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May 04, 2023

Jerry Mahan
Green Cove Park LLC
429 29th St NE, Suite A
Puyallup, WA 98372
jerrymahan@msn.com

Re: Comments on revised draft Sundberg Gravel Pit Data Gap Report and 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 revised draft Sundberg Gravel Pit Data Gap Report and Remedial Investigation Work Plan (Work Plan) dated December 23, 2022. Ecology understands this Work Plan is a proposed attachment to the future agreed order between Ecology and Green Cove Park LLC. Ecology reviewed the revised Work Plan to confirm Ecology's September 7, 2022, comments were addressed. The following comments note issues that were not fully addressed by the revisions.

Specific Comments

1. Update Historic Land Disturbance Boundary.

The text in Section 2.2 defines historical land disturbance to include areas of grading and filling, but not vegetation clearing or logging. The text says the estimated limits of historical land disturbance has been evaluated using a variety of data and information sources, including LiDAR and historical aerial photos, and is depicted on Figure 4; however, the

boundary shown on both sides of Figure 4 appears to be the limits of land disturbance based on LiDAR only. In Figure 4, the LiDAR disturbance boundary is overlaid on a 2003 aerial map which appears to show additional areas of grading beyond the LiDAR land disturbance boundary.

- **Clarify the historical land disturbance boundary definition by editing Figure 4 to show the historical land disturbance boundary based on LiDAR only in the left-hand figure and a historical land disturbance boundary based on LiDAR and aerial photos on the right.**

  At a minimum, the historical land disturbance boundary based on LiDAR and aerial photos should include the graded areas along the southeastern border and northeastern corner of the property shown in the 2003 and 1960 aerial photos, respectively Test pit data indicate fill is likely present in both locations.

2. Include prior Figure 8, Fill Observations, and show areas with unknown depth of fill.

Figure 8, Fill Observations, from the April 20, 2022, Draft Data Gaps and Remedial Investigation Work Plan included helpful, visual information about fill observations across the site. This Work Plan also serves as a data summary report, and it is unclear why this figure was removed.

- **This figure should be replaced and included in the Work Plan.**

The new Table 2, Subsurface Conditions Summary, includes detailed information about each location, but this should not replace the figure.

- **Add a symbol or highlight to the locations on Figure 8 where the depth to native is unknown.**

  This figure helps visually identify areas of the Site where the depth and quality of fill is lacking, as well as identify areas where other nearby sampling locations provide information useful for estimating the depth and quality of fill.

3. Confirm the depth and quality of fill.

Ecology requested additional borings to confirm the depth and quality of fill across the Site. The Work Plan does not propose additional investigation into the depth and quality of fill except along a part of the eastern and northwestern boundaries through phased work plan approaches. Instead, the Work Plan proposes evaluation of the potential leaching of

contaminants from fill to groundwater by evaluating groundwater downgradient of areas with unknown depth of fill. Without understanding the depth and quality of fill and shallow groundwater across the Site, it is not possible to confirm the appropriate locations and depths for downgradient groundwater sampling. Ecology has identified areas of the Site where additional investigation into fill is needed (See Enclosure A).

- **Include a phased approach plan, including test pits and boring, as described in the phased approach plan along the eastern border, to investigate the fill in these locations.**

  Fill is a potential source of contamination, and the objective of this work is to understand the nature and extent of fill across the Site and to be able to present this information in the remedial investigation study report in maps and cross-sections.

4. Sample groundwater below or within areas of deepest fill.

Ecology requested characterization of the quality of groundwater in the areas of deepest fill. The Work Plan proposes evaluation of the potential leaching of contaminants from fill to groundwater by evaluating groundwater downgradient of areas with unknown depth of fill. While the proposed monitoring well locations will provide useful information, Ecology is unable to confirm that the proposed locations are sufficient without understanding the depth and quality of fill and fully understanding shallow groundwater.

- **Using the results from the phased soil sampling approaches and the results from the initial sampling of existing and proposed groundwater monitoring wells as outlined in the Work Plan, including any wells installed as a result of the phased approaches along the eastern and northwestern boundaries, evaluate the groundwater monitoring well network to determine if additional groundwater monitoring wells are needed to adequately characterize the potential leaching of contaminants from fill to groundwater.**

- **Submit a Groundwater Monitoring Well Network Evaluation to Ecology as an early deliverable for review and comment or approval following completion of all phased soil sampling in the Work Plan and the first round of groundwater sampling.**

  - Include cross-sections showing the understanding of Site fill and shallow groundwater and recommendation for additional groundwater well installation needed to fully characterize the potential leaching of contaminants from fill to groundwater.

This evaluation should include the evaluation to determine an ongoing program for quarterly groundwater monitoring and sampling at the Subject Property mentioned in Section 7.4.6.

- **Add this deliverable to the Work Plan text and to the schedule as shown in comment 10 below.**

5. Add test pit in the northeast corner of the property.

- **To the phased sampling approach along the eastern border of the property, add a test pit in the northeast corner of the property where land disturbances are noted in aerial photos from 1960 and 1965 and fill was found in test pits TP24 and P5.**

The approximate location of this test pit is shown on Enclosure A.

6. Add monitoring wells to characterize groundwater.

USGS's National Map Viewer[1] shows three sub-watersheds meeting within the property boundaries. This supports the concept of potential groundwater divide(s) and a need to understand shallow groundwater flow directions more fully.

To understand the groundwater quality, depths, divide(s), groundwater flow directions, and gradients, Ecology requires two additional groundwater monitoring wells, in addition to those already proposed in the Work Plan, near the north and south borders (See Enclosure A).

- **Install one groundwater monitoring well along the north-central border, north of test pits TP21 and P6, where fill was observed and where reports of buried garbage and metal drums occurred.**

- **Install another groundwater monitoring well along the south-central border of parcel C (74202500200) between Wetland C and Grove St NW to evaluate groundwater quality, depth, flow direction and gradient to the south of known fill areas.**

7. Include the human health direct contact exposure pathway for sediment screening levels.

Due to the potential future use of this Site for residential housing, the sediment screening levels, or preliminary cleanup levels should consider protection of human health through

[1] https://apps.nationalmap.gov/viewer/

the direct contact pathway (dermal contact and sediment ingestion) as well as the protection of benthic organisms.

SCUM, Section 9.2.2.1, includes equations for calculating the sediment risk-based concentrations based on direct contact.

- **A simplified approach for addressing risk-based sediment concentrations for bioaccumulative chemicals is to use Option 1 from SCUM, Section 9.1.1.1, considering the highest of natural background or PQL as the screening level.**

- **In the absence of available freshwater natural background levels, use the lowest of soil natural background levels or Puget Sound sediment natural background values. Final cleanup standards are determined in the cleanup action plan.**

8. Add potential for evaluation of deeper water-bearing units.

Ecology's September 7, 2022, comments included the need to assess the quality of the deeper water-bearing units if shallow groundwater contamination is confirmed. This is not acknowledged in the Work Plan.

- **Add a statement to the Work Plan stating the quality of groundwater in deeper water bearing units will be evaluated in a Work Plan addendum if shallow groundwater contamination is confirmed and the potential to affect the deeper water-bearing units exists.**

9. Evaluate condition of the well on Parcel C.

The Work Plan mentions a private water supply well on parcel 74202500200 (Parcel C) with a past address of 2721 Park Street NW developed between 1983 and 1990 near the former mobile home and garage. The construction details and condition of this well is unknown.

- **Include an investigation of this well in the Work Plan.**

  If the well still exists, Ecology may require it to be sampled and then appropriately decommissioned to ensure it is not a conduit for potential contamination to reach the deeper water-bearing units.

10. Edit the Work Plan schedule.

The Work Plan schedule should include preparation of a draft and final Groundwater Monitoring Well Network Evaluation and implementation of any additional tasks identified by the evaluation, such as installation of additional groundwater monitoring wells to complete the monitoring well network. The schedule must also include both a draft and final Work Plan Addendum, if needed, and the possibility for additional addendums, if needed, to complete Site characterization and the remedial investigation as shown in the Schedule Additions below.

- **Clarify that Ecology makes the final determination on whether a RI Work Plan Addendum is needed.**

  The full revised schedule from the Work Plan is shown below. Additions are underlined and deletions are crossed out.

11. Work Plan Schedule with edits

RI Deliverables/Action	Due Dates
Monthly Progress Reports	By the tenth (10th) day of each month following the effective date of the Agreed Order
Complete test pit explorations	Within 60 days of the effective date of the Agreed Order
Complete wetland surface water and sediment sampling	Within 90 days of the effective date of the Agreed Order (as seasonal conditions allow)
Drilling of soil borings for soil sampling, monitoring well and gas monitoring probe construction	Begin within 90 days of the effective date of the Agreed Order
Monitoring well development	Within 10 days of well construction
Initial groundwater monitoring and sampling	No sooner than 10 days but within 30 days of well development
Methane monitoring	Within 30 days of prove construction as atmospheric conditions allow
~~Review Results and discuss next steps with Ecology~~	~~Within 30 days of data validation~~
Prepare a draft Groundwater Monitoring Well Network Evaluation following the completion of the test pits, borings, groundwater well installations, and initial round of groundwater sampling to evaluate the sufficiency of groundwater monitoring network as described in the Work Plan.	Within 30 days of receipt of all validated data from Work Plan test pits, borings, and initial round of groundwater sampling.
Prepare a final Groundwater Monitoring Well Network Evaluation addressing any comments from Ecology.	Within 30 days of receipt of any comments on the draft Groundwater Monitoring Well Network Evaluation.
Implement any additional tasks identified in the final Groundwater Monitoring Well Network Evaluation.	Within 60 days of Ecology's approval of the final Groundwater Monitoring Well Network Evaluation.
Quarterly groundwater monitoring	Every 90 days following completion of initial groundwater monitoring and sampling
*Prepare and submit a draft RI Work Plan Addendum, if required by Ecology	Within 60 days of ~~determining necessity in consultation with Ecology~~ Ecology's determination
*If a draft RI Work Plan Addendum is required, prepare and submit a final RI Work Plan Addendum addressing Ecology's comments on the draft RI Work Plan Addendum	Within 30 days of receiving Ecology's comments on the draft RI Work Plan Addendum
*Implement the approved RI Work Plan Addendum	Within 90 days of Ecology's approval

*The actions may be repeated if additional RI Work Plans are needed to complete the RI.

12. Correct Figure 9 title and legend.

Figure 9 is titled Locations of Wood Debris; however, the large brown circles are not defined in the legend and it's unclear what their purpose is on the figure.

- **Since the figure is described in the text as showing representative areas of wood debris identified for methane sampling, update the legend and title to indicate this. Include the large circles in the legend and update the title to "Locations of Wood Debris and Representative Areas for Methane Sampling Locations" or a similar title that explains this figure.**

13. Include Figure A2, RI Approach Map, in the main body of the Work Plan.

The Remedial Investigation Approach Map is not included in the main text. This important figure is included as Figure A2 in Appendix A, Sampling and Analysis Plan. This figure, summarizing the sampling locations for the entire Work Plan, is not mentioned in the primary report text or the appendix text.

- **Once this figure is updated in response to comments in this letter, this report should be included in the main body of the Work Plan and Section 7.4, RI Approach, should direct the reader to this figure.**

14. Explain inclusion of Draft RI Report, ENPRO, 2021, in Appendix C.

Initial Draft RI Report, ENPRO, 2021, is included as Appendix C but there are no references to this appendix or the draft report in the Work Plan text and no explanation as to why it is included.

- **The Work Plan should explain that this draft document was prepared independently, is included for informational purposes, and has not been reviewed or approved by Ecology.**

ENPRO/AEG 2021 is included as a Source in Table 2, but this reference is not included in the Work Plan reference list.

- **Clarify whether ENPRO/AEG 2021 is the same as ENPRO 2021 and add the reference to the Work Plan reference list.**

15. Delete conclusion in Section 4.1, paragraph 3, regarding TPH and former UST.

A single sample is insufficient to characterize a stockpile due to heterogeneity within the stockpile and variability of the field screening tests. Ecology's Guidance for Remediation of Petroleum Contaminated Sites (Publication No. 10-09-057) estimates three samples to adequately characterize stockpiled soil from 0-100 cubic yards.

- **Please edit the last sentence in paragraph 3 by removing the statement that no further actions would be required to address the release.**

  "However, the concentrations of TPH detected in the stockpile soil in 1993 are below current Ecology cleanup levels~~; therefore, no further actions would be required to address the release of TPH associated with the former UST~~."

16. Include soil exceedances on Figure 8, Map Showing Soil Analytical Results.

- **Show details of the soil exceedances, including contaminant, analytical results, and depth of sample, in boxes on Figure 8 in the way groundwater exceedances are shown on Figure 12.**

Editorial Comments

1. Section 7.4.4.1.

Section 7.4.4.1, Shallow Test Pit Exploration, has two references to Section 7.4.7.2, which doesn't exist. These references may be referring to Section 7.4.4.2, Deeper Soil Investigation.

- **Correct these two references.**

2. Section 4.5.

On page 14, the first bullet discusses boring B6, monitoring well MW6 and test pit P-13. The last sentence mentions "…test pit P-13/boring B5 location…".

- **This should refer to B6 instead of B5.**

Next Steps

Ecology is available to meet with you in May to discuss these comments and next steps, if needed. Submit a revised draft Work Plan within 45 days, **by June 19, 2023**.

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.

Sincerely,

Connie Groven, PE
Toxics Cleanup Program
Southwest Region Office

Enclosure: A – Revised Figure A2

CGG/JS/TAM

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Ecology Site File

Enclosure A

Revised Figure A2

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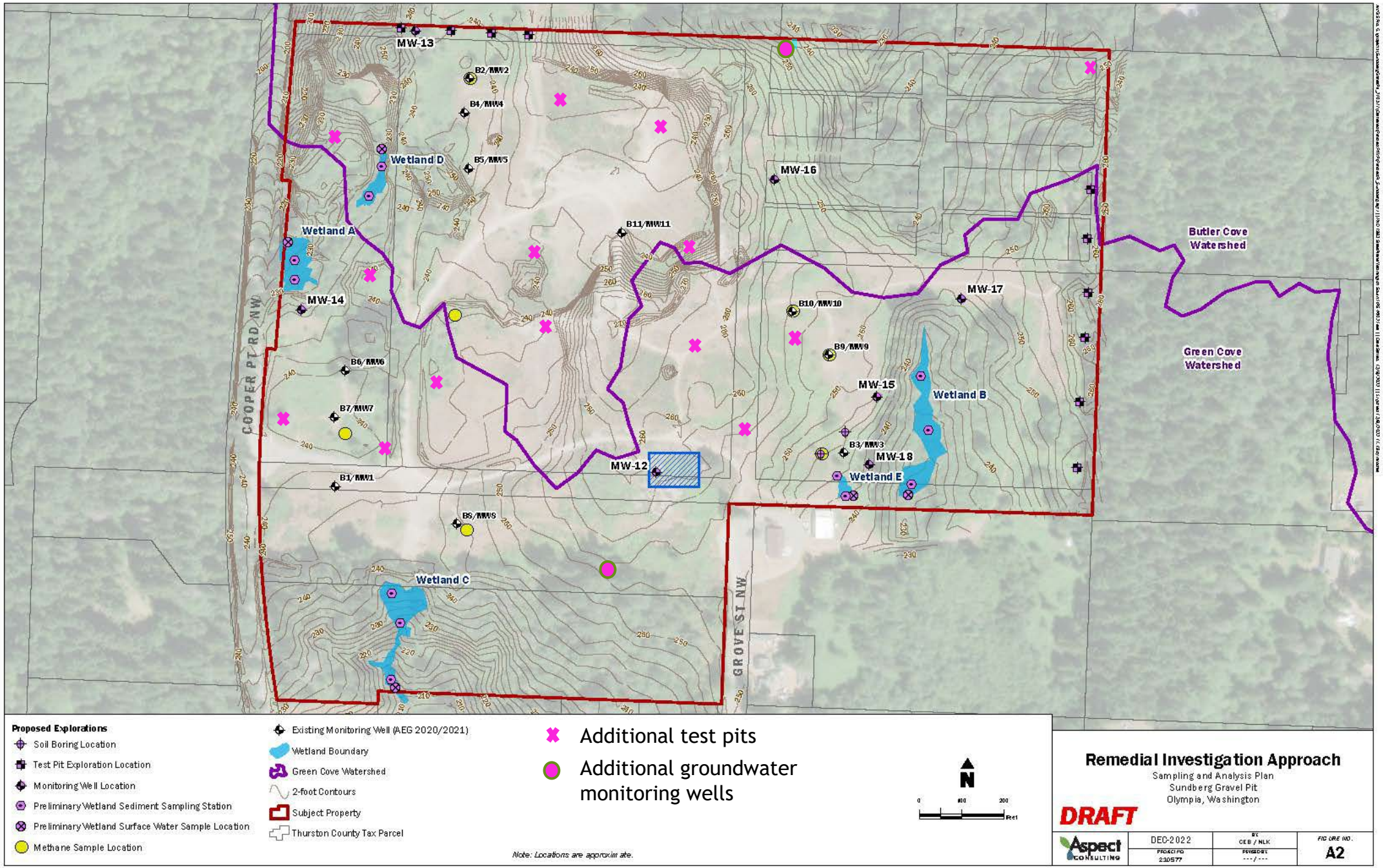
MW-13
B2/MW2
B4/MW4
Wetland D
B5/MW5
MW-16
Wetland A
B11/MW11
Butler Cove Watershed
MW-14
B10/MW10
MW-17
B9/MW9
Green Cove Watershed
B6/MW6
MW-15
Wetland B
B7/MW7
B3/MW3
MW-18
MW-12
Wetland E
B1/MW1
B8/MW8
Wetland C
COOPER PT RD NW
GROVE ST NW
Proposed Explorations
Soil Boring Location
Test Pit Exploration Location
Monitoring Well Location
Preliminary Wetland Sediment Sampling Station
Preliminary Wetland Surface Water Sample Location
Methane Sample Location
Existing Monitoring Well (AEG 2020/2021)
Wetland Boundary
Green Cove Watershed
2-foot Contours
Subject Property
Thurston County Tax Parcel
Additional test pits
Additional groundwater monitoring wells
N
0
100
200
Feet
Note: Locations are approximate.
Remedial Investigation Approach
Sampling and Analysis Plan
Sundberg Gravel Pit
Olympia, Washington
DRAFT
Aspect Consulting
DEC-2022
CEB / NLK
210577
FIG URE NO.
A2