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STATE OF WASHINGTON  
**DEPARTMENT OF ECOLOGY**

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September 7, 2022

Jerry Mahan  
Green Cove Park LLC  
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Puyallup, WA 98372  
[jerrymahan@msn.com](mailto:jerrymahan@msn.com)

**Re: Comments on Sundberg Gravel Pit Remedial Investigation Work Plan**

- **Site Name:** Sundberg Gravel Pit
- **Site Address:** 2200 Cooper Pt Rd, Olympia, Thurston County, WA 98502
- **Facility/Site ID:** 82016954
- **Cleanup Site ID:** 10635

Dear Jerry Mahan:

Thank you for submitting the draft Sundberg Gravel Pit Data Gap Report and Remedial Investigation Work Plan (Work Plan) received April 26, 2022. Ecology understands the Work Plan is a proposed attachment to the future agreed order between Ecology and Green Cove Park LLC. Ecology has reviewed the document and has the following comments:

## **General Comments**

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### **Data Gap, Data Summary, and Remedial Investigation Work Plan**

1. Ecology expected this report to serve as a comprehensive data summary report, a data gap report, and a remedial investigation work plan. To function as a data summary report, this report needs a more comprehensive description of the work completed in 2020 and 2021 under the ENPRO Remedial Investigation Work Plan<sup>1</sup> and reconnaissance borings and groundwater grab sampling completed in 2021. Provide more details on the potential sources identified, the sampling proposed to investigate these sources, the results of the fieldwork, deviations from the work plan and conclusions.

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<sup>1</sup> ENPRO Environmental (ENPRO), *Green Cove Park Development Remedial Investigation Work Plan (ENPRO Remedial Investigation Work Plan)*, Prepared for Green Cove Park, LLC/Westbrook Investments, November 16, 2020.

## Additional Sampling Needed in Work Plan

2. This comment letter identifies additional sampling required in the initial Work Plan to define the nature and extent of contamination at the site. Ecology recognizes the potentially liable party's desire to move through the Model Toxics Control Act (MTCA) cleanup process quickly in order to move forward with plans for the property. Ecology wants to help support this goal by requiring necessary sampling, known at this time, in the initial Work Plan. A future Work Plan addendum may be necessary depending on the results of the initial work plan, but delaying necessary sampling until a future addendum will slow the investigation.

## Sampling and Analysis Plan

3. The majority of the comments in this letter are focused on the main Work Plan text; however, Appendix A, Sampling and Analysis Plan, must be updated also, as required, to support the revised Work Plan.

## Schedule

4. Include a schedule for the proposed remedial investigation work. The schedule may be described in text, but should also be shown in table format, similar to the draft agreed order schedule example provided below, clearly showing each deliverable or activity and its due date. Due dates are not expected to be calendar dates, but timelines relative to the previous work completed. The remedial investigation work schedule should be suitable for inserting into an agreed order scope of work so there is a single overall schedule.

### *Schedule Example*

<b>RI/FS Deliverables/Action</b>	<b>Due Dates</b>
Complete wetland surface water and sediment sampling. Complete borings to characterize fill quality, depth, and location.	Within 90 days of initiating the RI Work Plan
Install groundwater monitoring wells	Within 30 days completing fill characterization.
Quarterly groundwater monitoring	Start within 14 days of installation of new monitoring wells and every 90 days afterwards.
Review results and discuss next steps with Ecology	Quarterly following submittal of data.
Prepare and submit an RI Addendum, if required.	If required by Ecology after four quarters of groundwater monitoring and consultation with Ecology, submit a draft RI Work Plan Addendum within 60 days.

## Future Decisions

5. The Work Plan's Remedial Investigation (RI) Approach section mentions the possibility of installing additional monitoring wells, doing additional RI work and preparing an RI addendum, if needed; however, the process for making these decisions is not clear. Include any proposed decision points in your schedule and include a process and timeline for submitting proposals for additional work or a Work Plan addendum, meetings to discuss the proposal with Ecology, incorporating Ecology's comments, preparing revised documents, and updating the schedule.

## Deliverables

6. Monthly progress reports, as outlined in the agreed order, will include deliverables, such as field reports, analytical lab reports, and quarterly groundwater monitoring results. Clearly identify any additional deliverables, such as the proposed draft and final Work Plan Addendum in the detailed Work Plan schedule.

## Former Underground Storage Tank (UST) Location

7. The location of the former diesel UST, in place from 1967 to 1993, appears incorrect. The Stemen 1993<sup>2</sup> tank removal drawing (Figure 1) shows the tank **northeast** of the home near a "shack" and between the home and "20th street entrance." The Stemen 1993 text also describes the UST's location as approximately 750 feet from the well located near the onsite residence. This distance is consistent with an UST near the shack that remains on the site and the structures in the south central part of the site shown on aerial maps from 1968 through 1996 (Figure 2 shows a 1990 aerial photo). It is not clear why the Work Plan Figure 7 shows the tank within 100-200 feet **northwest** of the former home.

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<sup>2</sup> Stemen Environmental, Inc. (Stemen), 1993, Letter RE: Underground Storage Tank Removal Located at 2200 Cooper Point Road N.W. Olympia, Site #011500, County Plot #8170000000. March 18, 1993.

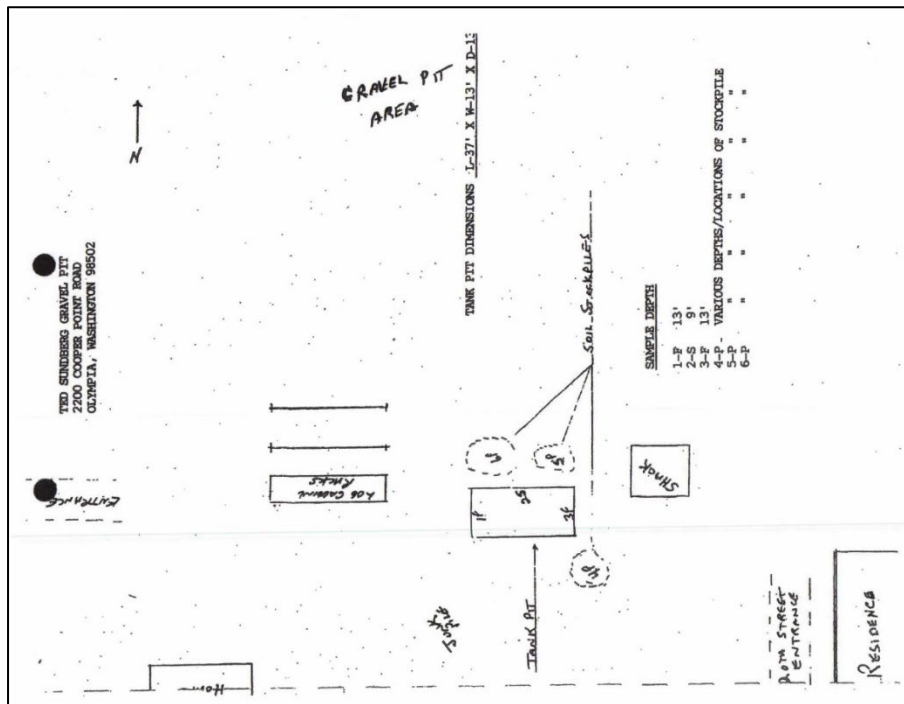


Figure 1. Map from Stemen 1993<sup>2</sup> Report

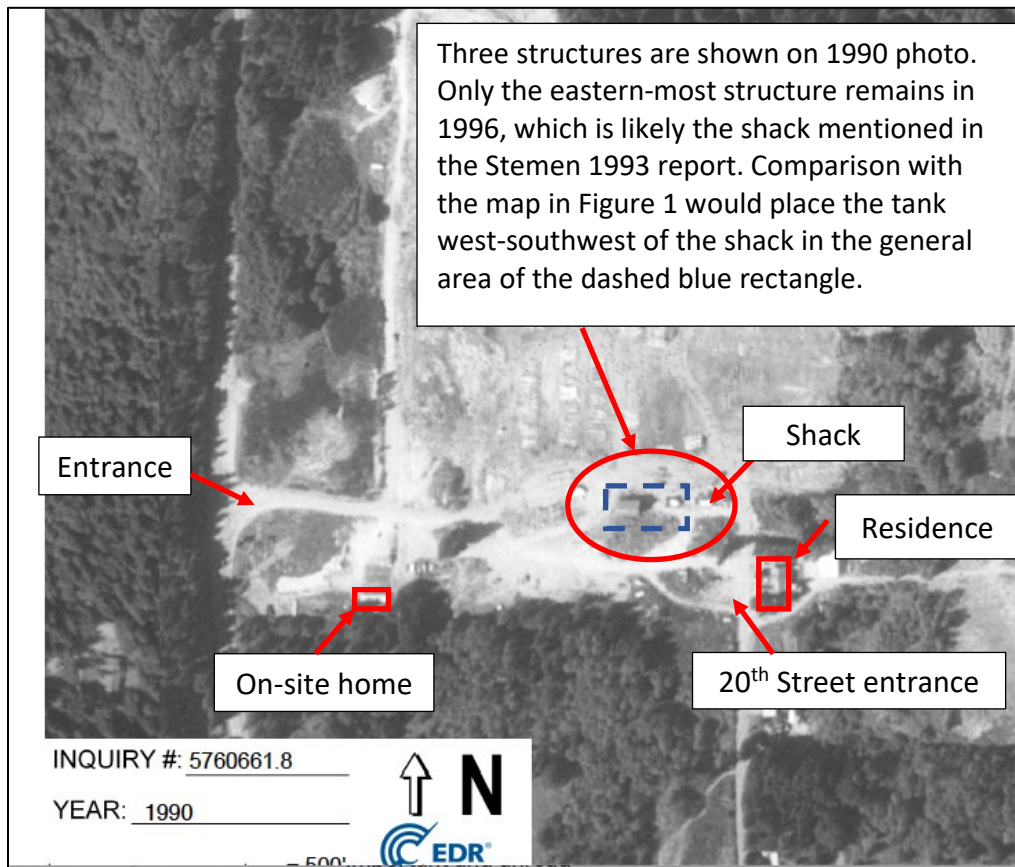


Figure 2. 1990 aerial photo

### **Additional Investigation in the Initial Phase of Work**

8. The Work Plan proposes to do a limited scope of work in an initial work plan and develop a work plan addendum in the future after receiving the results of the initial investigation. Ecology identified additional work needed regardless of the results of the proposed initial investigation. Delaying this work will delay the completion of the remedial investigation.

### **Groundwater Monitoring Wells**

9. The Work Plan considers installation of additional groundwater monitoring wells only after the first round of groundwater monitoring and evaluation. Evaluating whether some concentrations of diesel plus oil-range total petroleum hydrocarbons (TPH) in groundwater are elevated or false positives associated with the presence of non-petroleum organic matter or metabolites resulting from petroleum hydrocarbon degradation will take a minimum of four quarters of groundwater data. Waiting to evaluate groundwater and install additional monitoring wells necessary to fill other data gaps until after evaluation of four quarters of groundwater data will slow the RI process.

Ecology requires installation of monitoring wells in the initial Work Plan to fill these data gaps. These wells will be necessary regardless of a decision regarding the effects of organic matter on petroleum hydrocarbon results.

- a. Define the potentiometric surface and groundwater flow direction on the southeastern portion of the site. The report shows a groundwater high bisecting the site from northeast to southwest based on two wells providing an indication of groundwater flow to the southeast (MW3 and MW10) and a single round of sampling. Confirmation of groundwater flow direction requires additional monitoring wells in the south, southeast and eastern parts of the study area and seasonal monitoring.
- b. Define the extent of contamination around the location of soil and groundwater exceedances near B3/MW3. A petroleum odor detected in test pit TP6, a diesel and heavy oil-range TPH exceedance of 5200 milligrams per kilogram (mg/kg) in soil at a depth of 10 feet in boring B3, and groundwater exceedances of diesel and heavy oil-range TPH in monitoring wells MW3 and MW9 indicate a release of TPH in this area. Further soil and groundwater investigation is required to characterize and bound the impacted area.
- c. Investigate the quality of groundwater along the eastern site boundaries where aerial photos from 1980, 1990, and 2003 show disturbances—fill was noted in every test pit in this part of the site, and bark or logs are reported buried.
- d. Define the quality of groundwater near the correct location of the former UST and former garage area shown in aerial photos prior to 1996 in the south-central portion of the site. Benzo(a)pyrene and Total cPAH TEQ exceedances, such as those in surface soil sample SS11 near this area, are sometimes associated with buried asphalt.

- e. Investigate the extent of potential impacts off-property to the north on adjacent parcel 66000001403 at 2711 28<sup>th</sup> Ave NW. Sundberg previously owned this parcel, and aerial photos from 2003 to the present show potentially related disturbances on this property with the creation of a drainage pond connected to the site by a ditch. Test pits show fill up to 15 feet deep near the property boundary with this site. Groundwater monitoring wells MW2, MW4, and MW5 near property boundary with this parcel show exceedances of diesel and heavy oil-range TPH and metals. Even if these exceedances are found to be related to buried organic material or redox, this area must be investigated because of the connected drainage pathway extending from the site.
- f. Characterize the quality of groundwater below the areas of deepest fill. Current information shows fill extends up to 15 feet deep in some areas of the site; however, some test pits were halted prior to reaching native soil, so the full depth of fill is unknown. The deepest groundwater monitoring wells are only 15 feet deep. The quality of groundwater below areas with the deepest fill is unknown. Sample groundwater below representative areas of deepest fill.
- g. If contamination is confirmed in the shallow perch aquifer, the quality of the deeper aquifer will likely need to be evaluated, requiring a Work Plan addendum.

### **Soil Sampling**

- 10. The Work Plan does not include additional soil sampling. Additional soil sampling is needed to fill data gaps related to the quality and depth of fill and quality of soil below deepest fill.
  - a. Confirm the depth of fill across the site. Some test pits did not reach native soils below fill making the depth of fill unclear. Additional borings are needed to collect this information, including locations where former test pits showed evidence of caving and excavation was terminated before reaching native soils.
  - b. Prepare geologic boring logs and sample soil during groundwater well drilling to continue refining information about soil and fill depths site-wide. The Work Plan, including the Sampling and Analysis Plan, must be updated to include the procedures for sample collection, such as the planned soil sampling intervals, and sampling triggers, such as elevated photoionization detector (PID) reading.
  - c. Sample soil below deepest fill when installing groundwater monitoring wells designed to sample groundwater below the depth of fill.
  - d. Include cross-sections in the Work Plan to show the depth of fill and areas where fill depth is not characterized.

## Wetland Surface Water Sampling

11. Include wetland surface water sampling in the initial Work Plan. According to MTCA, sufficient surface water and sediment sampling shall be performed to adequately characterize the areal and vertical distribution and concentrations of hazardous substances (WAC 173-340-350(&)(c)(iii)(A)). There is no reason to delay this work until a future work plan addendum. Consider protection of ecological receptors and protection of human health through direct contact when setting screening level criteria protective of current and future planned land use.

## Methane Monitoring

12. Include a more robust methane monitoring investigation in the initial Work Plan.

## Environmental Information Management (EIM) Database

13. Under Policy 840,<sup>3</sup> Ecology requires submittal of all analytical data collected since August 2005 to Ecology's EIM database. Submit data collected prior to August 2005 if it used to make conclusions. As of the date of this letter, no site data is in EIM. Generally, EIM data submittal is required prior to Ecology review of reports under an order. Submit this data to EIM when submitting the revised Work Plan.

## Specific Comments

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### Section 2.2 Subject Property History

1. **Historical land disturbance:** The limits of historical land disturbance shown on Figure 2 are described as based on historical aerial photographs and LiDAR data. Provide a copy of the LiDAR data to Ecology. Section 2.2 also says portions of the Subject Property outside of these limits of land disturbance are treed, forested areas that appear undisturbed in historical documentation; however aerial photos from 1980, 1990, and 2003 indicate disturbances beyond this boundary along the east side of the study area and north of the study area. Revise the boundary to include all disturbances from historical images and information from site investigations. This boundary must also capture all areas known to have fill shown on Figure 8.
2. **Historic buildings or structures:** The history does not mention the three buildings seen in aerial photos (1968, 1973, 1980, and 1990) in the south-central part of the site near the current shack. From the aerial photos, this area appears to have served as the gravel pit's maintenance and garage area prior to the addition of the home and garage in the southwest portion of the site in the late 1980's or early 1990's. Amend the history to include information on this area.

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<sup>3</sup> Washington State Department of Ecology, *Toxics Cleanup Program Policy 840: Data Submittal Requirements*, Established August 1, 2005, Revised April 12, 2016.

- 3. Incorrect date of UST removal:** The 12,000-gallon UST was removed in 1993<sup>1</sup>, not 2003. The inspection report showed tank still needed cleaning and the owner retained on-site. There is no information about the disposal of the tank after removal. Correct this date throughout the Work Plan.

### ***Section 2.3 Current and Future Land Use***

- 4. Status of Ecology Sand and Gravel General Permit:** The Work Plan states, "Pending final reclamation, the former mine areas are subject to the Ecology Sand and Gravel General Permit, which regulates stormwater management from sand and gravel operations." Ecology denied the latest Sundberg Sand and Gravel request for renewal since mining is no longer occurring on the site and the active permit expired on March 31, 2021. Update the section with this information.

### ***Section 3.2 Geology and Hydrogeology***

- 5. Cross-sections:** Include cross-sections of site geology and features. Include depth of fill, wells, test pits, and borings in the cross-sections where appropriate.

### ***Section 4.1 Stemen Interim Action***

- 6. Incorrect date for Stemen Report:** The Stemen Report<sup>1</sup> and interim action occurred in 1993, not 2003.

### ***Section 4.5 ENPRO Investigation 2020/2021***

- 7. Include a more detailed description of the ENPRO 2020/2021 Investigation:** Include a more detailed description of the data gaps identified during the 2020/2021 investigation, the work completed and the results. The 2020/2021 investigation was designed to address or partially address multiple data gaps and site concerns, but the ENPRO Remedial Investigation Work Plan<sup>1</sup> and the results of this investigation have not been fully reported to Ecology or shared with the public yet. Since this Work Plan builds upon the ENPRO Remedial Investigation Work Plan,<sup>1</sup> it is essential to include a more comprehensive review of this work here.
- 8. Missing supplemental work plan and data:** According to the Work Plan, additional borings (B12 through B21) with soil and groundwater sampling for TPH occurred June 24, 2021. A description of this work was not included in the ENPRO Remedial Investigation Work Plan.<sup>1</sup> Provide any supplemental work plan that guided this work as well as the boring logs, field notes and full analytical lab reports associated with this sampling. Include an explanation of why there are no groundwater results for B18 or B20.
- 9. Missing analytical lab reports:** Provide Ecology copies of the full analytical lab reports associated with the 2020 and 2021 sampling for all media.



### **Section 4.6.1 Soil and Groundwater Conditions**

**10. Subsurface characteristics:** Section 4.6.1 discusses three categories of subsurface characteristics (relatively undisturbed areas with less than 3 feet of fill, mined areas with less than 7 feet of reworked native soil fill, and mined areas with 3 feet to 15 feet of fill consisting of soil and construction and/or organic debris).

The report does not use these categories. These categories are different from those mapped in Figure 7. The purpose of defining these three categories is not clear. If understanding the subsurface characteristics in this way is important, then include a figure showing the site locations or areas of the site using these characteristics.

**11. Previous methane sampling:** Section 4.5 of the Work Plan mentions methane monitoring during the boring drilling and during the November 2020 groundwater sampling event. Section 4.6.1 reports that no methane was measured to be present; however, the screening and measurement methods are not documented. Remove the conclusion “and none was measured to be present” unless there is sufficient data to back this up. Provide any results, field notes, and information about this methane monitoring so that we can improve future methane monitoring.

**12. Groundwater flow:** The Work Plan provides a groundwater elevation map (Figure 6) that shows a groundwater high bisecting the property from southwest to northeast. One groundwater sampling event from May 2021 is the basis for this conclusion. Provide a similar groundwater elevation map for the data from November 2020 to show whether the data supports the same or a different conclusion.

Remove the boring locations from the figures, as no groundwater elevations associated with the borings. Including them on Figure 6 gives the incorrect impression that the boring locations support the groundwater flow directions. Only two wells provide an indication of groundwater flow to the southeast (MW3 and MW10) supporting the conclusion of a groundwater high bisecting the property.

Evaluation of groundwater flow direction requires additional monitoring wells in the south, southeast, and eastern parts of the study area. Add additional groundwater monitoring wells during Phase 1 to support evaluation for groundwater flow direction and gradient in the south, southeast, and east parts of the study area.

**13. Monitoring well construction:** Monitoring wells, MW1 through MW11, were installed with screens from 5 feet to 15 feet below the ground surface without adjusting drilling depth and screens to straddle the perched groundwater elevation depth at individual locations. Because of this, MW10 is essentially dry (a groundwater elevation was obtained in May 2021, but there was inadequate volume for a groundwater sample during either the November 2020 or May 2021 monitoring events), and MW9 had an adequate volume of groundwater for sampling only during the wetter sampling event in November 2020. This limits the usability of these two wells. In addition, we have documented fill to at least 15 feet deep and there are no monitoring wells designed to sample groundwater below the depth of the

deepest fill. Installation of monitoring wells to measure the quality of groundwater below areas of deepest fill is needed.

#### ***Section 4.6.2 Soil Quality and Section 4.6.3 Groundwater Quality***

**14. Summary maps of soil and groundwater exceedances and detections:** Include maps showing locations where contaminants of concern exceed preliminary screening levels. If there is sufficient data, create contamination gradient maps or show simple outlines around areas of known contamination. Use dotted lines to show areas where the extent of contamination is not fully characterized. The Work Plan must include proposed soil or groundwater sampling designed to help bound these areas.

#### ***Section 5.1 Known and Suspected Sources***

**15. Former buildings/garage area:** Add as a suspected source the buildings in the south-central part of the site seen in aerial photos from 1968, 1973, and 1980. This area may have served as the garage or maintenance area prior to building the home and garage in the southwest part of the site in the late 1980's.

**16. Reports of potential contamination:** This section includes one paragraph of reports described as "unfounded and unsubstantiated." This section should be expanded and describe any sampling done to investigate these reports. The 2020 ENPRO RI WP<sup>3</sup> considered and included sampling to investigate some of these reports (See Specific Comment #7).

#### ***Section 5.1.1 Former UST***

**17. UST location and removal date:** Consider and correct the location of the former diesel fuel UST decommissioned and removed in 1993, not 2003.

#### ***Section 5.2.1 Simplified Terrestrial Ecological Evaluation***

**18. Terrestrial Ecological Evaluation (TEE):** The Work Plan includes an evaluation that concludes only a simplified TEE is required and states the RI will include the simplified TEE. Sufficient information is not included for Ecology to support and approve this conclusion. Remove the conclusion and arguments from this section and include a full evaluation of whether a simplified or site-specific TEE is necessary in the RI along with the required TEE.

**19.** The criteria labeled "Natural areas" under the first bullet is not complete. Under WAC 173-340-7491(2)(a)(i), the site must not be located on or directly adjacent to, ". . .any area where management or land use plans will maintain or restore native or seminative vegetation. . ." Regulations, including Olympia Municipal Code (18.32), RCW 90.48 and/or the Cleanup Water Act, include requirements to protect and maintain the vegetation in the on-site wetlands.

The criteria labeled “Extensive habit” in the third bullet concludes the site is not located on a property that contains 10 or more acres of native vegetation within 500 feet of the site, not including vegetation beyond the property boundaries. Since the site boundary and affected property boundaries have not been determined yet, it is premature to conclude whether this requirement applies. An evaluation by a field biologist is likely needed to determine whether vulnerable species or significant wildlife populations use the site.

### **Section 6 Data Gaps**

**20. Additional data gaps:** Additional data gaps are described in the general comments above. Add these additional data gaps to this list.

### **Section 7.2 Preliminary Constituents of Potential Concern**

**21. Constituents of potential concern (COPCs):** The site is not fully characterized and it is premature to limit additional characterization to only those chemicals that have been detected at concentrations above the MTCA cleanup levels. Sampling at this point in the investigation must continue to include the wider range of chemicals as shown in Section 4.5 under the ENPRO Investigation 2020/2021. Initial sampling of wetland sediments must not be limited to diesel and oil-range TPH and Polycyclic Aromatic Hydrocarbons (PAHs), but must include the Sediment Management Standards<sup>4</sup> chemicals and conventional parameters in Sediment Cleanup User’s Manual,<sup>5</sup> Table 8-1.

### **Section 7.3 Proposed Site Screening Levels**

**22. Screening Level Table:** The text describes proposed site screening levels, but a table of screening levels is not included. Tables with soil and groundwater results include proposed site screening levels, but these tables do not include the basis for the levels. There are no sediment or surface water screening levels. Include a screening level table for all media with the applicable regulatory criteria considered, proposed screening levels, and the basis for each proposed screening level. Include background levels and practical quantitation levels (PQLs) if known.

### **Section 7.4 RI Approach**

**23. Schedule:** The RI Approach must include a detailed schedule of activities and deliverables.

**24. Supplemental RI:** The RI Approach discusses a Work Plan addendum. The schedule and process for submittal, review, and revision of a Work Plan addendum is not clear. Clarify this process in the Work Plan schedule. As outlined in comments above, most of this work is necessary to fill data gaps and therefore must be included in the initial Work Plan. The addendum will provide an opportunity to add necessary additional investigation based on the results of the initial Work Plan.

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<sup>4</sup> Sediment Management Standards, WAC 173-204

<sup>5</sup> Washington State Department of Ecology, *Sediment Cleanup User’s Manual*, Publication No. 12-09-057, March 2015, revised December 2021.

### **Section 7.4.1 Groundwater Monitoring and Sampling**

- 25. Quarterly groundwater monitoring:** Section 7.4.1 mentions an initial round of groundwater monitoring, but does not mention on-going groundwater monitoring to capture seasonal changes. Ecology requires a minimum of four quarters of quarterly groundwater monitoring in all wells to evaluate, characterize, and make decisions about the quality of site groundwater.
- 26. Monthly groundwater level monitoring:** The Work Plan proposes monthly groundwater-level monitoring in existing wells to evaluate seasonal variability in groundwater flow direction and gradient. The monthly groundwater-level measurements must continue for a minimum of one year and until agreement to end groundwater-level monitoring is reached with Ecology.
- 27. Silica Gel Sampling:** According to Ecology's Guidance for Remediation of Petroleum Contaminated Sites, most groundwater does not contain significant levels of naturally occurring organic matter. For this reason, silica gel cleanup should not be used for NWTPH-DX analyses of groundwater samples, unless uncontaminated background samples indicate that organic matter is a significant component of the TPH being detected in the groundwater samples.<sup>6</sup>

Because of the amount of buried organic matter at this site and the scattered nature of the initial diesel plus oil-range TPH exceedances, Ecology agrees with the proposal to evaluate whether some concentrations of diesel plus oil-range TPH are elevated or false positives associated with the presence of non-petroleum organic matter. Perform TPH analyses, including NWTPH-GX and splitting samples for NWTPH-DX analyses with and without silica gel cleanup, for four quarters. All wells must be sampled, not just those with results exceeding screening levels, so that the entire footprint can be evaluated. To account for seasonal water table fluctuations, we need at least four quarters of data.

### **Section 7.4.2 Methane Monitoring**

- 28. Proposed methane sampling:** To rule out the presence of methane at the site, Ecology is not confident relying on results measured using a hand-held gas meter at a monitoring well after opening. Any vapors in a monitoring well will quickly dissipate after well cap removal. It may be possible to confirm presence of methane as an initial investigation step in this manner; however, this technique is unlikely to be robust enough to confirm the absence of methane. Methane concentration data alone is not sufficient to evaluate hazards from vadose zone gas. Soil gas pressures along with evaluation of the conceptual site model (soil types, pathways, receptors, etc.) are also necessary.<sup>7</sup> Due to the confirmed presence of buried

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<sup>6</sup> Washington State Department of Ecology, *Guidance for Remediation of Petroleum Contaminated Sites*, Publication No. 10-09-057, June 2016.

<sup>7</sup> ASTM Standard E2993, 2016, *Standard Guide for Evaluation Potential Hazard as a Result of Methane in the Vadose Zone*, ASTM International, West Conshohocken, PA, 2016, [www.astm.org](http://www.astm.org).

organic material, Ecology requires a more robust investigation of methane, including soil gas measurements, to be included in the Work Plan.

#### **Section 7.4.4 Monitoring Well Installation**

**29. Minimum of four quarters of groundwater monitoring needed to make conclusions:** The Work Plan discusses the need to determine whether concentrations of petroleum hydrocarbons are attributable to the presence of organic carbon and proposes making a decision about additional monitoring wells after the initial round of groundwater sampling only. See general comment regarding need for at least four quarters of data to make conclusions.

#### **7.4.5 Additional RI Work**

**30. Deep groundwater aquifer:** The static groundwater table is located below the site at a depth of approximately 110-149 feet. There are no monitoring wells designed to sample this aquifer; however, the 2016 Revised Hydrogeologic Report<sup>8</sup> concludes the thick, glacially consolidated fine-grained deposits underlying the site do not transmit water readily to recharge the locally deep groundwater table and the deep aquifer is effectively disconnected from direct recharge. Section 7.4.5 Additional RI work must include installation of one or more monitoring wells to monitor the deep aquifer if data confirm contamination in shallow perched groundwater and indicate the possibility of perched groundwater migrating towards the deep aquifer.

#### **Figures**

**31. Figure 2 Subject Property Map showing Historical Features:**

- a. Update the historical land disturbance boundary according to the comments provided in Section 2.2.
- b. The boundary of the former garage area must include the garage. There was documented soil staining inside, in front of, and around the garage, yet the garage area boundary is drawn off to the east and does not include the garage or the area directly in front of the garage. Redraw this boundary to include the garage and the area directly in front (north) of the garage. Include the location of the former Aboveground Storage Tank (AST) just northeast of the garage. This figure must also outline the location of previous site-related buildings in the south central part of the site that appear to have served as former maintenance or garage areas prior to building the garage in the southwest area of the site in the late 1980's or 1990's.

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<sup>8</sup> Earth Solutions NW LLC (Earth Solutions), 2016, *Revised Hydrogeologic Report Proposed Green Cove Park Residential Development, Olympia, Washington*, June 6, 2016, revised October 11, 2016.

**32. Figure 3 Sensitive Areas Map:** Figure 3 is labeled Sensitive Areas Map, but shows only the nearest wellhead protection area. Text in 3.4 mentions the Cooper Point Peninsula is identified by Thurston County as a Critical Aquifer Recharge Area (CARA), which is an area overlying significant groundwater resources and susceptible to groundwater contamination. Most of the subject property is a Category II CARA, characterized by high aquifer sensitivity. Nearby streams are shown, but not included in the legend. Wetlands and wetland buffers are not included. Clarify the definition of “sensitive areas” and revise or rename this figure as appropriate.

### Tables

**33. Table 2 Summary of Historical Soil Data:** Correct Table 2 to show detection of TPH-O at 370 mg/kg in TP6 according to the results included in the 2008 Phase II Environmental Assessment<sup>9</sup> (Robinson Noble, March 3, 2008).

### Appendix A

**34. A.2.1 Groundwater Monitoring and Sampling:** If methane monitoring is completed at groundwater monitoring wells immediately after opening, it should be mentioned in the first bullet under this section, with a reference to the Methane Monitoring section, so that monitoring is not inadvertently missed when the cap is initially removed, allowing any methane to clear prior to monitoring. Even if this step is included in the revised Work Plan, Ecology requires a more robust methane monitoring investigation, including soil gas measurements, in the initial Work Plan.

**35. A.2.1.2 Groundwater Sample Identification:** A procedure is included for labeling groundwater samples, but not for labeling samples from other media, such as sediment. Include sample identification for each other media or move the sample identification instructions out of the groundwater-specific section and include more generally to all media.

**36. A.2.2.1 Wetland Sediment Sampling:** Initial sampling of wetland sediments must not be limited to diesel and oil-range TPH and PAHs, but must include the Sediment Management Standards chemicals and conventional parameters in Sediment Cleanup User’s Manual Table 8-1.

## Editorial Comments

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### Section 4.5

1. Last paragraph: Change “inn” to “in.”

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<sup>9</sup> Robinson Noble, *Sundberg Estates Subsurface Investigation (Phase II Environmental Assessment)*, March 4, 2008

### **Section 7.4.1**

2. The last line directs the reader to Section 7.4.2 for more information on installation and sampling of additional monitoring wells. Check and correct this reference. It appears this should point to Section 7.4.4.

### **Appendix A, Section A.2.2.1**

3. Section A.2.2.1 Wetland Sediment Sampling appears as a subsection under Section A.2.2 Methane Monitoring. The Wetland Sediment Sampling should be a separate section under A.2.

### **Next Steps**

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Ecology expects to meet with you in September to discuss these comments and next steps. Submit a revised draft Work Plan within 60 days, by November 7, 2022. After Ecology's review and approval of the revised draft Work Plan, Ecology will prepare for a public comment period on the draft Agreed Order and the Work Plan.

If you have any questions, please contact me at 360-584-7076 or [connie.groven@ecy.wa.gov](mailto:connie.groven@ecy.wa.gov).

Sincerely,



Connie Groven, PE  
Toxics Cleanup Program  
Southwest Region Office

CGG/tam

cc by email: Carla Brock, Aspect Consulting, [cbrock@aspectconsulting.com](mailto:cbrock@aspectconsulting.com)  
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Ecology Site File