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November 9, 2021

Voluntary Cleanup Program Coordinator Washington State Department of Ecology Toxics Cleanup Program PO Box 330316 Shoreline, Washington 98133-9716

Subject: VCP Application and Request for Opinion on Completed Cleanup

Southgate Oil

23428 Pacific Highway South, Kent, Washington

King County Parcel 2500600480

Sound Transit Federal Way Link Extension Parcel FL209

Facility/Site No. 84946863 Cleanup Site ID 6762

GeoEngineers File No. 4082-039-03

On behalf of the Central Puget Sound Regional Transit Authority (Sound Transit) GeoEngineers is submitting the attached VCP application for the Southgate Oil site, 23428 Pacific Highway South, Kent, Washington. Sound Transit is requesting that the Washington State Department of Ecology (Ecology) review the information submitted and provide an opinion and no further action (NFA) determination for the completed site cleanup.

This letter presents a summary of the remedial investigations and Model Toxics Control Act (MTCA) independent cleanup actions completed and is presented to support VCP review of the available site assessment and cleanup reports.

Sound Transit is in the process of purchasing the property, King County Parcel 2500600480, identified by Sound Transit as Federal Way Link Extension (FWLE) Parcel FL209. Sound Transit has control of the property through a Possession and Use Agreement with the current property owner; Sound Transit has occupied the property since 2019.

The Sound Transit environmental contact information is as follows:

Name: Susan Penoyar, Environmental Manager, Sound Transit

Mailing address: 401 S. Jackson Street, Seattle, Washington 98104-2826

■ Email address: susan.penoyar@soundtransit.org

Phone number: 206-370-5531

#### PROPERTY AND SITE DESCRIPTION

The Property is located between Pacific Highway South and 30<sup>th</sup> Avenue South, approximately 500 feet south of Kent Des Moines Road (Figure 1). The property address associated with Southgate Oil, former occupant, was 23428 Pacific Highway South, Kent, Washington. The Property comprises 0.64 acre.

Based on findings from previous remedial investigation and cleanup activities, releases associated with Southgate Oil also affected a relatively small portion of the adjoining property to the south at 23427 30<sup>th</sup> Avenue South, Kent, Washington, King County Parcel 2500600481. This request for NFA pertains to the former Southgate Oil Property and the portion of King County Parcel 2500600481 affected by the release at Southgate Oil.

#### 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 multi-tenant commercial building owned by Muscatel Midway (Dollar Tree and retail space for lease) (VCP Number NW 3309). A strip mall with retail uses is located further north.
- To the south by a vacant lot (former Allison Marine boat repair) obtained and occupied by Sound Transit for light rail facilities and associated construction.
- To the east by 30<sup>th</sup> Avenue South. Sound Transit is constructing a parking garage on the property located further east across 30<sup>th</sup> Avenue South.
- To the west by Pacific Highway South (State Route 99) and retail shops. Further west are multifamily residential developments.

Relevant adjoining property historical uses are discussed below.

#### **PROPERTY CURRENT USE AND HISTORY**

The Property is currently owned by Juan Castaneda and Adriana Rojas (Castaneda). Sound Transit obtained a Possession and Use Agreement in 2019 to occupy the property for construction and development associated with the FWLE link light rail. Light rail structures recently constructed on the eastern portion of the Property include the elevated light rail guideway supported by columns that are situated on adjoining properties. A joint utility trench (JUT) was constructed below the ground surface and parallel to the eastern edge of the Property. As of November 2021, the Property is being used by Sound Transit contractors for construction equipment and materials storage; road improvements are planned to be constructed on the remainder of the FL209 property west of the guideway within the next few years.

The earliest identified development on the Property was a single-family residence with oil heat and a septic tank, constructed in 1931 and demolished by 2002. The available historic resources do not specify if heating oil was stored in an underground storage tank (UST) or aboveground storage tank (AST). An automotive repair shop constructed in 1949, and an office building constructed in 1977, were demolished in 2019 prior to Sound Transit construction activities.



The Southgate Oil fuel distribution facility operated on the property from the 1940s until approximately 1999. The facility included at least 11 USTs, multiple fuel dispensers, and an auto repair garage.

#### **KNOWN OR POTENTIAL SOURCES OF CONTAMINATION**

#### **Underground Storage Tanks**

Nine USTs, ranging from 275 to 10,000 gallons and containing gasoline, diesel fuel and heating oil, were removed from the property in October and November 2000. Fuel dispensers and fuel piping were also removed at that time. Two heating oil USTs (20,000 and 25,000 gallons), and associated fuel dispensers, were removed from the eastern portion of the property in February 2002.

#### **Auto Repair**

Auto repair activities were performed on the Property reportedly for decades; the original auto repair building was connected to a septic system. An unlined below-grade pit constructed of concrete cinder blocks that was approximately 4 feet wide and 15 to 20 feet in length was present inside the auto repair garage. A small steel drum apparently containing water was removed from the pit during demolition of the structure. The pit is suspected to have functioned in the past as a sump.

Limited areas of oil-stained concrete were observed in the auto repair garage and outside (east) of the garage bay door.

#### **PHYSIOGRAPHIC SETTING**

The land surface on the Property is generally flat at an elevation of approximately 390 feet above mean sea level; across the Property the ground surface slopes slightly downward to the north. A retaining wall is constructed along the northern portion of the Property and the northern adjacent parcel is approximately 3 to 5 feet lower in elevation. 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 Massey 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. Previous catch basins on the Property were removed as part of construction activities; new catch basins will be installed at a later date. Catch basins in 30<sup>th</sup> Avenue to the east and Pacific Highway 99 to the west are connected to the municipal storm water collection system.

#### **ECOLOGICAL SETTING**

The area surrounding the Property is zoned for "Midway Transit Community 1" (MTC-1) or "Midway Transit Community 2" (MTC-2). 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**

Glaciation events in the Puget Lowland left thick deposits of glacially-derived and reworked sediments across the region. The upland plateau in the Project area was formed during the latest glacial epoch called the Vashon stade of the continental Fraser glaciation. The advance and retreat of the Vashon-age Puget glacial lobe, approximately 14,000 to 10,000 years ago, deposited most of the near-surface materials and sculpted most of the present landforms within the Puget Lowland. After the latest glaciation, Holocene period sediments were deposited over the glacial soils. These deposits typically consist of alluvial soils commonly found in river valleys as well as colluvial deposits (landslide materials) on slopes. Peat and other organic soils occur in numerous depressional areas at the surface. Some of these Holocene period sediments have been modified by human activity, including placement of undocumented landfill material in the Midway landfill and placement of roadway embankment fill for construction of Interstate-5 (I-5).

Environmental investigations and remedial actions performed at the Property encountered 8 to 10 feet of sandy clay with gravel, underlain by dense glacial till deposits to the maximum depths explored or 60 feet below ground surface (bgs).

#### **GROUNDWATER**

Groundwater has not been encountered in explorations and excavations completed on the Property to the maximum remedial excavation depth of 30 feet bgs. Additionally, two drilled shafts completed to 60 feet bgs directly southeast of FL209 in connection with columns for the FWLE guideway did not encounter continuous groundwater and only reported approximately one foot of water at 60 feet bgs in the base of one of the two drilled shafts.

Off-site nearby explorations (see Figure 2) include a geotechnical exploration completed in 2016 approximately 30 feet east of FL209 (identified as FWLE-D02) where evidence of groundwater was observed at 78 feet bgs. Another geotechnical exploration and piezometer completed in 2016 approximately 300 feet northeast of FL209 (identified as FWLE-D01P) encountered groundwater at 58 feet bgs. Based on this available information about groundwater depths, we infer that vertical separation between the contaminated soil (now removed) and groundwater at FL209 could be in the range of 28 feet or more.

Shallow, discontinuous perched groundwater was observed beneath the Shell Oil site located about 100 feet west of the western portion of the FL209 parcel. However, no evidence of shallow groundwater was observed in a remedial excavation completed to a depth of 20 feet bgs in the west-central portion of FL209, nor to 30 feet bgs in the east-central portion of FL209. Within the Property boundary the only evidence of groundwater, and only nominally, was observed at 60 feet bgs in the eastern portion of FL209.



#### **WATER SUPPLY**

Drinking water for the area is supplied by the Highline Water District. The site is located outside of the 10-year time of travel wellhead protection zone of all water supply wells<sup>1</sup>.

#### **RELEASE AND EXTENT OF SOIL CONTAMINATION**

Eleven USTs were removed from the Property from 2000 to 2002. Concentrations of diesel were greater than MTCA Method A cleanup level in excavation soil samples obtained after removing the USTs. Gasoline and benzene, ethylbenzene, toluene, and xylenes (BETX) were either not detected or detected at concentrations less than MTCA Method A cleanup levels in soil samples obtained from the UST excavations. Groundwater was not encountered within the 2000 and 2002 UST excavations.

Reports present in Ecology files indicate that approximately 550 cubic yards of contaminated soil were removed from UST-related remedial excavations in 2000, and 748 tons of contaminated soil were removed from UST-related remedial excavations in 2002. Soil sampling of the base and sidewalls of the 2002 excavation indicated that soil with diesel-range hydrocarbons remained in the north sidewall of the excavation, to a depth of 10 feet bgs at the northern property line (with Muscatel). The zone of contaminated soil left in place as of 2002 was reported to be approximately 25 feet long and 10 feet deep. A 10-millimeter plastic liner was reportedly placed in the excavation vertically along the northern excavation limits, extending approximately to 14 feet bgs.

Ecology issued an NFA to Southgate Oil on February 10, 2003 that was subsequently rescinded. On June 9, 2006 Ecology issued a Further Action Required determination letter for Southgate Oil indicating that Further Action is required because of potential off property migration of diesel north of the property (onto the parcel referred to above as Muscatel Midway, current VCP Number NW 3309).

#### 2017 Phase II ESA

GeoEngineers performed Phase II ESA activities at FL209/Southgate Oil in 2017<sup>2</sup> including a limited geophysical survey and several soil explorations. The geophysical survey did not identify suspect USTs remaining on the subject property; however, much of the ground surface was not accessible due to the presence of tires, wheels, old cars, car and truck parts, car-related debris, two DOT shipping containers and other items.

Auto repair was performed on the property for decades and the original auto repair building was originally on a septic system, although a septic tank was not found during Phase II ESA or subsequent remedial excavation.

A below-grade pit (described previously) was noted inside the auto repair garage. Stained concrete was observed in the auto repair garage and outside (east) of the garage bay door. Shallow soil at a depth of 0.5 to 1.5 feet bgs in boring FL209-B4 completed east of the garage bay door contained cadmium, lead,

<sup>&</sup>lt;sup>2</sup> GeoEngineers Inc. 2018. AE 0044-12 3.7.N, Phase II Environmental Site Assessment Report, Sound Transit- Federal Way Link Extension Parcel FL209, Former Southgate Oil, 23428 Pacific Highway South, Kent, Washington. September 21, 2018. Prepared for Sound Transit.



<sup>&</sup>lt;sup>1</sup> Department of Health, Source Water Assessment Program (SWAP) Mapping Application; SWAP Map.

petroleum hydrocarbons, naphthalenes and carcinogenic polycyclic aromatic hydrocarbons (cPAHs) at concentrations greater than MTCA cleanup levels.

Numerous Phase II ESA soil samples obtained from locations representative of the Southgate Oil backfilled UST excavations, UST excavation limits, and/or from UST excavation backfill soil had detectable diesel- and oil-range hydrocarbons and naphthalenes, in many cases at concentrations greater than MTCA Method A cleanup levels. These data indicate that the prior UST removals and remedial excavations in 2000 and 2002 did not completely remove petroleum-contaminated soil exceeding MTCA cleanup levels.

Prior reports noted that during UST removal and remedial excavation sampling in 2002, concentrations of petroleum hydrocarbons exceeding MTCA Method A cleanup levels remained in soil to a depth of at least 14 feet bgs along the northern property boundary. The deepest Phase II ESA soil sample that exceeded MTCA cleanup levels for petroleum was FL209-B8 at 21 feet bgs; this boring was completed through the backfilled 2002 remedial excavation.

Residual petroleum-related constituents at concentrations greater than MTCA cleanup levels were identified in Phase II ESA soil samples from borings FL209-B3, FL209-B4, FL209-B5 and FL209-B7 which were located at the edges of the previous UST and remedial excavations and outside the lateral limits of the previous remedial excavations; petroleum-contaminated soil in these locations extended to maximum depths of 14 feet bgs.

Mercury was detected in samples from borings FL209-B7 and FL209-B8 at depths of 5.5 to 6.5 feet bgs at concentrations of 2.5 milligrams per kilogram (mg/kg) and 2.8 mg/kg, greater than the MTCA cleanup level of 2 mg/kg. These samples were collected from soil representative of remedial excavation backfill. Of the 20 samples tested for mercury, mercury was detected in five of the samples, including the two listed above, and the detected concentrations in the five samples were at least four times higher than the laboratory detection limits. The source of mercury in these five samples was unknown since mercury is not a typical contaminant for petroleum UST sites. A potential source for mercury in soil may be related to uncontrolled fill placed in the 2000/2002 UST remedial excavations as all the samples with mercury detected were from remedial excavation backfill (FL209-B5-6-6.5, FL209-B6-10-11, FL209-B7-5.5-6.5, FL209-B7-8.0-9.0 and FL209-B8-6-6.5).

The chlorinated volatile organic compound (VOC) tetrachloroethylene (PCE) was detected in one soil sample (FL209-B12-3.5-4.0) at a concentration of 0.0026 mg/kg, less than the MTCA cleanup level of 0.05 mg/kg and approximately twice the laboratory detection limit. FL209-B12 is located in the eastern portion of the property, near a former fueling island. The PCE detected in this sample appears to be related to an unknown localized on-site source, as opposed to the former off-site dry cleaner (previously located north of the Property on the Muscatel parcel), based on the lack of chlorinated compounds in 18 other soil samples obtained from the remaining eleven Phase II ESA borings on the subject property.

Near-surface soil samples from eight borings were tested for arsenic and lead. Arsenic and lead were not detected in the samples tested, suggesting that Tacoma Smelter Plume (TSP) impacts have not affected near surface soil on the Property.



#### 2020 Soil Characterization and Remediation

O'Neill Services Group (OSG) performed supplemental soil characterization and remediation on the Property in 2020<sup>3</sup>. OSG's effort included a search for remaining USTs on the property; no USTs were found. Figures 3, 4 and 5 depict OSG's supplemental sample and remediation excavation locations.

Seventeen test pits were advanced in areas of environmental concern (PH209-1 through PH209-17) to depths ranging between 3 and 15 feet bgs. Twenty-nine soil samples were analyzed for gasoline-, dieseland oil-range petroleum hydrocarbons (GRPH and DRPH), PAHs, VOCs and metals. The supplemental samples detected diesel- and oil-range hydrocarbons, PAHs and the VOC methylene chloride at concentrations greater than MTCA cleanup levels in samples obtained east of the auto repair shop. Dieselrange hydrocarbons were also detected at concentrations greater than the MTCA cleanup level at varying depths in several other soil samples obtained from test pits PH209-8, PH209-13, PH209-14, and PH209-17. Gasoline-range hydrocarbons were detected in only one of the supplemental characterization soil samples collected from the West Excavation area at a concentration just above the method reporting limit (detected at 5.76 mg/kg with a reporting limit of 5.74 mg/kg). PCE was detected in one sample from East Side Garage at a concentration less than the MTCA Method A cleanup level.

Remediation efforts performed in 2020 were focused on six areas labeled as the East Excavation, the Central Excavation, the East Side Garage, the West Excavation, Joint Utility Trench Excavation and the FL207 (Muscatel) Parcel Line Remediation. The excavation locations, approximate dimensions, and confirmation soil sample results are as follows:

- East Excavation Excavation dimensions were approximately 20 by 25 feet and 6 feet deep. Postexcavation confirmation soil samples were analyzed for diesel-range petroleum hydrocarbons (DRPH) and PAHs and sample results were either non-detect or less than MTCA cleanup levels.
- Central Excavation Excavation dimensions were approximately 63 by 55 feet and ranging from 20 to 30 feet deep. The southernmost extent of the excavation extended slightly onto the southern adjacent Former Alison Marine parcel in order to fully remove soil with petroleum concentrations greater than MTCA cleanup levels. The area of excavation extending onto the south adjacent property (former Alison Marine Parcel) was approximately 35 by 12 feet in plan dimensions and extended to 15 to 20 feet bgs. Post-excavation confirmation soil samples from the Central Excavation were analyzed for DRPH, PAHs and mercury and sample results were either non-detect or less than MTCA cleanup levels.
- East Side Garage Excavation dimensions were approximately 28 by 16 feet and five feet deep. Post-excavation confirmation soil samples were analyzed for DRPH and GRPH, VOCs (methylene chloride and PCE), PAHs and/or cadmium and lead and all results were either non-detect or less than MTCA cleanup levels.
- West Excavation Excavation dimensions were approximately 54 by 41 feet and 16 to 20 feet deep. Post-excavation confirmation soil samples were analyzed for DRPH and all results were either non-detect or less than MTCA cleanup levels.

<sup>&</sup>lt;sup>3</sup> O'Neill Service Group. 2021. Soil Characterization and Remediation Report Parcel FL209. January 26, 2021 (erroneously dated January 26, 2020). Prepared for Kiewit Infrastructure West Co.



- Joint Utility Trench Excavation dimensions were approximately 35 by 20 feet and up to 12 feet deep. Post-excavation confirmation soil samples were analyzed for DRPH, GRPH, benzene, ethylbenzene, toluene and xylenes (BETX) and all results were either non-detect or less than MTCA cleanup levels.
- FL207 Parcel Line Excavation dimensions were approximately 20 by 15 feet and up to 16 feet deep. The northern extent of the excavation encountered plastic sheeting left by Muscatel Midway during their 2019 excavation of petroleum-contaminated soil from the north side of the parcel line (Muscatel's excavation is documented under VCP NW 3309). Post-excavation confirmation soil samples were analyzed for DRPH, GRPH and BETX and all results were either non-detect or less than MTCA cleanup levels.
- Overburden soil from the upper depths of the West and Central Excavations, varying from 0 to 10 feet bgs, and previously tested for contaminants during prior assessments, was stockpiled on site for potential reuse. Approximately 1,650 tons of overburden soil was stockpiled, tested for petroleum hydrocarbons, PAHs, VOCs and metals with results being either non-detect or less than MTCA cleanup levels. The overburden soil was reused as on-site backfill.

Soil tonnages from the remedial excavation areas are summarized below:

- FL209/Southgate Oil East, Central, East Side Garage and West Excavations 5733.97<sup>4</sup> tons of soil were transported off-site for disposal at either the Waste Management Subtitle D landfill in Wenatchee, Washington or the Republic Services Subtitle D landfill in Roosevelt, Washington.
- Joint Utility Trench 468.71 tons.
- FL207 Parcel Line 200.4 tons.

#### **SUMMARY**

The Phase II ESA and supplemental characterization and remediation activities delineated the extent of contaminated soil resulting from historical operations on the Property. Remedial excavations were successful in removing contaminated soil on the Property up to the north property line and extending south to the former Allison Marine property (FL210).

Groundwater at the Property was not likely affected by releases associated with the Southgate Oil facility. This opinion is based on the following lines of evidence:

- Shallow groundwater was not observed in remedial excavations completed to a depth of 20 feet bgs in the west-central portion of FL209, nor to 30 feet bgs in the east-central portion of FL209.
- The only evidence of groundwater at the FL209 Property, and only nominally, was observed at 60 feet bgs directly southeast of FL209 and groundwater was observed at 58 feet bgs in a geotechnical boring completed off-site and 300 feet east. Based on this information about groundwater depths, we infer that vertical separation between the contaminated soil (now removed) and groundwater at FL209 could be in the range of 28 feet or more.



<sup>&</sup>lt;sup>4</sup> This quantity includes a nominal amount of soil removed from the Former Alison Marine parcel.

Diesel is the primary contaminant of concern (COC) associated with the Southgate Oil site. Diesel-contaminated soil was related to former USTs (base of deepest UST was 20 feet bgs) and fuel dispensers and migrated vertically to an approximate depth of 30 feet bgs in the fine-grained till material. Diesel tends to be less mobile in till material as compared to gasoline or solvents.

The cleanup actions conducted at the Southgate Oil site comply with MTCA cleanup standards and meet MTCA requirements for a remedial action, and for an NFA determination. Based on the results of the remedial actions, Sound Transit requests an NFA determination be issued by Ecology for the Southgate Oil site as described in this letter.

#### **REFERENCES**

- GeoEngineers, Federal Way Link Extension, AE 0044-12 WP 3.S, Phase I Environmental Site Assessment, FL207, Draft 3, Tax Parcel 2500600465, March 2018.
- 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.
- Nowicki & Associates, Inc., Progress Site Assessment Southgate Oil Site, 23428 Pac Hwy S, Kent, WA, May 3, 2001.
- 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.
- Sound Environmental Strategies, Corp., Underground Storage Tank Decommissioning and Soil Remediation Project, 23428 Pacific Highway South, Kent, Washington, February 25, 2002.
- Washington Department of Ecology, 2003. No Further Action determination letter, February 10, 2003 (Rescinded).
- Washington Department of Ecology, 2006. 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.



#### **CLOSING**

Please contact Marsi Beeson at (503) 603-6661 or Dana Carlisle at (425) 861-6040 if you have questions or require additional information.

Sincerely,

GeoEngineers, Inc.

Marsi M. Beeson

Senior Environmental Scientist

Dana L. Carlisle PE

Principal

MMB:DLC:ch

cc: Susan Penoyar, Environmental Manager, Sound Transit

Attachments:

Figure 1. Vicinity Map

Figure 2. Site Plan FL209 (from Phase I Environmental Site Assessment)

Figure 3. Southgate Oil Remediation Map

Figure 4. Remediation Map West Detail

Figure 5. Remediation Map East Detail

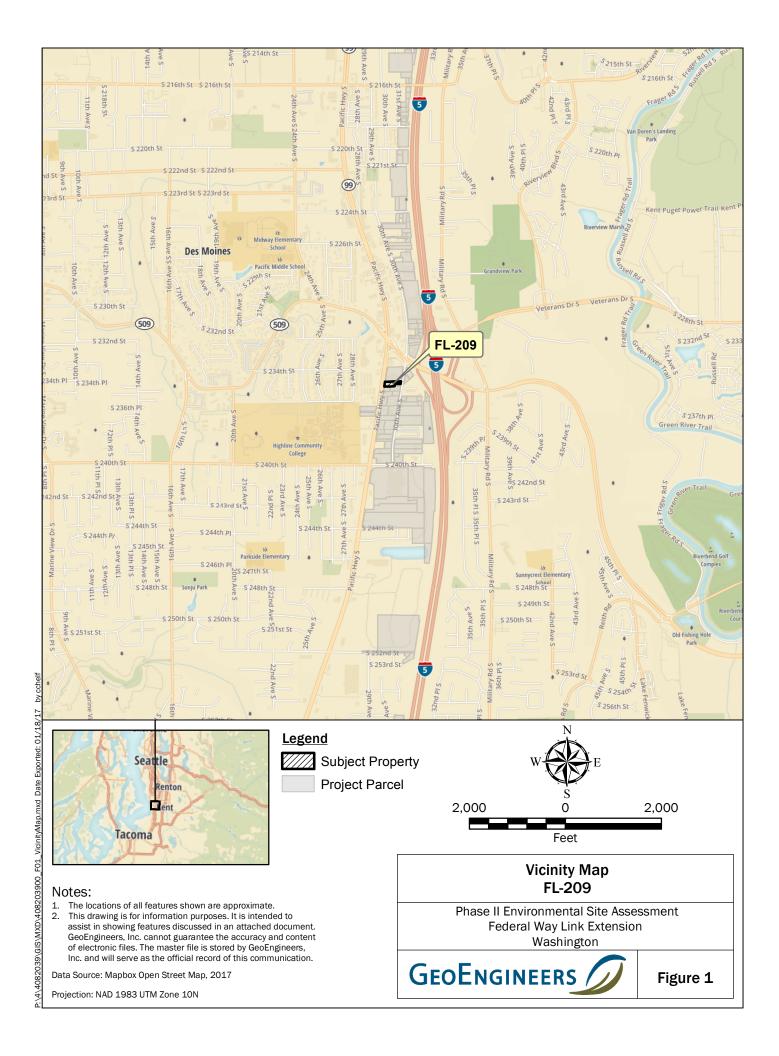
Attachment A. VCP Agency Determination Checklist and VCP Application

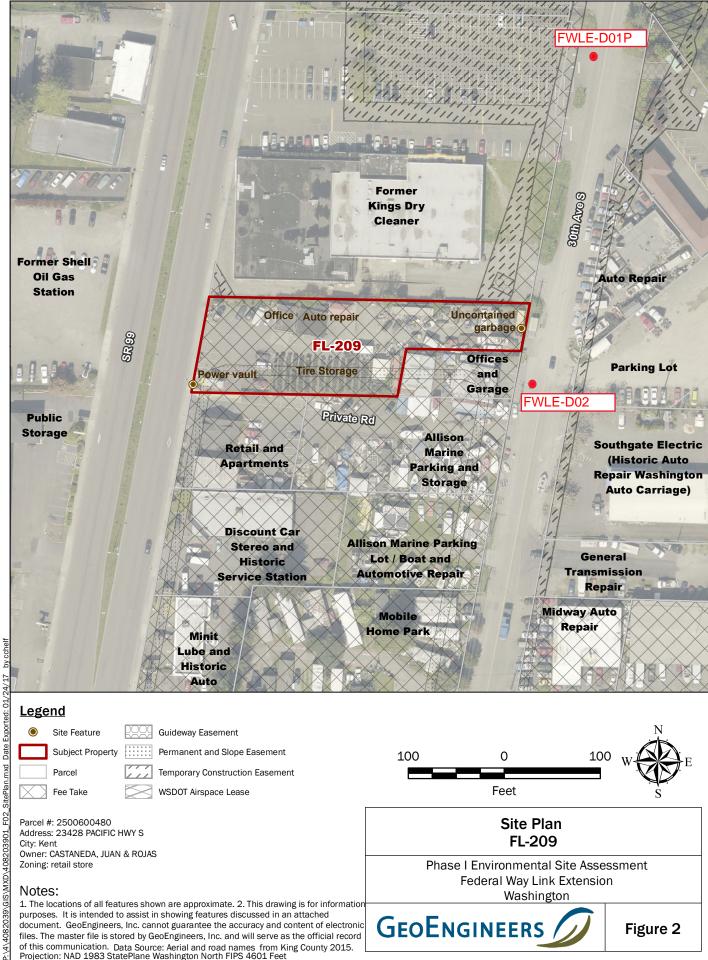
Attachment B. Terrestrial Ecological Evaluation

Attachment C. VCP Agreement

Disclaimer: Any electronic form, facsimile or hard copy of the original document (email, text, table, and/or figure), if provided, and any attachments are only a copy of the original document. The original document is stored by GeoEngineers, Inc. and will serve as the official document of record.









100 0 100 Feet



Parcel #: 2500600480 Address: 23428 PACIFIC HWY S

Owner: CASTANEDA, JUAN & ROJAS

Zoning: retail store

#### Notes:

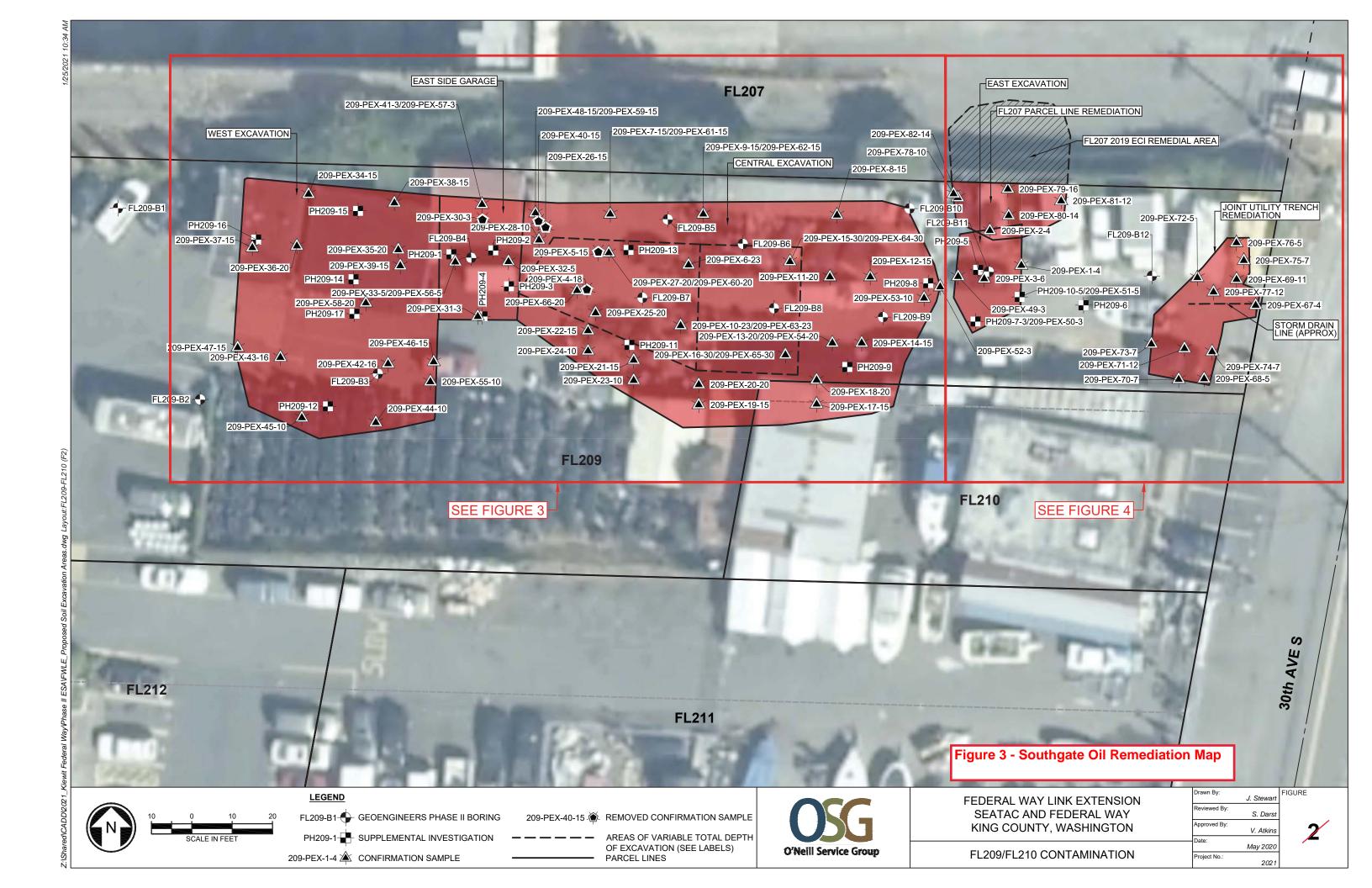
1. The locations of all features shown are approximate. 2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication. Data Source: Aerial and road names from King County 2015. Projection: NAD 1983 StatePlane Washington North FIPS 4601 Feet

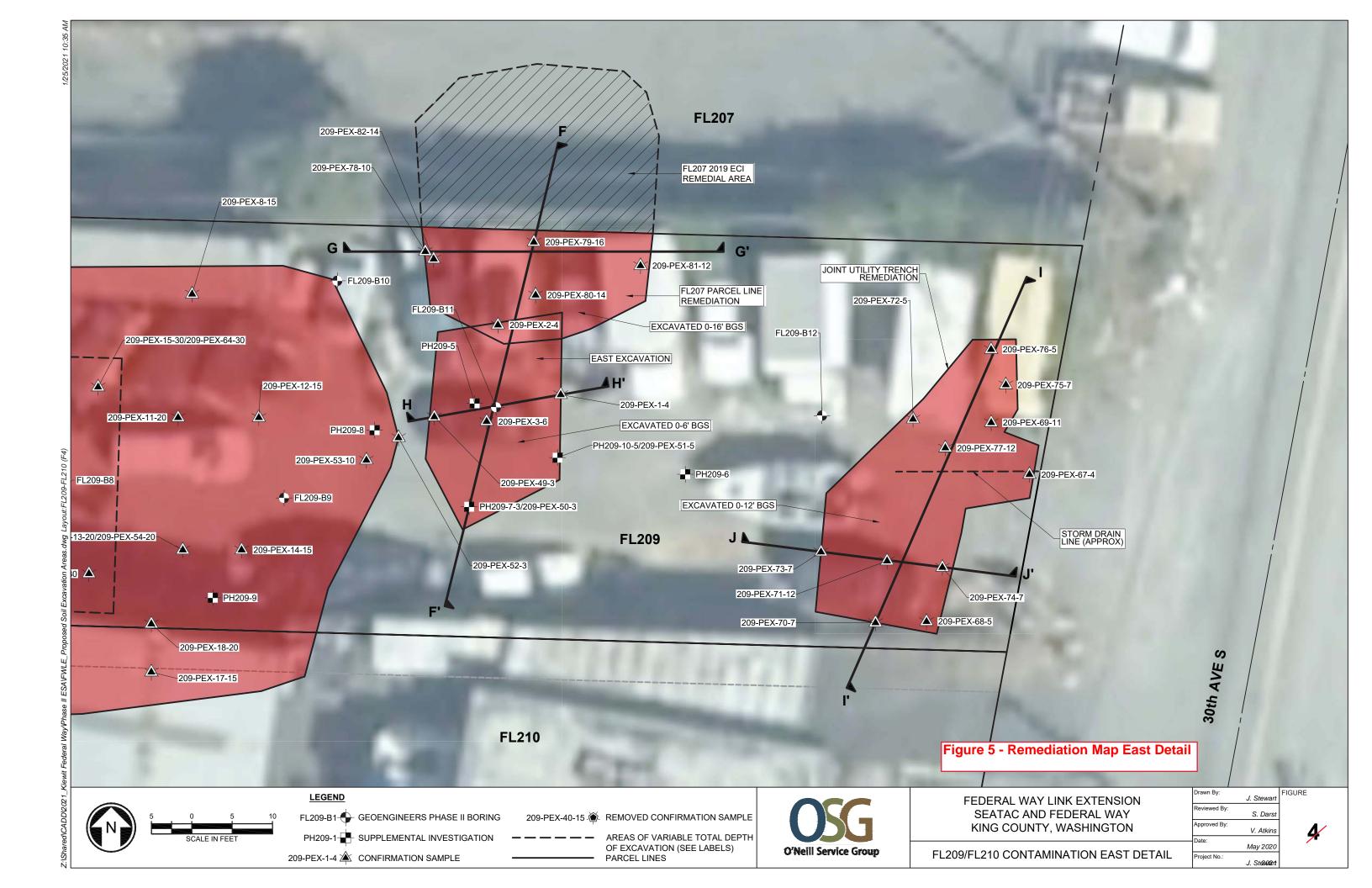
#### Site Plan FL-209

Phase I Environmental Site Assessment Federal Way Link Extension Washington



Figure 2





# ATTACHMENT A VCP Agency Determination Checklist and VCP Application

## ATTACHMENT B Terrestrial Ecological Evaluation

### ATTACHMENT C VCP Agreement