

STATE OF WASHINGTON DEPARTMENT OF ECOLOGY

Northwest Regional Office * 3190 160th Ave SE * Bellevue, WA 98008-5452 * 425-649-7000 711 for Washington Relay Service * Persons with a speech disability can call 877-833-6341

March 21, 2017

Mr. Richard Weir Bosa Development US, LLC 500 1901 Rosser Avenue Burnaby BC V5C6S3

Re: Opinion on Proposed Cleanup of a Property associated with a Site:

Site Name: Bellevue Corner UNOCAL 4511

Property Address: 10605 and 10619 NE 8th Street, Bellevue, WA 98004

Facility/Site No.: 5569973
VCP Project No.: NW3096
Cleanup Site ID No.: 7649

Dear Mr. Weir:

The Washington State Department of Ecology (Ecology) received your request for an opinion on your proposed independent cleanup of a Property associated with the **Bellevue Corner UNOCAL 4511** facility (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

- Upon completion of the proposed cleanup, will further remedial action likely be necessary at the Property to clean up contamination associated with the Site?
 - NO. Ecology has determined that no further remedial action will likely be necessary at the Property to clean up contamination associated with the Site.
- 2. Upon completion of the proposed cleanup, will further remedial action likely still be necessary clsewhere at the Site?
 - YES. Ecology has determined that further remedial action will likely be 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

(I)

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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 sites that may affect the Property. Any such sites, if known, are identified separately below.

Description of the Property.

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

- 1544100221
- 1544100216

Enclosure A includes a legal description of the Property. Enclosure B includes a description and diagrams of the Site, and illustrates the location of the Property within the Site.

Description of the Site.

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

- Tetrachloroethylene (PCE) and related degradation products; methylene chloride, chloroform, chloromethane; gasoline-, diesel-, and oil-range petroleum hydrocarbons (TPHg, TPHd, TPHo), benzene, toluene, ethylbenzene, xylenes (BTEX), and methyl tert-butyl ether (MTBE) into the Soil.
- · PCE and related degradation products and naphthalene into the Ground Water.

Those releases have affected more than one parcel of real property, including the parcels identified above.

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

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

Please note the Thinker Toys Site (Facility Site ID # 2462690, VCP Site No. NW2338) also affects the Property and the Bellevue Corner UNOCAL 4511 Site. This opinion applies only to contamination associated with the Thinker Toys Former facility that has migrated onto the Property in ground water.

Basis for the Opinion

The description of the Site is based solely on the information contained in the documents listed in **Enclosure C** to this letter. 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 sending an email to 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, upon completion of your proposed cleanup, **no further** remedial action will likely be necessary at the Property to clean up contamination associated with the Site. That conclusion is based on the following analysis:

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** Λ .

Soil: Soil samples indicate that petroleum-contaminated soil (PCS) with concentrations greater than MTCA Method A cleanup levels remains at a few locations on the Property at depths less than 9 feet below ground surface (bgs). The nature and extent of the TPH releases have been defined within the Property by prior Site investigations conducted from 1991 through 2011. During excavation and removal of USTs (gasoline, heating oil, and waste oil), pump islands, hoists, a dry well, and an oil/water separator in 1992, approximately 1,500 yards of petroleum-contaminated soil (PCS) was removed and disposed off-Site. The extent of remaining PCS appears to be limited to the boundaries of the proposed construction excavation, and is expected to be removed during construction excavation activities.

PCE and daughter products (PCE-related compounds) have been detected at concentrations above Method Λ cleanup levels, in soil samples collected over a large portion of the Property at depths ranging from 20 to 65 feet bgs. Data from multiple soil and ground water characterization reports confirm that these occurrences of PCE-related compounds are attributable to migration of contaminated ground water in the perched zone from the upgradient Thinker Toys Site.

The maximum depth of the planned construction excavation on the Property is 50 feet bgs. All PCE-related contamination in soil within the Property boundaries above this depth will be removed during the construction activities. However, there will be locations where soil containing PCE-related compounds at concentrations greater than cleanup levels will remain below the proposed total depth of excavation.

The following estimated quantities of contaminated soil will be removed during construction excavation on the Property:

PCS: 1,100 tons

PCE-contaminated soil: 20,125 tons

Ground Water: Ground water samples obtained from a number of monitoring wells on the Thinker Toys Former Site and the Bellevue Corner UNOCAL 4511 Site show a broad PCE plume in the perched water-bearing zone that extends onto, and likely beyond the Property boundaries to the south and west (see Enclosure B, Figure 11). PCE concentrations close to 10,000 µg/L in two monitoring wells on the Thinker Toys Site suggest the potential for separate-phase PCE product to be present at that Site. This documented PCE source, and a consistent flow gradient towards the south in the perched ground water zone, indicate the source of PCE on the Property is the upgradient Thinker Toys Site. Water quality data from the deep water-bearing zone indicate that PCE is not present at concentrations greater than Method A cleanup levels on the Property or on the Thinker Toys Site.

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.

The selected soil and ground water cleanup levels were selected to be protective of unrestricted Site uses and drinking water. An appropriate exclusion from conducting a Terrestrial Ecological Evaluation (TEE) was identified per WAC 173-340-7491(c)(i)); there are less than 1.5 acres of contiguous undeveloped land on or within 500 feet of any area of the Site. Therefore, cleanup levels protective of terrestrial species are not needed at this Site.

Soil: The proposed cleanup levels for the Property are Method A cleanup levels, except where Method A levels are not available. In this case, Method B cleanup levels protective of potential leaching to potable ground water are proposed. The proposed cleanup levels are presented in Table 7 of the Revised Cleanup Action Plan, and are included in Enclosure B, Table 1 for reference.

The point of compliance for soil is throughout the Property to all depths.

Ground Water: The proposed cleanup levels for the Property are Method Λ cleanup levels, except where Method A levels are not available. In this case, Method B cleanup levels are proposed. The proposed ground water cleanup levels are presented in Table 7 of the Revised Cleanup Λction Plan, and are included in Enclosure B, Table 1 for reference.

The point of compliance for ground water at the Property is throughout all waterbearing zones within the Property boundary.

c. Selection of cleanup for the Property.

Ecology has determined the cleanup you proposed for the Property meets the substantive requirements of MTCA. Your proposed cleanup meets minimum cleanup requirements and will not exacerbate conditions or preclude reasonable cleanup alternatives elsewhere on the Site.

The proposed cleanup described in the Revised Cleanup Action Plan includes:

- Preparation of the following documents for Ecology review prior to initiation of soil and ground water remediation during building construction at the Site:
 - Environmental Materials Handling Plan (EMHP), to address contaminated soil and ground water encountered during excavation of the building foundation.
 - Sampling and Analysis Plan (SAP) that describes the sampling grid and sample analyses approach to be applied during soil excavation. The SAP will include protocols for the collection of performance and confirmation soil samples.
 - Well Decommissioning Plan to decommission Site monitoring wells located within the footprint of the planned construction work, per WAC 173-160 requirements.
 - Request for a Contained-In Determination from Ecology to authorize disposal of low-level PCE-impacted soil excavated on the Site and to allow disposal at a Subtitle D landfill.
 - Sections of the construction plans and specifications that describe details of the remediation systems to be used at the Site during and after construction of the building (including construction dewatering, footing drains, and vapor barrier).

- Excavate soil over the entire Property from lot-line to lot-line to the lowest parking garage elevation of 104 feet above mean sea level, equivalent to an approximate maximum depth of 50 feet bgs. Soil samples collected in a horizontal and vertical grid pattern prior to and during excavation will guide segregation of soils for appropriate off-Site disposal. Confirmation soil samples will be collected from the sidewalls and bottom of the excavation. Soil samples will be tested for the Site chemicals of concern listed in Enclosure B, Table 1.
- Collect a sufficient number of soil samples to document contaminant concentrations and extent (horizontal and vertical) of contaminated soil remaining in the excavation sidewalls and base when the limits of the foundation excavation have been reached. This documentation will be included in an Environmental Covenant for the Property (discussed below in the last bulleted paragraph).
- Install a temporary construction dewatering system to intercept ground water from the perched zone that enters the excavation. The dewatering system will include provisions for water testing, storage, treatment, and discharge by permit to the municipal sanitary sewer system.
- Install a permanent footing drain system around the perimeter of the building
 foundation, to control hydrostatic pressure on the building walls from perched
 ground water. The footing drain will intercept contaminated ground water
 migrating onto the Property from the upgradient Thinker Toys Site. This
 system will include provisions for water testing, storage, treatment, and
 discharge by permit to the municipal sanitary sewer system.
- Install a vapor barrier at the base and sides of the underground structure to prevent vapor intrusion into the structure.
- Implement an Environmental Covenant (EC) to assure continued protection of human health and the environment, through land use restrictions, continued operation and maintenance of remedial systems, and post-remediation monitoring. The EC will include the following plans:
 - Compliance Monitoring Plan for post-remediation monitoring of perched-zone ground water, including installation of monitoring wells to replace wells decommissioned prior to construction of the building.
 - Operation, Maintenance, Monitoring, and Contingency Plans for the footing drain and vapor barrier systems, to confirm system effectiveness and proper ongoing system functioning.

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> Submission of these plans to Ecology prior to their respective implementation periods will allow Ecology review and comment, and reduce the risk that these plans and their execution will be inadequate to support an eventual NFA determination for the Property.

2. Cleanup of the Site as a whole.

Ecology has concluded that **further remedial action** will still be necessary elsewhere at the Site upon completion of your proposed cleanup. In other words, while your proposed cleanup may constitute the final action for the Property, it will constitute only an **"interim action"** for the Site as a whole.

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).

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 proposed will be substantially equivalent. Courts make that determination. See RCW 70.105D.080 and WAC 173-340-545.

3. Opinion is limited to proposed cleanup.

This letter does not provide an opinion on whether further remedial action will actually be necessary at the Property upon completion of your proposed cleanup. To obtain such an opinion, you must submit a report to Ecology upon completion of your cleanup and request an opinion under the VCP.

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4. 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).

Contact Information

Thank you for choosing to clean up your Property under the Voluntary Cleanup Program (VCP). As you conduct your cleanup, please do not hesitate to request additional services. We look forward to working with you.

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 425-649-7257 or by e-mail at michael.warfel@ecy.wa.gov.

Sincerely,

Michael R. Warfel, Site Manager NWRO Toxics Cleanup Program

Enclosures (2): A – Legal Description of the Property

B - Description and Diagrams of the Site (including the Property)

C – Basis for the Opinion: List of Documents

ce: Brett Carp, Environmental Partners, Inc.

Heather Vick, VCP Site Manager, Ecology (VCP NW2338, Thinker Toys Site)

Sonia Fernandez, VCP Coordinator, Ecology

Enclosure A Legal Description of the Property

Parcel 154410-0221: CHERITON FRUIT GARDENS PLAT # 1 PCL B BELLEVUE BLA #08-116047 LW REC #20090127900002 SD BLA BEING LOT 1 BELLEVUE BLA# 90-7034 REC #9201159011 TGW & ALL IN POR LOT 2 SD BLK 2 LESS STS

Parcel 154410-0216: CHERITON FRUIT GARDENS PLAT # 1 PCL D BELLEVUE BLA #08-116047 I.W REC #20090127900002 SD BLA BEING LOT 1 BELLEVUE BLA# 90-7034 REC #9201159011 TGW & ALL IN POR LOT 2 SD BLK 2 LESS STS

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Enclosure B

Description and Diagrams of the Site (including the Property)

Sources of Contamination: The sources of petroleum hydrocarbon contamination at the Site are the USTs and associated product piping and dispensers, and potentially the former service garage waste oil UST and dry well. Based on data collected at the Property and surrounding area, the source of PCE and related degradation products detected in perched-zone soil and ground water at the Property is the upgradient Thinker Toys Former facility located north of the Property across NE 8th Street.

Physiographic Sctting: The Property is situated on top of and near the middle of the Interlake Drift Upland, a topographic highland bordered by Lake Washington on the west and the Lake Sammamish/Sammamish River valley to the east. The upland surface is molded into a series of north-south trending ridges and valleys, and near the Site slopes gently down to the southwest (see Figure 1). Elevations at the Property range from about 150 to 160 feet above mean sea level.

Surface/Storm Water System: Surface water runoff from the Property and surrounding area is captured in the City of Bellevue's storm water drainage system. The runoff is likely directed to the southwest towards Meydenbauer Creek, the surface water body closest to the Site. This creek, and its tributaries, historically drained much of downtown Bellevue, but now that drainage is mostly underground in culverts. The creek daylights about ½-mile southwest of the Property, where it continues to the south and west before discharging into Lake Washington.

Ecological Setting: The downtown area near the Property has little ecological habitat, except for limited landscaping around commercial buildings. The land surface in the Site area is covered by paving and buildings.

Geology: The surficial geology of the Property vicinity is mapped as glacial till. Numerous borings (Figure 4) show that the Property is underlain by approximately 5 to 15 feet of fill on top of the glacial till (silt, sand, and gravel), which extends to depths of approximately 35 to 40 feet below ground surface (bgs). This unit contains some sandy zones, particularly at depths of 20 to 35 feet bgs, where perched water is encountered. Below the glacial till is a deposit consisting of silt, sand, and gravel that has been interpreted as glacial (Advance) outwash that extends to a maximum depth of approximately 100 feet bgs. A blue-gray dense, sandy silt layer was encountered beneath the Advance outwash at depths ranging from 90 to 100 feet bgs in some borings (Figure 5).

Ground Water: The uppermost ground water at the Property reportedly occurs as a perched zone within sand lenses in the till. This water-bearing zone occurs between 20 and 35 feet bgs, with static water levels generally 22 to 30 feet bgs. Lateral flow in the perched zone is to the south or southwest (Figure 6).

A lower aquifer, the deep zone, has also been identified within the Advance outwash below 74 feet bgs, with static water levels ranging from 74 to 93 feet bgs. Based on water level elevation

data from deep zone monitoring wells, flow direction in the deep zone is to the southeast (Figure 7).

Release and Extent of Contamination in Soil and Ground Water:

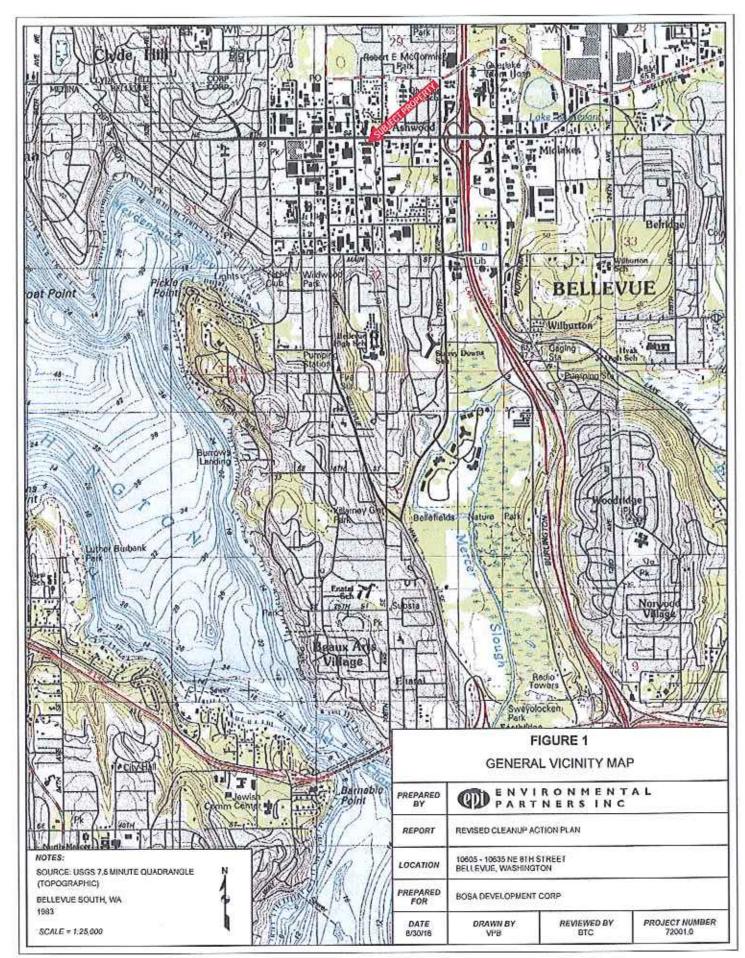
Soil: Soil samples indicate that soil containing petroleum hydrocarbon concentrations greater than MTCA Method A cleanup levels remains at several locations at the Property. Oil-range petroleum hydrocarbons (TPHo) were detected in near surface soils, and gasoline-range petroleum hydrocarbons (TPHg) were detected in soils from 1.8 to 9 feet bgs (at SRO-7) at concentrations greater than Site cleanup levels. The nature and extent of the TPH releases have not been defined. PCE has been detected in soil samples collected at the Property at depths ranging from 12.5 to 65 feet bgs (Figures 8, 9, and 10), and is associated with contaminant migration from the Thinker Toys Site in the perched ground water zone.

Ground Water: Ground water samples obtained from a number of monitoring wells on the Thinker Toys Site and on the Property show a broad PCE plume in the perched ground water zone that extends onto and beyond the Property (Figure 11). PCE concentrations close to 10,000 μg/L in two wells on the Thinker Toys Site suggest the potential for PCE as separate-phase product to be present on that Site and indicate it is the upgradient source of PCE encountered on the Property. Water quality data from the deep water-bearing zone indicate that PCE is not present at concentrations greater than MTCA Method A cleanup levels at the Property or at the Thinker Toys property.

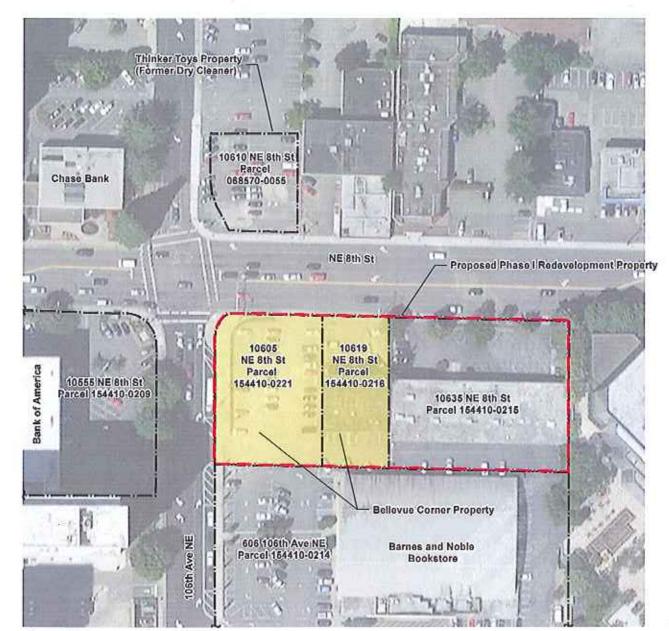
Ground water in the perched zone was sampled downgradient of the TPH detections in soil to determine if TPH impacts are present in ground water (monitoring well URS-MW-3; see Figure 6). TPH-gasoline and BTEX results for this well were below detection limits.

PCE concentrations in ground water samples collected from monitoring wells on the Property are shown on Figure 12.

Site Diagrams



Enclosure B, Figure 1



Legend



Proposed Redevelopment

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Parcel Boundary

Data Source: Aerial Image from Microsoft, 2011, Parcel boundaries from King County, 2013.

Notes:

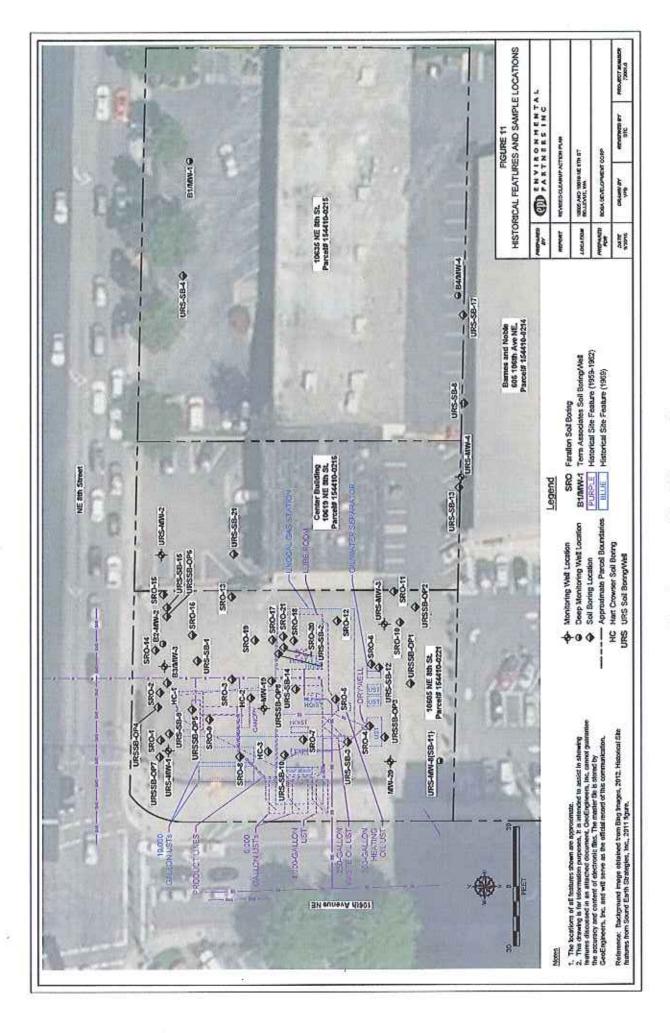
notes;

1. The locations of all features shown are approximate.

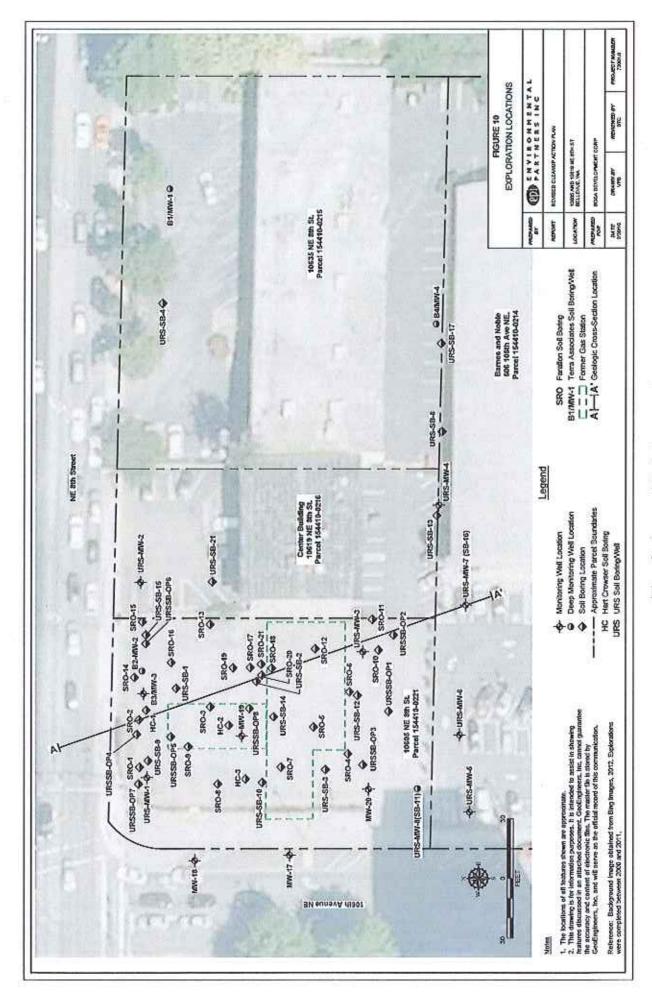
 This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.



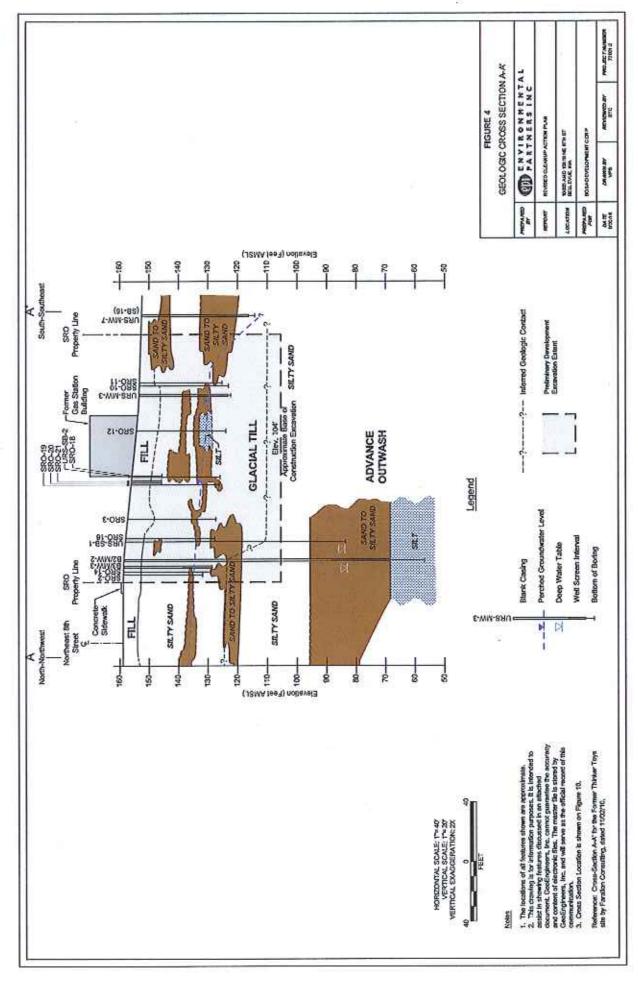
FIGURE 2 SITE REPRESENTATION PREPARED ENVIRONMENTAL BY ENVIRONMENTAL PARTNERSINC REPORT REVISED CLEANUP ACTION PLAN LOCATION 10805 - 10835 NE8TH STREET BELLEVUE, WASHINGTON PREPARED FOR BOSADEVELOPMENT CORP DATE 9/30/16 DRAWN BY REVIEWED BY PROJECT NUMBER 72001.0



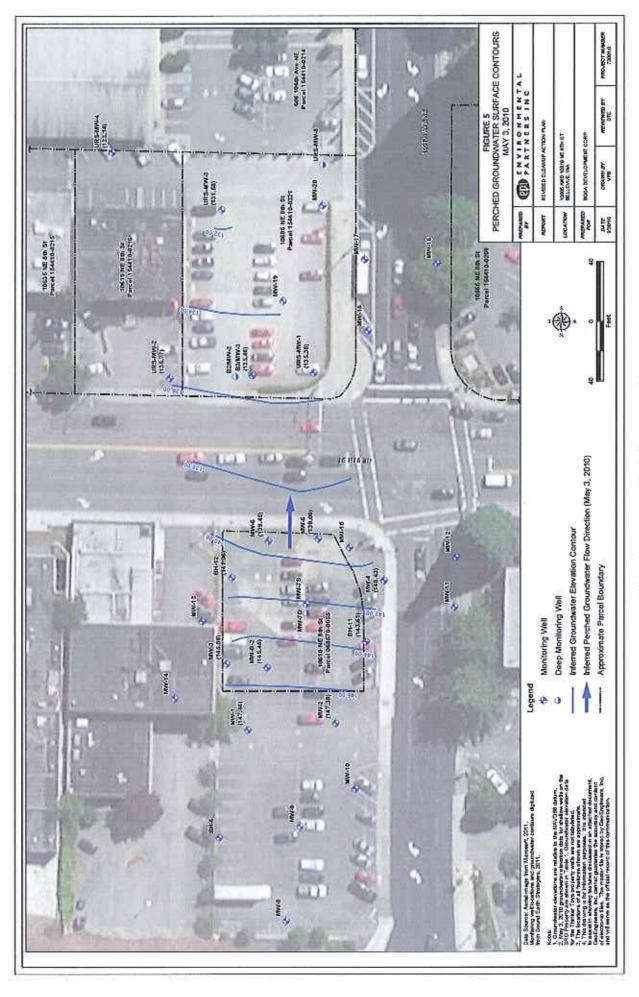
Enclosure B, Figure 3



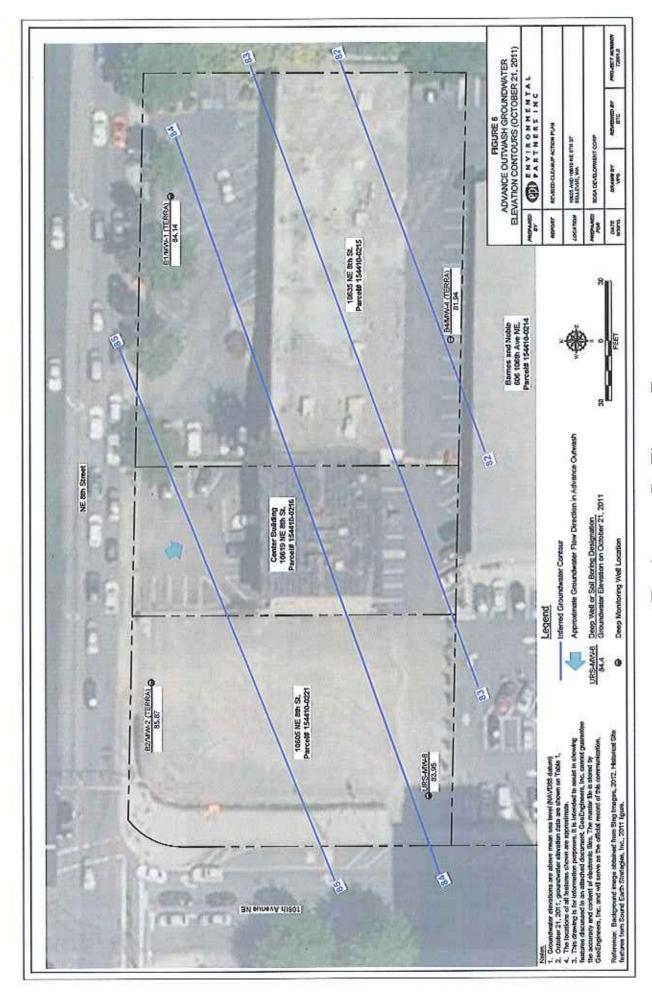
Enclosure B, Figure 4



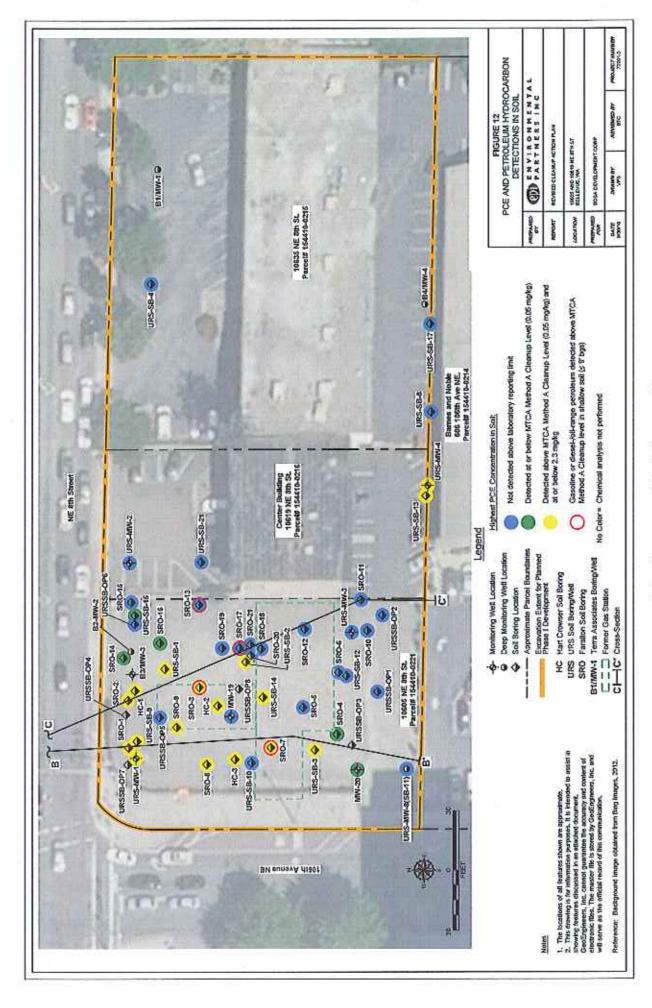
Enclosure B, Figure 5



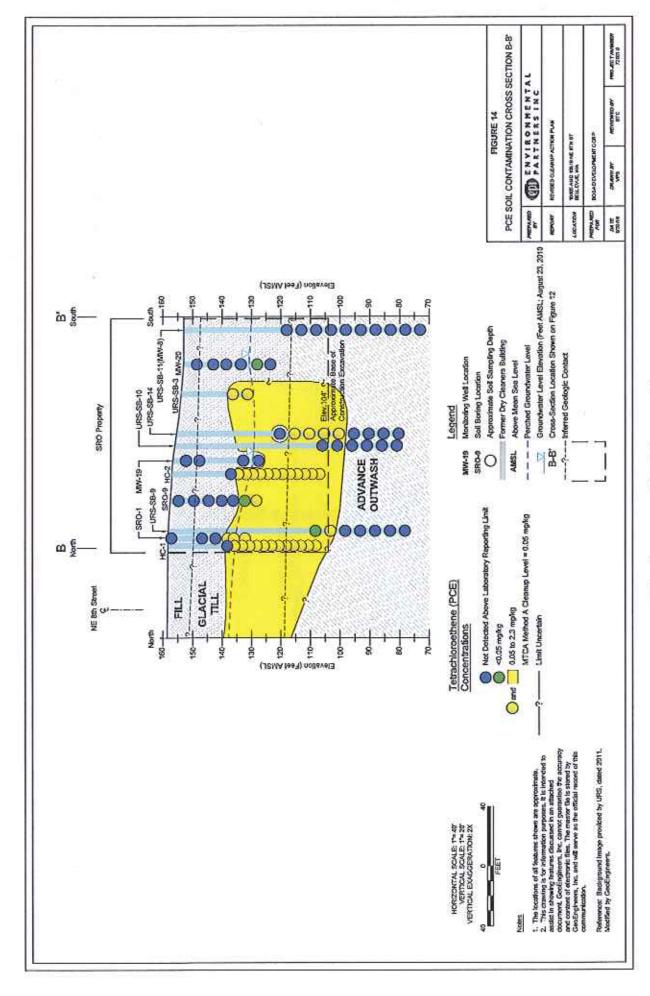
Enclosure B, Figure 6



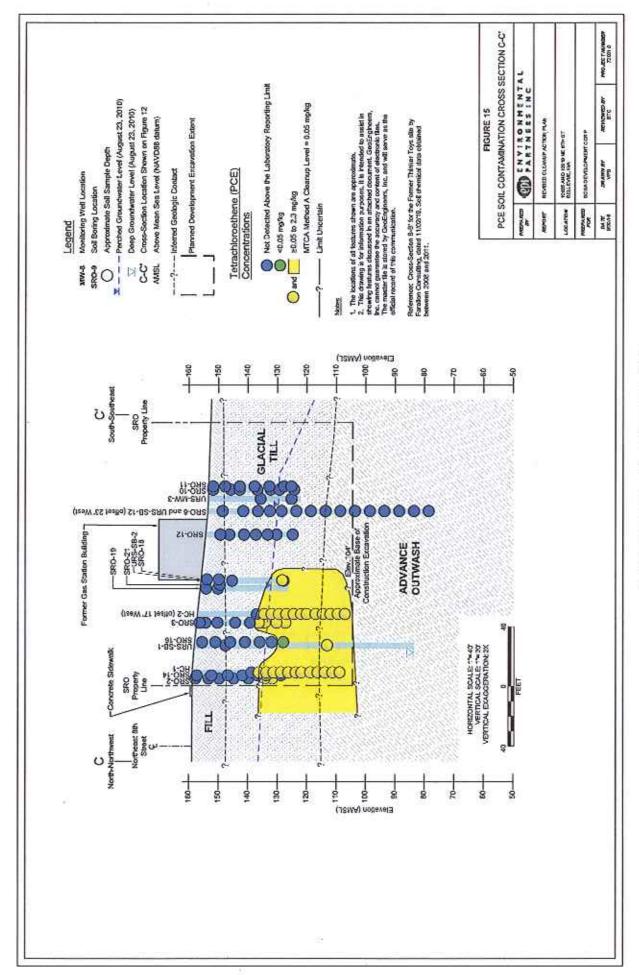
Enclosure B, Figure 7



Enclosure B, Figure 8

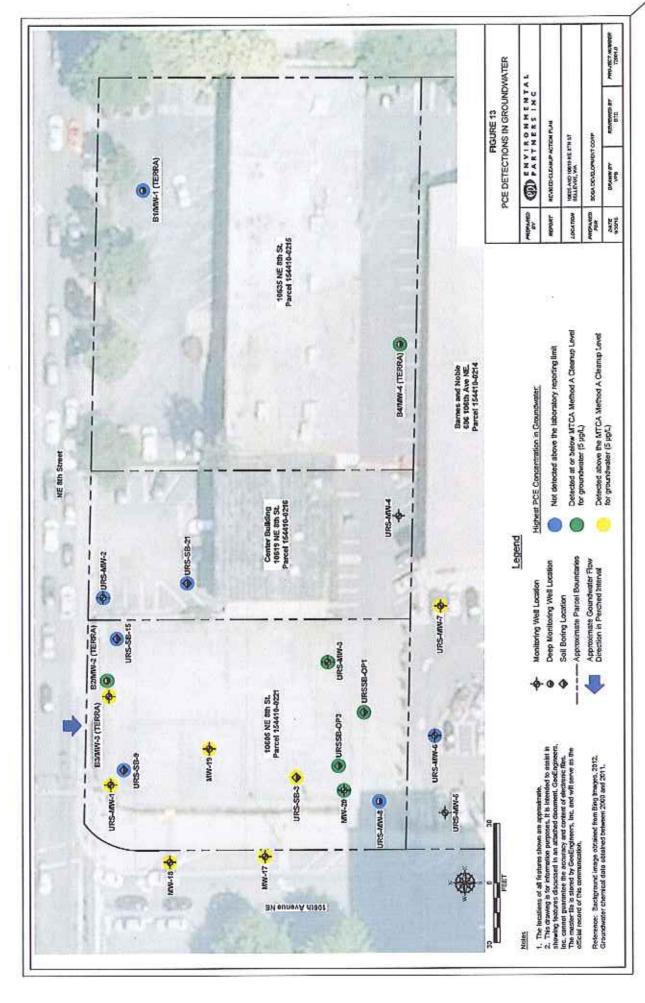


Enclosure B, Figure 9



Enclosure B, Figure 10

Enclosure B, Figure 11



Enclosure B, Figure 12

Enclosure C

Basis for the Opinion: List of Documents

- Sweet-Edwards/EMCON, Inc, Preliminary Environmental Site Assessment (PESA), Unocal Service Station 4511, Bellevue, Washington; September 5, 1990.
- EMCON Northwest, Inc., Underground Storage Tank Closure Assessment, UNOCAL Corporation Service Station 4511, 106th Avenue and NE 8th Street, Bellevue, Washington; May 21, 1992.
- Department of Ecology, Unocal #4511 Final Cleanup Status, No Further Action; July 2, 1992.
- Terra Associates, Inc., Limited Phase II Environmental Site Assessment, SRO Site, SEC NE 8th Street and 106th Avenue NE, Bellevue, Washington, (Ecology's file copy is missing laboratory data report attachment); July 17, 2008.
- URS, Report, Limited Phase II Site Investigation, SRO Bellevue Corner Property, NE 8th and 106th Avenue, Bellevue (Ecology's file copy is missing Appendices C and D) Washington; October 10, 2008.
- SoundEarth Strategics, Inc., Remedial Investigation and Focused Feasibility Study Report, Former Thinker Toys Property, 10610 Northeast 8th Street, Bellevue, Washington (only portions of Appendix B and Appendix D reviewed); April 8, 2011.
- GcoEngineers, Draft Remedial Investigation and Feasibility Study (RI/FS), Sterling Realty Organization, Bellevue Corner Property, 10605 and 10619 NE 8th Street, Bellevue, Washington; December 30, 2013.
- GeoEngineers, Draft Cleanup Action Plan (CAP), Sterling Realty Organization, Bellevue Corner Property, 10605 and 10619 NE 8th Street, Bellevue, Washington; April 10, 2014.
- Department of Ecology, Opinion on Proposed Remedial Action, Bellevue Corner Property, VCP NW2817; April 11, 2014.
- GeoEngineers, Revised Draft Remedial Investigation and Feasibility Study, Sterling Realty Organization, Bellevue Corner Property, 10605 and 10619 NE 8th Street, Bellevue, Washington; June 10, 2014.
- Department of Ecology, Opinion on Proposed Remedial Action, Bellevue Corner Property, VCP NW2817; July 14, 2014.
- Department of Ecology, Opinion on Proposed Cleanup of a Property Associated with a Site, Bellevue Corner Property, VCP NW2817; September 8, 2014.

- GcoEngineers, Remedial Investigation and Feasibility Study, Sterling Realty Organization, Bellevue Corner Property, 10605 and 10619 NE 8th Street, Bellevue, Washington; December 15, 2014.
- GeoEngineers, Revised Draft Cleanup Action Plan (CAP), Sterling Realty Organization, Bellevue Corner Property, 10605 and 10619 NE 8th Street, Bellevue, Washington; December 22, 2014.
- GeoEngineers, Cleanup Action Plan (CAP), Sterling Realty Organization, Bellevue Corner Property, 10605 and 10619 NE 8th Street, Bellevue, Washington; July 7, 2015.
- Environmental Partners, Inc., Revised Cleanup Action Plan, Bellevue Corner Property, 10605, 10619, and 10635 Northeast 8th Street, Bellevue, Washington; November 22, 2016.