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DEPARTMENT OF ECOLOGY

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June 23, 2021

Laurie Goldman
Muscatel Midway Properties, LLC
PO Box 826
Mercer Island, WA 98040
(muskygold@gmail.com)

Re: Opinion pursuant to WAC 173-340-515(5) on Remedial Action for a Property associated with a Site:

- **Property Address:** 23418 Pacific Highway South, Kent, Washington 98032
- **Site Name:** Southgate Oil – Muscatel Midway
- **Facility/Site No.:** 84946863
- **Cleanup Site ID:** 6762
- **VCP Project No.:** NW3309

Dear Laurie Goldman:

The Washington State Department of Ecology (Ecology) received your request for an opinion on work completed at the Southgate Oil Site, Muscatel Midway Unit (Property). This letter provides our opinion. We are providing this opinion under the authority of the Model Toxics Control Act (MTCA), Chapter 70A.305 RCW.

Issue Presented and Opinion

Pursuant to completion of the Site characterization and remedial action described in the *Summary Report Subsurface Investigation and Cleanup Action*, dated March 5, 2021 (*March 2021 SSI CAP*), is additional work necessary to resolve data gaps?

YES. Ecology has determined that further soil and groundwater characterization is necessary at the Property. Depending on the results, further remedial action may be needed at the Property.

Description of the Property and the Site

1. Description of the Property.

The Property includes the following tax parcel in King County, which were addressed by your cleanup:

- King County parcel 2500600465.

Enclosure A includes a legal description of the Property.

The Property is located within the boundary of the Southgate Oil facility (Site). Under MTCA, a site is defined by the nature and extent of contamination associated with releases of the hazardous substances prior to any cleanup of that contamination. Based on this definition and data from Site characterization, the Southgate Oil Site includes two King County parcels. Independent cleanup on the two parcels was conducted separately; therefore Ecology will manage the Site cleanup in the following two separate units of the Site:

- “Muscatel Midway” Unit: This unit covers the cleanup on the Property located at 23418 Pacific Highway South, Kent. Ecology is providing technical assistance and opinions regarding the cleanup on this Property under the current Voluntary Cleanup Program (VCP) #NW3309.
- “Southgate Oil” Unit: This unit covers the cleanup on King County parcel 25000600480. This parcel is located immediately south of the Property, and is referred to as “south property” in this opinion letter. This unit was enrolled in VCP from 2002 through 2006, under a VCP #NW0982. The VCP agreement associated with #NW0982 was terminated on June 9, 2006.

Ecology’s current opinion applies only to the Property, or the “Muscatel Midway” Unit of the Site. This opinion does not apply to the south property, or the “Southgate Oil” Unit of the Site.

2. Description of the Site.

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

- Gasoline-, diesel-, and heavy oil-range petroleum hydrocarbons (TPHg, TPHd, TPHo), benzene, xylenes, methylene chloride, naphthalenes, carcinogenic polycyclic aromatic hydrocarbons (cPAHs), cadmium, lead, and/or mercury into the Soil.

As stated above, the Site includes the Property (“Muscatel Midway” Unit) and the south property (“Southgate Oil” Unit). The contaminants listed above include the all the contaminants that have been detected at the Site, on both properties.

Based on the current Site characterization data, the contaminants of concern (COCs) identified on the Property include TPHg, TPHd, TPHo, and benzene. Other contaminants were only confirmed on the south property, and are not currently considered COCs for the Property.

Please note further Site characterization may identify additional COCs for the Property.

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

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

Please note the Property is also located within the projected boundaries of the Tacoma Smelter Plume facility (Ecology facility No. 66948686). Based on Ecology’s Online Map database¹, the surface soil at the Property and the vicinity may contain up to 100 milligrams per kilogram (mg/kg) of arsenic. However, the shallow soil samples collected at the Property to date do not contain arsenic concentrations above the MTCA Method A soil cleanup level of 20 mg/kg.

This opinion does not apply to any contamination associated with the Tacoma Smelter Plume facility.

Basis for the Opinion

This opinion is based on the information contained in the documents listed in **Enclosure C**. A number of these documents are accessible in electronic form from the Site webpage². The complete records are stored in the Central Files of the Northwest Regional Office of Ecology (NWRO) for review by appointment only. Visit our Public Records Request page³ to submit a public records request or get more information about the process. If you require assistance with this process, you may contact the Public Records Officer at publicrecordsofficer@ecy.wa.gov or 360-407-6040.

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

¹ [Dirt Alert \(wa.gov\)](http://Dirt.Alert(wa.gov))

² [Site Information \(wa.gov\)](http://Site.Information(wa.gov))

³ <https://ecology.wa.gov/About-us/Accountability-transparency/Public-records-requests>

Analysis and Opinion

Based on a review of the *March 2021 SSI CAP*, Ecology has determined the following:

1. Soil contamination on the Property that is sourced from the Southgate Oil Site is sufficiently characterized and remediated.

The currently known soil contamination on the Property is sourced from the Site (Southgate Oil Site), which is associated with a bulk fuel distribution facility that formerly operated on the south property for approximately 75 years until early 2000.

Subsurface investigations confirmed the petroleum hydrocarbon contamination has migrated from the south property to the Property. Petroleum-contaminated soil was present on the southern portion of the Property, extending to approximately 15 feet below ground surface (bgs). Shallow petroleum-contaminated soil was also present on the southeast corner of the Property in the upper 4 feet.

Soil samples collected on the Property were analyzed for TPHg, TPHd, TPHo, benzene, toluene, ethylbenzene, xylenes (BTEX), other volatile organic compounds (VOCs), cPAHs, and metals. The analysis meets the required testing per WAC 173-340-900, Table 830-1. The soil COC identified on Property include TPHg, TPHd, TPHo, and benzene.

Remedial excavations were conducted on Property to remove the petroleum-contaminated soil:

- In January 2019, approximately 166 tons of contaminated soil was removed from the southern portion of the Property to a maximum depth of 15 feet bgs. The excavation did not continue to the south due to the presence of a retaining wall along the southern Property boundary.
- In February 2019, a small amount of contaminated soil was removed from the southeast corner of the Property to a maximum depth of 4 feet bgs.
- In August 2020, as part of the cleanup action on the south property, the retaining wall was removed. Approximately 200.4 tons of residual contaminated soil that was previously present underneath the retaining wall was removed to a maximum depth of 12 feet bgs.

Confirmation soil samples collected from the final extents of the excavations contained COCs concentrations below the MTCA Method A soil cleanup levels. Therefore, after the remedial excavations, it appears that all known contaminated soil that is associated with the Southgate Oil Site has been removed from the Property.

2. Additional soil sampling is needed to characterize the potential impact from on-Property contamination sources that are not related to the Site.

A Phase I Environmental Site Assessment discovered potential on-Property sources that are not related to the Site (Southgate Oil Site) may have contributed to the contamination. These on-Property sources include a gasoline service station with a possible auto repair garage that historically operated on the southwest corner of the Property in the 1930s and 1940s, and a dry cleaners that formerly operated on the central portion of the Property from possibly as early as 1970 until at least 2008.

Soil samples were collected on the southwest corner of the Property, in the area of the former service station. One soil sample collected at 2.5 to 3.5 feet bgs contained a TPHo concentration above the MTCA Method A soil cleanup level. This soil contamination could be associated with the former service station, or a result of surface release from on- or off-Property operations, or migration from the south property. The lateral and vertical extent of the soil contamination was sufficiently characterized, and the contaminated soil was removed from the Property.

The former dry cleaners was located in a tenant space on the central portion of the Property. Soil samples were not collected from the immediate vicinity of the former dry cleaners due to the presence of the current building. Soil samples collected from north of the building did not contain detectable volatile organic compounds (VOCs). However, two soil samples collected east and south of the building contained low concentrations of tetrachloroethene (PCE), below the MTCA Method A soil cleanup level. Among them, one soil sample was collected east of the building near a sanitary sewer line, the other was collected near a loading dock south of the building. These low PCE concentrations could be associated with the former dry cleaners.

It is Ecology's opinion that additional soil characterization is needed to determine the potential impact from the former dry cleaners. The soil characterization can be coupled with the groundwater characterization that is discussed below.

3. Perched groundwater condition beneath the Property needs to be characterized.

Ecology generally requires groundwater evaluation before considering a No Further Action (NFA) determination, unless there is clear evidence that groundwater contamination is unlikely. This evidence may include (1) verifiable records that the releases are limited; (2) soil testing indicating the soil contamination has not significantly migrated; (3) predominance of fine textured soils without interconnected coarse deposits; (4) considerable depth to groundwater; (5) products less prone to migration⁴. It is

⁴ Ecology, *Guidance for Remediation of Petroleum Contaminated Sites, Toxics Cleanup Program*, Publication No. 10-09-057, Revised June 2016; [Guidance for Remediation of Petroleum Contaminated Sites \(wa.gov\)](https://www.wa.gov/government/programs/remediation/guidance-for-remediation-of-petroleum-contaminated-sites)

Ecology's opinion that the groundwater on the Property is not sufficiently characterized to provide such evidence.

Continuous regional groundwater appears to occur at elevations of approximately 230 to 300 feet above mean sea level (amsl)^{5,6,7}. However, there appears to be a shallow and discontinuous perched groundwater layer present at elevations of approximately 330 to 390 feet amsl^{5,8,9}. The presence/absence of the perched groundwater, as well as the perched groundwater elevations, are variable depending on the local geology.

Groundwater was reportedly not encountered on Property to the total explored depth of 31 feet bgs. However, in a geotechnical boring advanced approximately 60 feet east of the Property (FWLE-D01P), groundwater was observed at approximately 58 feet bgs. The observed groundwater is likely the perched groundwater near the Property. It is possible that perched groundwater is present in areas of historic soil contamination, at depths of approximately 50 to 60 feet bgs, or shallower.

Petroleum hydrocarbon contaminated soil has migrated from south property to the Property. Before the remedial excavations, the contaminated soil was present at depths as deep as 30 feet bgs on the south property, and 15 feet bgs on the Property. The separation between the contaminated soil and the potential perched groundwater is likely less than 50 feet. In addition, low concentrations of PCE were detected in soil on the Property between 17.5 and 20.5 feet bgs. Assessment of groundwater on properties where dry cleaning chemicals (chlorinated solvents) were used is critical, due to the fate and transport properties of these chemicals.

Therefore, groundwater evaluation is needed to determine if the contaminated soil associated with the Site (Southgate Oil Site), or the dry cleaning business formerly located on the Property has impacted the quality of the shallow perched groundwater, if present.

Ecology recommends the following groundwater evaluation:

- Install sufficient number of temporary or permanent monitoring wells to at least 60 feet bgs, to assess the presence/absence of groundwater. These wells can be installed near the known soil contamination along the southern Property boundary, and as close as possible to the former dry cleaners and sewer lines.

⁵ United States Environmental Protection Agency, Region 10, *Second Five-Year Review Report for Midway Landfill Superfund Site, Kent, Washington*, September 2010.

⁶ King County, *Potentiometric Surface in the Qva Aquifer and Water Levels in the Qal Aquifer South King County Groundwater Management Area*; [0002SKCgwtrPLATE3a.pdf \(kingcounty.gov\)](#)

⁷ Arcadis, *Annual Site Status Report 2013, ARCO Facility No. 04484, 24001 Pacific Highway South, Kent, Washington 98626*, February 10, 2013.

⁸ Conestoga-Rovers & Associates, *Cleanup Action Reports, Shell-branded Wholesale Facility, 23419 Pacific Highway, Des Moines, Washington*, March 21, 2011.

⁹ AECOM, *2018 Annual Groundwater Monitoring Report, Shell-branded Retail Service Station, 23031 Pacific Highway South, Des Moines, Washington*, May 15, 2019.

- Soil samples should be collected during well installation to determine the potential impact from on-Property sources, especially the former dry cleaner facility.
- Groundwater samples should be collected if groundwater is encountered in the monitoring wells.
- Groundwater samples, if collected, should be analyzed for TPHg, TPHd, TPHo, dissolved lead, and VOCS including BTEX and halogenated VOCs, to determine the potential impact from the contamination sources on- and off-Property.
- Please note, when reporting TPHd and TPHo analytical results, the cleanup level (i.e. 500 micrograms per liter, µg/L) should be compared with the sum of the TPHd and TPHo concentrations in each sample^{4,10}.
- If any of the potential COCs are detected at concentrations above the MTCA Method A groundwater cleanup levels, additional monitoring wells may be needed to delineate the contaminated groundwater plume. Continued monitoring will be required and possibly remedial action to bring the groundwater into compliance.

4. An Environmental Covenant (EC) on the Property may not be needed.

The *March 2021 SSI CAP* proposes an Environmental Covenant (EC) as a cleanup action for the Property. The cleanup action was proposed when residual soil contamination was still present underneath a retaining wall along the southern Property boundary.

Ecology has recently received a *Soil Characterization and Remediation Report, Parcel FL209*, dated January 26, 2020. The report documented the cleanup action recently completed on the south property. As part of the south property cleanup, the retaining wall was removed, and the remaining contaminated soil along the southern Property boundary was removed from the Property.

After the additional excavation, all the known contaminated soil associated with the Site has been removed from the Property. Therefore, an EC does not appear to be necessary, as residual contaminated soil is no longer present on the Property.

5. Data submittal to Environmental Information Management (EIM) database is needed.

¹⁰ Ecology, *Determining Compliance with Method A Cleanup Levels for Diesel and Heavy Oil, Implementation Memorandum #4, Publication 04-09-086*, June 2004; [Implementation Memorandum #4 Determining Compliance with Method A Cleanup Levels for Diesel and Heavy Oil \(wa.gov\)](#)

Electronic submittal of all sampling data collected in and post-2005 into Ecology's electronic EIM database is a requirement in order to receive a final Ecology opinion for this Site. Gaylen Sinclair (email Gaylen.Sinclair@ecy.wa.gov, or via telephone at 360-407-6496) is Ecology's contact and resource on entering data into EIM.

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**:

- 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.180.

Contact Information

Thank you for choosing to clean up the Site under the Voluntary Cleanup Program (VCP). After you have addressed our concerns, you may request another review of your cleanup. Please do not hesitate to request additional services as your cleanup progresses. We look forward to working with you.

Laurie Goldman

June 23, 2021

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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, please contact me by phone at (206) 594-0100 or by email at jing.song@ecy.wa.gov.

Sincerely,



Jing Song
Site Manager
Toxics Cleanup Program, NWRO

Enclosures (3): A – Legal Description of the Property
 B – Description and Diagrams of the Site (including the Property)
 C – Basis for the Opinion: List of Documents

cc: Javan Ruark, Farallon Consulting LLC (jruark@farallonconsulting.com)

Enclosure A

Legal Description of the Property

Plat Block: 5

Plat Lot: POR 5-6-7

FEDERAL HIGHWAY ADDITION LOTS 5, 6 AND 7 BLK 5 EXC ELY 10 FT IN WIDTH OF SAID LOT 5 CONVEYED TO STATE OF WA FOR STATE HIGHWAY NO 1 BY DEED UNDER RECORDING NO 5025702; AND EXC WLY 12.00 FT OF S 20.00 FT OF N 34.40 FT (AS MEASURED ALONG WLY LINE) OF LOT 5 CONVEYED TO CITY OF KENT BY DEED UNDER RECORDING NO 20031216000206

Enclosure B

Description and Diagrams of the Site

Site Description

This enclosure provides Ecology's understanding and interpretation of Site conditions and forms the basis for the opinions expressed in the letter.

Site: The Property is defined as one 2.27-acre King County parcel, with a parcel number 2500600465, and a street address 23418 Pacific Highway South in Kent, King County, Washington. The Property is located between Pacific Highway South (State Route 99) and 30th Avenue South, approximately 500 feet south of Kent Des Moines Road (State Route 516).

The Property is part of the Southgate Oil facility (Site). Based on the Site characterization, the Site includes the Property, and a property immediately south of the Property, located at 23428 Pacific Highway, King County parcel 2500600480 (south property). The south property was operated as a former bulk fuel distribution facility, and is the source of the Site. The contamination sourced from the south property has migrated to the Property. The locations of the Property and south property are depicted on **Figure 1**.

Ecology considers the cleanup on the Property and south property as two separate units of the Site. The cleanup on the Property is managed under the "Muscatel Midway" Unit of the Site; the cleanup on the south property is managed under the "Southgate Oil" Unit of the Site. The current opinion letter (under VCP #NW3309) only applies to the cleanup on the Property. Based on Site investigation data, the COCs currently identified on the Property include TPHg, TPHd, TPHo, and benzene.

Area and Property Description: The Property is located within a mixed commercial and light industrial used area in Kent. The greater vicinity of the Property is occupied primarily by commercial developments. The Property is bounded:

- To the North by a strip mall (Sherwin-Williams Paint store, a White Snow Laundry, and a Tacos San Juan restaurant). Kent Des Moines Road (State Route 516) is located further north.
- To the South by a vacant lot (south property) and other vacant commercial lots. The south property has been obtained by Sound Transit for light rail facilities construction.
- To the East by 30th Avenue South. A motel is located further northeast, and a vacant lot is located further east. Beyond those is Interstate 5.
- To the West by Pacific Highway South (State Route 99) and retail shops. Further west are multifamily residential developments.

Property History and Current Use: The Property is currently owned by Muscatel Midway Properties. Sound Transit is in the process of acquiring a strip of Property adjacent to the eastern Property boundary, and a small area on the southwest corner of the Property, for light rail facilities construction.

The Property is currently developed with a one-story multi-tenant commercial building on the southern half, and a paved parking lot on the north. The building was originally built in 1962. The western portion of the building was damaged by a fire in November 2016; the damaged portion of the building was demolished in late 2017 and has been rebuilt.

A gasoline service station with a possible auto repair garage historically operated on the southwest corner of the Property in the 1930s and 1940s¹. There are no historic records pertaining to fuel underground storage tank (UST) removals. The service station also may have used a heating oil tank. The service station garage may have been connected to a septic system. A limited geophysics investigation using electromagnetics (EM) performed in December 2017 did not report a finding of undocumented USTs².

A dry cleaners facility formerly operated in a tenant space on Property from as early as 1970 until at least 2008. At least three different dry cleaners business names were identified: Jet Dry Cleaners from 1970 through 1983, Aero Dry Cleaners from at least 1985 through 1995, and Kings Cleaners from 1996 through 2009. Kings Cleaners was a small quantity generator of hazardous waste between 1995 and 1998, with no reported violations or releases. A historic drawing of the dry cleaners indicated a floor drain in the central portion of the tenant space.

The current layout of the Property, as well as the locations of the former service station and dry cleaner, are depicted on **Figure 2**.

The south property formerly operated as a bulk fuel distribution facility for approximately 75 years, most recently under the business name of Southgate Oil. The facility stopped distributing fuel in or around 1999. The facility included at least 11 USTs, multiple fuel dispensers, and an auto repair garage. These USTs were reportedly used to store gasoline, diesel, and heating oil, with storage capacities from 275 gallons to 25,000 gallons. The USTs were installed between the 1950s and 1990s. Nine USTs were removed in 2000; two USTs were removed in 2002. The historical facilities on the south property are depicted on **Figure 3**.

A 1-foot-thick retaining wall was located along the southern Property boundary, which extended from the southeast corner of the Property to the west approximately 80 feet. The ground surface at the Property is reportedly approximately 4 feet lower than the ground surface at the south property³. This retaining wall was removed in 2020 during a remedial excavation.

Sources of Contamination: During a UST removal in 2000, petroleum hydrocarbons released to soil were initially discovered on the south property. The releases are likely associated with USTs, dispenser islands, product piping, and a service garage of the formerly bulk fuel

¹ GeoEngineers, Inc., *Federal Way Extension, AE 0044-12 WP 3.S, Phase I Environmental Site Assessment, FL207 Draft 3, Tax Parcel 2500600465*, March 2018.

² EcoCon, Inc, *Focused Subsurface Investigation Report, 23418 Pacific Highway South, Kent, Washington*, December 18, 2017.

³ O'Neill Service Group, *Soil Characterization and Remediation Report, Parcel FL209, Federal Way Link Extension Project, 23428 Pacific Highway South, Kent, Washington*, January 26, 2020.

distribution facility. The petroleum hydrocarbon contamination sourced from the south property migrated to the southern portion of the Property.

Site investigations also suggest that on-Property sources that are not related to the Site (Southgate Oil Site) may contribute to part of the contamination on the Property. The on-Property sources include a gasoline service station and a dry cleaner formerly operated on the Property. The shallow soil contamination discovered on the Property may be associated with on-Property operations.

Physiographic Setting: The land surface on the Property generally slopes to the north, with an elevation of approximately 395 feet amsl on the southern Property boundary to approximately 390 feet amsl on the northern Property boundary. The land surface in the vicinity of the Site slopes gently to the north-northwest towards Massey Creek.

Surface/Storm Water System: The closest surface water body is Massy Creek located approximately 850 feet northwest of the Site. The Green River is located approximately 1 mile east of the Site, and Puget Sound is located approximately 1.4 miles west of the Site. The storm water catch basins for the Property are connected to the municipal storm water collection system along Pacific Highway South, located to the west of the Property.

Ecological Setting: The area surrounding the Property is zoned for “Midway Transit Community 1” (MTC-1) or “Midway Transit Community 2” (MTC-2). Both of the zoning designations allow moderately dense or dense “*retail, office, or residential activities in support of rapid light rail and mass transit options...*”⁴

Land surfaces on the Property and adjacent properties are primarily covered by buildings or light rail structures, with asphalt or concrete pavement and small landscaped areas.

Geology: The Site is located within the Puget Sound Basin, which is largely underlain by unconsolidated Pleistocene continental glacial drift. The glacial deposits predominantly consist of sand and silt, with varying amounts of gravel and cobbles.

Locally, the Site is located near the crest of a narrow north-south trending glacial feature known as the Des Moines Drift Plain⁵. The Des Moines Drift Plan is an upland area bordered by Puget Sound on the west (at sea level) and the Green River valley on the east (valley floor elevation typically averages about 30 feet amsl), with maximum elevations ranging from 400 to 450 feet amsl.

The most prevalent geologic unit at the ground surface on the Des Moines Drift Plain is Vashon glacial till, which was laid down beneath the most recent continental glacier⁶. Soil borings and test pits advanced at the Site indicate soils beneath the Site are generally dense sand with silt, or

⁴ Kent City Code, *Chapter 15.03, District Established – Zoning Map*; [Kent City Code \(codepublishing.com\)](http://codepublishing.com)

⁵ United States Environmental Protection Agency, Region 10, *Second Five-Year Review Report for Midway Landfill Superfund Site, Kent, Washington*, September 2010.

⁶ City of Kent, *Water System Plan 2019 – 2029*; [Water Operations | City of Kent \(kentwa.gov\)](http://wateroperations.kentwa.gov)

silty sand with gravel, to the total explored depth of 31 feet bgs. The subsurface soil observed is interpreted as glacial till.

Groundwater: No groundwater monitoring wells have been installed on the Property. Groundwater was reportedly not encountered to the total explored depth of 31 feet bgs.

Two geotechnical borings (FWLE-D01P and FWLE-D02) were advanced approximately 60 feet east and 100 feet south east of the Property (**Figure 2**). The depth to groundwater was approximately 58 feet bgs in March 2016 in a monitoring well installed in boring FWLE-D01P. Groundwater was observed at approximately 78 feet bgs in FWLE-D02 during drilling in December 2016¹. No groundwater sample was collected.

Literature and data from nearby sites indicate that the shallow regional groundwater in this area occurs in a Vashon Advanced Outwash (Qva) aquifer, which is a silty and sandy gravel aquifer beneath the overlying glacial till. The Qva aquifer is present in this area at elevations of approximately 230 to 300 feet amsl^{5,7,8}.

In addition, there appears to be shallow, discontinuous lenses of groundwater perched on low permeability deposits above the Qva aquifer. Data collected from nearby cleanup sites indicate the shallow perched groundwater occurs at elevations ranging from approximately 330 to 390 feet amsl^{5,9,10}. The elevation of the perched groundwater may vary depending on the local geology. The groundwater observed in boring FWLE-D01P is likely to be perched groundwater near the Site.

Water Supply: Drinking water for the area is supplied by the Highline Water District. The District purchases approximately 70% of its water supply from Seattle Public Utilities, and obtains the remaining 30% from four District-owned groundwater supply wells¹¹. The Site is located outside of the 10-year time of travel wellhead protection zone of all water supply wells¹².

Release and Extent of Soil and Groundwater Contamination: Subsurface investigations and interim cleanup actions have been conducted on the south property since 2000, and on the Property since 2017. Groundwater was not encountered in these activities and therefore no groundwater sample was collected.

Subsurface Investigation and Interim Actions on Property

⁷ King County, *Potentiometric Surface in the Qva Aquifer and Water Levels in the Qal Aquifer South King County Groundwater Management Area*; [0002SKCgwtrPLATE3a.pdf \(kingcounty.gov\)](#)

⁸ Arcadis, *Annual Site Status Report 2013, ARCO Facility No. 04484, 24001 Pacific Highway South, Kent, Washington 98626*, February 10, 2013.

⁹ Conestoga-Rovers & Associates, *Cleanup Action Reports, Shell-branded Wholesale Facility, 23419 Pacific Highway, Des Moines, Washington*, March 21, 2011.

¹⁰ AECOM, *2018 Annual Groundwater Monitoring Report, Shell-branded Retail Service Station, 23031 Pacific Highway South, Des Moines, Washington*, May 15, 2019.

¹¹ Highline Water District, *2020 Annual Report*; [highline annual report 2020 final.pdf \(highlinewater.org\)](#)

¹² Department of Health, *Source Water Assessment Program (SWAP) Mapping Application*; [SWAP Map](#)

- In November 2017, a total of 12 soil borings (B1 through B10, B12, and B13) were advanced to depths ranging from 7 to 12 feet bgs. Soil samples were collected from each soil boring between 3 and 12 feet bgs.

The soil sample collected at 8 feet bgs from soil boring B13 contained concentrations of TPHg and TPHd above the MTCA Method A soil cleanup levels. The soil boring locations are depicted on **Figure 4** (as ECI-B1 through B10, B12, and B13).

- In July 2018, a total of 13 soil borings (FL207-B14 through FL207-B26) were advanced to depths ranging from 8 to 31 feet bgs (**Figure 4**). Soil samples were collected from each soil boring between depths of 0.5 and 30.5 feet bgs.

Concentrations of TPHd plus TPHo and/or benzene exceeded the MTCA Method A soil cleanup levels in the following soil samples: soil boring B16 at 2.5 to 3.5 feet bgs, soil boring B18 at 0.5 to 1 feet bgs, and soil boring B22 at 2.5 to 3.5 feet bgs. These soil borings are located along the southern Property boundary.

In addition, PCE was detected at concentrations below the MTCA Method A soil cleanup level in the soil samples collected at 20 to 20.5 feet from soil boring B18, and 17.5 to 18 feet bgs from soil boring B23. Soil boring B18 is located along the southern Property boundary near a loading dock; soil boring B23 is located along the eastern Property boundary near a sanitary sewer line (a common source location for releases from historical dry cleaners).

- In January 2019, approximately 166 tons of contaminated soil was excavated from a 36-foot by 18-foot excavation along the southern Property boundary, with a maximum depth to 15 feet bgs. The excavation was completed in area of previous soil boring B13, where contaminated soil was confirmed.

A total of 14 soil samples were collected from the bottom and sidewalls of the excavation between 5 and 15 feet bgs. All soil samples contained TPHd plus TPHo concentrations below the MTCA Method A soil cleanup level. The January 2019 excavation limits and confirmation soil sampling locations are depicted on **Figure 5**.

- In February 2019, four test pits were excavated along the southern and eastern Property boundary. Test Pit 1 was excavated at the soil boring FL207-B16 location, measuring approximately 6 feet by 3 feet, and 4 feet deep. Test Pit 2 was excavated at soil boring FL207-B18 location, measuring approximately 9 feet by 2 feet, and 1.5 feet deep. Test Pit 3 and 3.2 were excavated at or near soil boring FL207-B22. Test pit 3 was measured approximately 12.6 feet by 8.3 feet, and 4 feet deep; Test Pit 3.2 was measured approximately 3.4 feet by 2.3 feet, and 3.5 feet deep. The test pit limits and sampling locations are depicted on **Figure 6**.

Gasoline contamination was discovered immediately beneath the asphalt pavement in Test Pit 3. A surface soil sample collected from Test Pit 3 contained a TPHg concentration above

the MTCA method A soil cleanup level, and the contaminated soil was subsequently removed.

A total of 30 soil samples were collected from the bottoms and sidewalls of the four test pits. All analytes concentrations were below the MTCA Method A soil cleanup levels in these soil samples. Test Pit 3 was backfilled with imported fill; Test Pits 1, 2, and 3.2 were backfilled with the clean soil from the excavations.

- In September 2019, a 14-foot by 4-foot trench was excavated adjacent to the retaining wall that was located along the southern Property boundary. The trench was excavated to a maximum depth of 11 feet bgs. A total of 6 soil samples were collected; 3 soil samples (S2-8, S3-11, and S6-6.5) collected between 6.5 and 11 feet bgs contained TPHg or TPHd concentrations above the MTCA Method A soil cleanup levels (**Figure 7**).

Excavation of the contaminated soil was not conducted due to the potential of undermining the retaining wall foundation. A 14-millimeter polyvinyl chloride liner was placed along the south sidewall of the excavation to prevent recontamination. The trench was subsequently backfilled with the original excavated material.

- In August 2020, as part of the cleanup action on the south property, the retaining wall along the southern Property boundary was removed, and the residual contaminated soil was excavated at the property line between the Property and south property. The plastic liner was discovered during the excavation, which identified the boundary between the contaminated soil and the imported clean fill placed during January 2019 excavation. The excavation extended to approximately 16 feet below the ground surface of the south property, or approximately 12 feet below the ground surface of the Property (due to the elevation difference between the two properties at the time). Approximately 200.4 tons of contaminated soil was removed from the boundary between the Property and south property.

Five soil samples (209-PEX-78-10, 209-PEX-80-14, 209-PEX-81-12, 209-PEX-82-14, and 209-PEX-79-16) were collected between 10 and 16 feet bgs (relative to the ground surface of south property) from the final excavation limits. All soil samples contained TPHg, TPHd, TPHo, and BTEX concentrations below the MTCA Method A soil cleanup levels. The excavation limits and the soil sampling locations are depicted on **Figure 8 and 9**.

Subsurface Investigation and Interim Actions on the South Property

- A total of 11 USTs were removed from the south Property between 2000 and 2002. Nine USTs, including one 275-gallon, one 550-gallon, one 650-gallon, two 1,000-gallon, two 3,000-gallon, one 5,000-gallon, and one 10,000-gallon USTs that stored gasoline, diesel, and heating oil, were removed in October through November 2000. Two USTs, including one 20,000- and one 25,000-gallon heating oil UST, were removed in February 2002.

Multiple soil samples collected from the UST excavations and under dispenser islands contained concentrations of TPHd and/or xylenes above the MTCA Method A soil cleanup

levels. Approximately 350 cubic yards of contaminated soil were removed from the UST and dispenser island excavations in November 2000. The confirmation soil sample collected at 8 feet bgs from the north sidewall of the dispenser island excavation still contained a TPHd concentration above the MTCA Method A soil cleanup level. The excavations were reportedly backfilled with the excavated soil that had been remediated on Site.

Approximately 748 tons of petroleum hydrocarbon contaminated soil was excavated from the UST excavations in February 2002. The excavation was stopped at the boundary between the Property and the south property. Multiple confirmation soil samples collected between 6 and 25 feet bgs from the bottom and sidewalls of the excavation contained TPHd concentrations above the MTCA Method A soil cleanup level. The approximate limits of the 2000 and 2002 remedial excavations are depicted on **Figure 3**.

- A subsurface investigation was completed on the south property in 2017, including advancing 12 soil borings (FL209-B1 through B12) to depths ranging from 11 to 30.5 feet bgs (**Figure 3**). Concentrations of TPHg, TPHd and TPHo, naphthalenes, cPAHs, cadmium, lead, and/or mercury were detected above the MTCA Method A soil cleanup levels in soil samples collected between 0.5 and 21 feet bgs from soil borings FL209-B3 through B8, and B11.
- From February to April 2020, a total of 17 test pits (PH209-1 through PH209-17) were excavated to a maximum depth of 15 feet bgs on the south property (**Figure 10**). A total of 29 soil samples were collected from the test pits from 1.5 to 15 feet bgs. Multiple soil samples from 1.5 to 15 feet bgs contained concentrations of TPHd and TPHo, and methylene chloride above the MTCA Method A soil cleanup levels.
- From May to August 2020, remedial excavations were conducted throughout the south property to remove the soil contaminated with petroleum hydrocarbons, PAHs, VOCs, and metals. The excavation limits and soil sampling locations are depicted on **Figure 10**.

The excavations extended to total depths ranging from 5 to 30 feet bgs. Groundwater was not encountered during the excavations. A total of 6403.08 tons of contaminated soil was removed from the excavations and disposed of off-property. Confirmation soil samples collected from the final excavation limits contained COC concentrations below the MTCA Method A soil cleanup levels.

Site Diagrams

Site and Property Location Map



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Date: 5/12/2021

Washington State Department of Ecology



King County

Enclosure B: Figure 2



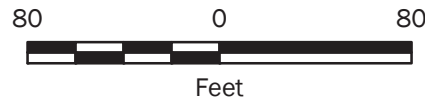
Legend

	Geotechnical Boring		Subject Property
	Site Feature		Parcel
	Site Feature		Fee Take
	Site Feature		Guideway Easement
	Site Feature		Temporary Construction Easement
	Site Feature		WSDOT Airspace Lease

Parcel #: 2500600465
Address: 23418 PACIFIC HWY S
City: Kent
Owner: Muscatel Midway Properties LLC
Current Use: retail store

Notes:

1. Based on current design information for the FWLE project (HDR, provided in December 2017)
 2. The locations of all features shown are approximate. 3. 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.
- Data Source: Aerial and road names from King County 2015.



Site Plan FL207

Phase I Environmental Site Assessment
Federal Way Link Extension
Kent, Washington



Figure 2

Enclosure B: Figure 3



Legend

	Hollow-stem Boring		One or More Samples Analyzed were > MTCA Screening Levels		Site Feature
	All Samples Analyzed Either were ND or < MTCA Screening Levels		Subject Property		Parcel
	Approximate Previous UST and Remedial Excavation Locations				

Notes:

1. Based on current design information for the FWLE project (HDR, provided in June 2017)
2. The locations of all features shown are approximate. 3. 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.
Data Source: Aerial and road names from King County 2015.

Parcel #: 2500600480
Address: 23428 PACIFIC HWY S
City: Kent
Owner: CASTANEDA, JUAN & ROJAS
Current Use: retail store

Site Plan and Boring Location Map FL-209

Phase II ESA
Federal Way Link Extension
Washington

GEOENGINEERS

Figure 3

North arrow and scale bar (0 to 30 feet).

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Oakland | Folsom | Irvine

Drawn By: NM Checked By: JR

FIGURE 3

SITE PLAN AND BORING LOCATIONS FL-209
MUSCATEL PROPERTY
23418 PACIFIC HIGHWAY SOUTH
KENT, WASHINGTON

FARALLON PN:2532-001



FARALLON PN:2532-001

Enclosure B: Figure 5

Existing Building

Existing Building

Property Boundary

Area of Suspected
Petroleum Contaminated Soil

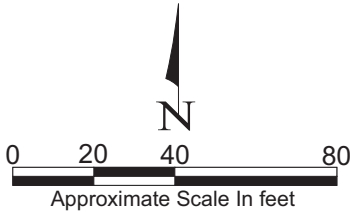
Explanation

- ⊕ ECI Previous Boring Location Below Cleanup Levels
- ECI Previous Boring Location Above Cleanup Levels
- ⊗ GeoEngineers Sample Locations
- △ ECI Sample Location

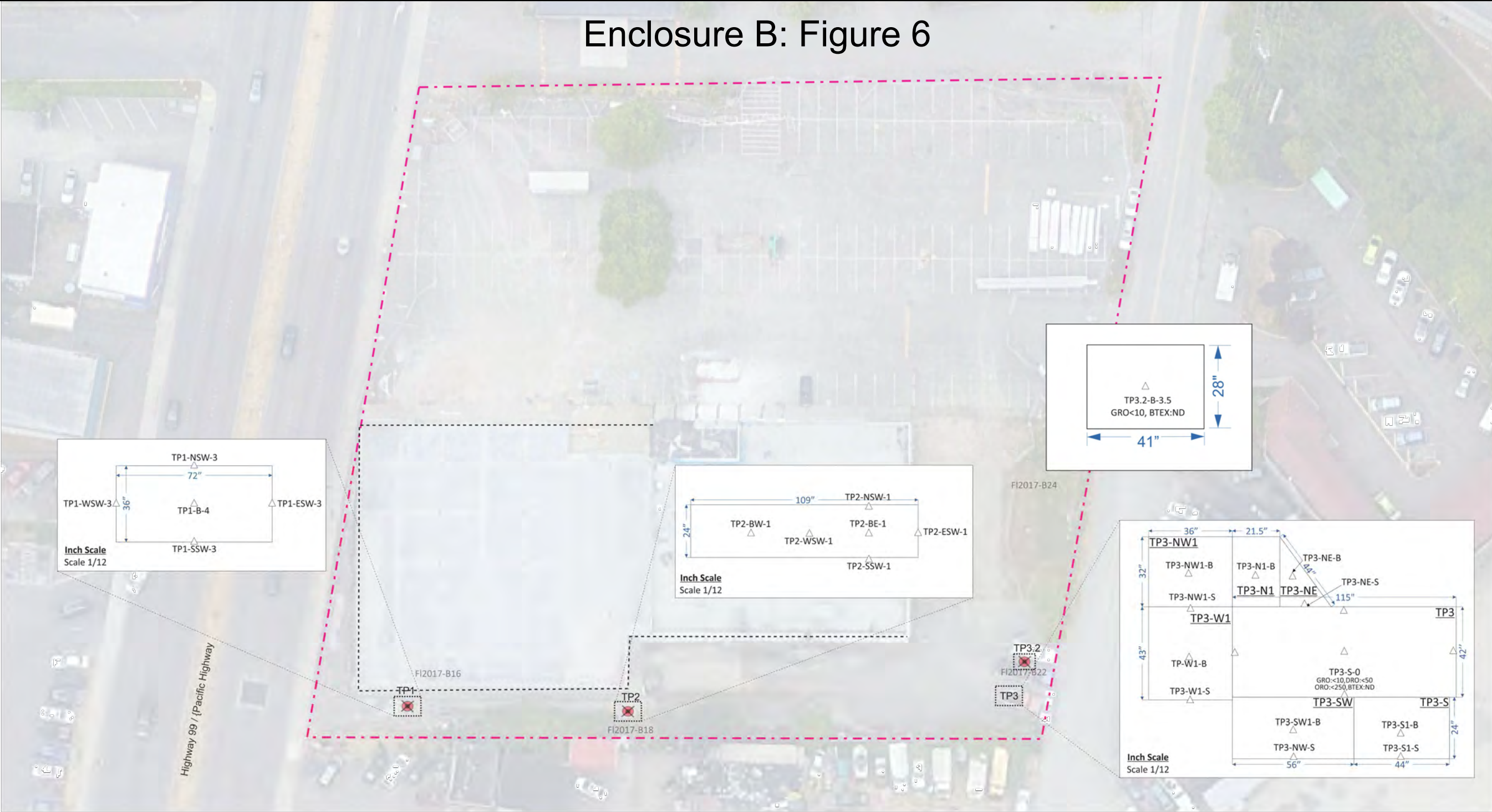
CORRECTED Current & Historical Soil Sample Location Map
23418 Pacific Hwy S
Kent, WA 98032

Date: July 10, 2020
Completed By: C. Long
Reviewed By: S. Spencer
Version: ECI-001
Project No.: 0673-01-01

Figure No.:
04
Figure 04 of 06



Enclosure B: Figure 6



Approximate Scale In feet

Explanation

- △ Soil Sample Location
- ⊗ GeoEngineers Sample Locations
- ECI Test Pit Locations

Previous Sample Locations Map
Supplemental Focused Subsurface Investigation
23418 Pacific Hwy S
Kent, WA 98032

Date:	March 5, 2019	Figure No.:
Completed By:	K. Spencer	04
Reviewed By:	S. Spencer	
Version:	ECI-001	
Project No.:	0673-01-02	Sheet 04 of 05

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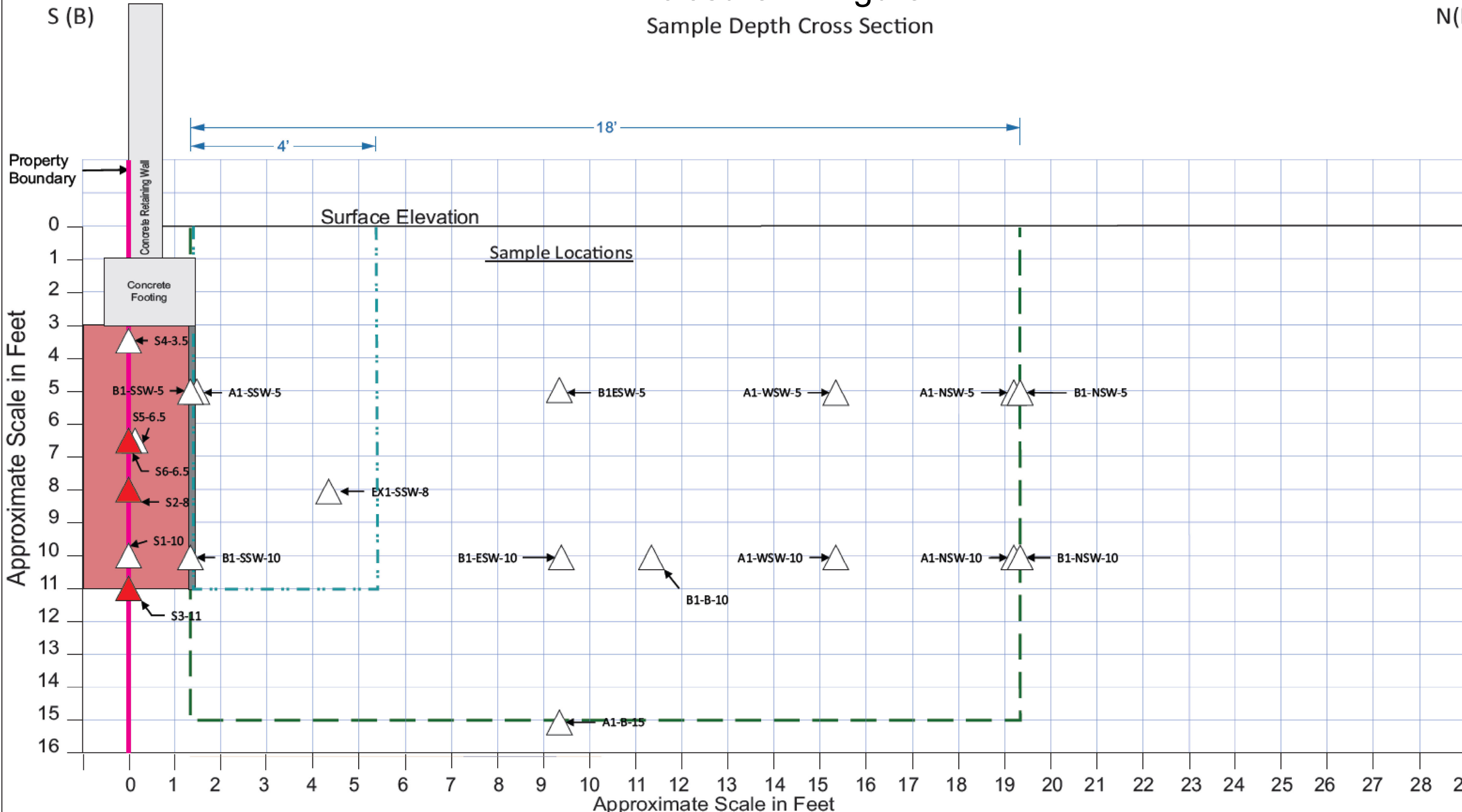
Drawn By: NM Checked By: JR

FIGURE 4
PREVIOUS SAMPLE LOCATIONS MAP
MUSCATEL PROPERTY
23418 PACIFIC HIGHWAY SOUTH
KENT, WASHINGTON

FARALLON PN:2532-001

Enclosure B: Figure 7

Sample Depth Cross Section



Explanation	
	Soil Sample Location
	Sample Above Cleanup Level
	January Excavation Limit
	September Excavation Limit
	Property Boundary
	Contaminated Soil
	Barrier

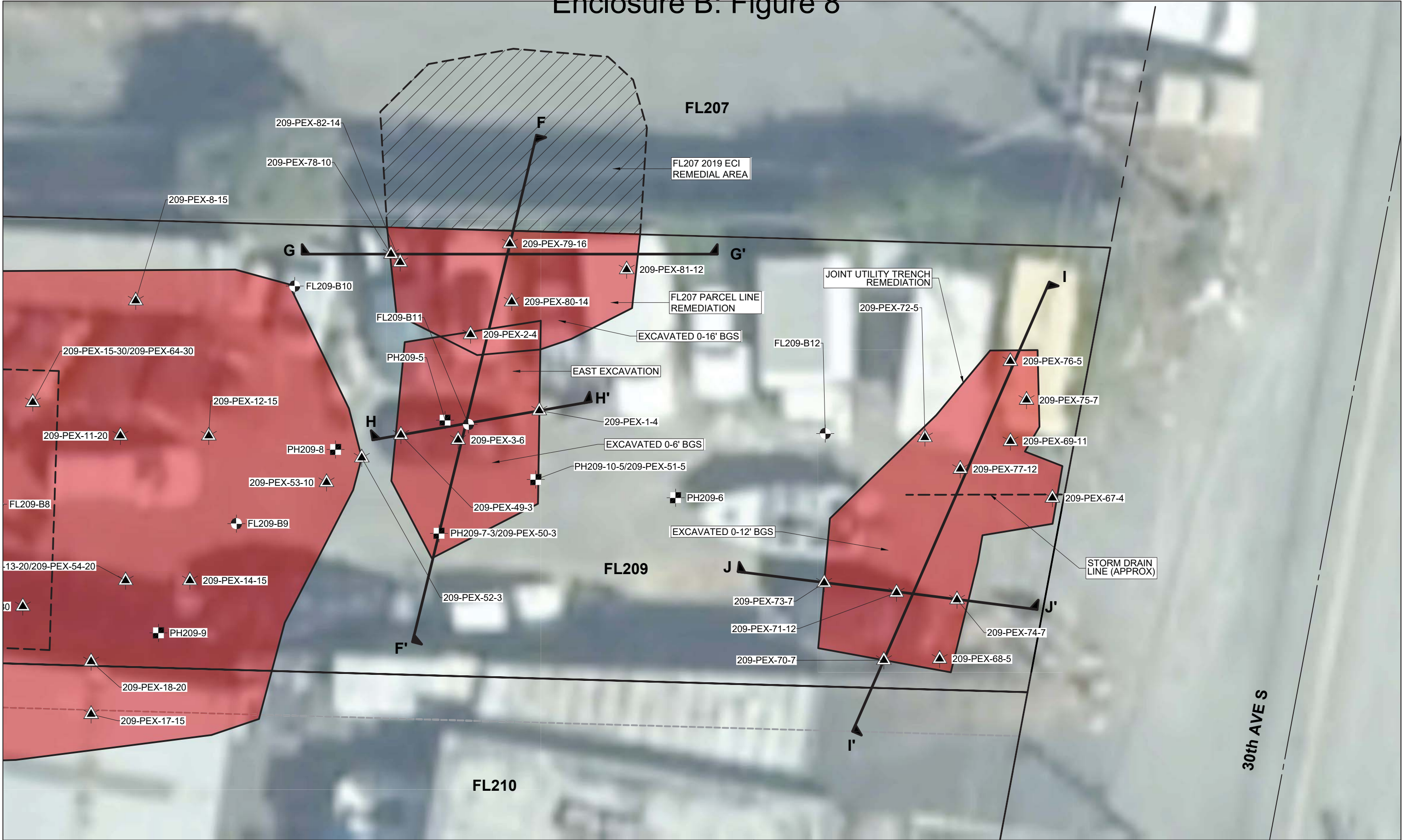
Cross-Section of Remedial Action
Cleanup Action Report
23418 Pacific Hwy S
Kent, WA 98032

Date:	October 22, 2015	Figure No.:
Completed By:	C. Long	05
Reviewed By:	S. Spencer	
Version:	ECI-001	
Project No.:	0673-01-04	Figure 5 of 6

Providing Practical Environmental Compliance Solutions
Close to Addressing | Science | Pollution

Enclosure B: Figure 8

1/25/2021 10:35 AM
Z:\Shared\CADD\2021_Kiewit_Federal_Way\Phase II ESA\FWLE_Proposed Soil Excavation Areas.dwg Layout:FL209-FL210 (F4)



LEGEND

- FL209-B1- GEOENGINEERS PHASE II BORING
- PH209-1- SUPPLEMENTAL INVESTIGATION
- 209-PEX-1-4- CONFIRMATION SAMPLE

- 209-PEX-40-15- REMOVED CONFIRMATION SAMPLE
- AREAS OF VARIABLE TOTAL DEPTH OF EXCAVATION (SEE LABELS)
- PARCEL LINES



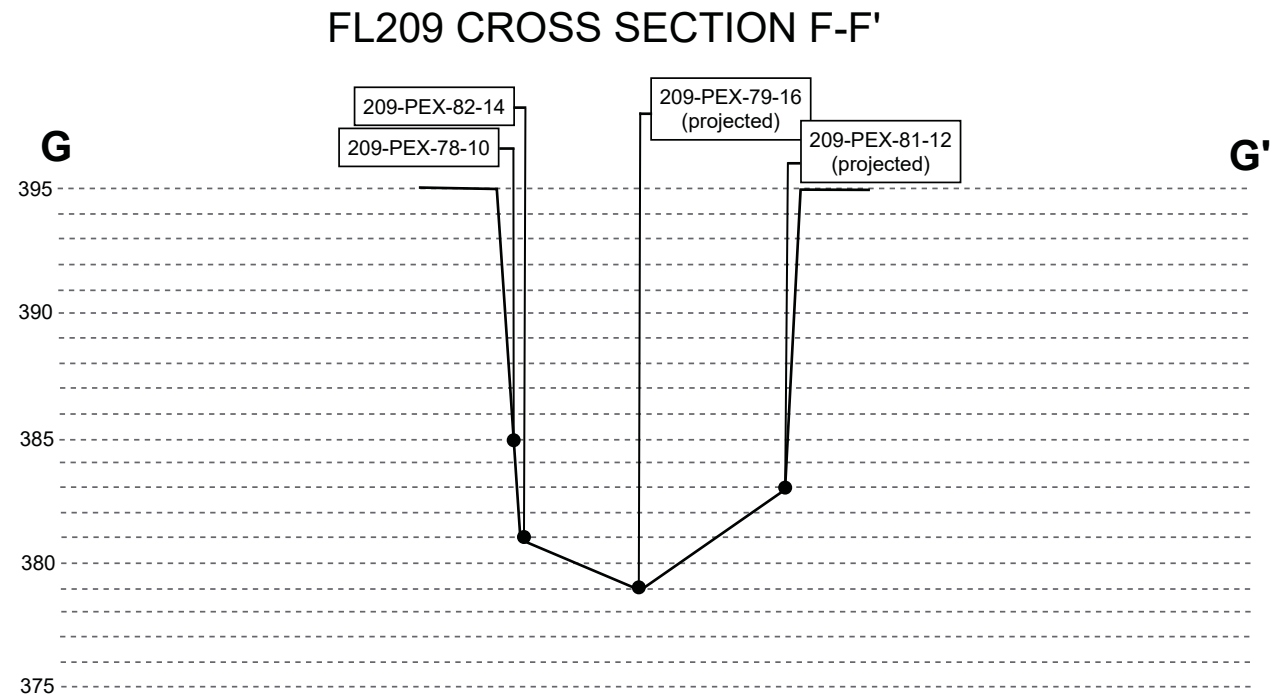
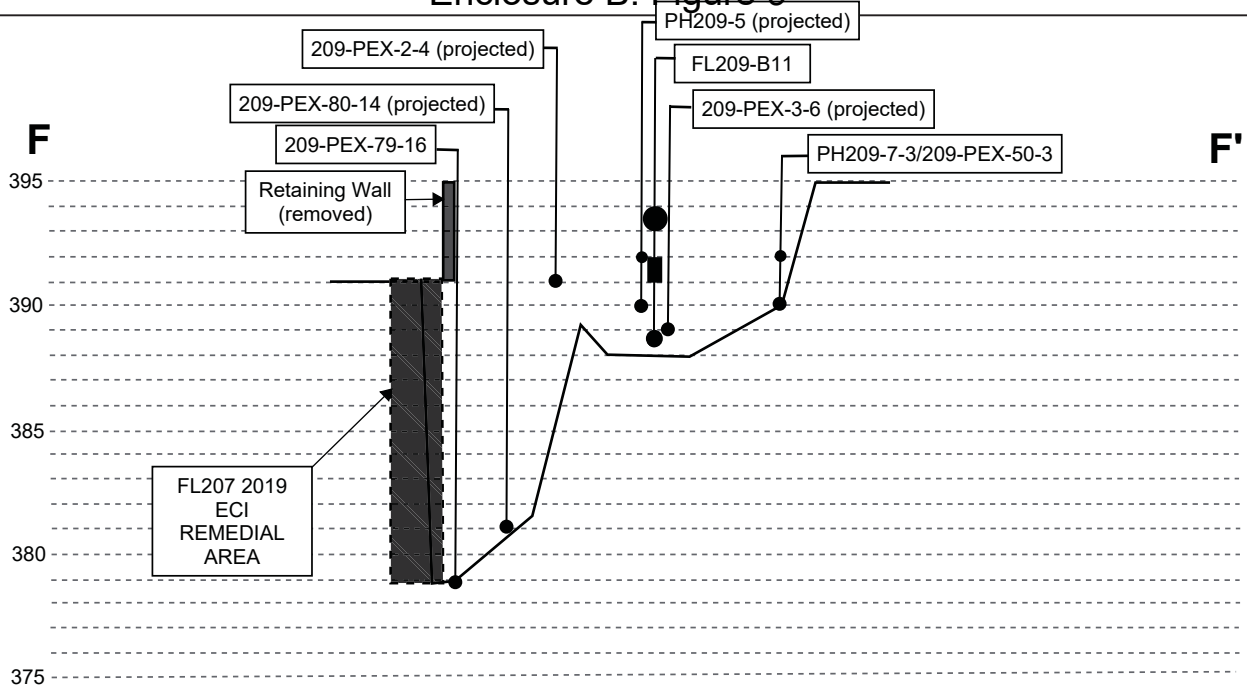
FEDERAL WAY LINK EXTENSION
SEATAC AND FEDERAL WAY
KING COUNTY, WASHINGTON

FL209/FL210 CONTAMINATION EAST DETAIL

Drawn By:	J. Stewart
Reviewed By:	S. Darst
Approved By:	V. Atkins
Date:	May 2020
Project No.:	J. Stewart

FIGURE
4

Enclosure B: Figure 9



LEGEND

- PH209-3 Soil exploration location and ID with sample depth exceeding MTCA cleanup levels (remediated)(■) and not exceeding or below MTCA cleanup levels (●)
- 209-PEX-18-3 Post-excavation soil sample location and ID with depth/elevation exceeding MTCA cleanup levels (remediated)(■) and not exceeding or below MTCA cleanup levels (●)



FEDERAL WAY LINK EXTENSION
SEATAC AND FEDERAL WAY
KING COUNTY, WASHINGTON

FL209 CROSS SECTIONS

Drawn By:	I. Mendoza
Reviewed By:	V. Atkins
Approved By:	S. Darst
Date:	October 2020
Project No.:	2021

FIGURE

**5f,
5g**



Enclosure C

Basis for the Opinion: List of Documents

1. Nowicki & Associates, Inc., *Progress Site Assessment Southgate Oil Site, 23428 Pac Hwy S, Kent, WA*, May 3, 2001.
2. Sound Environmental Strategies, Corp., *Underground Storage Tank Decommissioning and Soil Remediation Project, 23428 Pacific Highway South, Kent, Washington*, February 25, 2002.
3. Department of Ecology (Ecology), *No Further Action determination letter*, February 10, 2003 (Rescinded).
4. Ecology, *Re: Notification of Pending Inactive Determination Status for the following Hazardous Waste Site, Southgate Oil, 23428 Pacific Hwy S, Kent, WA, Facility Site No: 84946863, VCP No.: NW0982*, April 10, 2006.
5. Ecology, *Re: Further Action Determination under WAC 173-340-515(5) for the following Hazardous Waste Site, Southgate Oil, 23428 Pacific Hwy S, Kent, WA, Facility Site No: 84946863, VCP No.: NW0982*, June 9, 2006.
6. Ecology, *Re: Determination Status for the following Hazardous Waste Site enrolled in the Voluntary Cleanup Program, Southgate Oil, 23428 Pacific Hwy S, Kent, WA, Facility Site No: 84946863, VCP No.: NW0982*, June 9, 2006.
7. Marsilio Di Giovanni, *Ref: Letter dated April 10, 2006 and June 9, 2006 in regard to Southgate Oil property*, June 16, 2006.
8. EcoCon, Inc. (ECI), *Focused Subsurface Investigation Report, 23418 Pacific Highway South, Kent, Washington*, December 18, 2017.
9. GeoEngineers, *Federal Way Link Extension, AE 0044-12 WP 3.S, Phase I Environmental Site Assessment, FL207, Draft 3, Tax Parcel 2500600465*, March 2018.
10. GeoEngineers, *Phase II Environmental Site Assessment Report, Sound Transit – Federal Way Link Extension, Parcel FL-207, Former Dry Cleaner and Service Station, 23418 Pacific Highway South, Kent, Washington*, September 21, 2018.
11. ECI, *Supplemental Focused Subsurface Investigation Report, 23418 Pacific Highway South, Kent, Washington*, March 3, 2019.
12. ECI, *Cleanup Action Report, Affected Property: 23418 Pacific highway South, Kent, WA, Source Property: 23428 Pacific Highway South, Kent, WA, Site: Southgate Oil Site*, December 31, 2019.
13. O'Neill Service Group, *Soil Characterization and Remediation Report, Parcel FL209, Federal Way Link Extension Project, 23428 Pacific Highway South, Kent, Washington*, January 26, 2000.

14. ECI, *Re: Correction to the Cleanup Action Report, 23418 Pacific Highway South, Kent, Washington 98032*, July 10, 2020.
15. Farallon Consulting LLC (Farallon), *Re: Summary Report Subsurface Investigation and Cleanup Action, Muscatel Midway Property, 23418 Pacific Highway South, Kent, Washington*, March 5, 2021.