/03/2020 15 ft el 43.67	03/03/2020 20 ft el 38.67	03/03/2020 25 ft el 33.67
As	13.4	15.9/14.9	22.2	25.6	2.23

MBPP-8	03/08/2019 14 ft el 43.52
As	16

MBB-5	03/02/2020 5 ft el 45.53	03/02/2020 10 ft el 40.53	03/02/2020 15 ft el 35.53	03/02/2020 20 ft el 30.53	03/02/2020 25 ft el 25.53
As	23.2	6.56	1.81	1.34	1.51

MBB-18	09/01/2020 5 ft el 46.33	09/01/2020 10 ft el 41.33	09/01/2020 15 ft el 36.33	09/01/2020 20 ft el 31.33
As	14.2	6.2	1.13	1.61

MBB-6	03/03/2020 5 ft el 45.33	03/03/2020 10 ft el 40.33	03/03/2020 15 ft el 35.33	03/03/2020 20 ft el 30.33	03/03/2020 25 ft el 25.33
As	21.2	9.18	1.84	2.08	1.6

MBB-8	02/26/2020 7 ft el 42.66	02/26/2020 10 ft el 39.66	02/26/2020 15 ft el 34.66	02/26/2020 20 ft el 29.66	02/26/2020 25 ft el 24.66
As	21.9	1.75	1.7/1.6	1.6	1.13

MBB-9	02/26/2020 5.5 ft el 42.05	02/26/2020 10 ft el 37.55	02/26/2020 15 ft el 32.55	02/26/2020 20 ft el 27.55	02/26/2020 25 ft el 22.55
As	9.58	1.94	1.72	1.7	1.27

21417-MB10	05/11/2017 28 ft el 10.08
As	7.75

HMW-9D	02/27/2020 5 ft el 50.32	02/27/2020 10 ft el 45.32	02/27/2020 15 ft el 40.32	02/27/2020 20 ft el 35.32	02/27/2020 25 ft el 30.32
As	1.78	1.38	15.3	2.55	1.46

HMW-9S	03/02/2020 5 ft el 50.39	03/02/2020 14 ft el 41.39	03/02/2020 17 ft el 38.39	03/02/2020 20 ft el 35.39	03/02/2020 25 ft el 30.39
As	2.64	14.5	17.7	1.3	1.36

HMW-6IA	03/02/2020 5 ft el 53.65	03/02/2020 10 ft el 48.65	03/02/2020 15 ft el 43.65	03/02/2020 20 ft el 38.65	03/02/2020 30 ft el 28.65
As	15.6	13.6	18.6	18.3	3.1

HMW-9IB	02/28/2020 5 ft el 50.36	02/28/2020 13 ft el 42.36	02/28/2020 15 ft el 40.36	02/28/2020 20 ft el 35.36	02/28/2020 25 ft el 30.36
As	7.75	1.64	17.8	1.6	1.26

HMW-7IB	02/28/2020 5 ft el 53.69	02/28/2020 10 ft el 48.69	02/28/2020 15 ft el 43.69	02/28/2020 20 ft el 38.69	02/28/2020 25 ft el 33.69
As	15.3	13.8	19.9	25.6	8.13/8.49

HMW-8IB	03/02/2020 5 ft el 52.97	03/02/2020 10 ft el 47.97	03/02/2020 15 ft el 42.97	03/02/2020 20 ft el 37.97	03/02/2020 25 ft el 32.97
As	21.4	19.5	17.1	4.86	1.12/1.06

ROY ST
8TH AVE N
DEXTER AVE N
MERCER ST

21417-MB1 EL 55.4
MBGW-12 EL 54.0
HMW-17S EL 57.7
MBB-1 EL 55.0
MBB-16 EL 53.7
MBGW-6 EL 52.5
MBB-2 EL 55.5
MBB-4 EL 54.6
HMW-3IA EL 55.0
MBB-3 EL 54.8
HMW-18S EL 57.5
HMW-19S EL 58.4
MBB-24 EL 54.1
HMW-5IB EL 58.4
HMW-20S EL 53.6
MBGW-7 EL 53.8
HMW-9S EL 55.4
HMW-9IA EL 55.3
HMW-9D EL 55.3
HMW-9IB EL 55.4
MBB-17 EL 54.9
MBPP-8 EL 57.5
HMW-8IB EL 58.0
MBGW-9 EL 56.8
HMW-6IA EL 58.6
HMW-6IB EL 58.7
HMW-6D EL 58.6
HMW-7IB EL 58.7
21417-MB4 EL 57.2
MBGW-10 EL 55.3
MBGW-11 EL 57.5
MBPP-7 EL 49.8
MBGW-5 EL 49.9
MBB-5 EL 50.5
MBB-6 EL 50.3
MBB-18 EL 51.3
MBB-19 EL 51.7
MBB-7 EL 49.4
MBB-8 EL 49.7
MBPP-5 EL 45.9
21417-MB6 EL 48.2
MBB-10 EL 49.7
MBGW-3 EL 47.8
MBB-20 EL 47.5
21417-MB8 EL 45.3
MBGW-4 EL 47.3
MBB-23 EL 47.2
MBB-9 EL 47.5
HMW-2IB EL 47.4
MBPP-4 EL 48.3
MBB-22 EL 42.0
MBPP-3 EL 45.9
MBGW-8 EL 47.1
MBB-21 EL 47.6
HMW-10D EL 48.2
HMW-10S EL 48.2
MBGW-1 EL 40.0
MBGW-2 EL 46.1
21417-MB9 EL 39.0
MBPP-1 EL 45.3
21417-MB10 EL 38.1
21417-MB11 EL 39.0
MBPP-2 EL 44.5
HMW-11S EL 41.5
MBGW-15 EL 40.9
HMW-11IB EL 39.7

0 20 40 80 Feet
N

ARSENIC IN SOIL (mg/kg)
- ≥ 14.6 TO 73
- ≥ 7.3 TO 14.6
- ND/0 TO < 7.3
- NO DATA

SAMPLE DEPTH INTERVALS
- ≤ 5 FT BELOW GROUND SURFACE (BGS)
- 5 TO 10
- 10 TO 15
- 15 TO 20
- 20 TO 25
- > 25

- EXCAVATION LIMITS; TO BE EXCAVATED DOWN TO ELEVATION 8 FT OR LOWER
- POTENTIAL HISTORICAL CONTAMINANT SOURCE
- PROPERTY BOUNDARY
- FORMER LAKE UNION SHORELINE
- FORMER BROAD STREET AND 8TH AVENUE N, THROUGH 1950s
- FORMER BROAD STREET 1958-2012

SOME SAMPLING LOCATIONS MAY HAVE BEEN SLIGHTLY OFFSET ON THIS MAP TO REDUCE SYMBOL OVERLAP

RED TEXT INDICATES EXCEEDANCE OF PROTECTIVE OF GROUNDWATER SCREENING LEVELS ADJUSTED UP TO NATURAL BACKGROUND

SCREENING LEVELS PROVIDED BY ECOLOGY (NOVEMBER 17, 2020)

CONCENTRATIONS IN MILLIGRAMS PER KILOGRAM (mg/kg)

DEPTH IN FEET BELOW GROUND SURFACE (BGS)

ELEVATION IN FEET (NAVD 88); EL. = GROUND SURFACE ELEVATION

U = NON-DETECT AT DETECTION LIMIT AS INDICATED
J = ESTIMATED VALUE
/ = MULTIPLE RESULTS INDICATE THAT A FIELD DUPLICATE WAS TAKEN

AERIAL IMAGERY SOURCE: EAGLEVIEW

SCREENING LEVELS FOR ARSENIC IN SOIL (mg/kg)
All levels adjusted up to natural background

ZONE	PROTECTIVE OF GW
Vadose (0 to 25 ft bgs) and Saturated (>25 ft bgs)	7.3

Seattle DOT Mercer Parcels Site
Seattle, Washington

Arsenic Distribution in Soil (Broad Street Fill Site Contaminants)

19409-04 10/21

HARTCROWSER A division of Haley & Aldrich

Figure **2-6b**

GIS FILE PATH: C:\Users\craumann\Desktop\LOCAL_DATA\135568_Broad_Block\Maps\2021_05_BB_FS\135568_00MB_BB_SOIL_SMARTIES_FS.mxd - USER: craumann - LAST SAVED: 7/6/2021 8:39:27 PM

B-215	09/12/2017 35 ft el 18.95	09/12/2017 65 ft el -11.05
PCE	0.0277	11.1
TCE	0.00195	1.02
cis-1,2-DCE	0.062	1.55
VC	0.00118 U	0.0286 U

MW-140	08/30/2017 25 ft el 25.32	08/30/2017 35 ft el 15.32	08/30/2017 45 ft el 5.32	08/30/2017 55 ft el -4.68
PCE	0.147	15.1	4.27	1.56
TCE	0.0107	0.629	0.0793	0.0496
cis-1,2-DCE	0.00199	0.387	0.0431	0.13
VC	0.000316 U	0.0107 J	0.0016	0.099

MW-105	08/06/2012 30 ft el 15.59	08/08/2012 40 ft el 5.59	08/08/2012 50 ft el -4.41
PCE	1.3	0.025 U	0.18
TCE	0.16	0.03 U	0.04
cis-1,2-DCE	0.086	0.22	0.05 U
VC	0.05 U	0.05 U	0.05 U

MW-148	04/09/2018 30 ft el 14.29
PCE	0.00112 U
TCE	0.00112 U
cis-1,2-DCE	0.00364
VC	0.0144

MW-153	03/27/2018 50 ft el 4.84	03/28/2018 90 ft el -35.16	03/28/2018 110 ft el -55.16
PCE	0.00111 U	0.000799 J	0.00254
TCE	0.00111 U	0.0012 U	0.00118 U
cis-1,2-DCE	0.00111 U	0.000596 J	0.000773 J
VC	0.00767	0.00176	0.00311

MW-147	04/02/2018 30 ft el 22.49	04/02/2018 40 ft el 12.49	04/02/2018 50 ft el 2.49
PCE	0.0238	0.0146	0.00175
TCE	0.0033	0.00118	0.00105 J
cis-1,2-DCE	0.00239	0.00488	0.00432
VC	0.00112 U	0.0615	0.00322

HMW-1IB	03/12/2019 50 ft el -11.71
PCE	0.12 J
TCE	0.024 J
cis-1,2-DCE	0.05 U
VC	0.05 U

MW-106	08/14/2012 30 ft el 22.9	08/14/2012 40 ft el 12.9	08/14/2012 50 ft el 2.9
PCE	0.038	3.1	0.73
TCE	0.03 U	0.15	0.17
cis-1,2-DCE	0.05 U	0.05 U	0.11
VC	0.05 U	0.05 U	0.05 U

MW-114	12/10/2012 35 ft el 7.43	12/10/2012 40 ft el 2.43	12/10/2012 45 ft el -2.57
PCE	8.8	0.59	0.25
TCE	0.45	0.071	0.03 U
cis-1,2-DCE	0.11	0.05 U	0.05 U
VC	0.05 U	0.05 U	0.05 U

MBGW-5	03/11/2019 45 ft el 4.87
PCE	3.4
TCE	0.47
cis-1,2-DCE	0.26
VC	0.05 U

MBGW-3	03/07/2019 25 ft el 22.77
PCE	0.074
TCE	0.02 U
cis-1,2-DCE	0.05 U
VC	0.05 U

HMW-2IB	03/12/2019 45 ft el 2.41
PCE	0.12 J
TCE	0.02 U
cis-1,2-DCE	0.05 U
VC	0.05 U

21417-MB8	05/11/2017 27 ft el 18.28
PCE	0.0238
TCE	0.0152 U
cis-1,2-DCE	0.0152 U
VC	0.00152 U

MBB-23	09/21/2020 30 ft el 17.18
PCE	0.025 U
TCE	0.03 U
cis-1,2-DCE	0.014
VC	0.005 U

MW-326	09/09/2019 45 ft el -3.69	09/09/2019 50 ft el -8.69	09/09/2019 55 ft el -13.69	09/09/2019 65 ft el -23.69
PCE	0.00301 U	0.101 J	0.00304 U	0.00753
TCE	0.00169	0.0145	0.00122 U	0.00243
cis-1,2-DCE	0.0617	0.0057	0.015	0.00508
VC	0.00301 U	0.00286 U	0.00304 U	0.0029 U

ROY ST

DEXTER AVE N

MERCER ST

8TH AVE N

0 20 40 80 Feet

N

CVOCs in SOIL

- EXCEEDANCE OF PCE, TCE, cis-1,2-DCE, OR VINYL CHLORIDE
- NO EXCEEDANCE
- NO DATA

SAMPLE DEPTH INTERVALS

- ≤ 10 FT BELOW GROUND SURFACE (BGS)
- 10 TO 20
- 20 TO 30
- 30 TO 40
- 40 TO 50
- > 50

- EXCAVATION LIMITS; TO BE EXCAVATED DOWN TO ELEVATION 8 FT OR LOWER
- POTENTIAL HISTORICAL CONTAMINANT SOURCE
- PROPERTY BOUNDARY
- FORMER LAKE UNION SHORELINE
- FORMER BROAD STREET AND 8TH AVENUE N, THROUGH 1950s
- FORMER BROAD STREET 1958-2012

SOME SAMPLING LOCATIONS MAY HAVE BEEN SLIGHTLY OFFSET ON THIS MAP TO REDUCE SYMBOL OVERLAP

RED TEXT INDICATES EXCEEDANCE OF PROTECTIVE OF GROUNDWATER SCREENING LEVELS

SCREENING LEVELS PROVIDED BY ECOLOGY (NOVEMBER 17, 2020)

CONCENTRATIONS IN MILLIGRAMS PER KILOGRAM (mg/kg)

DEPTH IN FEET BELOW GROUND SURFACE (BGS)

ELEVATION IN FEET (NAVD 88); EL = GROUND SURFACE ELEVATION

U = NON-DETECT AT DETECTION LIMIT AS INDICATED
J = ESTIMATED VALUE
/ = MULTIPLE RESULTS INDICATE THAT A FIELD DUPLICATE WAS TAKEN

AERIAL IMAGERY SOURCE: EAGLEVIEW

SCREENING LEVELS FOR CVOCs SATURATED ZONE SOIL (> 25 FT BGS) (mg/kg)	
CONSTITUENT	PROTECTIVE OF GW SATURATED ZONE
Tetrachloroethene (PCE)	0.0028
Trichloroethene (TCE)	0.0015
cis-1,2-Dichloroethene (cis-1,2-DCE)	0.0052
Vinyl chloride (VC)	0.0015 (adjusted to PQL)

Seattle DOT Mercer Parcels Site
Seattle, Washington

CVOCs Distribution in Soil (American Linen Site Contaminants)

19409-04 10/21

HARTCROWSER
A division of Haley & Aldrich

Figure
2-7a

GIS FILE PATH: C:\Users\craumann\Desktop\LOCAL_DATA\135568_Broad Block\Maps\2021_05_BB_FS\135568_002-110_CVOCs_DISTRIBUTION_IN_SOIL.mxd — USER: craumann — LAST SAVED: 7/5/2021 8:48:32 PM

MW-146	04/30/2018 39.8 - 49.8 (ft) el 13.06 to 3.06	01/22/2019 39.8 - 49.8 (ft) el 13.06 to 3.06	04/24/2019 39.8 - 49.8 (ft) el 13.06 to 3.06	07/19/2019 39.8 - 49.8 (ft) el 13.06 to 3.06	10/14/2019 39.8 - 49.8 (ft) el 13.06 to 3.06	01/24/2020 39.8 - 49.8 (ft) el 13.06 to 3.06	04/30/2020 39.8 - 49.8 (ft) el 13.06 to 3.06	11/10/2020 39.8 - 49.8 (ft) el 13.06 to 3.06
PCE	3.56	2.29	1.5	3.08	2.03	21.1 J	50 U	0.21
TCE	48.4	21.6	12.4	14.4	6.77	50 U	50 U	2.8
cis-1,2-DCE	900	1080	257	257	1350	1460	2100	3800
VC	2100	1370	383	580	2830	3900	6040	5200

MW-155	04/27/2018 20 - 30 (ft) el 24.47 to 14.47	01/21/2019 20 - 30 (ft) el 24.47 to 14.47	04/23/2019 20 - 30 (ft) el 24.47 to 14.47	07/23/2019 20 - 30 (ft) el 24.47 to 14.47	10/16/2019 20 - 30 (ft) el 24.47 to 14.47	01/20/2020 20 - 30 (ft) el 24.47 to 14.47	05/05/2020 20 - 30 (ft) el 24.47 to 14.47
PCE	3.48	3.72	14.6	92.7	121	98.3	140
TCE	0.334 J	0.581	4.75	19.9	27.6	21.8	27.3
cis-1,2-DCE	0.466 J	0.274 J	71.9	12.1	36.2	12.7	16.4
VC	0.447 J	0.5 U	6.54 K	0.35 J	0.5 U	0.5 U	0.5 U

MW-154	04/30/2018 25 - 35 (ft) el 28.22 to 18.22	01/21/2019 25 - 35 (ft) el 28.22 to 18.22	04/24/2019 25 - 35 (ft) el 28.22 to 18.22	07/15/2019 25 - 35 (ft) el 28.22 to 18.22	10/14/2019 25 - 35 (ft) el 28.22 to 18.22	01/21/2020 25 - 35 (ft) el 28.22 to 18.22	04/30/2020 25 - 35 (ft) el 28.22 to 18.22
PCE	4.46	1.7	1.02	69.5	4.99	11.6	12.1
TCE	0.23 J	0.33 J	0.214 J	5.75	0.445 J	0.999	1.06
cis-1,2-DCE	1.77	2.03	1.76	2.55	1.4	2.26	2.58
VC	7.48	3.52	0.797	0.211 J	0.5 U	0.5 U	0.5 U

BB-8	04/11/2018 30 - 40 (ft) el 13.72 to 3.72	01/23/2019 30 - 40 (ft) el 13.72 to 3.72	04/23/2019 30 - 40 (ft) el 13.72 to 3.72	07/17/2019 30 - 40 (ft) el 13.72 to 3.72	10/22/2019 30 - 40 (ft) el 13.72 to 3.72	01/20/2020 30 - 40 (ft) el 13.72 to 3.72	05/12/2020 30 - 40 (ft) el 13.72 to 3.72
PCE	33.7 J	133	48.8	169	135 J	138	142
TCE	6.13 J	43.1	9.09	28.9	46.6	25.4	30.8
cis-1,2-DCE	4.64	81.5	7.57	19.3	31.8 J	16.5	17.6
VC	0.5 U	0.618	0.5 UJK	0.5 U	0.162 J	0.5 U	0.5 U

MBGW-1	03/06/2019 20 - 30 (ft) el 19.95 to 9.95
PCE	9.5
TCE	3.9
cis-1,2-DCE	19
VC	0.2 U

MBB-10	02/27/2020 35 - 40 (ft) el 14.66 to 9.66
PCE	98
TCE	59
cis-1,2-DCE	130
VC	0.88

MBGW-12	03/19/2019 17.5 - 27.5 (ft) el 36.5 to 26.5
PCE	5.1
TCE	1
cis-1,2-DCE	1 U
VC	0.2 U

MBB-7	03/04/2020 27 - 32 (ft) el 22.41 to 17.41
PCE	9.4
TCE	1.9
cis-1,2-DCE	7.3
VC	0.2 U

MBGW-3	03/07/2019 16 - 26 (ft) el 31.77 to 21.77
PCE	35
TCE	7.4
cis-1,2-DCE	4.8
VC	0.2 U

HMW-4IA	03/25/2019 50 - 60 (ft) el 8.7 to -1.3	03/10/2020 50 - 60 (ft) el 8.7 to -1.3
PCE	1 U	0.2 U
TCE	1 U	0.2 U
cis-1,2-DCE	1 U	0.2 U
VC	3.6	0.41

HMW-9IA	03/19/2020 36.7 - 46.7 (ft) el 18.56 to 8.56
PCE	0.42
TCE	0.23
cis-1,2-DCE	3.7
VC	0.95

HMW-20S	09/18/2020 25 - 35 (ft) el 28.81 to 18.81
PCE	4.7
TCE	0.38
cis-1,2-DCE	1.4
VC	0.99

HMW-20IA	09/18/2020 41 - 51 (ft) el 12.83 to 2.83
PCE	5.5
TCE	18
cis-1,2-DCE	840
VC	520

MBB-5	03/05/2020 32 - 37 (ft) el 18.53 to 13.53
PCE	130
TCE	37
cis-1,2-DCE	110
VC	7.7

MBB-6	03/05/2020 25 - 30 (ft) el 25.33 to 20.33
PCE	5.5
TCE	1.2
cis-1,2-DCE	3.4
VC	0.3

HMW-2IA	03/25/2019 34.8 - 44.8 (ft) el 10.75 to 0.75	03/12/2020 34.8 - 44.8 (ft) el 10.75 to 0.75
PCE	240	210
TCE	74	65
cis-1,2-DCE	120	180
VC	1.2	1.1

MBGW-15	03/15/2019 20 - 30 (ft) el 20.87 to 10.87
PCE	35
TCE	1 U
cis-1,2-DCE	1 U
VC	0.2 U

ROY ST
AURORA AVE N
DEXTER AVE N
8TH AVE N
9TH AVE N
WESTLAKE AVE N
VALLEY ST
MERCER ST
MW-154
MW-146
MW-155
MBGW-12
HMW-17S
MBB-1
MBB-16
MBGW-6
MBB-2
MBGW-13
MBB-4
MBB-3
HMW-3IA
HMW-1IS
HMW-19S
MBB-24
HMW-20S
HMW-20IA
MBGW-7
HMW-5IB
HMW-9S
HMW-9IA
HMW-4IA
HMW-6IA
HMW-6IB
MBGW-9
HMW-7IB
MBGW-11
MBGW-10
MBGW-16
MW-315
MBB-8
MBPP-5
MBB-7
MBB-10
MBGW-1
MBGW-5
MBB-5
MBB-6
MBGW-3
MBB-8
MBB-9
HMW-2S
HMW-2IA
MBGW-2
HMW-1S
MBGW-8
HMW-10S
HMW-11S
MBGW-15

0 40 80 160 Feet

N

SHALLOW ZONE MONITORING WELL
INTERMEDIATE A ZONE MONITORING WELL
INTERMEDIATE B ZONE MONITORING WELL
SOIL BORING WITH GRAB GROUNDWATER SAMPLE
GROUNDWATER SAMPLING LOCATION WITH EXCEEDANCE

EXCAVATION LIMITS; TO BE EXCAVATED DOWN TO ELEVATION 8 FT OR LOWER
POTENTIAL HISTORICAL CONTAMINANT SOURCE
PROPERTY BOUNDARY
FORMER LAKE UNION SHORELINE
FORMER BROAD STREET AND 8TH AVENUE N, THROUGH 1950s
FORMER BROAD STREET 1958-2012

RED TEXT INDICATES EXCEEDANCE OF PROTECTIVE OF DRINKING WATER OR PROTECTIVE OF INDOOR AIR SCREENING LEVELS

DATA SHOWN IS FROM 2018-2020; CONCENTRATIONS IN MICROGRAMS PER LITER (µg/L)

SCREENING LEVELS PROVIDED BY ECOLOGY (NOVEMBER 17, 2020)

DEPTH IN FEET BELOW GROUND SURFACE (BGS)

ELEVATION IN FEET (NAVD 88)

U = NON-DETECT AT DETECTION LIMIT AS INDICATED
J = ESTIMATED VALUE
- = ANALYTE WAS NOT ANALYZED/NOT APPLICABLE
/ = MULTIPLE RESULTS INDICATE THAT A FIELD DUPLICATE WAS TAKEN
K = REPORTED RESULT WITH UNKNOWN BIAS

AERIAL IMAGERY SOURCE: EAGLEVIEW

SCREENING LEVELS FOR CVOCs IN GROUNDWATER (µg/L)		
CONSTITUENT	PROTECTIVE OF DRINKING WATER	PROTECTIVE OF INDOOR AIR
Tetrachloroethene (PCE)	5	24
Trichloroethene (TCE)	4	1.4
cis-1,2-Dichloroethene (cis-1,2-DCE)	16	-
Vinyl chloride (VC)	0.29	0.35

Seattle DOT Mercer Parcels Site
Seattle, Washington

CVOCs Distribution in Groundwater, Above 8 ft Elevation

19409-04 10/21

HARTCROWSER
A division of Holey & Aldrich

Figure
2-7b

MW-147	05/12/2018 70 - 80 (ft) el -17.51 to -27.51	01/22/2019 70 - 80 (ft) el -17.51 to -27.51	04/23/2019 70 - 80 (ft) el -17.51 to -27.51	07/18/2019 70 - 80 (ft) el -17.51 to -27.51	10/14/2019 70 - 80 (ft) el -17.51 to -27.51	01/24/2020 70 - 80 (ft) el -17.51 to -27.51	04/29/2020 70 - 80 (ft) el -17.51 to -27.51	11/10/2020 70 - 80 (ft) el -17.51 to -27.51
PCE	19.8	98.2	0.5 U	0.5 U	0.5 U	12.5 U	12.5 U	0.2 U
TCE	83.4	179	5.13	4.79	3.38	4.63 J	5.1 J	4.9
cis-1,2-DCE	399	1230	322	219	597	1100	2410	3500 J
VC	1150	738	499	446	1410	1340	3470	7400 J

MW-153	05/01/2018 120 - 130 (ft) el -65.16 to -75.16	01/22/2019 120 - 130 (ft) el -65.16 to -75.16	04/24/2019 120 - 130 (ft) el -65.16 to -75.16	07/22/2019 120 - 130 (ft) el -65.16 to -75.16	10/15/2019 120 - 130 (ft) el -65.16 to -75.16	01/21/2020 120 - 130 (ft) el -65.16 to -75.16	04/30/2020 120 - 130 (ft) el -65.16 to -75.16
PCE	0.756	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
TCE	0.5 U	0.5 U	0.5 U	0.19 J	0.5 U	0.5 U	0.5 U
cis-1,2-DCE	0.612	1.41	1.07	0.384 J	0.5 U	0.5 U	0.5 U
VC	9.56	15.9	2.69	0.235 J	0.5 U	0.5 U	0.5 U

HMW-16IB	09/18/2020 55 - 65 (ft) el 2.02 to -7.98
PCE	0.2 U
TCE	0.2 U
cis-1,2-DCE	3.3
VC	15

HMW-9D	03/17/2020 79.7 - 89.7 (ft) el -24.38 to -34.38
PCE	0.81/0.89
TCE	0.2 U/0.2 U
cis-1,2-DCE	4.1/5.1
VC	0.81/0.97

HMW-9IB	03/19/2020 57 - 67 (ft) el -1.64 to -11.64
PCE	660
TCE	420
cis-1,2-DCE	9100
VC	1900

MW-148	05/01/2018 70 - 80 (ft) el -25.71 to -35.71	01/23/2019 70 - 80 (ft) el -25.71 to -35.71	04/26/2019 70 - 80 (ft) el -25.71 to -35.71	07/22/2019 70 - 80 (ft) el -25.71 to -35.71	10/16/2019 70 - 80 (ft) el -25.71 to -35.71	01/20/2020 70 - 80 (ft) el -25.71 to -35.71	04/30/2020 70 - 80 (ft) el -25.71 to -35.71
PCE	0.5 U/0.5 U	1.24	0.5 U	0.415 J	0.5 U	0.5 U	0.5 U
TCE	0.5 U/0.5 U	0.347 J	0.5 U	0.5 U	0.5 U	0.163 J	0.5 U
cis-1,2-DCE	0.5 UJ/0.216	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
VC	0.5 U/0.5 U	0.5 U	0.277 J	0.253 J	0.463 J	0.305 J	0.5 U

FMW-129	05/01/2019 84.2 - 89.2 (ft) el -45.56 to -50.56	07/16/2019 84.2 - 89.2 (ft) el -45.56 to -50.56	10/21/2019 84.2 - 89.2 (ft) el -45.56 to -50.56	11/12/2019 84.2 - 89.2 (ft) el -45.56 to -50.56	01/14/2020 84.2 - 89.2 (ft) el -45.56 to -50.56	02/18/2020 84.2 - 89.2 (ft) el -45.56 to -50.56	03/25/2020 84.2 - 89.2 (ft) el -45.56 to -50.56	04/27/2020 84.2 - 89.2 (ft) el -45.56 to -50.56	05/06/2020 84.2 - 89.2 (ft) el -45.56 to -50.56	05/19/2020 84.2 - 89.2 (ft) el -45.56 to -50.56
PCE	101	159	114	79	130	110	88	74	34.6	18
TCE	166	84.1	198	130	170	170	140	88	61.9	42
cis-1,2-DCE	372	272	350	340	385	310	290	190	157	120
VC	2.5 U	0.296 J	0.259 J	2 U	2 U	2 U	2.6	1 U	14.2	6.5

MW-105	04/11/2018 130 - 140 (ft) el -84.41 to -94.41	01/23/2019 130 - 140 (ft) el -84.41 to -94.41	04/23/2019 130 - 140 (ft) el -84.41 to -94.41	07/17/2019 130 - 140 (ft) el -84.41 to -94.41	10/22/2019 130 - 140 (ft) el -84.41 to -94.41	01/20/2020 130 - 140 (ft) el -84.41 to -94.41	05/12/2020 130 - 140 (ft) el -84.41 to -94.41
PCE	0.5 U	0.79	0.5 U	0.5 U	0.5 U	0.208 J	0.5 U
TCE	0.5 U	0.317 J	0.5 U	0.5 U	0.5 U	0.348 J	1.02
cis-1,2-DCE	1.67	1.51	0.917	0.891	0.945	1.38	0.805
VC	0.205 J	0.392 J	0.238 J	0.265 J	0.214 J	0.568	0.5 U

HMW-12D	09/10/2020 82 - 92 (ft) el -48.48 to -58.48
PCE	0.2 U
TCE	0.2 U
cis-1,2-DCE	200 J
VC	3.9

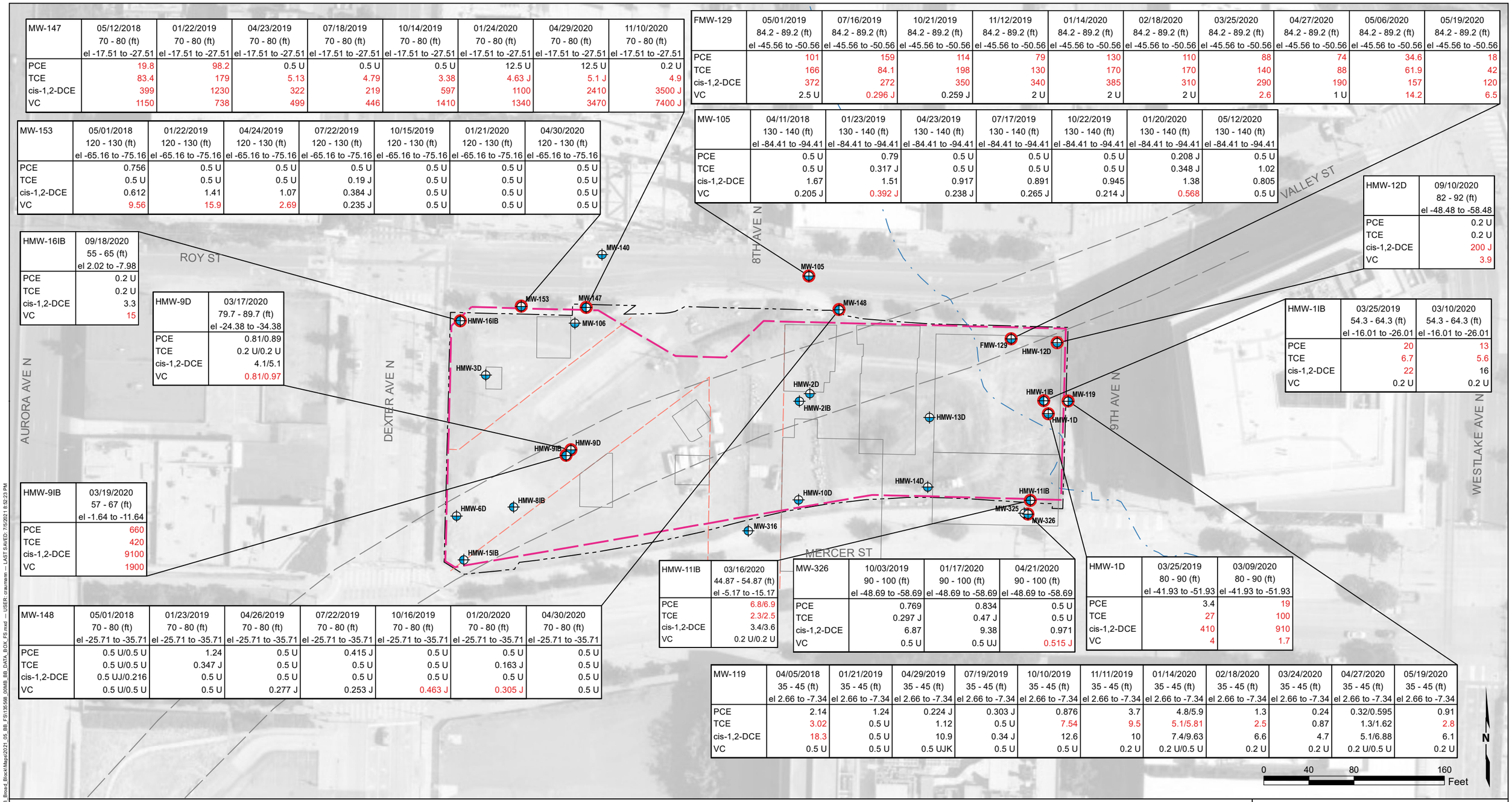
HMW-1IB	03/25/2019 54.3 - 64.3 (ft) el -16.01 to -26.01	03/10/2020 54.3 - 64.3 (ft) el -16.01 to -26.01
PCE	20	13
TCE	6.7	5.6
cis-1,2-DCE	22	16
VC	0.2 U	0.2 U

HMW-11IB	03/16/2020 44.87 - 54.87 (ft) el -5.17 to -15.17
PCE	6.8/6.9
TCE	2.3/2.5
cis-1,2-DCE	3.4/3.6
VC	0.2 U/0.2 U

MW-326	10/03/2019 90 - 100 (ft) el -48.69 to -58.69	01/17/2020 90 - 100 (ft) el -48.69 to -58.69	04/21/2020 90 - 100 (ft) el -48.69 to -58.69
PCE	0.769	0.834	0.5 U
TCE	0.297 J	0.47 J	0.5 U
cis-1,2-DCE	6.87	9.38	0.971
VC	0.5 U	0.5 UJ	0.515 J

HMW-1D	03/25/2019 80 - 90 (ft) el -41.93 to -51.93	03/09/2020 80 - 90 (ft) el -41.93 to -51.93
PCE	3.4	19
TCE	27	100
cis-1,2-DCE	410	910
VC	4	1.7

MW-119	04/05/2018 35 - 45 (ft) el 2.66 to -7.34	01/21/2019 35 - 45 (ft) el 2.66 to -7.34	04/29/2019 35 - 45 (ft) el 2.66 to -7.34	07/19/2019 35 - 45 (ft) el 2.66 to -7.34	10/10/2019 35 - 45 (ft) el 2.66 to -7.34	11/11/2019 35 - 45 (ft) el 2.66 to -7.34	01/14/2020 35 - 45 (ft) el 2.66 to -7.34	02/18/2020 35 - 45 (ft) el 2.66 to -7.34	03/24/2020 35 - 45 (ft) el 2.66 to -7.34	04/27/2020 35 - 45 (ft) el 2.66 to -7.34	05/19/2020 35 - 45 (ft) el 2.66 to -7.34
PCE	2.14	1.24	0.224 J	0.303 J	0.876	3.7	4.8/5.9	1.3	0.24	0.32/0.595	0.91
TCE	3.02	0.5 U	1.12	0.5 U	7.54	9.5	5.1/5.81	2.5	0.87	1.3/1.62	2.8
cis-1,2-DCE	18.3	0.5 U	10.9	0.34 J	12.6	10	7.4/9.63	6.6	4.7	5.1/6.88	6.1
VC	0.5 U	0.5 U	0.5 UJK	0.5 U	0.5 U	0.2 U	0.2 U/0.5 U	0.2 U	0.2 U	0.2 U/0.5 U	0.2 U



- INTERMEDIATE A ZONE MONITORING WELL
- INTERMEDIATE B ZONE MONITORING WELL
- DEEP ZONE MONITORING WELL
- GROUNDWATER SAMPLING LOCATION WITH EXCEEDANCE
- EXCAVATION LIMITS; TO BE EXCAVATED DOWN TO ELEVATION 8 FT OR LOWER
- POTENTIAL HISTORICAL CONTAMINANT SOURCE
- PROPERTY BOUNDARY
- FORMER LAKE UNION SHORELINE
- FORMER BROAD STREET AND 8TH AVENUE N, THROUGH 1950s
- FORMER BROAD STREET 1958-2012

RED TEXT INDICATES EXCEEDANCE OF PROTECTIVE OF DRINKING WATER OR PROTECTIVE OF INDOOR AIR SCREENING LEVELS

DATA SHOWN IS FROM 2018-2020; CONCENTRATIONS IN MICROGRAMS PER LITER (µg/L)

SCREENING LEVELS PROVIDED BY ECOLOGY (NOVEMBER 17, 2020)

DEPTH IN FEET BELOW GROUND SURFACE (BGS)

ELEVATION IN FEET (NAVD 88)

U = NON-DETECT AT DETECTION LIMIT AS INDICATED
J = ESTIMATED VALUE
- = ANALYTE WAS NOT ANALYZED/NOT APPLICABLE
/ = MULTIPLE RESULTS INDICATE THAT A FIELD DUPLICATE WAS TAKEN
K = REPORTED RESULT WITH UNKNOWN BIAS

AERIAL IMAGERY SOURCE: EAGLEVIEW

SCREENING LEVELS FOR CVOCs IN GROUNDWATER (µg/L)		
CONSTITUENT	PROTECTIVE OF DRINKING WATER	PROTECTIVE OF INDOOR AIR
Tetrachloroethene (PCE)	5	24
Trichloroethene (TCE)	4	1.4
cis-1,2-Dichloroethene (cis-1,2-DCE)	16	-
Vinyl chloride (VC)	0.29	0.35

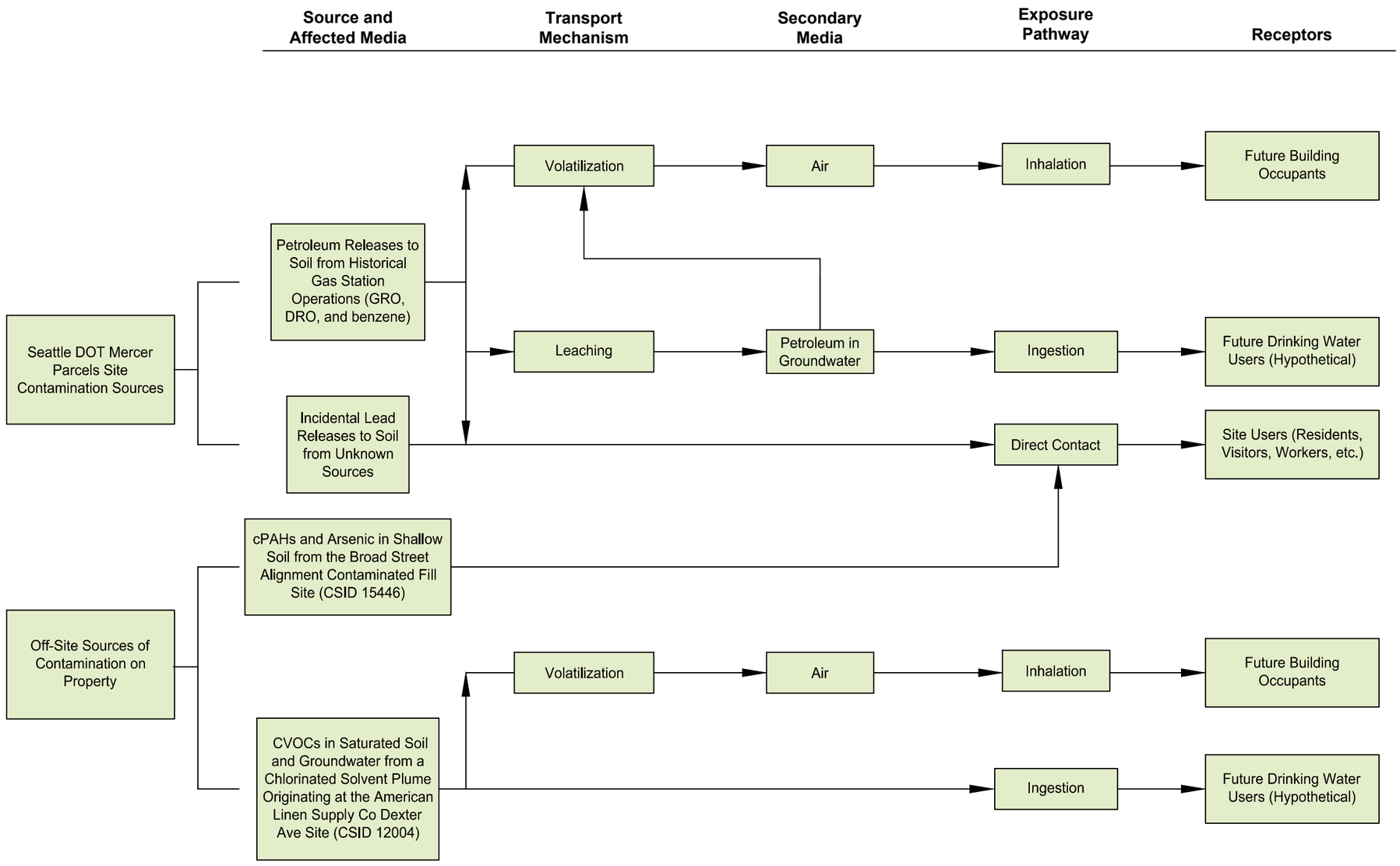
Seattle DOT Mercer Parcels Site
Seattle, Washington

CVOCs Distribution in Groundwater, Below 8 ft Elevation

19409-04 10/21

HARTCROWSER
A division of Haley & Aldrich

Figure
2-7c



Seattle DOT Mercer Parcels Site
Seattle, Washington

Contaminant Sources, Exposure Pathways, and Receptors

19409-04 10/21

HARTCROWSER A division of Haley & Aldrich

Figure **2-8**

Former American Linen Property | Roy Street | Seattle DOT Mercer Parcels Site | 9th Ave N

Former Dry Cleaners

Former Gas Station/ Repair Shop

Broad Street Alignment Contaminated Fill

Broad Street Alignment Contaminated Fill

cPAH and Arsenic Impacts

Current Ground Surface

Petroleum Impacts

cPAH and Arsenic Impacts

Fill

Arsenic impacts

Water Table

Vadose Soil

Saturated Soil

Lead impacts

Lead Impacts

Planned Soil Removal Limit

Groundwater Flow

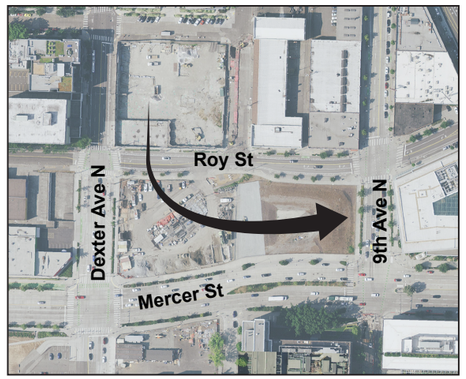
Chlorinated Solvent Plume

Elevation in Feet (NAVD 88)

80 60 40 20 0 -20 -40 -60 -80 -100

0 50 100 150 200 250 300 350 400 450 500 550 600 650 700 750 800 845

Approximate Distance in Feet



Seattle DOT Mercer Parcels Site
Seattle, Washington

Generalized Diagrammatic Conceptual Cross Section

19409-04 10/21

HARTCROWSER A division of Haley & Aldrich

Figure **2-9**

Original figure prepared by Hart Crowser; modified by Ecology.

L:\Notebooks\1940904_Mercer_Mega_Block_Remedial_Investigations\CAD\Illustrator\illustrator_section.ai

LEGEND

- SOIL BORING
- SOIL BORING WITH GRAB GROUNDWATER SAMPLE
- SHALLOW ZONE MONITORING WELL
- INTERMEDIATE A ZONE MONITORING WELL
- INTERMEDIATE B ZONE MONITORING WELL
- DEEP ZONE MONITORING WELL
- ESTIMATED AREA OF COC-CONTAMINATED SOIL TO BE EXCAVATED AND DISPOSED OF OFF-SITE (COC = CONSTITUENT OF CONCERN)

TESTING RESULTS

- SOIL TESTED, WITHOUT EXCEEDANCE OF CLEANUP LEVEL
- SOIL TESTED, WITH EXCEEDANCE OF CLEANUP LEVEL
- GROUNDWATER TESTED, WITHOUT EXCEEDANCE OF CLEANUP LEVEL
- GROUNDWATER TESTED, WITH EXCEEDANCE OF CLEANUP LEVEL
- EXCAVATION LIMITS; TO BE EXCAVATED DOWN TO ELEVATION 8 FT OR LOWER AND VAPOR BARRIER AREA
- PROPERTY BOUNDARY
- — — FORMER BROAD STREET 1958-2012

TESTING RESULTS ARE SHOWN FOR THESE CONSTITUENTS	SOIL (mg/kg)	GROUNDWATER (µg/L)
COCs	CLEANUP LEVEL	CLEANUP LEVEL
Gasoline Range Organics (GRO)	30	800
Lead	250	-
Diesel Range Organics (DRO)	-	500
Benzene	-	2.4

0 20 40 80 Feet

N

AERIAL IMAGERY SOURCE: NEARMAP, AUGUST 28, 2020

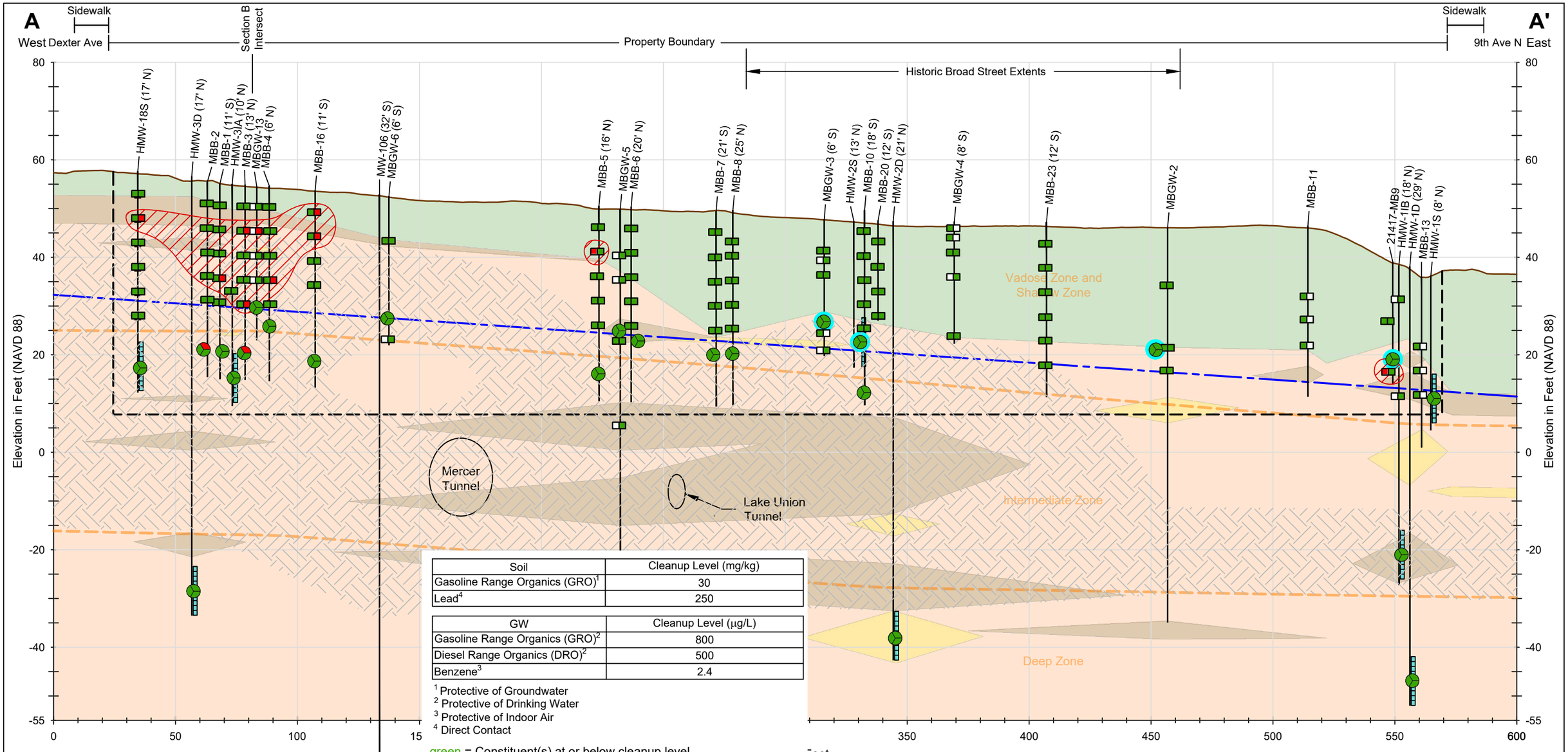
Seattle DOT Mercer Parcels Site
Seattle, Washington

Selected Cleanup Action

19409-04 11/21

HARTCROWSER A division of Haley & Aldrich

Figure **5-1**



Soil	Cleanup Level (mg/kg)
Gasoline Range Organics (GRO)[1]	30
Lead[4]	250

GW	Cleanup Level (µg/L)
Gasoline Range Organics (GRO)[2]	800
Diesel Range Organics (DRO)[2]	500
Benzene[3]	2.4

[1] Protective of Groundwater
[2] Protective of Drinking Water
[3] Protective of Indoor Air
[4] Direct Contact

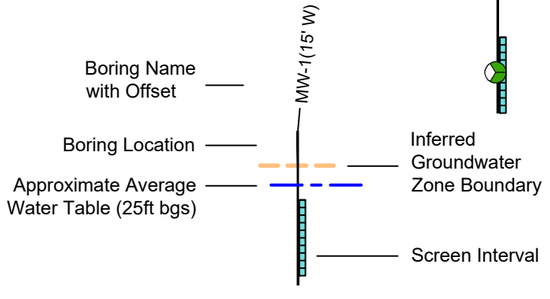
green = Constituent(s) at or below cleanup level

red = Constituent(s) above cleanup level

white = Constituent(s) not tested

Sample results shown from the most recent sampling event.

Legend

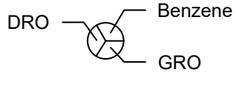


Geologic Units (Predominant Component)

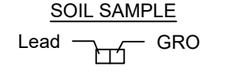
- Fill
- Clean Sand and/or Gravel
- Till
- Silty Sand and Silty Gravel
- Silt and/or Clay with or without Sand

Approximate Limits of Proposed Excavation and Vapor Barrier Area at Seattle DOT Mercer Parcels Site ("Schematic Design, ARE Mercer Blocks," NBBJ, 04/20/2020)

GROUNDWATER SAMPLE

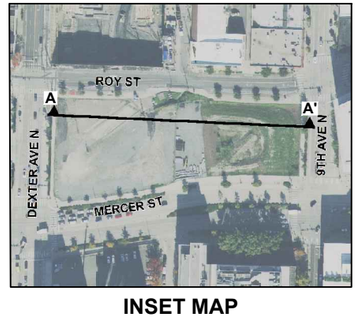


SOIL SAMPLE



= Estimated area of constituent of concern (COC)-contaminated soil to be excavated and disposed of off-site

= Perched groundwater



INSET MAP

Horizontal Scale in Feet
0 40 80
0 20 40
Vertical Scale in Feet
Vertical Exaggeration x 2

Explorations MBB-1, MBB-2, MBB-4, MBGW-13, HMW-2S and MBB-20 have been shifted horizontally for visual clarity.

Seattle DOT Mercer Parcels Site
Seattle, Washington

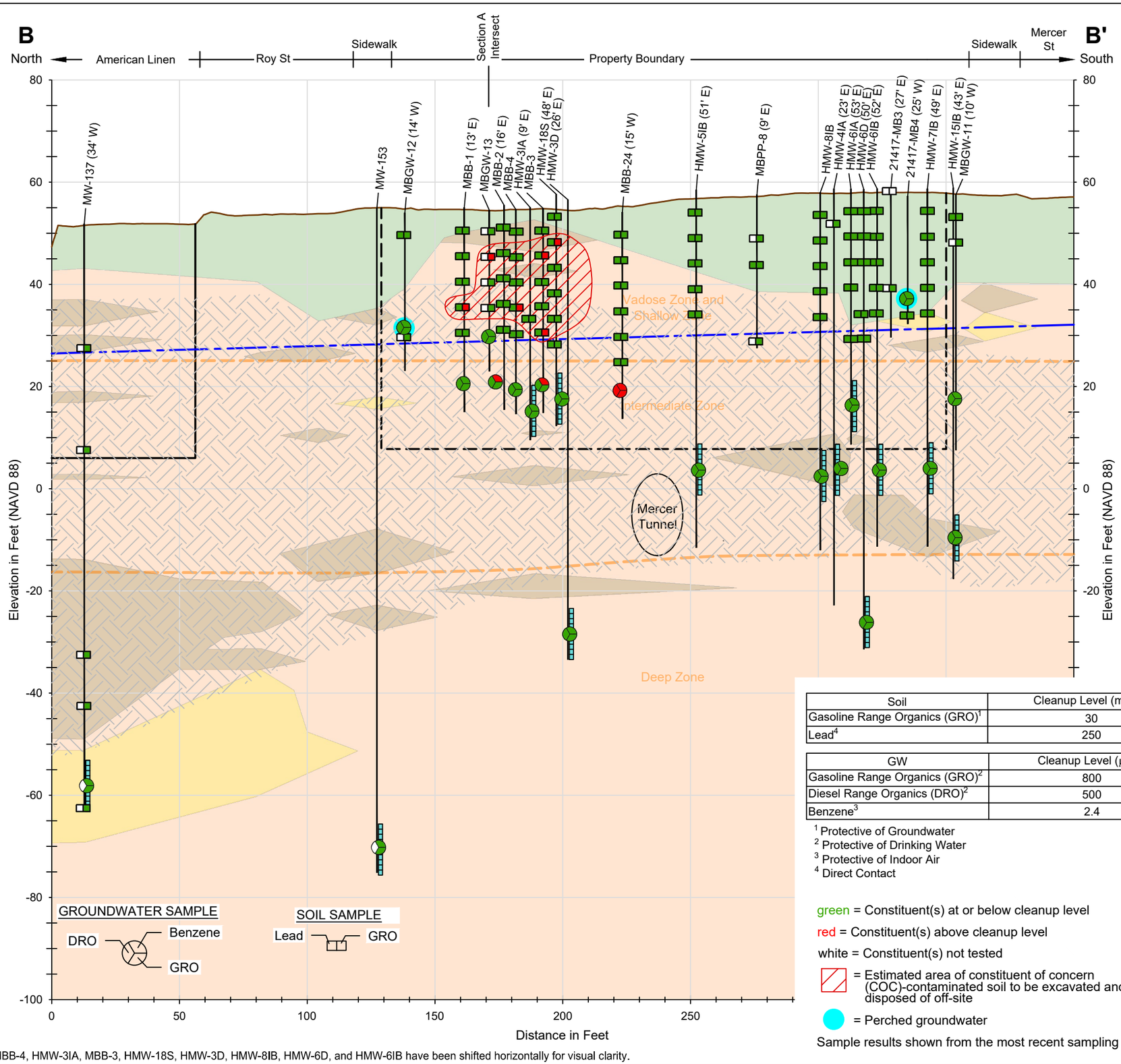
Selected Cleanup Action Cross Section A-A'

19409-04 11/21

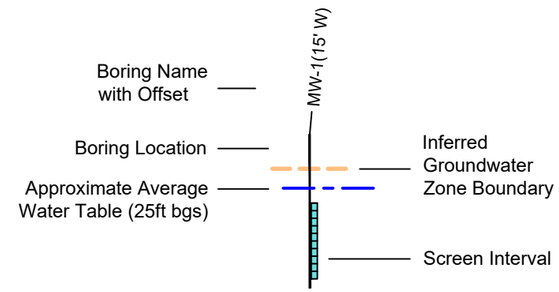
HARTCROWSER A division of Haley & Aldrich

Figure **5-2a**

Original figure prepared by Hart Crowser; modified by Ecology.



Legend

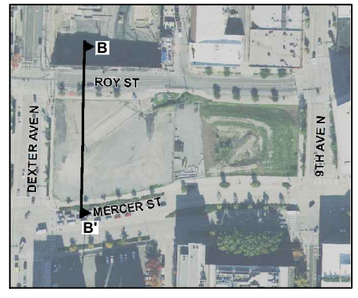


Approximate Limits of Proposed Excavation and Vapor Barrier Area at Seattle DOT Mercer Parcels Site ("Schematic Design, ARE Mercer Blocks," NBBJ, 04/20/2020)

Approximate Limits of 2020 Building Excavation at American Linen Site

Geologic Units (Predominant Component)

Fill
Clean Sand and/or Gravel
Till
Silty Sand and Silty Gravel
Silt and/or Clay with or without Sand



INSET MAP

Soil	Cleanup Level (mg/kg)
Gasoline Range Organics (GRO)[1]	30
Lead[4]	250

GW	Cleanup Level (µg/L)
Gasoline Range Organics (GRO)[2]	800
Diesel Range Organics (DRO)[2]	500
Benzene[3]	2.4

[1] Protective of Groundwater
[2] Protective of Drinking Water
[3] Protective of Indoor Air
[4] Direct Contact

green = Constituent(s) at or below cleanup level
red = Constituent(s) above cleanup level
white = Constituent(s) not tested
= Estimated area of constituent of concern (COC)-contaminated soil to be excavated and disposed of off-site
= Perched groundwater
Sample results shown from the most recent sampling event.

Horizontal Scale in Feet
0 40 80
0 20 40
Vertical Scale in Feet
Vertical Exaggeration x 2

Explorations MBB-4, HMW-3IA, MBB-3, HMW-18S, HMW-3D, HMW-8IB, HMW-6D, and HMW-6IB have been shifted horizontally for visual clarity.

Seattle DOT Mercer Parcels Site
Seattle, Washington

Selected Cleanup Action Cross Section B-B'

19409-04 11/21

HARTCROWSER A division of Haley & Aldrich

Figure **5-2b**

Original figure prepared by Hart Crowser; modified by Ecology.

File: \\haleyaldrich.com\share\sea_projects\Notebooks\1940904_Mercer_Mega_Block_Remedial_Investigations\CAD\1940904-015 DCAP (XSec-Mercer).dwg Layout:DCAP-SEC_BroadB (COCs) Date: 11-04-2021 Author: mschweitzer