



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

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November 14, 2017

Mr. Jeff Lowenberg
Ninth and Lenora, LLC
125 High Street, 27th Floor
Boston, MA 02110

Re: No Further Action at a Property associated with a Site:

- **Site Name:** Lenora Building
- **Site Address:** 2101 9th Avenue, Seattle, Washington 98121
- **Facility/Site No.:** 91413494
- **Cleanup Site ID No.:** 1802
- **VCP Project No.:** NW2980

Dear Mr. Lowenberg:

The Washington State Department of Ecology (Ecology) received your request for an opinion on your proposed independent cleanup of the **Lenora Building** (Site). This letter provides our opinion. We are providing this opinion under the authority of the Model Toxics Control Act (MTCA), Chapter 70.105D RCW.

Issues Presented and Opinion

1. Is further remedial action necessary at the Property to clean up contamination associated with the Site?

NO. Ecology has determined that no further remedial action is necessary at the Property to clean up contamination associated with the Site.

2. Is further remedial action still necessary elsewhere at the Site?

YES. Ecology has determined that further remedial action is still necessary elsewhere at the Site.

This opinion is based on an analysis of whether the remedial action meets the substantive requirements of MTCA, Chapter 70.105D RCW, and its implementing regulations, Chapter 173-340 WAC (collectively "substantive requirements of MTCA"). The analysis is provided below.



Description of the Property and the Site

This opinion applies only to the Property and the Site described below. This opinion does not apply to any other site that may affect the Property. Any such sites, if known, are identified separately below.

1. Description of the Property.

The Property includes the following two tax parcels in King County, which was affected by the Site and will be addressed by your cleanup:

- 0660000540
- 0660000545

Enclosure A includes a legal description of the Property. **Enclosure B** includes a diagram of the Site that illustrates the location of the Property within the Site.

2. Description of the Site.

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

- Gasoline-range petroleum hydrocarbons (TPH-G), Diesel-range petroleum hydrocarbons (TPH-D), Oil-range petroleum hydrocarbons (TPH-O), benzene, xylenes, lead, and carcinogenic PAHs (cPAHs) into the Soil.

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

3. Identification of Other Sites that may affect the Property.

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

The Property does not include Lenora Street and the adjacent alley right-of-ways located south and west of the Lenora Building.

Basis for the Opinion

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

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1. GeoEngineers, Inc., *Construction Contingency Plan, Contaminated Soil and Groundwater Management, 9th and Lenora Development, 2118 Westlake Avenue/2101 9th Avenue, Seattle, Washington*, dated December 12, 2014.
2. GeoEngineers, Inc., *Northeast Heating Oil UST Removal and Site Assessment Report; 9th and Lenora Development, 2118 Westlake Avenue/2101 9th Avenue, Seattle, Washington*, dated July 13, 2015.
3. GeoEngineers, Inc., *Remedial Investigation/Feasibility Study, Ninth and Lenora Redevelopment, 2101 9th Avenue, Seattle, Washington, VCP Project No. NW2980*, dated March 24, 2016.
4. GeoEngineers, Inc., *Cleanup Action Report, Ninth and Lenora Redevelopment, 2101 9th Avenue, Seattle, Washington, VCP Project No. NW2980*, dated March 24, 2016.

Those documents are kept in the Central Files of the Northwest Regional Office of Ecology (NWRO) for review by appointment only. You can make an appointment by calling the NWRO resource contact at 425.649.7235 or via email at NWRO_public_request@ecy.wa.gov.

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

Analysis of the Cleanup

1. Cleanup of the Property located within the Site.

Ecology has concluded that **no further remedial action** is necessary at the Property to clean up contamination associated with the Site. That conclusion is based on the following analysis:

a. Characterization of the Site.

Ecology has determined your characterization of the Site is sufficient to establish cleanup standards for the Site and select a cleanup for the Property. The Site is described above and in **Enclosure B**.

b. Establishment of cleanup standards for the Site.

Ecology has determined the cleanup levels and points of compliance you established for the Site meet the substantive requirements of MTCA.

Soil:

Current Site uses include commercial businesses to which the public has access, so unrestricted land use is the appropriate basis for development of soil cleanup levels. The following potential exposure/risk pathways were appropriate to consider:

- Human health protection from direct soil contact pathway exposure.
- Human health protection from soil-to-groundwater pathway exposure.
- Human health protection from soil-to-air pathway exposure.
- Human health protection from soil-to-surface water pathway exposure.
- Terrestrial ecological protection.

Because the Site has relatively few contaminants, MTCA Method A can be used as cleanup levels for the Site contaminants of concern.

Appropriate soil cleanup levels are the WAC 173-340 Table 740-1 Method A values of 30 milligrams per kilogram (mg/kg) for gasoline-range organics when benzene is present, 0.03 mg/kg for benzene, 7 mg/kg for toluene, 6 mg/kg for ethylbenzene, 9 mg/kg for xylenes, 2,000 mg/kg for diesel-range organics and 2,000 mg/kg for oil-range organics.

Soil cleanup levels protective of terrestrial ecological species are also potentially applicable. However, they are deemed not applicable as this Site meets the simplified Terrestrial Ecological Evaluation (TEE) exclusion criteria (Table 749-1 of WAC 173-340-7492(2)(a)(ii)). The land use at the Property and surrounding area makes substantial wildlife exposure unlikely. The Site also meets the initial TEE exclusion criteria (MTCA WAC 173-340-7491(1)(c)(i)). There are less than 1.5 acres of contiguous undeveloped land on or within 500 feet of any part of the Site.

The point of compliance for protection of human health (direct contact) for soil is throughout the Site to a depth of 15 feet below the ground surface. The standard point of compliance for soil for the protection of ground water is throughout the Site.

Ground Water:

Cleanup levels were set for ground water based on its potential use as a drinking water source. The MTCA Method A cleanup levels are appropriate for this purpose, and were selected as the cleanup levels for this Site.

Appropriate ground water cleanup levels are the WAC 173-340 Table 720-1 Method A values.

The point of compliance for ground water is throughout the Site from the uppermost level of the unsaturated zone extending vertically to the lowest most depth which could potentially be affected by the Site.

Soil Gas:

The soil vapor intrusion pathway is not an issue at this Site. For the vapor intrusion pathway to be considered complete, there must be three components: a source of volatile compounds in the subsurface environment (ground water and soil), building(s), and a migration route to connect them.

All contaminated soil associated with the releases were removed from the Property, and the shallow ground water was fully removed throughout the Property boundary upon completion of the building construction and redevelopment.

c. Selection of cleanup of the Property.

Ecology has determined the cleanup action you selected for the Property meets the substantive requirements of MTCA. The cleanup meets minimum cleanup requirements and does not exacerbate conditions or preclude reasonable cleanup alternatives elsewhere at the Site.

The selected cleanup consisted of the excavation and removal of approximately 14,550 tons of petroleum-contaminated soil (contaminated with the COCs TPH-G, PAHs, benzene, xylenes, and lead), and which were transported off-Site to a regulated facility. The cleanup also consisted of the removal of a closed-in-place petroleum UST with fill ports and piping; a hydraulically operated steel elevator shaft and a concrete vault; and an undocumented heating oil tank. Confirmation soil samples confirmed that all PCS was excavated and removed from the heating tank location.

These actions meet the minimum requirements in WAC 173-340-360(2) because they are protective of human health and the environment, comply with the selected cleanup standards, comply with applicable state and federal laws and provide for compliance monitoring. The selected cleanup action used permanent solutions to the maximum extent practicable (source removal and off-Site disposal) and provided a reasonable restoration time frame.

d. Cleanup of the Property.

Ecology has determined the cleanup you performed meets the applicable Site cleanup standards within the Property.

The cleanup performed consisted of the excavation and removal of approximately 14,550 tons of petroleum-contaminated soil which were transported off-Site to the Waste Management (WM) transfer station in Seattle, Washington for rail haul and permitted disposal at the WM subtitle D landfill in Arlington, Oregon.

The lateral and vertical extent of petroleum-impacted soil had been adequately defined upon the completion of Site investigation, cleanup action, and confirmation soil sampling. Soil analytical results of confirmation samples were below MTCA Method A cleanup levels for the contaminants of concern. Ground water (perched) was not encountered during excavation associated with mass construction of the Property.

A hydraulically-operated steel elevator shaft and a concrete vault that housed a hydraulic hoist were removed during Property redevelopment and construction between June and August 2015. Confirmation samples confirmed that soil below the former elevator shaft and vault was not impacted.

A closed-in-place steel diesel tank (UST #2), along with associated piping and petroleum-contaminated soil were removed from the south portion of the Property. Confirmation soil samples confirmed that all petroleum-contaminated soil was excavated and removed from within the Property boundaries. Note that a gasoline UST (UST#1) was removed from the Property in 2002.

Residual petroleum-contaminated soil (exceeding MTCA Method A cleanup levels) remains in place outside the west Property boundary in a limited portion of an alley owned by the City of Seattle.

An undocumented heating oil tank (UST #3) was discovered during Property redevelopment and construction. The UST was excavated and removed along with petroleum-contaminated soil between June 2015 and August 2015. Confirmation samples confirmed that all petroleum-contaminated soil was excavated and removed from the UST#3 location.

Regional ground water was determined to be 53 to 55 feet bgs (elevation 14 to 16 feet above mean sea level (msl)) based on the results of ground water monitoring well MWG-1 which was installed prior to Property redevelopment and construction activities. Ground water was determined to be uncontaminated above COC MTCA Method A cleanup levels based on the analytical results of ground water samples collected from on-Property monitoring well MWG-1 and from on off-Property monitoring well MW-5 which was screened from 42 to 58 feet below the ground surface (bgs). These well locations are considered representative of ground water on the Site. Perched ground

water was encountered in localized, discontinuous locations during subsurface explorations, but was not encountered during excavation related to mass construction of the Property.

Based on the deep regional ground water table, the estimated extent of vertical separation (greater than 40 feet) between regional ground water and contaminated fill soil, and ground water sampling data, the soil to groundwater pathway for contaminant migration is most likely incomplete. The potential source of contaminated shallow ground water (the petroleum-contaminated soil) was excavated and removed from the Property and the regional ground water is not contaminated.

2. **Cleanup of the Site as a whole.**

Ecology has concluded that **further remedial action** under MTCA is still necessary elsewhere at the Site. In other words, while your cleanup constitutes the final action for the Property, it constitutes only an **“interim action”** for the Site as a whole.

Documentation has been provided which specifies that beyond the Property boundary a limited volume of petroleum- and PAH-contaminated soil is present beneath a portion of the adjacent Lenora Street sidewalk and the southeast portion of the alley (rights-of-ways located south and west of the Lenora Building Property: the Site).

- Lenora Street: Soil contaminated with TPH-G, TPH-D, TPH-O, benzene, xylenes, lead, and cPAHs above MTCA Method A is located approximately 24 feet bgs (under the street). Several utility corridors are present in Lenora Street that precluded further investigation.
- Alley: Utilities and additional infrastructure elements (concrete footings and walls) are present in the alley.
- In a regional aquifer underlying the Site, ground water occurs at 53 to 55 feet bgs; (near elevations 14 to 16 feet above msl).
- Lenora Street and the alley are currently capped with asphalt so there is some control of surface water and the infiltration of precipitation.

Listing of the Site

Based on this opinion, Ecology will update the status of remedial action at the Site on our database of hazardous waste sites. However, because further remedial action is still necessary elsewhere at the Site, we will not remove the Site from our lists of hazardous waste sites. Furthermore, the Property will remain listed as part of the Site because the cleanup of the Property does not change the boundaries of the Site.

Limitations of the Opinion

1. Opinion does not settle liability with the state.

Liable persons are strictly liable, jointly and severally, for all remedial action costs and for all natural resource damages resulting from the release or releases of hazardous substances at the Site. This opinion **does not**:

- Change the boundaries of the Site.
- Resolve or alter a person's liability to the state.
- Protect liable persons from contribution claims by third parties.

To settle liability with the state and obtain protection from contribution claims, a person must enter into a consent decree with Ecology under RCW 70.105D.040(4).

2. Opinion does not constitute a determination of substantial equivalence.

To recover remedial action costs from other liable persons under MTCA, one must demonstrate that the action is the substantial equivalent of an Ecology-conducted or Ecology-supervised action. This opinion does not determine whether the action you performed is substantially equivalent. Courts make that determination. *See* RCW 70.105D.080 and WAC 173-340-545.

3. State is immune from liability.

The state, Ecology, and its officers and employees are immune from all liability, and no cause of action of any nature may arise from any act or omission in providing this opinion. *See* RCW 70.105D.030(1)(i).

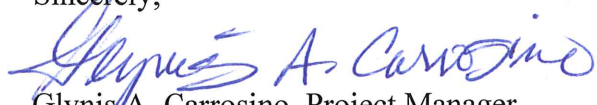
Termination of Agreement

Thank you for cleaning up your Property under the Voluntary Cleanup Program (VCP). This opinion terminates the VCP Agreement governing this project (VCP# NW2980). If you should decide to clean up the remainder of the Site, please do not hesitate to reapply and request additional services under the VCP.

For more information about the VCP and the cleanup process, please visit our web site: www.ecy.wa.gov/programs/tcp/vcp/vcpmain.htm. If you have any questions about this opinion or the termination of the Agreement, please contact me by phone at 425-649-4422, or via email at gcar461@ecy.wa.gov.

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Sincerely,



Glynis A. Carrosino, Project Manager
Toxics Cleanup Program, NWRO

Enclosures (2): A – Legal Description of the Property
 B – Description and Diagrams of the Site (including the Property)

By Certified Mail: [9171 9690 0935 0163 8405 95]

cc: Fasih Khan, Aspect Consulting LLC
 Matt Alexander, VCP Financial Manager, Ecology
 Sonia Fernandez, NWRO VCP Coordinator, Ecology

Enclosure A

Legal Description

BELL HEIRS OF S A 2ND ADD E OF WESTLAKE BLVD
Plat Block 24
Plat Lot 10

BELL HEIRS of S A 2nd ADD

Enclosure B

Description and Diagrams of the Site

Site Description

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

Site: The Site is defined by the release of diesel- and oil-range total petroleum hydrocarbons (TPH-D and TPH-O respectively) to soil associated with historical boiler and furnace/heating systems of the former property buildings, Underground Storage Tanks (USTs), and historic property uses. The Site is located at 2101 9th Avenue, in Seattle, Washington (Property).

Area and Property Description: The Property consists of two King County tax parcels encompassing approximately 0.49 acres. The north parcel is King County Parcel # 0660000540, and the south parcel is King County Parcel #0660000545. The Property does not include Lenora Street and the adjacent alley right-of-ways located south and west of the Lenora Building Property.

The Property is located in the Denny Triangle neighborhood and bounded to the north by retail properties, 9th Avenue to the east, Lenora Street to the south, and a public alley to the west in downtown Seattle, Washington. The Property is currently under construction as Stratus, a development consisting of a 42-story residential tower with ground level retail and six levels of subgrade parking. The construction of the exterior of the building has been completed, with the building interior in process. Land use surrounding the Site includes commercial businesses, residential apartments and condominiums.

Property History and Current Use: Early use of the Property was as a wood yard, printing facility, metal shop and a vehicle servicing/auto restoration garage. Additional historic facilities were identified: a former boiler room, chimney and furnace systems, former car wash area, printing facility and metal shops. USTs located on the Property consisted of: one former petroleum UST, (which was removed in 2002), one closed-in-place petroleum UST with fill ports and piping, and a heating oil UST.

Key details:

Based on the historic fire insurance (Sanborn) maps, the North parcel (Parcel #0660000540) was undeveloped in 1905. A small structure and parking were present on the parcel in 1936. Later, a single-story office building with a basement was constructed between 1946 and 1948 and was used by a vehicle company for car sales, storage and repair. A boiler house was also present on the parcel and the building was heated by hot water and an oil burner. In 1980, an underground tunnel was constructed in order to provide access to the basement of the single-story building from the underground parking garage located on parcel #0660000485. Westlake Chevrolet Company owned the north parcel from 1946 until the mid-1980s (for car sales and possibly auto repair).

The parcel was occupied by a used car sales office until 1990s and the prior owner indicated that fill from an unknown source may have been brought to the parcels during the construction of the building.

Based on the historic fire insurance (Sanborn) maps and tax assessment records, the South Parcel (Parcel # 0660000545) was undeveloped from at least 1893 until approximately 1905 when a "wood yard" was located on the parcel. This parcel was owned by a lumber company from 1905 to 1924. A two-story office/retail building on the parcel was constructed in 1924 as a garage. The building was originally heated by an oil burner. The parcel was used as an auto repair facility between the 1940s and the 1970s. Later, the parcel was used as a printing facility during the 1980s and 1990s, and included a camera area, dark room and bindery area. A metal shop is shown in the west corner of the basement in 1998 building plans. Cornish College of Arts then owned the parcel since 2003.

The northern parcel was the former location of an Enterprise care rental company. The southern parcel was the former location of a two-story office/warehouse building with a garage below. The Property is currently under construction (building exterior is completed) as a Stratus development.

Contaminant Source and History: Sources of contamination include historical boiler and furnace/chimney systems of the former property buildings, USTs (UST#1 was removed in 2002; UST#2 with associated piping was closed in place; and UST#3 was a previously undocumented heating oil tank), and historic property uses such as a wood yard, printing facility, metal shops, and former vehicle servicing/washing/restoration facility, and undocumented fill that was imported to the Property. Because of the sloping nature of the Site from 9th Avenue down to the alley at the west side of the Property, the construction excavation extended from starting elevations of about 87 feet above mean sea level (msl) (high side near 9th Avenue) to 69 feet above msl (low side near the alley) to a bottom construction excavation of about elevation 7 feet above msl. Contaminated soil occurred within the upper 20 feet of fill soil at the Property.

All contaminated soil associated with the releases were removed from the Property, and shallow perched ground water was fully removed throughout the Property boundary upon completion of the remedial excavation conducted as part of the redevelopment.

Physiographic Setting: The Property is located within the Puget Lowland physiographic province, a broad, low-lying region situated between the Cascade Range to the east and the Olympic Mountains to the west. The Property grades drop about 10 feet from southeast to northwest. The alley along the west side of the Property historically provided access to the lowest level of the former building and slopes down near Westlake Avenue to the entrance of the former 2101 9th Avenue building. The alley does not extend through to Lenora Street. A permanent slope currently exists between the end of the alley and Lenora Street.

Surface/Storm Water System: Lake Union is located approximately 3,000 feet north of the Property. Elliott Bay is located approximately 3,000 feet southwest of the Property.

Ecological Setting: The Property is covered with a building (exterior is completed). Land surrounding the Site is primarily covered with buildings, asphalt and concrete with small landscaped areas.

Geology: The Property is underlain by relatively shallow fill overlying recent deposits and competent glacially consolidated soils. Fill generally consists of loose to medium dense silty sand with variable gravel and cobble content and occasional brick, charcoal or wood debris. Based on historical research, the block is located on the eastern edge of the 1928 to 1930 Denny Regrade, and portions of this area are reported to have up to 25 feet of fill added as part of the historical regrading process. The thickness of fill encountered in the explorations completed at the Site ranged from approximately 6 to 15 feet.

The recent deposits consist of soft to hard silt and clay with occasional sand interbeds and variable gravel content or medium dense to dense sand with variable silt and gravel content. The glacially consolidated soils were encountered below the fill and recent deposits. The glacially consolidated soils encountered in the explorations were till deposits, which consist of very dense silty sand.

Ground Water: Perched ground water was encountered intermittently in some of the Site characterization explorations completed during remedial investigations. No perched water was encountered within the mass excavation limits at the Property. The static ground water level associated with the regional aquifer was measured in former monitoring well MWG-1 in 2013 and 2014. The measured depths ranged from approximately 53.30 to 55.39 feet bgs (approximate elevations 16 and 14 feet above msl) respectively, at the MWG-1 location.

Water Supply: Seattle Public Utilities (SPU) provides drinking water to the building. The Cedar and the South Fork Tolt River Watersheds in eastern King County are the two sources for potable water supplied by SPU.

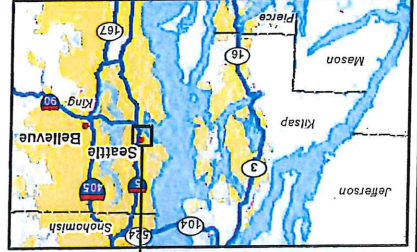
Release and Extent of Soil and Ground Water Contamination:


Petroleum hydrocarbons (TPH-G, TPH-D, and TPH-O), Benzene, Xylenes, Lead, and cPAHs were present in soil at the Property. Confirmation soil samples demonstrated that all identified soil contaminated above MTCA Method A cleanup levels was removed from the Property, and that a portion of Site soil contaminants exceeding MTCA Method A cleanup levels extended beyond the Property boundaries. Petroleum-contaminated soil at concentrations exceeding MTCA Method A cleanup levels is present beneath a portion of the adjacent Lenora Street sidewalk and the southeast portion of the alley (rights-of-ways owned by the city of Seattle located south and west of the Lenora Building Property)

During remedial excavation activities, shallow ground water was encountered, was intermittent and did not yield significant quantities of recoverable water. This perched ground water, which did not constitute a continuous water-bearing zone, was fully removed throughout the Property boundary upon completion of the excavation during redevelopment. The depth of the regional ground water is approximately 55 to 75 feet bgs.

Site Diagrams

- Notes:
1. The locations of all features shown are approximate.
 2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.
 3. It is unlawful to copy or reproduce all or any part thereof, whether for personal use or resale, without permission.
- Data Sources: ESRI Data & Maps, Street Maps 2005
 Transverse Mercator, Zone 10 N North, North American Datum 1983
 North arrow oriented to grid north

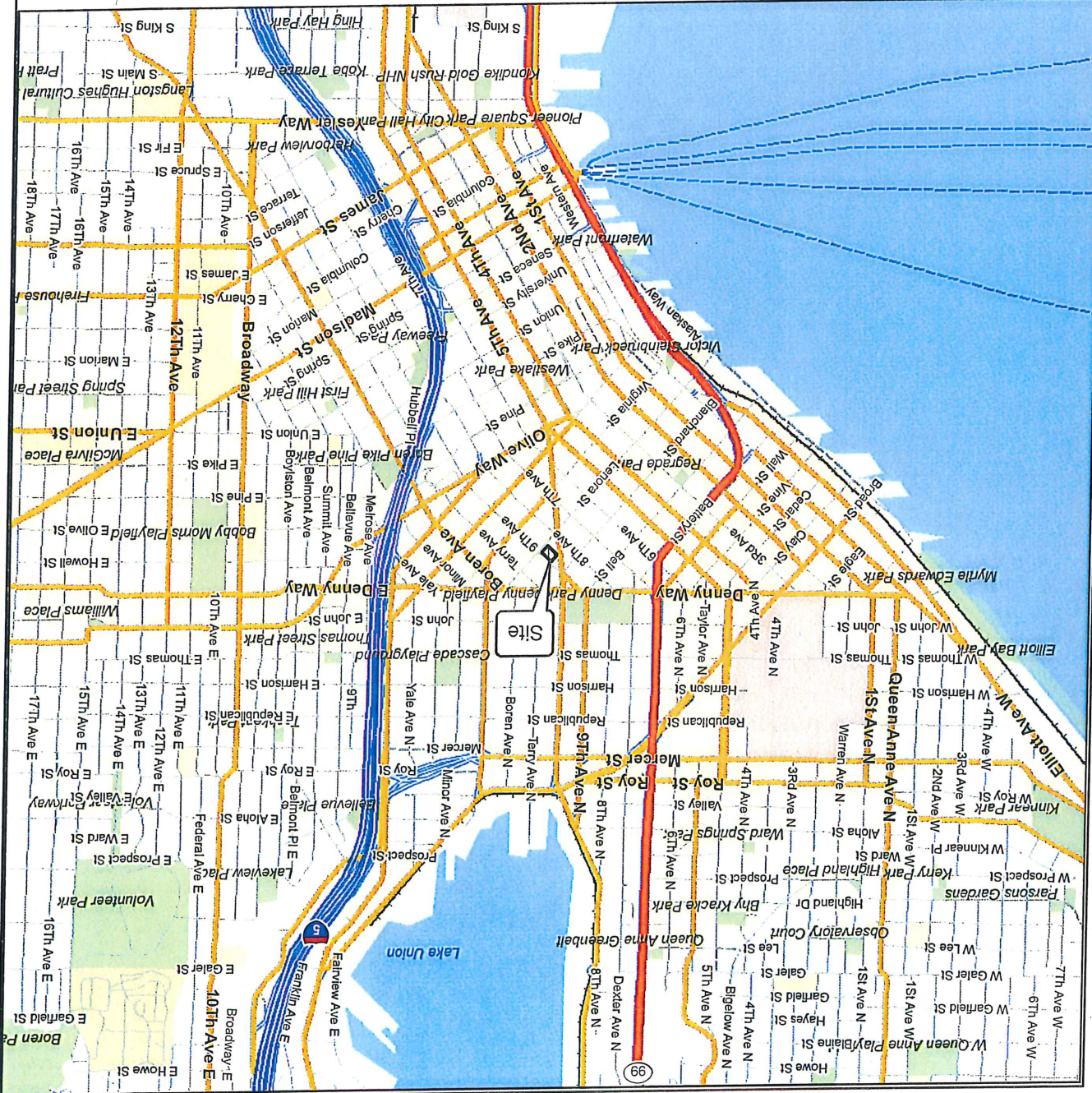
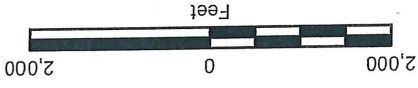




9th and Lenora Development
Seattle, Washington

Figure 1

Vicinity Map

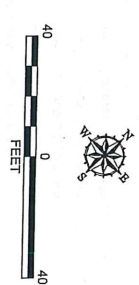






Legend:

- Subject Property Boundary
- Mass Excavation Limits
- DP-1 Direct-Push Boring (GeoEngineers, Sep. 2014)
- E-2 Soil Boring (GeoEngineers, Dec. 2013)
- G-1 Monitoring Well (GeoEngineers, Dec. 2013)
- G-2 Soil Boring (GeoEngineers, Dec. 2013)
- G-5 Soil Boring (GeoEngineers, July 2013)
- G-7 Soil Boring (GeoEngineers, July 2013)
- MW-01 Monitoring Well (GeoEngineers, July 2007)
- GEI-1 Soil Boring (GeoEngineers, July 2007)
- HA-1 Hand Auger Boring (GeoEngineers, Aug. 2002)
- B-2 Direct-Push Boring (GeoEngineers, Aug. 2002)
- MW-5 Offsite Monitoring Well (GeoEngineers, Sep. 1993)
- ☐ Catch Basin
- ☐ (2101 9TH AVE) Property Address
- 0660005140 Parcel Number
- UST Underground Storage Tank
- ☐ Controlled Density Fill
- Parcel Line



Notes:

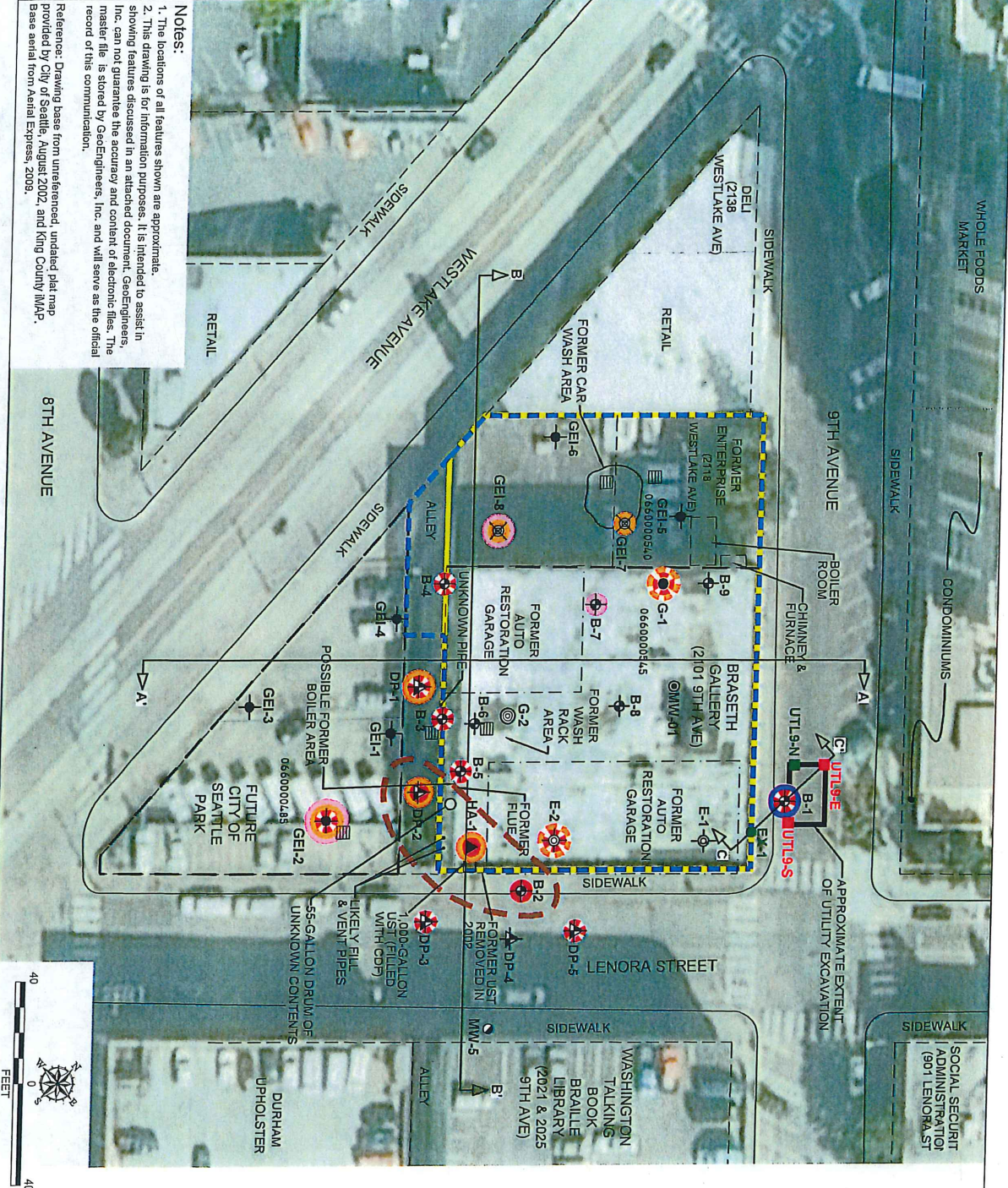
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Reference: Drawing base from unreferenced, undated plat map provided by City of Seattle, August 2002, and King County WMAP, Base aerial from Aerial Express, 2009.

Remedial Investigations Explorations

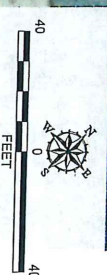
9th and Lenora Development
Seattle, Washington

GeoEngineers  **Figure 2**



NOTES:
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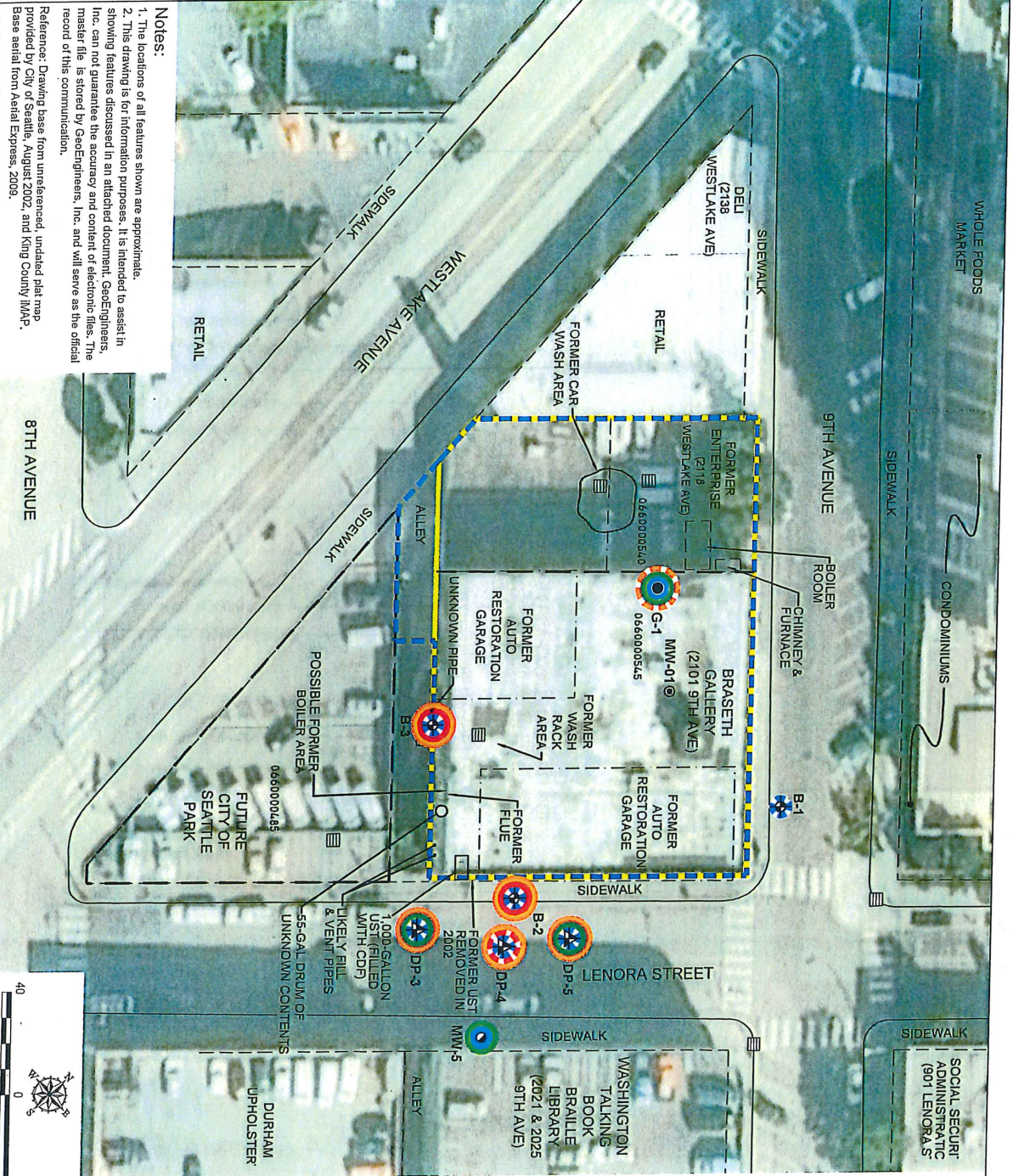
Reference: Drawing base from unreferenced, undated plat map provided by City of Seattle, August 2002, and King County I/MAP Base aerial from Aerial Express, 2009.



Summary of Petroleum Hydrocarbons, PAHs, and Metals Data in Soil
 9th and Lenora Development
 Seattle, Washington

GEOENGINEERS Figure 3

- Legend:**
- Subject Property Boundary
 - Mass Excavation Limits
 - Soil Sample Location
 - U1L9-N
 - DP-1 Direct-Push Boring (GeoEngineers, Sep. 2014)
 - E-2 Soil Boring (GeoEngineers, Dec. 2013)
 - G-1 Monitoring Well (GeoEngineers, Dec. 2013)
 - G-2 Soil Boring (GeoEngineers, Dec. 2013)
 - GE1-7 Soil Boring (GeoEngineers, July 2013)
 - MW-01 Monitoring Well (GeoEngineers, July 2013)
 - GE1-1 Soil Boring (GeoEngineers, July 2007)
 - HA-1 Hand Auger Boring (GeoEngineers, Aug. 2002)
 - B-2 Direct-Push Boring (GeoEngineers, Aug. 2002)
 - MW-5 Orifice Monitoring Well (GeoEngineers, Sep. 1999)
 - (2101 9TH AVE) Property Address
 - 0660000545 Parcel Number
 - UST Underground Storage Tank
 - CPF Controlled Density Fill
 - CUL Applicable MTCA Method A Cleanup Level
 - PAHs Poly/cyclic Aromatic Hydrocarbons
 - Parcel Line
 - Estimated Footprint of Former Structures
 - Petroleum hydrocarbons detected at concentrations above CUL
 - Petroleum hydrocarbons detected at concentrations below CUL
 - PAHs detected at concentrations above CUL
 - PAHs detected at concentrations below CUL
 - Metals detected at concentrations above CUL
 - Benzene detected at concentrations above CUL
 - Benzene detected at concentrations below CUL
 - Interpreted extent of petroleum-contaminated soil with MTCA exceedance
 - Benzene and Gasoline Detected at a concentration greater than the MTCA Method A Cleanup Level
 - Gasoline and Benzene not detected
 - △ Approximate cross section location



Legend:

- Subject Property Boundary
- Mass Excavation Limits
- ▲ Direct-Push Boring (GeoEngineers, Sep. 2014)
- Monitoring Well (GeoEngineers, Dec. 2013)
- Monitoring Well (GeoEngineers, July 2013)
- ⊕ Direct-Push Boring (GeoEngineers, Aug. 2002)
- Offsite Monitoring Well (GeoEngineers, Sep. 1983)
- Catch Basin
- Boiler Room
- Chimney & Furnace
- Property Address
- Parcel Number
- Underground Storage Tank
- Controlled Density Fill
- Applicable MTCA Method A Cleanup Level
- Parcel Line
- Estimated Footprint of Former Structures
- Groundwater Sample from Monitoring Well
- Perched Water Sample from Boring
- Petroleum hydrocarbons detected at concentrations above CUL
- Petroleum hydrocarbons detected at concentrations below CUL
- Metals detected at concentrations above CUL
- Metals detected at concentrations below CUL
- Petroleum hydrocarbons not detected

(2101 9TH AVE) Property Address
0660000545 Parcel Number
UST Underground Storage Tank
CDF Controlled Density Fill
CUL Applicable MTCA Method A Cleanup Level
Parcel Line
Estimated Footprint of Former Structures

Notes:

1. Benzene was not detected in B-1.
2. MW-01 was dry. Monitoring wells G-1 and MW-01 were decommissioned in July 2015, prior to mass excavation.
3. The discrete one-line perched water samples were obtained directly from the boreholes of borings B-2, B-3 in 2002 and DP-3, DP-4, and DP-5 in 2014. These perched water samples should be considered reconnaissance samples. These samples were checked high for metals because all particles were incorporated into the sample bottles and do not represent groundwater conditions at the subject property. Sample G-1 obtained from a monitoring well is representative of groundwater quality, at the subject property. Sample MW-5 obtained from a monitoring well is representative of groundwater quality, at the Lenora Street. See report text for further explanation.

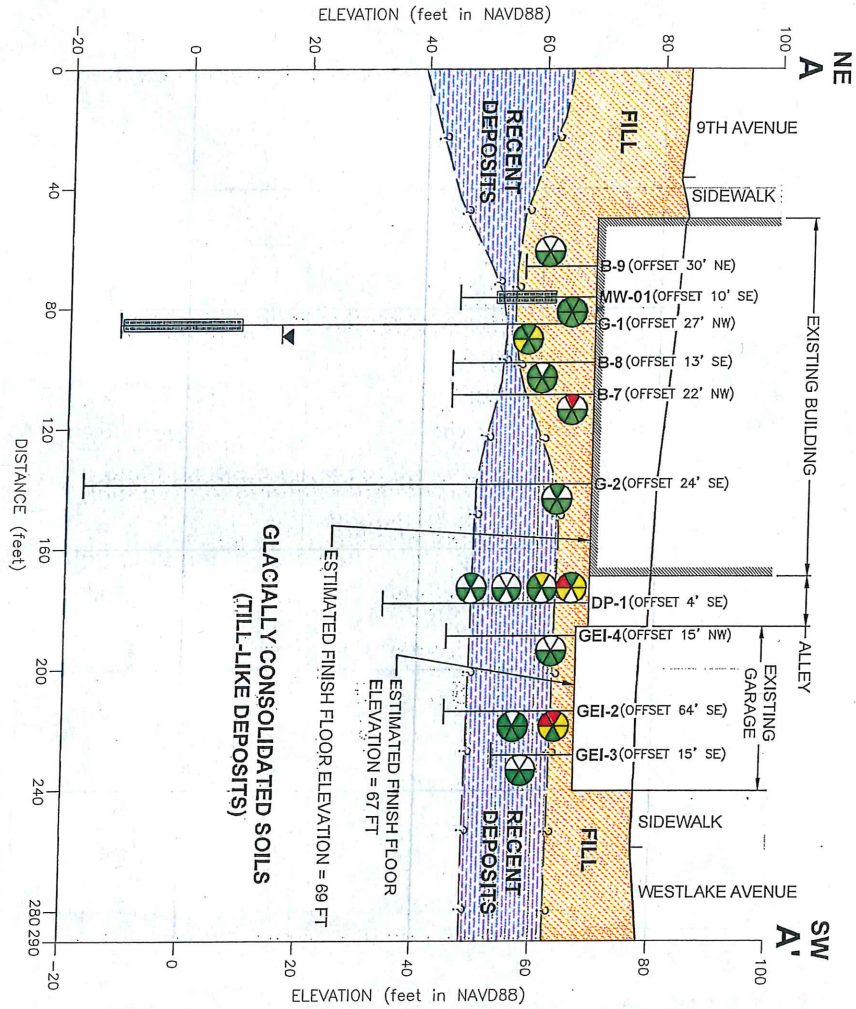
Summary of Petroleum Hydrocarbons and Metals Data in Perched Water and Groundwater
9th and Lenora Development
Seattle, Washington

GEOENGINEERS **Figure 4**

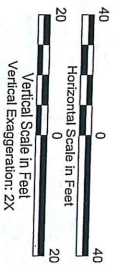
Notes:

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Reference: Drawing base from unreferenced, undated plat map provided by City of Seattle, August 2002, and King County MAP. Base aerial from Aerial Express, 2009.



- Notes:
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 2. Refer to Figure 3 for location of Cross Section.
 3. This figure is for informational purposes only. It is intended to assist in the identification of features discussed in a related document. Data were compiled from sources as listed in this figure. The data sources do not guarantee these data are accurate or complete. There may have been updates to the data since the publication of this figure. This figure is a copy of a master document. The master hard copy is stored by GeoEngineers, Inc. and will serve as the official document of record.



EXPLANATION:

Chemical Analytical Results of Discrete Soil Samples

- PAHs Diesel-Range Petroleum Hydrocarbons
- Metals Gasoline-Range Petroleum Hydrocarbons
- cPAHs Heavy Oil-Range Petroleum Hydrocarbons
- PAHs Detected at a concentration greater than the MTCA Method A Cleanup Level
- Metals Detected at a concentration greater than the MTCA Method A Cleanup Level
- Metals detected at concentrations similar to Natural Background Concentrations.
- Other analyses not detected
- Not Analyzed
- PAHs Polycyclic aromatic hydrocarbons
- cPAHs carcinogenic PAHs

Boring number and approximate location

Groundwater level observed in monitoring well

Perched groundwater observed during drilling

Soil contact

Screen location

Fill

Recent deposits

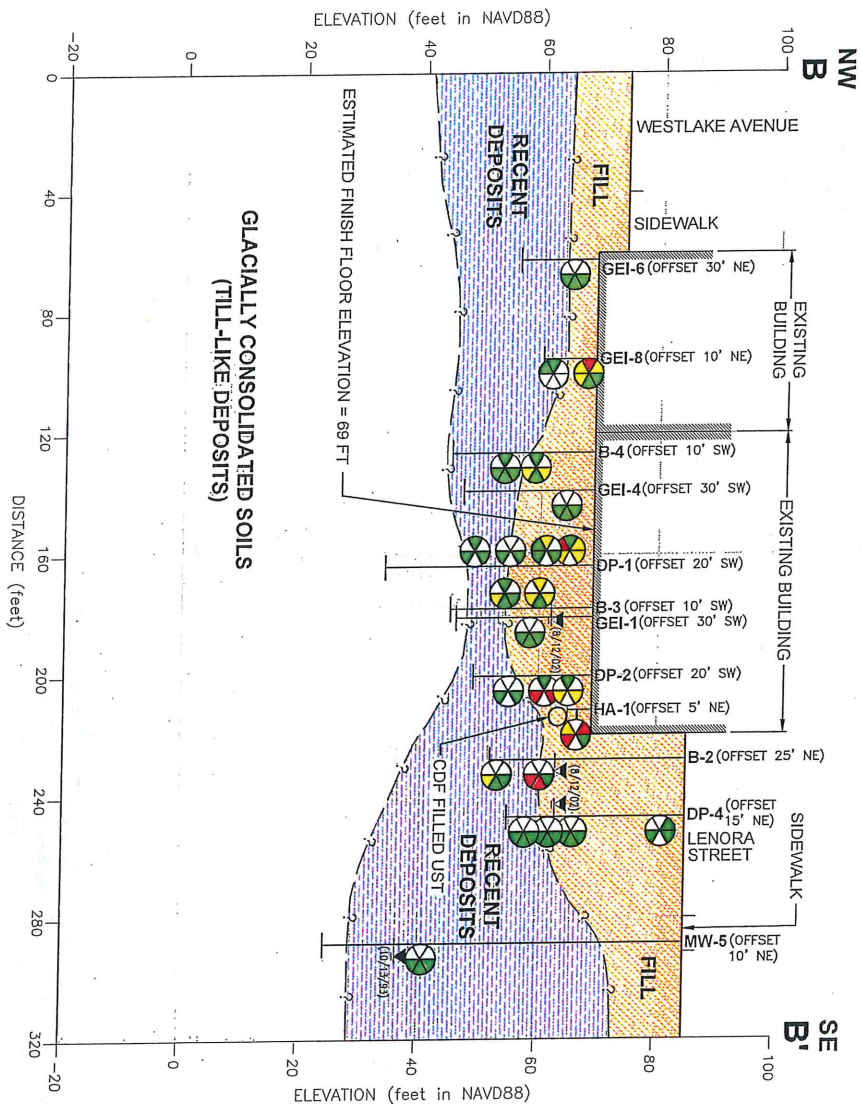
Glacially consolidated soils (till-like deposits)

Cross Section A-A'

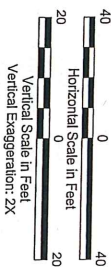
9th and Lenora Development
Seattle, Washington

GEOENGINEERS

Figure 5



- Notes:
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 - Refer to Figure 3 for location of Cross Section.
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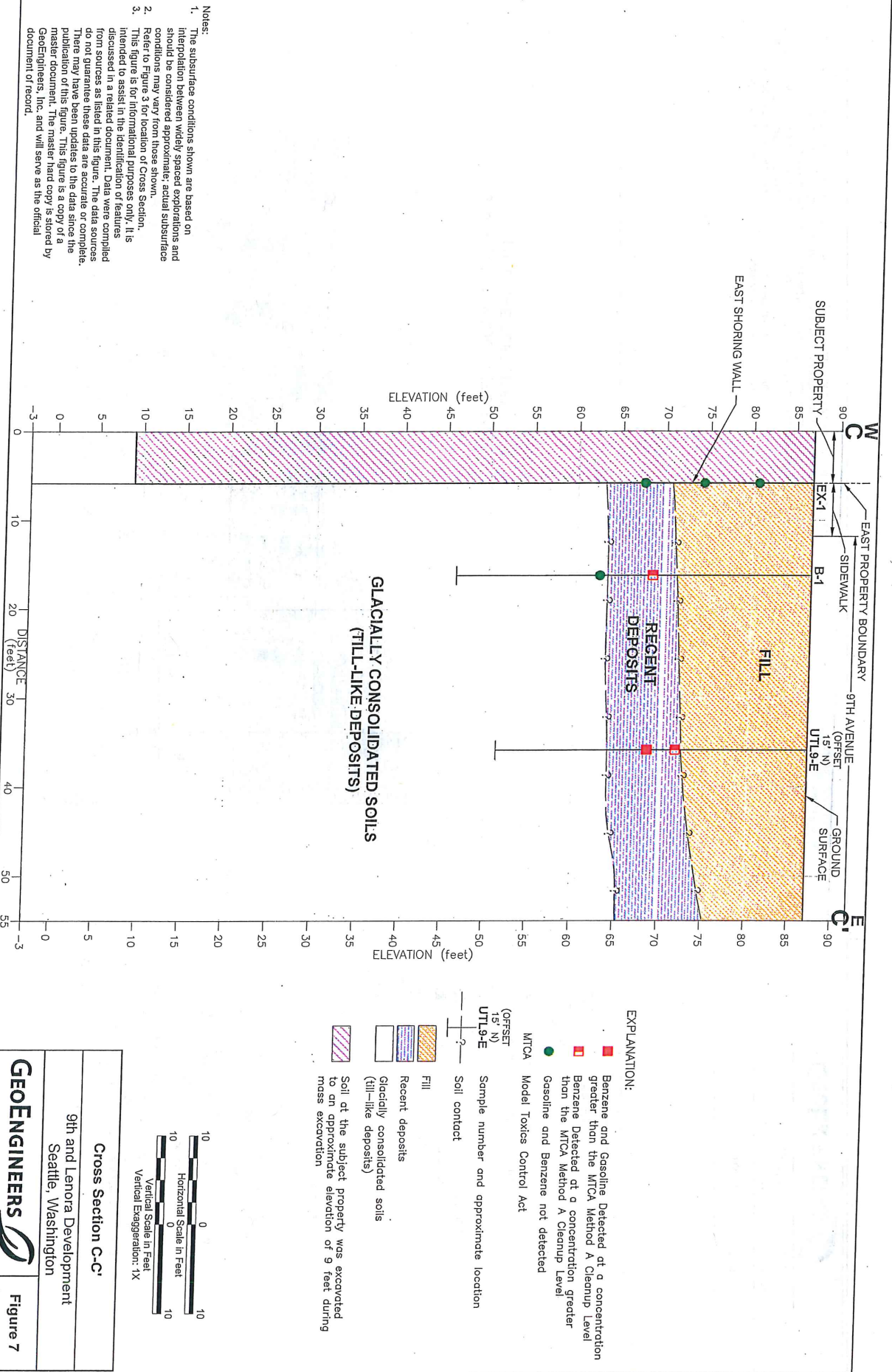
- EXPLANATION:**
- Chemical Analytical Results of Discrete Soil Samples
 - PAHs - Diesel-Range Petroleum Hydrocarbons
 - Metals - Gasoline-Range Petroleum Hydrocarbons
 - cPAHs - Heavy Oil-Range Petroleum Hydrocarbons
 - Detected at a concentration greater than the MITCA Method A Cleanup Level
 - Detected at a concentration less than the MITCA Method A Cleanup Level
 - Metals detected at concentrations similar to Natural Background Concentrations.
 - Other analytes not detected
 - Not Analyzed
 - PAHs - Polycyclic aromatic hydrocarbons
 - cPAHs - Carcinogenic PAHs
 - Boring number and approximate location
 - Groundwater level observed in monitoring well
 - Perched groundwater observed during drilling
 - Soil contact
 - UST - Underground storage tank
 - CDF - Controlled density fill
 - Fill
 - Recent deposits
 - Glacially consolidated soils (till-like deposits)

Cross Section B-B'

9th and Lenora Development
Seattle, Washington

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Figure 6



KEY TO EXPLORATION LOGS

NOTE: The reader must refer to the discussion in the report text and the logs of explorations for a proper understanding of subsurface conditions. Descriptions on the logs apply only at the specific exploration locations and at the time the explorations were made; they are not warranted to be representative of subsurface conditions at other locations or times.

- | | |
|----------------------------------------|-----|
| Percent fines | AL |
| Atterberg limits | CA |
| Chemical analysis | CP |
| Laboratory compaction test | CS |
| Consolidation test | DS |
| Direct shear | HA |
| Hydrometer analysis | MC |
| Moisture content | MD |
| Moisture content and dry density | OC |
| Organic content | PM |
| Permeability or hydraulic conductivity | PI |
| Pocket penetrometer | PP |
| Parts per million | PPM |
| Sieve analysis | SA |
| Triaxial compression | TX |
| Unconfined compression | UC |
| Vane shear | VS |
| Sheen Classification | |
| No Visible Sheen | NS |
| Slight Sheen | SS |
| Moderate Sheen | MS |
| Heavy Sheen | HS |
| Not Tested | NT |

Blowcount is recorded for driven samplers as the number of blows required to advance sampler 12 inches (or distance noted). See exploration log for hammer weight and drop.

A "P" indicates sampler pushed using the weight of the drill rig.

Sampler Symbol Descriptions

- 2.4-inch I.D. split barrel
- Standard Penetration Test (SPT)
- Shelby tube
- Piston
- Direct-Push
- Bulk or grab

NOTE: Multiple symbols are used to indicate borderline or dual soil classifications

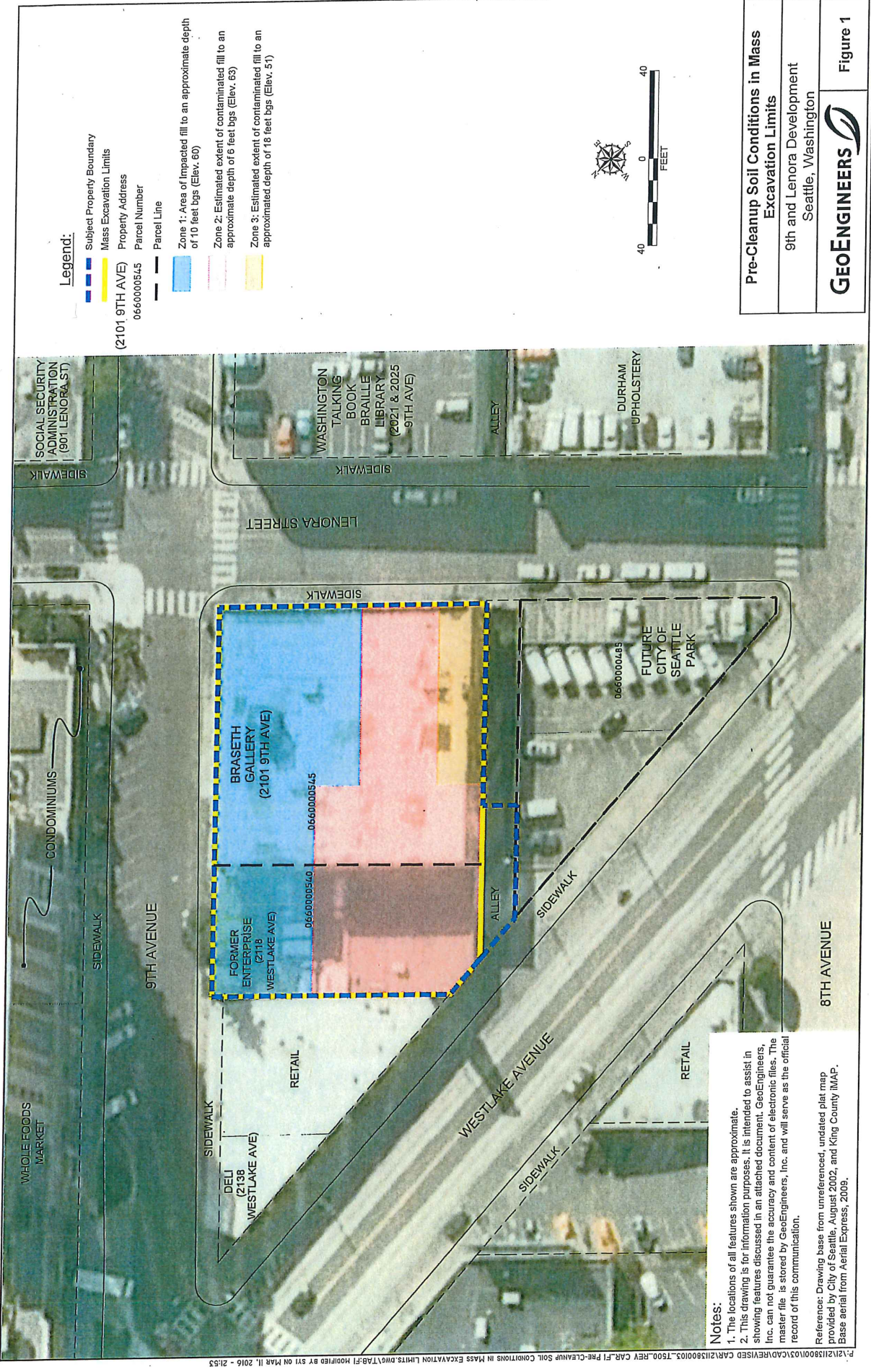
MAJOR DIVISIONS		GRAPH LETTER	DESCRIPTIONS
FINE GRAINED SOILS MORE THAN 50% PASSED NO. 200 SIEVE	SILTS AND CLAYS LIQUID LIMIT 50	OH	ORGANIC CLAYS AND SILTS OF MEDIUM TO HIGH PLASTICITY
		CH	INORGANIC CLAYS OF HIGH PLASTICITY
		MH	INORGANIC SILTS, MICACEOUS OR DIATOMEACEOUS SILTY SOILS
		OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
		CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
	SANDS AND SILTY SANDS MORE THAN 50% OF COARSE FRACTION PASSED NO. 4 SIEVE (APPROXIMATE AMOUNT OF FINES)	ML	INORGANIC SILTS, ROCK FLOOR, CLAY SILTS WITH SLIGHT PLASTICITY
		SC	CLAYEY SANDS, SAND - CLAY MIXTURES
		SM	SILTY SANDS, SAND - SILT MIXTURES
		SP	POORLY-GRADED SANDS, GRAVELLY SAND
		SW	WELL-GRADED SANDS, GRAVELLY SANDS
COARSE GRAINED SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE (APPROXIMATE AMOUNT OF FINES)	GC	CLAYEY GRAVELS, GRAVEL - SAND MIXTURES	
	GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES	
	GP	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES	
	GW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES	
	GW	CLEAN GRAVELS (LITTLE OR NO FINES)	
	GW	CLEAN GRAVELS WITH FINES (APPROXIMATE AMOUNT OF FINES)	
HIGHLY ORGANIC SOILS		PT	PEAT HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

Laboratory / Field Tests

- Measured groundwater level in exploration, well, or piezometer
- Measured free product in well or piezometer
- Graphic Log Contact**
 - Distinct contact between soil strata or geological units
 - Approximate location of soil strata change within a geological soil unit
- Material Description Contact**
 - Distinct contact between soil strata or geological units
 - Approximate location of soil strata change within a geological soil unit

ADDITIONAL MATERIAL SYMBOLS		SYMBOLS	GRAPH LETTER	DESCRIPTIONS
Asphalt Concrete	AC			
Cement Concrete	CC			
Crushed Rock/Quarry Spalls	CR			
Topsoil/Forest Duff/Sod	TS			

SOIL CLASSIFICATION CHART



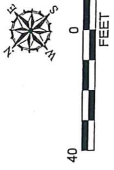
Legend:

- Subject Property Boundary
- Mass Excavation Limits
- Property Address (2101 9TH AVE)
- Parcel Number 0660000545
- Parcel Line

Zone 1: Area of impacted fill to an approximate depth of 10 feet bgs (Elev. 60)

Zone 2: Estimated extent of contaminated fill to an approximate depth of 6 feet bgs (Elev. 63)

Zone 3: Estimated extent of contaminated fill to an approximated depth of 18 feet bgs (Elev. 51)



Notes:

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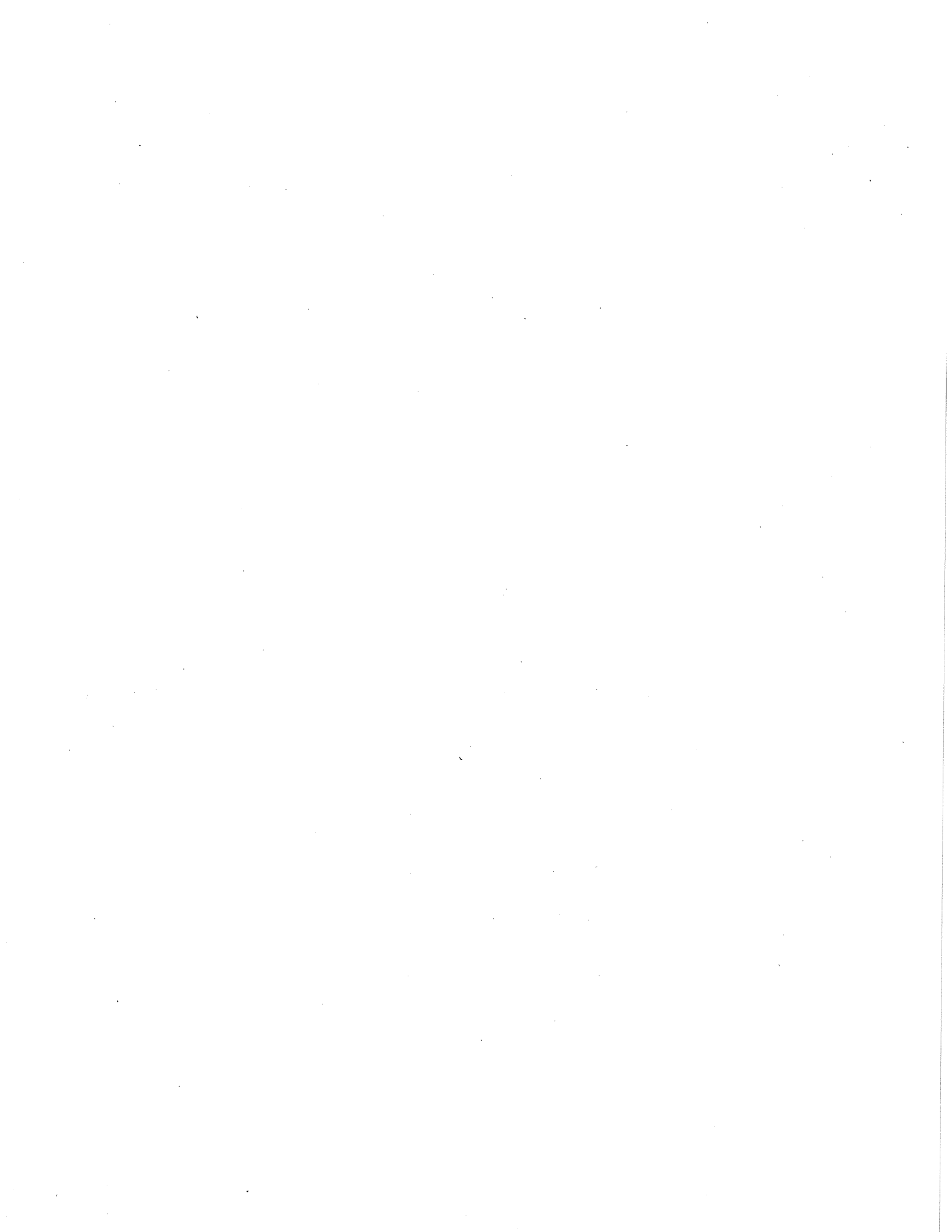
Reference: Drawing base from unreferenced, undated plat map provided by City of Seattle, August 2002, and King County IMAP. Base aerial from Aerial Express, 2009.

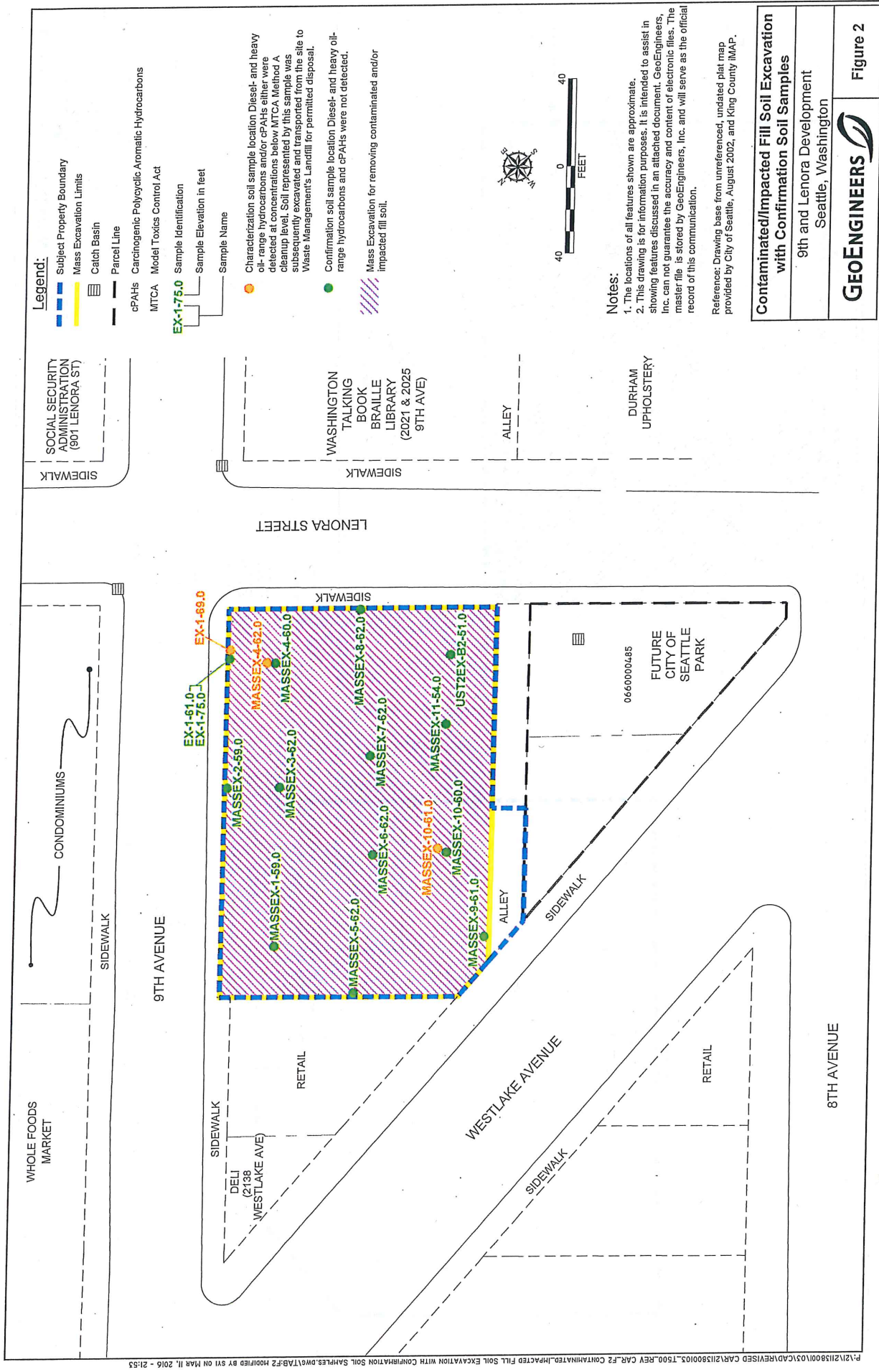
Pre-Cleanup Soil Conditions in Mass Excavation Limits

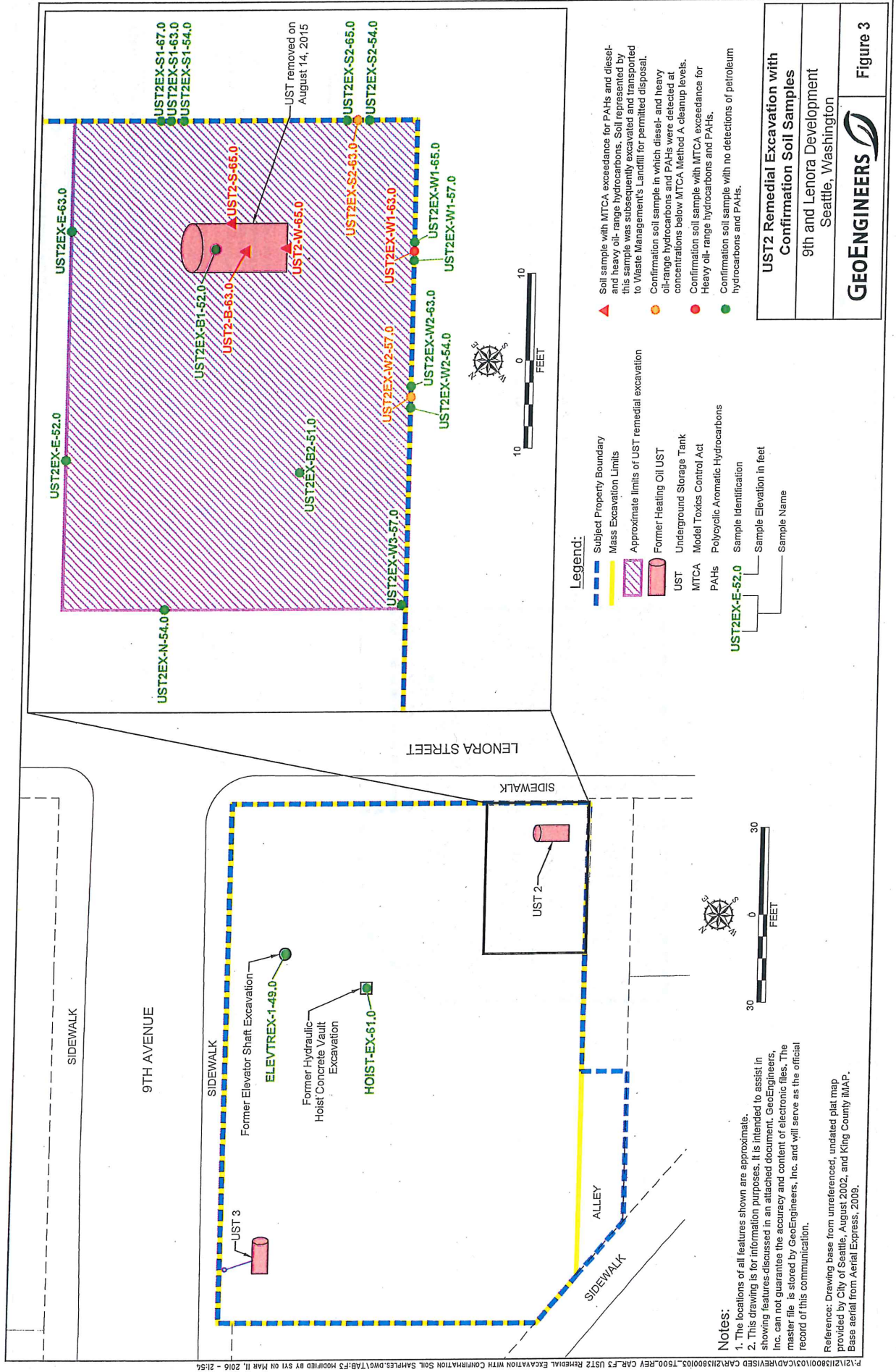
9th and Lenora Development
Seattle, Washington

GEOENGINEERS

Figure 1







UST2 Remedial Excavation with Confirmation Soil Samples
 9th and Lenora Development
 Seattle, Washington
GEOENGINEERS
 Figure 3

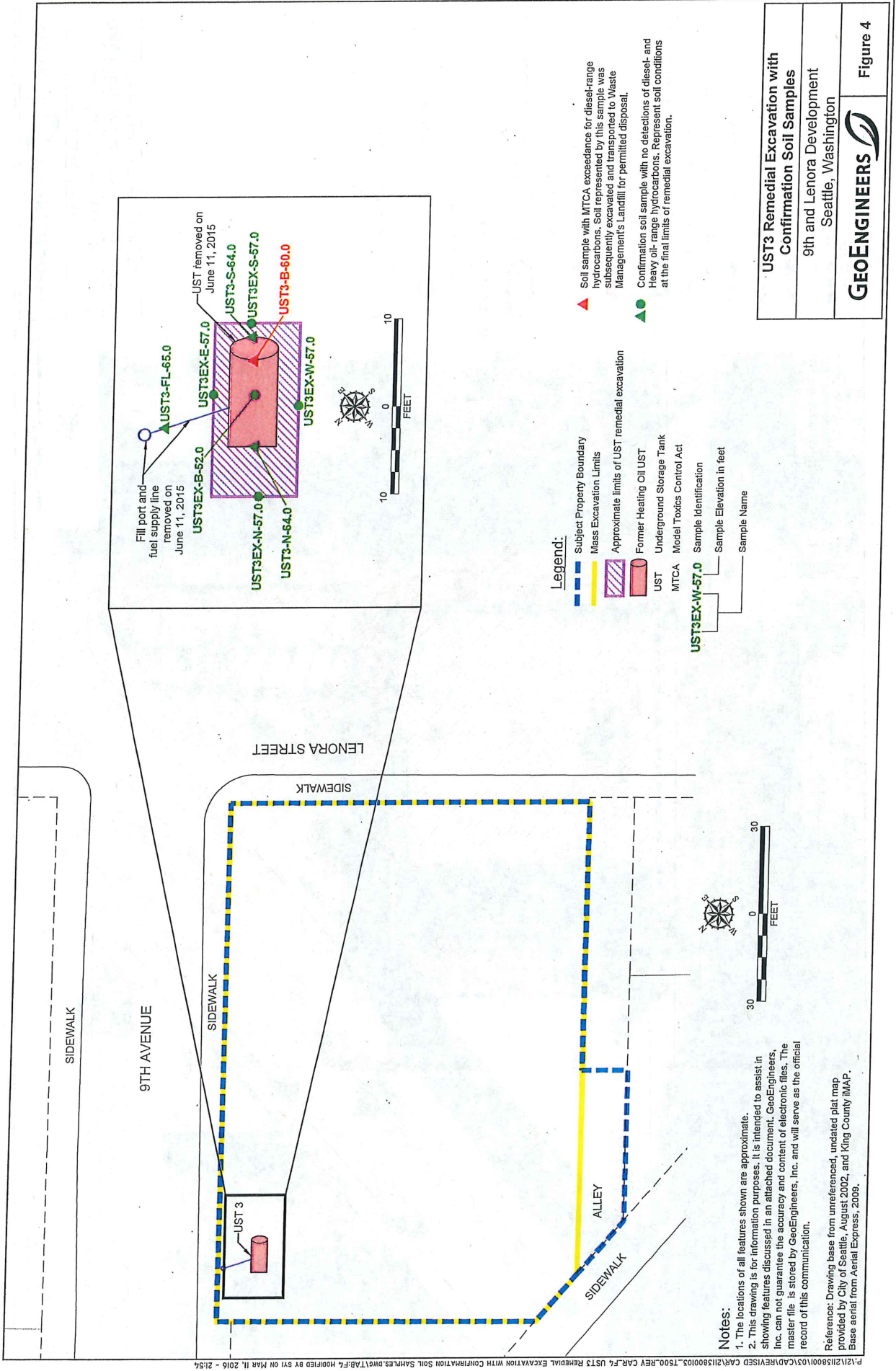
Legend:

- Subject Property Boundary
- Mass Excavation Limits
- Approximate limits of UST remedial excavation
- Former Heating Oil UST
- UST
- MTC A Undergroud Storage Tank
- MTC A Model Toxics Control Act
- PAHs Polycyclic Aromatic Hydrocarbons
- Sample Identification
- Sample Elevation in feet
- Sample Name

Notes:

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Reference: Drawing base from unreferenced, undated plat map provided by City of Seattle, August 2002, and King County IMAP. Base aerial from Aerial Express, 2009.



P:\12171360\00105\AD\REVISED CAR\11360012_1500_REV CAR\F4_UST3 Remedial Excavation with Confirmation Soil Samples.dwg(TAB\F4 MODIFIED BY SYI ON MAR 11, 2016 - 21:54)

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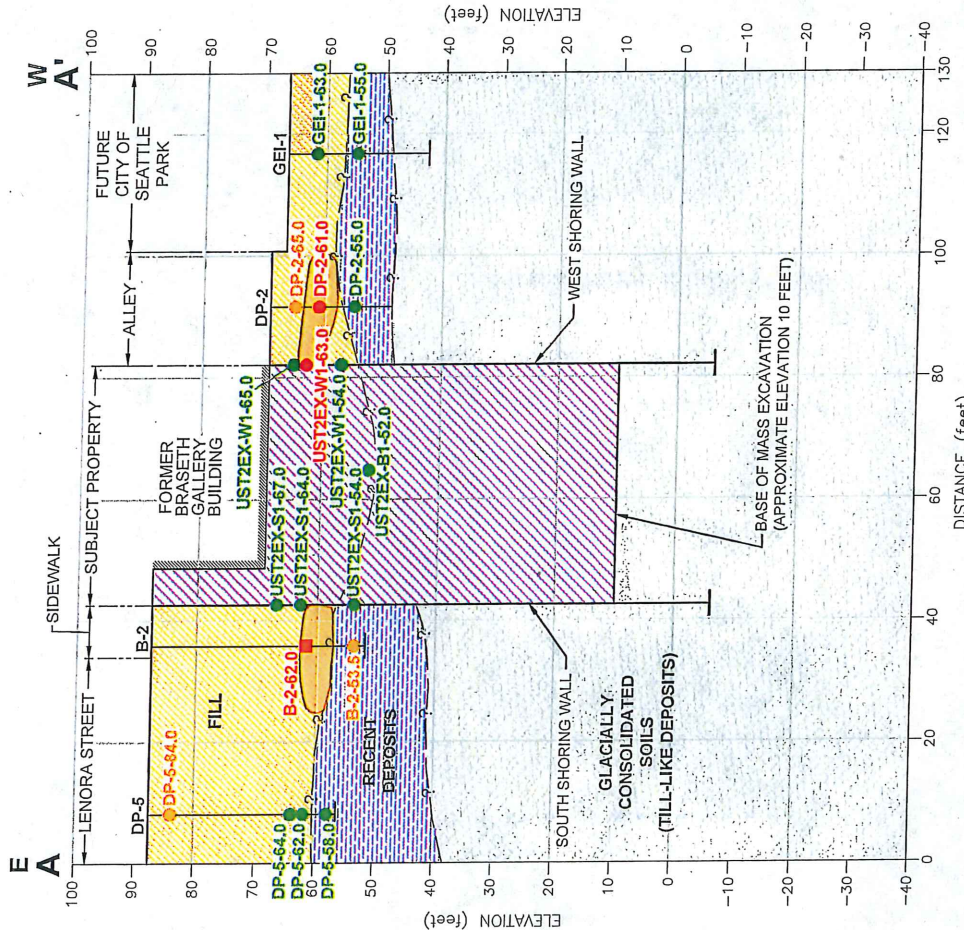
Reference: Drawing base from unreferenced, undated plot map provided by City of Seattle, August 2002, and King County IMAF. Base aerial from Aerial Express, 2009.

UST3 Remedial Excavation with Confirmation Soil Samples	
9th and Lenora Development Seattle, Washington	
GEOENGINEERS	Figure 4

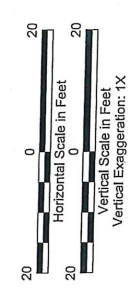
▲ Soil sample with MTCA exceedance for diesel-range hydrocarbons. Soil represented by this sample was subsequently excavated and transported to Waste Management's Landfill for permitted disposal.

● Confirmation soil sample with no detections of diesel- and Heavy oil- range hydrocarbons. Represent soil conditions at the final limits of remedial excavation.

- Legend:**
- Subject Property Boundary
 - Mass Excavation Limits
 - Approximate limits of UST remedial excavation
 - Former Heating Oil UST
 - UST
 - MTCA
 - Model Toxics Control Act
 - Sample Identification
 - Sample Elevation in feet
 - Sample Name
- UST3EX-W-57.0**



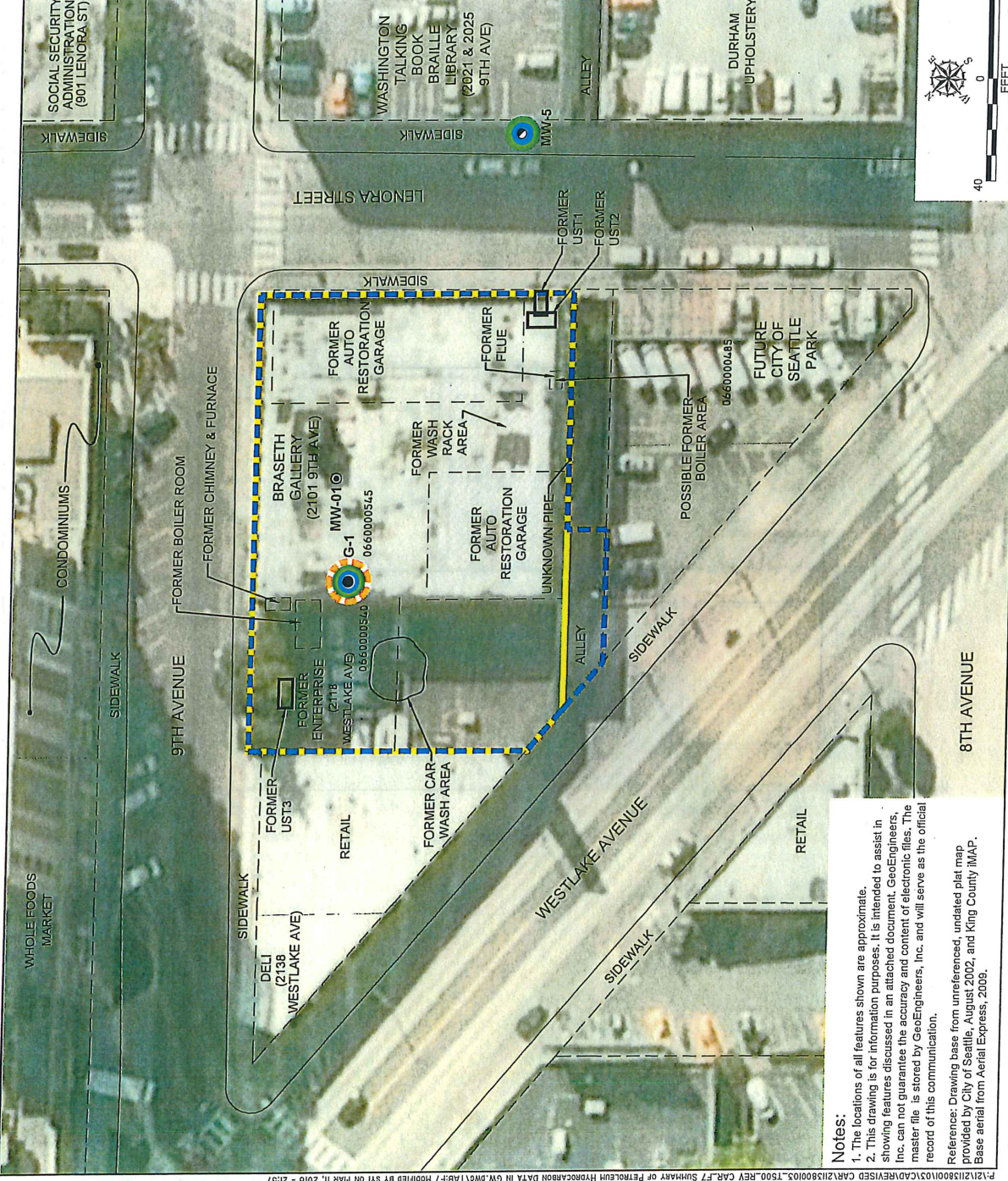
- Legend**
- Soil sample with gasoline- and heavy oil-range hydrocarbons and Toluene detections greater than MTCA Method A Cleanup Levels
 - Soil sample with MTCA exceedance for diesel- and heavy oil-range hydrocarbons and PAHs
 - Soil sample with petroleum hydrocarbons and PAHs detections less than MTCA Method A Cleanup Levels
 - Soil sample non-detect for petroleum hydrocarbons and PAHs
 - MTCA
 - PAHs
 - Model Toxics Control Act
 - Polycyclic aromatic hydrocarbons
 - DP-2
 - Exploration and approximate location
 - Soil contact
 - Approximate thickness of residual MTCA exceeding petroleum hydrocarbons and PAHs contaminated soil
 - Fill
 - Recent deposits
 - Glacially consolidated soils (till-like deposits)
 - Former Braseh Gallery building was demolished and soil at the subject property was excavated to an approximate elevation of 7 feet during mass excavation



Cross Section A-A'
 9th and Lenora Development
 Seattle, Washington
GEOENGINEERS
 Figure 6

Notes:

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Legend:

- Subject Property Boundary
- Mass Excavation Limits
- G-1 ● Monitoring Well (GeoEngineers, Dec. 2013)
- MW-01 ● Monitoring Well (GeoEngineers, July 2013)
- MW-5 ● Offsite Monitoring Well (GeoEngineers, Sep. 1993)
- (2101 9TH AVE) Property Address
- 0660000545 Parcel Number
- UST Underground Storage Tank
- CUL Applicable MTCA Method A Cleanup Level
- Estimated Footprint of Former Structures
- Groundwater Sample from Monitoring Well
- Metals detected at concentrations below CUL
- Petroleum hydrocarbons not detected

Notes:

1. Benzene was not detected in B-1.
2. MW-01 was dry. Monitoring wells G-1 and MW-01 were decommissioned in July 2015, prior to mass excavation.
3. The discrete, one-time perched water samples were obtained directly from the boreholes of borings B-2, B-3 in 2002 and DP-3, DP-4, and DP-5 in 2014. These perched water samples should be considered reconnaissance samples. These samples were biased high for metals because silt particles were incorporated into the sample bottles and do not represent groundwater conditions at the subject property. Sample G-1 obtained from a monitoring well is representative of groundwater quality, at the subject property. Sample MW-5 obtained from a monitoring well is representative of groundwater quality, at the Lenora Street. See report text for further explanation.

Summary of Petroleum Hydrocarbons and Metals Data in Groundwater
 9th and Lenora Development
 Seattle, Washington

GEOENGINEERS
 Figure 7

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