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memorandum

date	June 25, 2021
to	Robert Salisbury, Manira Sandhir
cc	Erika Guerra, Lehigh
from	Janna Scott, Project Manager
subject	Permanente Creek Restoration Plan Supplemental EIR: Data Request 3

Pursuant to this morning's call between County staff and staff of the San Francisco Bay Regional Water Quality Control Board, the EIR team requests that the following information, data, or clarifications be provided to further inform development of the Project Description and other aspects of the Draft Supplemental EIR (Draft SEIR) being prepared for the Permanente Creek Restoration Plan (PCRP). Questions and comments from the California Department of Fish and Wildlife and the Water Board originally were submitted to Lehigh by Santa Clara County on January 22, 2020.

This request restates and clarifies those earlier requests specifically in the SEIR development context, and identifies the responses to them as critical path items toward preparation and issuance of the Draft SEIR. Please provide the requested data or otherwise respond within one month, i.e., on or before Friday, July 23, 2021. As these requests are critical path, and since the SEIR schedule anticipated that all project-description-related information would be available for reliance as of July 1, the need for this Data Request 3 represents a potential delay of 23 days in the preparation of the Draft SEIR. The sooner the information can be provided, the less of an impact it will likely have on the schedule. Thanks for your continuing diligence.

<u>California Department of Fish and Wildlife (CDFW)</u>

The Department of Planning and Development's March 5, 2018 incomplete letter included Comment No. 24 from CDFW requesting that Lehigh provide geotechnical inputs to better understand bed, bank, and adjacent slopes. Lehigh's November 15, 2018 response letter included geotechnical memoranda prepared by Golder Associates that relied on field engineering. As stated in the County's February 14, 2019 incomplete letter, Comment No. 24 is meant to solicit additional geologic and geotechnical data to reduce the uncertainties in the channel gradient design envelope and provide an understanding of geological and geotechnical conditions throughout the project. The County's February 14, 2019 incomplete letter reiterated CDFW's request for a thorough engineering geologic and geotechnical report based on detailed engineering-geologic mapping, subsurface investigations, and analyses. Lehigh's August 7, 2019 response letter stated that Lehigh would provide a technical memorandum prepared by Golder Associates on October 31, 2019. However, the October 31, 2019 Technical Memorandum

prepared by Golder Associates focuses on identifying project areas that require subsurface geotechnical exploration and does not provide thorough engineering geologic and geotechnical analysis as requested by CDFW and provided below.

The following comments were provided by CDFW, referencing the comments previously provided to Lehigh on February 14, 2019.

1. Comment No. 24 – Among other items, the response to this comment addresses construction of a channel in the Rock Pile area and issues related to removing a considerable amount of mining waste to reestablish the channel along its historic path. Golder's (October 31, 2019 memorandum) analysis shows that the historical channel of Permanente Creek once extended well beneath mining waste comprising the Rock Pile and adjacent areas (i.e., see Golder's Figure 9). Golder's cross section in their Figure 11 further illustrates this, and shows that the restored channel will be placed in a location of higher bedrock compared to the historical path of the stream. The cross section appears to show the restored channel will be cut into bedrock.

   However, this is inconsistent with the approach being proposed, which is to field engineer the channel no deeper than controlling bedrock conditions and not to excavate into bedrock. The proposed constructed channel will be shorter than the premining- disturbance channel, and the new channel will cross uncertain bedrock conditions. Both of these have the likely effect of imposing the steep longitudinal gradient that threatens the stability of the restored channel through this reach. Reasons given to not locate the channel along its historical path include: (1) a large amount of grading and removal of mining waste will be needed to access the historical pathway; and (2) there may be possible effects on mining infrastructure (i.e., the road at the top of the slope) because the slope will have to be flattened. Golder's recommended approach appears inconsistent with the amended consent decree, which states "Remove mining-related fill and sediments in the bed, banks and adjacent slopes."

   Also, Golder does not provide an analysis of the slope to demonstrate that there would be any effect on the mining infrastructure, because the Rock Pile does not appear to extend beneath the road. The Amended Consent Decree, page 12, states "Defendants shall also remove the existing aggregate rock pile and associated rock pile infrastructure, all culverts, riprap, and the road on top of the creek (concrete ramp), and set back the road to provide more room for a natural streambed and banks." Removal of the entire rock pile should be further analyzed.

2. Comment No. 24 – One of the points made in the original comment is that site-specific geotechnical and engineering geologic studies should be completed to support final design concepts, and it cautions against an overreliance on a field engineering approach. As Golder's (October 31, 2019) response indicates, field engineering is an important part of a construction project. However, the response further indicates that this is just a restoration project and that field engineering is all that is warranted. CDFW disagrees. This field engineering approach may threaten the success of critical parts of the restoration effort, such as the creek reach within the rock pile and material removal area. For example, the current plans anticipate removal of a portion of the rock pile, specifically removal of a portion of the toe slope. CDFW strongly advises that a thorough stability analysis be completed for the rock pile area given that it was dumped at the angle of repose and that the current restoration plan calls for partial removal of the pile's toe slope. CDFW does not recommend excavation into and removal of the toe of such a large, dumped slope

without completing a study with stability analysis. A more thorough slope stability study should be conducted in critical areas, such as the rock pile.

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3. *Comments on the proposed "Observational Method" (Design-Build) proposal in the Technical Memorandum, Geologic and Geomorphic Assessment of Permanente Creek. Lehigh Hanson Permanente Quarry (Golder, October 31, 2019) and the Permanente Creek Restoration Plan, 90% Level Submittal, Design Basis Technical Memorandum (Waterways Consulting, Inc., October 31, 2019), Appendix C, Seismic Refraction Survey (Bedrock Analysis) (Norcal Geophysical Consultants, May 22, 2014).*

   In Sections 6.2.1 and 6.3.1 of the Technical Memorandum, Golder provides a rationale for not conducting additional field investigations into the depth of bedrock in the Material Removal Area and the Rock Pile Area prior to implementing the creek restoration project. Golder states that the existing data from borings and seismic studies are sufficient to develop design guidelines for field fitting the restoration design in response to the actual depth to bedrock in those two Areas. Conclusions about the sufficiency of existing data are based, in part, on boring logs from borings in the subject areas, which are provided in Appendix B to the Technical Memorandum, and a Seismic Refraction Survey conducted in 2014, which is included in Appendix C to the *Permanente Creek Restoration Plan, 90% Level Submittal, Design Basis Technical Memorandum.*

   It appears that the *Permanente Creek Restoration Plan* includes restoring more natural grades to several reaches of Permanente Creek by excavating overburden/mining waste down to bedrock where possible, or native sediments when excavation to bedrock is not feasible. Geotechnical assessments have included drilling about 10 soil borings and performing a seismic refraction analysis to identify bedrock depths. In addition, significant geotechnical information derived from other site projects, aerial photos, and historical topographic maps were combined to produce restoration designs. Because it is infeasible to completely map channel bedrock to develop 100% restoration designs, 90% designs have been developed with respect to the most probable bedrock depths, based on the currently available information. Golder recommends that the *Permanente Creek Restoration Plan* be implemented using the "Observational Method" (also called Design-Build); data gaps are to be filled by observations during project implementation, and the restoration design is to be modified in the field, during construction. In general, Water Board staff consider this to be a reasonable approach to implementing the *Permanente Creek Restoration Plan.* However, staff requests that the following conditions be incorporated into the implementation of the Observational Method during creek restoration:

   i. Design-Build field decisions must be made by an on-site licensed geologist or engineer (someone who is not just qualified, but can be held accountable);

   ii. Probable alternative design options should be proposed and approved prior to construction. Please have the design team develop a Design-Build protocol that demonstrates the alternatives that may be employed to address all project objectives and concerns.

   iii. Please also have the design team develop a flow chart of potential problems, factors to consider, and acceptable options to resolve problems encountered during construction.

As an example of situations in which a flow chart would be valuable, information provided on page 17 of the Technical Memorandum outlines the potential problem of not encountering bedrock where it was anticipated. Since overburden/mining waste must be excavated, the design team must develop protocols to identify if the sediment at grade and below it is native material or overburden/mining waste. Per the Water Board's earlier letter, the flow chart for this scenario and single objective might look something like this:

i. State the potential problem encountered (soil at grade instead of bedrock);

ii. List the factors that must be considered to meet project objectives and concerns (i.e., the necessity of distinguishing between native material and waste to determine when materials must be excavated and removed);

iii. List the protocol for making that determination (e.g., soil borings, the minimum number of borings per area to be characterized, the chemical or physical characterizations necessary to distinguish native material from waste materials); and then

iv. List the appropriate options for achieving restoration project objectives, based on results of the characterization protocols (e.g., native materials may be left in place, while overburden/waste materials must be tested for CAM17 metals or excavated to bedrock and backfilled with a specific source of clean material).

The creation of such decision flow paths with protocols and options has been requested for all potential problems that could reasonably be encountered as a consequence of the existing data gaps. The protocols and options should address attaining all of the restoration project's objectives (e.g., removal of waste/overburden from the creek, ensuring bank stability, providing riparian habitat along restored channel reaches).

4. Protocols are necessary to differentiate between native soils and overburden/mining wastes. The Technical Memorandum does not outline how the project design team will differentiate between native soils and overburden/mining waste. Developing a protocol to make this distinction is critical to ensuring that overburden/mining wastes are removed from the creek, which is a key element to the restoration project and necessary for the protection of wildlife. Distinguishing between native materials and wastes by visual observation may be difficult, since the overburden materials derive from the same geologic units as the native materials and the size distribution of both materials are similar, according to descriptions of these materials in section 3.2, *Surficial Geologic Units*, of the Technical Memorandum.

5. Please compare the geotechnical recommendations for rock and fill/soil slopes in the reclamation plans and the creek restoration plans. The reclamation plans appear to require that overburden slopes have a slope no steeper than 3:1. However, the creek restoration plan appears to allow some areas to have slopes of 2:1 (e.g., pages 4 – 5 of the Technical Memorandum). Please confirm that acceptable slopes for overburden in the reclamation plans and in the creek restoration plan are consistent.

6. Please clarify the nature of materials in the channel west of Reach 18. The project documents state that the areas west of Reach 18 are depositional, and that the channel is a "jammed conveyance" adjacent to the Yeager Yard slope. However, the Yeager Yard slope is eroding and sliding. In addition, the

overburden materials lack cohesion and are not compacted and, therefore, erosion of other West Materials Storage Area (WMSA) slopes is highly likely. Due to the inputs to the creek channel from the Yeager Yard slope and WMSA slopes, Water Board staff is not yet comfortable with the Technical Memorandum's assertion that the area west of Reach 18 only receives native soils from the south. Please develop and implement a protocol for assessing the actual source(s) of materials in areas of the creek channel that are said to be depositional in the Technical Memorandum.

7. Please develop guidelines for silt fencing in coordination with the U.S. Fish and Wildlife Service (USFWS). Text in Section 2.4.5, of the Permanente Creek Restoration Plan, 90% Level Submittal, Design Basis Technical Memorandum (Waterways Consulting, Inc., October 31, 2019) states:

   "Silt fence will be installed around staging areas and along the creek-side edge of the proposed floodplain bench excavation areas at the Channel Widening Area. Silt fence will be in place to trap mobilized sediment in case there is a rain event during construction. The silt fence will also act as a barrier to any loose material during floodplain bench excavation. Where substrate is too rocky to install silt fence, fiber roles may be used instead."

   Please coordinate with USFWS staff in developing designs for silt fence installation around the work zone. In recent years, USFWS staff have noted situations in which silt fencing used as exclusion fencing has inadvertently resulted in mortalities of California red-legged frogs (CRLF). At a recent project downstream of the Lehigh Hanson quarry, CRLF were desiccated when silt fencing prevented them from reaching ponds. USFWS has also learned that CRLF will attempt to pass through silt fencing that they can see through, so mesh materials that are visually transparent to CRLF should not be used in silt fencing when CRLF may be present.

8. Please develop protocols for characterizing selenium levels in sediments in ponds. Section 2.7.7 of the Permanente Creek Restoration Plan includes a discussion of removing sediment from Pond 13. "Fine sediment impounded within the pond will be removed so the material is not transported downstream after the restoration project is implemented. The limits and thickness of accumulated sediment have not been surveyed. Accumulated fine sediment occurring below elevation 805.0 will be removed. Removal of fine sediment will occur until alluvial material (i.e., gravel/cobble) or bedrock are encountered." Selenium levels up to 20 mg/kg have been measured in sediments in Pond 13. Based on toxicity data for amphibians and the bioavailability of selenium in sediment, concentrations greater than 4 mg/kg of selenium may be deleterious to CRLF and other wildlife. Prior to excavating sediments from Pond 13, a sampling and analysis plan for selenium in sediments in Pond 13 should be developed and submitted to the County and resource agencies for review. In addition, the project design team should develop a protocol for appropriate disposal of selenium-containing soils and sediments as a function of selenium concentrations and on the likely bioavailability of selenium under the various disposal options for the sediment.

9. Please develop designs that allow for the continued operation of Final Treatment System (FTS)-Upper. Section 2.7.9 of the Permanente Creek Restoration Plan discusses restoration implementation at the Material Removal Area (Reaches 17 & 18, Sheets C23-C26). A footnote in this section states: "An alternative concept design to that shown on Sheets C23 and C24 has been prepared should the regulatory agencies and Lehigh conclude that the FTS-Upper should stay in place to treat water generated from the

site. The alternative concept is presented on Figures 4 and 5, which are attached to the Updated Response to March 5, 2018 County of Santa Clara, Department of Planning and Development, Grading Application Incomplete Letter, dated November 15, 2018."

To ensure sufficient dry season flows in the restored creek channel, the design team should assume that FTS-Upper should stay in place and implement the restoration design option that allows for the continued long-term operation of FTS-Upper, until creek flow capture by the quarry pit has been remediated.