



Response to questions from the Cottrell Community Planning Organization regarding Portland Water Bureau's beneficial use proposal to reuse slightly contaminated soil in construction of a new water filtration facility and pipeline

DEQ is providing responses to the Cottrell Community Planning Organization's questions received June 24, 2024 regarding the proposed Beneficial Use Determination (BUD)-20240402. This document has also been posted on the [DEQ project web page](#).

Question 1: Will the public have an opportunity for a hearing? If the BUD is approved, what are the options for appeal and what is the process?

Answer:

DEQ has reviewed the beneficial use application and proposed reuse of contaminated soil at the Portland Water Bureau water filtration property and along the raw water pipeline. DEQ rules do not require a DEQ public notice process for beneficial use determinations; however, DEQ identified that publishing a public notice was important even though not required by rule. DEQ offered a public comment period and in response to requests received, DEQ attended the public meeting hosted by the Cottrell Community Planning Organization, or CPO, and the Pleasant Homes NA to explain the beneficial use process, answer questions and provide clarification for attendees. A video recording of the DEQ portion of the meeting is available by request.

DEQ also extended the comment period to provide the community additional opportunity to submit written comments. DEQ does not consider that a public hearing is necessary since DEQ participated in the community sponsored public meeting on June 11th and extended the public comment period several times and because the request is for beneficial use of solid waste and not a proposed DEQ solid waste permit. Written comments submitted in response to the public notice is considered of equal weight as verbal comments would be at a hearing. DEQ will consider and respond to submitted written comments. Information about DEQ's regulatory oversight and evaluation of this project including the public meeting slideshow, video recording and BUD application and evaluation documents are available to view online or in person at a DEQ office by appointment. DEQ cannot advise anyone on their legal options for appeal. The Agency Procedures Act in ORS 183 controls challenges to agency decisions.

Question 2: The project web page suggests that contaminated soil would have to be hauled to a Hillsboro landfill for disposal if PWB does not follow the conditions of the BUD permit. Why would Hillsboro be the preferred site for disposal? Were other options for disposal explored?

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Answer:

This soil could be beneficially used at other locations similar to what is proposed by the Portland Water Bureau. The proposal would require management of the soil as solid waste if the conditions of approval are not met. The Hillsboro landfill is regulated through a DEQ solid waste landfill permit and is authorized to accept non putrescible wastes such as contaminated soil, construction wastes and demolition wastes. While Hillsboro landfill is an option for management of this soil, management of solid waste does not require that the soil be sent to Hillsboro landfill. There are additional DEQ-permitted facilities that would be acceptable such as Wasco landfill or other DEQ-permitted solid waste landfills. The soil could also be beneficially used at other locations that meet beneficial use requirements. The raw water pipeline [beneficial use application](#) identifies four options for reuse.

Question 3: The soil under the permit is defined as “slightly contaminated”. Please define “slightly contaminated.” Can you please direct us to the DEQ rules that document the difference between “slightly contaminated soils” and other levels of contamination?

Answer:

There is not a definition of slightly contaminated in DEQ rules. DEQ defines clean fill in rule and has guidance on what screening values to use to evaluate soil. DEQ evaluates contamination levels based on the concentrations identified through sampling and comparing the chemical concentrations against risk-based screening values and exposure risks. The concentrations of chemicals in the soil for these two projects are higher than clean fill screening values for a few contaminants but are still very low, which is why DEQ refers to these contaminant levels as slightly contaminated. DEQ is requiring PWB to meet specific conditions in the [proposed beneficial use approval](#) to store and manage the soil to protect people and animals. There will not be human health or ecological impacts due to the very low concentrations of contaminants and required protective measures of managing the soil.

Question 4: PWB application states closure of “ecological risk pathways will be incomplete during placement.” What is the anticipated period of time that will elapse until final treatment/closure of those pathways? How is this in compliance with the OAR [340- 093-0005](#) where it defines “Clean Fill” as material that does not contain contaminants that *could adversely impact* waters of the state?

Answer:

PWB applied for the beneficial use determination because the soil does not meet the definition of clean fill. Stating that a “pathway is incomplete” means that there will not be ecological risks because plants and animals will not contact the soil given how the soil is proposed to be managed and beneficially used. The pathways to ecological impacts will not exist in the proposed storage of the soil and final placement. Until the soil containing contaminants is used as proposed in the beneficial use application, the soil will need to be managed in compliance with the [1200CA NPDES permit](#) that PWB is subject to for construction related activities. DEQ was informed that construction will take place over several years.

The proposal identifies similar requirements for proposed management of soil during the construction timeframe as required by the 1200CA NPDES permit. The 1200CA NPDES permit and erosion control management plans have conditions that require the soil be managed on a continuous basis to prevent water quality impacts.

Best management practices, or BMPs, are to be employed for soil erosion control. Onsite soil stockpiles will have a trench drain around the base for stormwater control. Watering will occur for controlling wind-blown dust from the truck-routes. Also, the site will have a rocked construction entrance and wheel wash that will prevent soil being tracked offsite onto the roadway. Silt fencing is being installed around the perimeter of the site. Additional site-specific BMPs will be used, including straw wattles placed along the roadway/pipeline alignment work locations, as well as catch basin inserts and bio-bags installed to protect the storm drains. During construction, DEQ's stormwater group routinely inspects active construction sites to ensure compliance with the BMPs.

Question 5: PWB applications assert that neither the filtration site nor the road shoulders where contaminated soils proposed to be placed will likely result in risk to ecological receptors. Please provide:

- 1. The inventories that document potential ecological receptors for the filtration plant site, the road shoulders in question, or the County designated SEC areas adjacent to the pipelines?**
- 2. Any relevant research papers, applicable studies, or local area assessments that document these assumptions?**

Answer:

DEQ's clean fill screening levels are based on the lowest risk-based concentrations, or RBCs, for human health and ecological effects. DEQ uses these values from data prepared by EPA and the Oak Ridge National Laboratory. Links to these references are available below in DEQ's answer to Question 28. Often the ecological screening values used are lower concentrations than those used for human health evaluation. DEQ uses the lowest of those values as the clean fill screening values. In developing RBCs, ecological effects are evaluated for plants, invertebrates, birds, and mammals. Both threatened and endangered species and non-threatened and endangered species are considered. Threatened and endangered values are the most conservative values used. By screening using the lowest value of all RBCs, and not just those for scenarios relevant to the site, all ecological exposure scenarios will be protected.

PWB used ecological screening values to compare sample results against rather than conducting detailed ecological studies. DEQ compared the sample concentration values against the very conservative RBCs and background screening values. Background screening values are the concentrations that are naturally occurring in the area. DEQ evaluated the sample data and proposed storage and best management practices and considered the proposed management and use of the soil to be sufficient to prevent ecological and human health impacts. DEQ did not ask for and does not consider that ecological studies are needed based on the proposed management and use of the soil, and the conditions in the proposed beneficial use approval and the erosion control management plan. Please contact the PWB for any studies that they may have conducted.

Question 6: It is our understanding that PWB has incorrectly stated that

Multnomah County approved placement of contaminated soil on the filtration plant site or in public road ROWs. The public record is devoid of any mention of contaminated soils in the county land use application, planning staff report, or the Hearing Officer's decision. This DEQ permit application is the first time the public has been made aware of storing contaminated soils onsite. This would have been contested in the county land use process since it potentially threatens the safety of the community, which is a conditional use criteria for MUA-20. If county approval has been made, please provide those documents.

Answer:

DEQ does not have land use authority so any questions about Multnomah County's land use approval and documents it issued should be directed to Multnomah County. Please ask the county for any records that you seek from the county regarding its land use approval, its decision making or other county-related questions.

Question 7: Would the use of non-contaminated soil instead of the "slightly contaminated" soils result in similar cost savings, reduction of vehicle miles traveled and wear and tear on roads? If not, how much more will it cost PWB to haul and dispose the soil in an appropriate landfill. Please provide the numbers in the context of the total budget to haul and store all 1.25 million cubic yards of soil:

- 1) total budget**
- 2) budget to haul non-contaminated soil**
- 3) cost savings/cost to haul and dispose contaminated soil off-site**

Answer:

Cost is not a factor in DEQ's beneficial use evaluations. DEQ's rules do not require that an applicant submit budget information as part of the beneficial use evaluation and DEQ does not have this information. Please ask PWB for any information about budgeting.

Question 8: Where does PWB intend to dispose of the excess soil that meets DEQ clean fill criteria?

Answer:

DEQ does not regulate clean fill. It is DEQ's understanding that PWB intends to use the soil that meets clean fill criteria on the site similar to their intended use of the soil that exceeds clean fill criteria. PWB will need to meet all stormwater and local code requirements for the management of all the soil.

Question 9: Regarding the preferred method of dealing with contaminated soils along pipeline routes (i.e. “Placement of the soil on shoulder surfaces immediately adjacent to the roadway.”), please provide details on what this would entail?

1. **What is the proposed depth of the soil?**
2. **Is there a capping method that would prevent runoff and drift to neighboring waterways?**

Answer:

Please review the beneficial use information provided in the [BUD application](#) and the conditions described in the [proposed approval](#). Construction will need to be done in compliance with the proposed BUD, 1200CA NPDES permit, and local code requirements.

Question 10: If PWB has a contaminated soil removal management plan addressing safe handling and disposal, please provide the document.

Answer:

PWB operates under the required best management practices and erosion control standard construction specifications in the 1200CA NPDES permit, which includes provisions for managing contaminated soil. The [erosion and sediment control plan](#) and [environmental management plan](#), which details the requirements that will be followed for stormwater management and dewatering during the project, have been posted on the DEQ project [web page](#).

Question 11: Besides this BUD application, has PWB made any other applications to DEQ relative to the Bull Run Filtration and Pipeline projects?

Answer:

DEQ has not received any other beneficial use applications for reuse of soil from the PWB. PWB originally asked DEQ to approve an exemption from being regulated as solid waste. Because the chemical contamination exceeded DEQ’s clean fill risk screening values, DEQ informed PWB that the soil is not clean fill. DEQ informed PWB that it would need to apply for a beneficial use determination if it wanted to use the soil as construction fill. PWB applied for a beneficial use determination to use the soil on site and adjacent to the pipeline as construction fill.

In addition, DEQ has issued a 1200CA NPDES stormwater permit to PWB that includes this project. [This document](#) and others including the DEQ-approved [erosion and sediment control plan](#) and [environmental management plan](#) can be viewed on DEQ’s [project web page](#).

Question 12: Can PWB proceed with excavation/movement of contaminated soil in any area associated with the project without a formal permit?

Answer:

Yes. The [1200CA NPDES permit](#) and the DEQ approved [erosion and sediment control management plan](#) require best management practices such as erosion control silt fences, use of gravel roadways at construction entrances, covering stockpiles, other methods to prevent runoff, dust control, proper storage of the soil until it's used and additional measures protect ecological and human receptors. All of the required best management practices are detailed in the documents [viewable online](#).

Question 13: What safeguards will be in place to assure contaminants do not impact adjoining properties, waterways, fish or wildlife?**Answer:**

The best management practices outlined in DEQ's response to Question 12 and the conditions described in the [proposed beneficial use approval](#) contain safeguards to protect human health, ecological receptors and the environment.

Question 14: Assuming DEQ has a rating system that indicates the various degrees / levels of soil contamination relative to "clean" soil, what is the percentage exceedance of the PWB soil from the "clean" soil standard for each contaminant?**Answer:**

DEQ evaluates sample analysis and sample results but does not evaluate soil using a rating system. The soil either meets clean fill screening values or it does not. DEQ evaluates sample results against risk-based concentrations and considers the proposed use and exposure routes for humans and ecological receptors to determine if the soil can be reused with conditions that protect humans and the environment. Risk calculations are not performed for soil that is at or below background concentrations that naturally occur in the area.

DEQ addresses management of soil with concentrations greater than clean fill values by requiring that the soil be managed and used to prevent human and ecological exposures. The proposed use as construction fill is not a residential risk and concentrations of the contaminants in the soil are below concentrations of concern for occupational and construction workers when the required best management practices are followed.

The clean fill screening values identified in DEQ's clean fill guidance are intentionally conservative in that they are based on the lowest, most health protective risk-based concentrations for human health and ecological effects. DEQ uses these values from data prepared by EPA and the Oak Ridge National Laboratory, which you can find more information about by viewing the document links provided in DEQ's response to Question 28. If concentrations exceed the conservative risk-based screening values in the clean fill internal management directive, DEQ may ask for additional information to evaluate sample data collected, evaluate whether the sample results are representative of the soil sampled and evaluate options for managing the risks based on concentrations identified through sampling. The proposed BUD will require conditions to ensure the soil is managed protectively.

Question 15: One of the conditional use criteria under the land-use process requires that this project cannot impact farming practices. Many landowners have organically grown fruits or vegetables cultivated adjacent/ proximate to areas proposed by the PWB for deposit of contaminated soils. In addition, it is known in the literature that DDT and dieldrin cause lethality to honeybees at low concentrations. What efforts have been made by either DEQ or PWB to identify potential farms that grow any or all of these in question? Are the DEQ/PWB prepared to accept liability for the irreparable harm that could occur if contaminants migrate beyond the intended placement areas?

Answer:

DEQ considers that offsite impacts will be prevented due to the required management practices of the soils as proposed in the BUD application, through the 1200CA NPDES permit and erosion control plans. DEQ was informed by PWB that some of the adjacent landowners to the pipeline have requested that topsoil be replaced on their properties because they consider the topsoil to be fertile. DEQ will require PWB to share sampling data on the soil being disturbed with property owners who can then decide if they would like the topsoil replaced. Once this project is complete and the soil is capped with clean fill, the water filtration property will not contain contaminants in the topsoil.

Question 16: Given that adjoining property owners, the CPO representing hundreds of residences, agencies, and organizations are appealing PWB's land use approval to LUBA, why was there minimal effort in notifying the public of this application?

Answer:

DEQ is not required to provide public notice of proposed beneficial use approvals. DEQ became aware of community interest in the project while evaluating the beneficial use application and offered a two-week public comment period on the proposed beneficial use approval of reuse of soil on the water filtration project site. DEQ was asked to extend the comment period and to provide broader notification to neighboring residents and others interested in this project.

It was through the initial comment period and subsequent conversations with the CPO that DEQ learned there was substantial community interest in the proposed BUD, and that more time was appropriate to share information and provide adequate opportunity for comment. DEQ appreciates the input and participation from the community and will continue to communicate with interested community members through the agency's typical public notice practices, community-based organizations such as the CPO and responding to individual inquiries.

DEQ has extended the comment period and participated in a community-sponsored public meeting to explain the proposed beneficial use determination and DEQ's evaluation of the proposal to help inform the community members of the work. DEQ appreciates the comments, questions and input

received from the community, and the opportunity to address community concerns, and looks forward to continuing to provide transparent information throughout the process.

As DEQ mentioned at the community-sponsored public meeting, DEQ will revoke the BUD if the land use approval is overturned by the Land Use Board of Appeals.

Question 17: What are the human health and ecological concerns related to the contaminants found? In particular, DDT, DDE, and dieldrin?

Answer:

DEQ evaluated the sample protocols, the sample results, and the proposed beneficial uses of the soil in the PWB beneficial use application and reports. Sample concentrations and the comparison to DEQ's risk-based concentrations are posted on the DEQ [project web page](#). DEQ's conditions described in the [proposed beneficial use approval](#) will prevent human health and ecological impacts from use of the soil as construction fill.

The biggest concern for chemicals such as DDT, DDE, and dieldrin is that these chemicals persist in the local area's environment and concentrations can build up in the food web. At high concentrations, DDT can affect the nervous system and liver in humans and may cause reproductive effects. DDT has been shown to cause liver cancer in laboratory animals and is a probable human carcinogen.

DDT was used as an insecticide. It can affect other species, including adverse effects in birds and fish. A major problem in the past was eggshell thinning in raptor birds, such as bald eagles, that were exposed to DDT through their diet.

Question 18: Typically in loading trucks, soil spills over onto the body of the truck and trailers and comes off on traveled roadways and also becomes airborne. This contaminated soil can find its way into yards and streets where children play and pose a health hazard to them and their parents. What precautions are proposed to prevent this?

Answer:

The 1200CA NPDES permit identifies best management practices described in the [erosion and sediment control plan](#) that must be met regarding truck loading, wheel washing, tarping, and other controls to prevent dust. The concentrations of contaminants and exposure risks are below levels that pose risks to human health in short-term exposure scenarios.

Question 19: This area is heavily dependent on wells for potable water and irrigation. Please describe how the placement of contaminated soil will not leach into the ground or surface waters, wetlands, or other drainage ways and not adversely impact the health of humans, fish and wildlife.

It appears that DEQ has said that the types of contaminants present can indeed leach or migrate to surface water or groundwater, according to the project website under "Frequently Asked Questions," it states "The types of contaminants are not soluble and will not leach or migrate EASILY to surface water or groundwater." With this potential, why is DEQ willing to take a chance with our communities health? To error on the side of community safety, shouldn't the contaminated soil be taken to an appropriate landfill?

Answer:

The dieldrin concentration in one incremental sampling methodology, or ISM, sample exceeded leaching to groundwater potential. However, the average of ISM samples in the surface soils (see results for Sample No. DU-1) shows dieldrin below leaching potential concentrations. DEQ does not expect leaching or runoff from soil to impact water quality. The soil piles will be managed to prevent runoff and the contaminants currently in the topsoil are not in a soluble condition. DEQ's evaluation screened against leaching to ground water scenarios and did not identify risk exposures. In addition, measures to prevent impacts to water quality include the required best management practices in the 1200CA NPDES permit and conditions described in the [proposed beneficial use approval](#).

Question 20: If DEQ approves the PWB proposal, what assurances would this community have that DEQ will strictly enforce all conditions?

Answer:

DEQ will conduct periodic inspections and respond to complaints that DEQ receives about this project. DEQ will follow the DEQ enforcement guidance if violations are identified. You can find more information about DEQ's enforcement program by visiting DEQ's [Compliance and Enforcement web page](#).

Question 21: What proactive measures will the DEQ take to assure PWB is in full compliance with all conditions of a potential permit?

Answer:

The proposed beneficial use determination for this soil not a permit. If the conditions are not met, then PWB will need to manage the soil as regulated solid waste. DEQ will conduct periodic inspections and respond to complaints that DEQ receives about this project.

Question 22: What consequences would the PWB face in the event that violations of the DEQ permit were discovered?

Answer:

DEQ will follow the enforcement guidance if violations are identified, which would involve the agency's Office of Compliance and Enforcement. Potential violations are evaluated on a case-

by-case basis. If DEQ determines any violations occurred, DEQ could impose civil penalties in the form of fines or require corrective actions.

Question 23: Can you provide specific examples where similar use of contaminated soils have been approved by DEQ within a residential community such as ours?

Answer:

You can view other BUDs that DEQ has approved by visiting the agency's [Beneficial Use Determinations web page](#).

Question 24: PWB's consultants found concentrations for dieldrin in the ppm range. These are concentrations that exceed the threshold by which aquatic life (Aquatic Life Criteria, USEPA) would exhibit acute effects. Just one accidental spill near Johnson Creek or run-off event prior to capping or along the roadside, would likely adversely affect aquatic life. How has DEQ reconciled this risk?

Answer:

The 1200CA NPDES permit and conditions in the proposed beneficial use approval address this concern. The dieldrin concentration in one incremental sampling methodology (ISM) sample exceeded leaching to groundwater potential. However, the average of ISM samples in Sample No. DU-1 shows dieldrin below leaching potential concentrations. DEQ does not expect leaching or runoff from soil to impact water quality or aquatic life. The soil piles will be managed to prevent runoff and the contaminants identified in the topsoil are not in a soluble condition. DEQ's evaluation did not identify risk exposures. In addition, measures to prevent impacts to water quality include the required best management practices in the 1200CA NPDES permit and proposed conditions of the beneficial use approval.

Question 25: Given the scope and scale of the excavation and construction of this facility, how will DEQ ensure that PWB is complying with BMPs? Will DEQ consider regular site visits and quarterly soil and surface water sampling, with targeted sampling during significant runoff events?

Answer:

DEQ does not have the resources to conduct this level of soil or water sampling. DEQ will evaluate compliance with best management practices and the beneficial use approval conditions through periodic inspections and review of reports and records. DEQ will also evaluate and respond to complaints it may receive for this project.

Question 26: Given that there is much uncertainty surrounding the potential risk to human health and ecological health, why not simply assure the public and require PWB to use part of the remaining clean 1.15 million yards for backfill, road expansions, berms, etc? Why repurpose contaminated soil when you don't have to?

Answer:

DEQ received a request and proposal from PWB to beneficially reuse the slightly contaminated soil as construction fill. The proposal meets the regulatory requirements of the state's beneficial use rules and when used as requested, it will not cause impacts to human health or the environment. DEQ must approve such applications when they meet regulatory requirements.

Question 27: Were there additional chemicals that were analyzed beyond what was reported in the 2023 consultant report (e.g. organophosphates)?

Answer:

Please review the information provided on the DEQ project [web page](#) for the information about what was analyzed.

Question 28: Provide references for the conservative thresholds used by DEQ to assess potential risk to human health and ecological receptors?

Answer:

Please see the information provided on the DEQ website and the DEQ project [web page](#) for information about the clean fill screening guidance and beneficial use requirements.

[Learn more](#) about how risk-based concentrations are developed by DEQ's Cleanup Program. Find more information about human health and ecological guidance and screening tables by accessing the documents below:

- [Human Health Risk Assessment Guidance](#)
- [Risk-Based Concentrations for Individual Chemicals](#)
- [Conducting Ecological Risk Assessments](#)
- [Tables and Appendices for Conducting Ecological Risk Assessments](#)

Question 29: What other pesticide analysis were conducted in addition to organochloride pesticides? For example, organophosphates, other prior use herbicides and pesticides, such as triazine or carbamates?

Answer:

The information provided on the DEQ [project web page](#) by the PWB and their consultants in their beneficial use application contains the contaminants evaluated.

Question 30: Does DEQ feel that 0-1.5' is the most appropriate interval for assessment? 0-0.5' is a common interval. Did consultants confirm that contamination was concentrated in the top 18 inches rather than the first 6 inches?

Answer:

Please review the application information and DEQ's evaluation reports on the project [web page](#) for more information about assessment depth.

Question 31: If this BUD is approved, will DEQ commit to soil and surface water monitoring in quarterly intervals, with potentially more targeted sampling during season of overland flow into Johnson and Beaver creeks?

Answer:

DEQ will conduct periodic inspections. Due to resource constraints, DEQ does not conduct water quality monitoring for projects like this.

Question 32: In the community meeting, DEQ said if you notice something let us know and we will check it out. Should the responsibility of assuring compliance be put on the public? If the agency cannot have positive means of personally assuring compliance thru on-site inspection, should a condition be put in place in order for the applicant to get application approval?

Answer:

DEQ will conduct periodic inspections. If community members identify a pollution concern, they can submit a pollution complaint to DEQ. Please visit DEQ's [File a Pollution Complaint web page](#) for information on how to submit a pollution complaint.

DEQ is requiring PWB to be in compliance with a number of conditions and best management practices to ensure protection of human and ecological health, and those requirements are subject to DEQ inspections. These requirements are detailed in the 1200CA NPDES permit, erosion sediment and control plan, and proposed beneficial use determination, which all are accessible on DEQ's [project web page](#). If you would like to view these documents in person at a DEQ office, please contact Ryan Lewis at 503-915-4764 or ryan.lewis@deq.oregon.gov to make an appointment.

Contact

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