

## **Public Comments on the Chevron Environmental Management Company**

### **Public Review Draft Final Feasibility Study Report Addendum, August 19, 2024**

Comments submitted by Debora Ashland, Edmonds resident, November 19, 2024

I am providing comments as part of the Public Comment Period for the Chevron Environmental Management Company, Public Review Draft Final Feasibility Study Report Addendum, August 19, 2024. Thank you in advance for your consideration of these comments.

I support Alternative 4 as the most permanent, best solution proposed, and the only alternative meeting the Adjusted Cleanup Standards [WAC 173-340-700(3) in order to clean-up the contaminants identified in the Lower Yard of the Chevron site.

This site has been used for decades as a business and numerous changes to the site were undertaken during that time by the Owner. Unfortunately, many of those changes modified, filled, and contaminated the site. The current property owner benefitted from the use of the site for decades. During that time, we, as a society, have also learned a great deal about hazardous materials and the need to remove them from our lands to prevent hazards to people and the environment through air, touch, dust, surface water, and groundwater. Owner's that contaminate their sites need to be responsible for cleaning up their mess. While I would like to see the Owner responsible for returning the site to its original condition, I understand that will never happen. Therefore, I support requiring the Owner to remove all known contaminants. Complete the clean-up of this site now and be done with it so the City of Edmonds and community can move on. The only alternative that can provide this is Alternative 4.

Much clean-up has been done, however it is not yet complete, and numerous areas are testing above the acceptable CUL (clean up level) requirements; water and soil. Numerous alternatives have been studied but only one removes the most contaminants as possible and that is Alternative 4. Long term maintenance will be required for Alternatives 1 and 6 but the report does not identify who would conduct this maintenance or how it will be paid for. In some places, the Report identifies 60 years of maintenance. Any future owner will need to be aware of the monitoring and maintenance responsibilities. I support some type of fund be established by the current Owner to fund these future tasks. Funding future work is particularly problematic if a public agency obtains the site. Any costs for funding future clean-up would be paid by tax payers, thereby shifting the burden from the responsible party to those that did not cause the contamination.

This Report identifies a number of categories and evaluates each alternative accordingly. Alternative 4 is the highest ranked alternative in 4 of the 6 categories. The Short Term Risk category, which Alternative 4 did not rank highest, excludes any long-term risks and therefore, does not provide a complete evaluation of the alternatives. Long term risks are evaluated in Section 6.1.3. and Alternative 4 is ranked the Highest.

The final category is costs. I believe the cost comparisons are flawed because they compare apples and oranges. Alternatives 1 and 6 do not clean-up the site, they merely cover it, thereby pushing the contamination to the next Owner. Nor do the estimates indicate the costs for future monitoring and maintenance which would add significantly to the costs listed. Only Alternative 4 cleans up the site "...and is permanent to the maximum extent practicable.

None of the cost evaluation should be a deciding factor for which alternative is required by DOE. The owner of the property contaminated the site while creating profits for their company. They should be held responsible for cleaning up the site. These impacts should not be allowed to remain and become impacts for future generations. The current Owner does not have a hardship that would prohibit them from doing the clean-up identified in Alternative 4.

Please note that the Owner of the property is a multi-billion-dollar company and the cost difference in these alternatives is less than \$10M. According to the Washington Examiner, February 2, 2024, "...Chevron outlined profits of \$21.4 billion in 2023, the second-largest profit in a decade... "In 2023, we returned more cash to shareholders and produced more oil and natural gas than any year in the company's history," said Mike Wirth, Chevron's chairman and chief executive officer." And that is for **ONE** year.

The following are specific comments on sections in the document. The Report language is repeated here in *italics* with the page number preceding the text in **bold**. Underline has been added to identify the exact text I am commenting on. My comments are in standard text below each item.

**P 2-4** *2.3.2 Groundwater Quality CUL exceedances in groundwater from the last four quarterly events are summarized below:*

- GRO concentrations exceeded the CUL of 1,000 µg/L in MW-101, MW-518, and MW-ER...
- DRO and HRO concentrations exceeded the CUL of 500 µg/L in MW-129R, MW-20R, MW-506, MW-507 (duplicate), and MW-E-R...
- The benzene reporting limit for samples collected from LM-2 during the March 7, September 13, and November 15, 2023 groundwater monitoring events exceeded the CUL of 1.6 µg/L...
- Total cPAHs adjusted for toxicity exceeded the CUL of 0.05 µg/L in several wells during the last 4 quarters, ranging from 0.072 µg/L in MW-8R during the March 9, 2023 sampling event to 1.605 µg/L (0.019 µg/L) (duplicate) in MW-14 during the November 16, 2023 sampling event...

Groundwater is a problem in a number of locations on the site. These areas need to be cleaned up. Only Alternative 4 appears to clean-up the MW's identified in the Report by removing the materials. If I am not reading the charts and figures correctly, my comment remains that the groundwater exceedances need to be cleaned up by the current Owner. Table 2-8 indicates the location of these exceedances. The DPE system appears to be helping the contaminated groundwater problem, therefore I believe that should remain. On-going monitoring and maintenance of the DPE system needs to be determined now so that future Owner's understand the responsibility.

**P 2-6** *2.4 Light Nonaqueous Phase Liquid The DPE system was designed to create an inward groundwater gradient, lowering the groundwater table toward DPE wells and surrounding nearby observation wells. When the groundwater table is lowered, any residual LNAPL in surrounding soils that is typically immobile under static conditions is pulled toward the wells through the change in groundwater gradient and induced vacuum. Observations of LNAPL during discontinuous DPE system operation (static and induced drawdown conditions [i.e., shutdown and following restart]) are therefore to be expected. However, the DPE system was also designed to reduce LNAPL mass through weathering. Under DPE system operation, the LNAPL undergoes biotic and abiotic transformation including volatilization, solubilization, and aerobic biodegradation, which in turn change the characteristics of the LNAPL such as the mass fraction (Johnson et al. 1990). Throughout the remediation timeframe, it is expected that weathering will continue until*

LNAPL is no longer measurable. Operation of the DPE system has successfully removed or weathered LNAPL to date as measurable LNAPL (a distinct separate layer) is no longer observed in any of the wells.

The DPE system appears to be helping the groundwater problem, therefore I believe that should remain until the LNAPL is no longer measurable as stated in the Report. On-going monitoring and maintenance of the DPE system needs to be determined now so that future Owner's understand the responsibility.

**P 3-1** 3. *Adjusted Cleanup Standards A cleanup standard consists of the following three elements [WAC 173-340-700(3)]:*

- CUL, the concentration that must be met to protect human health and the environment.
- POC, the location where the CUL must be achieved...

The Feasibility Study Report indicates that the CUL's must be met to protect human health and the environment. Therefore, by the WAC standard identified, only Alternative 4 meets the legal standard. Alternatives 1 and 6 leave exceedances of the CUL's on-site.

**P 4-1** *In addition to the remedial technologies developed in the FS Report (Appendix A), an engineered cover system will be included as part of Alternative 6 to address soils with COC concentrations greater than twice the CUL for the direct-contact pathway from 0 to 15 feet bgs and where PSVs are exceeded, as identified by the TEE.*

If accepted by DOE, any accepted cover system should be used for ALL areas exceeding the CUL, not just areas that are twice the CUL. It doesn't make sense to allow any areas exceeding the CUL's to remain, otherwise why identify a CUL limit. It is not clear what the long-term solution is for an engineered cover. If the engineered cover finish is gravel, I think it would only support future invasives such as blackberries and other non-native species. This does not return the site to any acceptable condition. This comment is the same for Alternatives 1 and 6.

**P 4-1** *The engineered cover will consist of a woven geotextile fabric and 6-inch-thick aggregate cover placed over targeted locations. The woven geotextile will be used as a separation layer consisting of Mirafi 125 280i or approved similar fabric.*

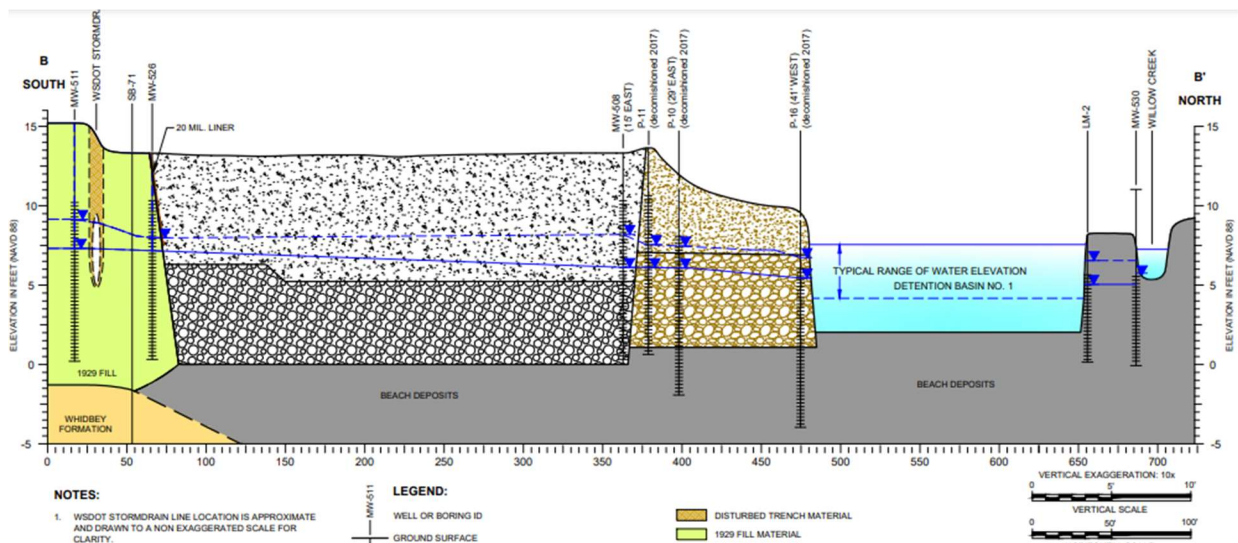
Geotextile fabric is not a long-term permanent solution. The geotextile fabric will degrade over time. Any future use will very likely disturb this system. Therefore, it is not a permanent clean-up scenario. The current Owner of the site needs to clean-up the damage they have done to the site.

**P 4-2** *Long-term maintenance will be required.*

This document acknowledges the engineered cover is not a permanent solution. Maintenance will be required but it does not identify who would conduct this maintenance or pay for it. The current owner of the site needs to clean-up their damage to the site.

**P 4-3 thru 4-3 4.3.1 Alternative 1: Monitored Natural Attenuation with Environmental Covenants.** Alternative 1 involves shutdown of the existing DPE system followed by an MNA sampling program to address soil and groundwater impacts along the WSDOT stormwater line and at the site boundary along Willow Creek. The MNA program will include annual sampling and analysis for dissolved-phase COCs and biogeochemical parameters along a transect of wells. This program will be implemented until dissolved-phase COC concentrations are reduced to less than CULs...ECs would be used to protect human health and the environment at the Site and would: • Cover the entire Site, including the area already covered by the construction easement ... • Protect against potential direct contact by Site occupants and workers with impacted soil or groundwater remaining at the Site through a Soil Management Plan

This alternative is not acceptable as it keeps all contaminants on site and caps them with engineered cover over the entire site. The DPE system would be shut down and it is not clear who would be conducting or is monitoring the MNA sampling program. The Report admits this alternative will require 60 years of maintenance. That is not acceptable. The alternative does not remove the contaminants and only adds material that cannot be disturbed in the future. However, there is no guarantee the cover would not be disturbed in the future. This cover will also increase the height of the current grade. Figure 6 shows this best. In order for a natural open space to succeed, native soils and plants will be required. If that natural area is to function as an extension of the current marsh, the grade is already too high and likely some of the current fill will need to be removed. Adding yet another layer with engineered cover does not allow for removal of the existing material without disturbing the contaminants. Any engineered cover keeps the grade well above Willow Creek, the Detention Basin, and the current Marsh, essentially rendering the area not part of a marsh environment which would require on-going intermittent flooding to survive. Figure 6 included below



**P 4-4 4.3.3. Alternative 6: Dual-Phase Extraction Treatment System Operation, Engineered Cover System, Contingency Plan, and Environmental Covenant:** Alternative 6 involves continued operation of the DPE system for one year following additional optimization. Optimization will include focusing system operation of both air and groundwater extraction on areas where groundwater concentrations exceed CULs. Additional soil sampling will also be implemented to confirm areas with previous soil CUL and PSV

*exceedances, further refine the boundaries of the engineered cover system, and to confirm the effectiveness of the DPE system. If, following 1 year of DPE system operation, groundwater compliance monitoring indicates that dissolved-phase COC concentrations remain along Willow Creek and near the WSDOT stormwater line, additional compliance monitoring in these areas will be conducted for an additional 2 years...*

Alternative 6 is not acceptable as it provides an engineered cover over a portion of the site and also shuts down the DPE system after 1 year with monitoring for only 2 more years. Although a future contingency plan is identified it is not clear who will fund or conduct this. These costs are not evaluated with these alternatives. Similar to Alternative 1, adding a layer of engineered cover to the site creates problems for the future use of the site as potential open space. See comment above for Alternative 1.

**P 4-5** Part of Alternative 6 proposal: *The DPE system installed near the WSDOT stormwater line will continue to dewater soil, exposing any remaining soil impacts to volatilization through induced vapor flow and an increase in oxygen concentrations. The DPE system continues to remediate COCs in soil and minimize offsite migration of dissolved-phase COCs in groundwater. The DPE system has also reduced soil vapor concentrations in soils within the WSDOT stormwater line area as evidenced by a reduction in influent vapor concentrations monitored during DPE system operation.*

I agree the continuation of the DPE system should be continued in any scenario to assure the ability to continually monitor the site, therefore I would propose this be added to Alternative 4.

**P 6-8** *6.2 Final Disproportionate Cost Analysis The alternative that ranked highest and that Ecology ranked as the most permanent after the first analysis is Alternative 4. Per WAC 173-340-360(3)(c)(i)(A), Alternative 4 was compared to Alternative 6, which is the next most permanent remedy of the updated alternatives presented.*

Comparing costs of alternatives is inconsequential if the less expensive alternatives being compared do not provide permanent solution to cleaning up contaminants on site.

**P 8-1** *8. Summary and Conclusions Alternative 6 (DPE Treatment System Operation, Engineered Cover System, Contingency Plan, and Limited ECs) is the alternative that is most permanent to the maximum extent practicable*

I disagree with the conclusion that Alternative 6 is the most permanent to the maximum extent practicable. Other than this alternative being less expensive than Alternative 4, it is not the most permanent solution "to the maximum extent practicable". Alternative 4 is the best permanent solution and can be implemented.