San Francisco Bay Regional Water Quality Control Board

November 20, 2020

Sent via electronic mail: No hardcopy to follow

City of Sunnyvale, Department of Public Works
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Subject: San Francisco Bay Regional Water Quality Control Board Comments on the *Rehabilitation of Storm Drain Outfall at Remington Court Project (UY-17-01), Draft Mitigated Negative Declaration, City of Sunnyvale, Santa Clara County*
SCH No. 2020100445

Dear Ms. Hawkins:

San Francisco Bay Regional Water Quality Control Board (Water Board) staff appreciates the opportunity to review the *Rehabilitation of Storm Drain Outfall at Remington Court Project (UY-17-01), Draft Mitigated Negative Declaration, City of Sunnyvale, Santa Clara County* (MND). The MND evaluates the potential environmental impacts associated with rehabilitating a stormwater outfall to Stevens Creek (Project).

Project Summary. The Project will rehabilitate a deteriorated 60-inch diameter storm drain outfall that discharges to the upper bank of Stevens Creek (Creek). The storm drain outfall, which was built in 1957, consists of about 40 feet of 60-inch diameter corrugated metal pipe (CMP) that daylights into an outfall channel that extends from near the top of bank of Stevens Creek to the toe of bank. The portion of the pipe that fell into the outfall channel includes an iron flap gate and two short pipe segments used to connect the flap gate to the rest of the pipe. The Project proposes to replace the failed segment of pipeline and to alter the drainage outlet to prevent future erosion of the bank of Stevens Creek.

Summary. As is discussed below, the Project proposes to use cured-in-pipe plastic (CIPP) to rehabilitate a portion of the storm sewer pipeline at its outlet to the Creek. CIPP uses proprietary resin formulations that usually have not been tested for ecotoxicity to aquatic life. Therefore, in the absence of appropriate, resin-specific ecotoxicity data, CIPP should not be used in a stormwater pipeline that discharges to Stevens Creek, which provides critical habitat for federally listed central California coast (CCC) steelhead. In addition, we recommend that plans to stabilize the eroding channel from the storm sewer outlet at the top of bank of Stevens Creek to the toe of bank of

Stevens Creek be reviewed by an experienced fluvial geomorphologist, since the current proposal for bank armoring appears vulnerable to being flanked by stormwater flows.

Comment 1. Since the Project proposes to use a product with unknown toxicity to aquatic life, the MND has not documented that the Project will not violate water quality standards.

Text in Section 2.4 describes the proposed use of CIPP technology.

> The outfall pipe will be rehabilitated using a cured-in-place plastic (CIPP) liner. The CIPP alternative was selected to minimize environmental impacts to the channel while maximizing the hydraulic capacity of the pipe. The CIPP liner repair will include using a 2-inch thick resin-saturated felt tube and inserting it into the host pipe. The pipe will be cured using steam to create a corrosion-resistant repair. The amount of water used for the steaming process is estimated to be less than 10 gallons. After the steam condenses, the water will be drained and will be properly disposed of off-site.

The text asserts that CIPP will minimize environmental impacts, but provides no documentation of the environmental safety of the CIPP resin proposed for use at the Project site.

Unless the manufacturer has performed freshwater, whole effluent aquatic toxicity testing on the proprietary resin formulation selected for use at the Project site, it will be necessary for the Project proponent to assess the whole effluent toxicity (a.k.a., “fish kill” testing) of the selected resin formulation. Whole effluent toxicity is the best way to assess the real-world toxicity of a formulation, because whole effluent toxicity tests will detect synergistic relationships among ingredients that may contribute to aquatic toxicity. Whole effluent toxicity testing must be consistent with the specifications in 40 C.F.R. part 136, currently *Methods for Measuring the Acute Toxicity of Effluents and Receiving Water to Freshwater and Marine Organisms,* 5th Edition (EPA-821-R-02-012) and *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition* (EPA-821-R-02-013) (U.S. EPA, October 2002). Sample collection, handling, and preservation must be in accordance with U.S. EPA protocols.

Because salmonids have unique sensitivities that may not be modeled well by fathead minnows, rainbow trout minnows should be used in toxicity testing, as well as invertebrates such as ceriodaphnia, chironomids, or mayflies. Since some resin compounds may be bio-available and bio-accumulative, whole effluent toxicity tests should be performed for chronic toxicity, as well as acute toxicity.

Section 3.4.3 a)of the MND discusses if the Project will:

> Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.

The discussion of potential impacts to special-status wildlife states:

> Steelhead is the only special-status wildlife determined to have high potential to occur within the project area, however, the project will not directly impact the main channel of Stevens Creek where steelhead could occur, and will be completed between June 15 and October 15, outside of migration. Construction activities could indirectly cause the degradation of surface or ground water quality due to erosion and transport of fine sediments downstream of the construction area and unintentional release of contaminants outside of the footprint of project, which could result in impacts to steelhead and/or steelhead habitat. However, with the implementation of Mitigation Measure BIO-1, no indirect impacts to steelhead are expected.

And impact BIO-1, state:

> Project construction activities could adversely impact biological resources by direct removal, disturbance, and indirect impacts on the habitats with the introduction of pollutants, sediment, and invasive weeds.

However, the MND does not address the potential acute or chronic ecotoxicity of the proprietary resin proposed for use in rehabilitating the 60-inch diameter storm sewer pipe. This resin may introduce pollutants to the Creek. Without ecotoxicity data specific to the selected resin and the species present in the Creek, the MND has not documented that the Project will have less than significant impacts on special-status species in Stevens Creek. Also, without resin-specific aquatic toxicity data, the conclusion presented in the discussion of potential violations of water quality standards in Section 3.10.3 of the ISMND is not justified; the MND does not contain sufficient information to conclude that the Project will not violate any water quality standards.

Comment 2. The Project design attempts to halt erosion in the channel between the stormwater outlet and the toe of bank of Stevens Creek without fully addressing the causes for the erosion.

Section 3.10, *Hydrology and Water Quality*, of the MND, includes a discussion of potential Project impacts related to hydrology in Section 3.10.3 c).

> **Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:**
>
> **i) Result in substantial erosion or siltation on- or off-site;**
>
> **Less than Significant Impact.** As part of the proposed project, the outfall channel area would be graded to plan specifications to repair existing erosion damage and restore the area to conditions found up and downstream of the Project site. After project construction is completed, erosion would be reduced, and the project would not result in substantial erosion or siltation. During construction, approximately 307 CY of the hillside would be excavated. Additionally, the outfall channel banks will be graded to a 2:1 slope. Grading of soil has the potential of siltation in the outfall channel and Stevens Creek. Standard Valley Water BMPs would keep impacts to a less than significant level.

The discussion of erosion at the Project site focusses on filling existing erosional scars beneath the failed outfall and armoring and vegetating eroded areas of the Creek bank in the flow path from the outfall to the toe of bank of the Creek. However, the MND does not discuss any measures to mitigate the erosive flows that are discharged from the storm drain outfall. If the discharge of erosive flows is not addressed in the Project design, then bank armoring measures implemented by the Project will eventually fail. For example, the project proposes to armor and vegetate the erosional features in the flow path near the toe of bank. While these measures may inhibit erosion of the armored area, the Project design lacks measures to prevent armoring installed by the Project from being flanked by erosive flows. The discussion of bank erosion should be revised to address measures to reduce the discharge of erosive flows to the Creek bank and to design bank armoring measures that are less likely to be flanked or undermined by erosive flows.

In Section D of the *Remington Drive Outfall Repairs, Basis of Design* (BKF, January 28, 2020), which is provided as Appendix A to the MND, the potential benefits of increasing the diameter of the storm drain pipe were only assessed with respect to how a larger diameter pipe would impact flooding in the local watershed. The discussion in the MND did not address how a larger diameter outfall might reduce the flow rate of discharged stormwater on the bank, as a means of reducing active erosion of the Creek bank.

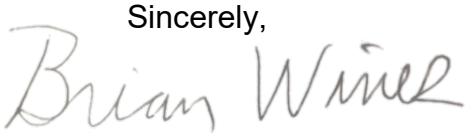
Areas of the bank that are armored by the Project may be resistant to erosion, but the current Project design does not include measures to prevent bank armoring that is installed by the Project from being undermined or flanked. The Project design team should work with an experienced fluvial geomorphologist to determine if it is prudent to modify the Project design by incorporating appropriately sized and spaced rock weirs in the flow path from the outfall to the toe of bank; properly designed and installed rock weirs may be effective in slowing the rate of bank erosion and preventing areas of bank armoring from being flanked by flows originating from the outfall.

Before finalizing the MND, the Creek bank stabilization components of the Project should be reviewed by an experienced fluvial geomorphologist and the Project design should be revised as determined necessary by the experienced fluvial geomorphologist.

Conclusion: The MND does not currently demonstrate that the proposed use of CIPP will not violated water quality standards in critical habitat for CCC steelhead or that the proposed bank armoring design will succeed in long-term stabilization of the creek bank. We encourage the Project proponent to revise the Project design to address these unresolved issues.

If you have any questions, please contact me at (510) 622-5680, or via e-mail at brian.wines@waterboards.ca.gov.

Sincerely,



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