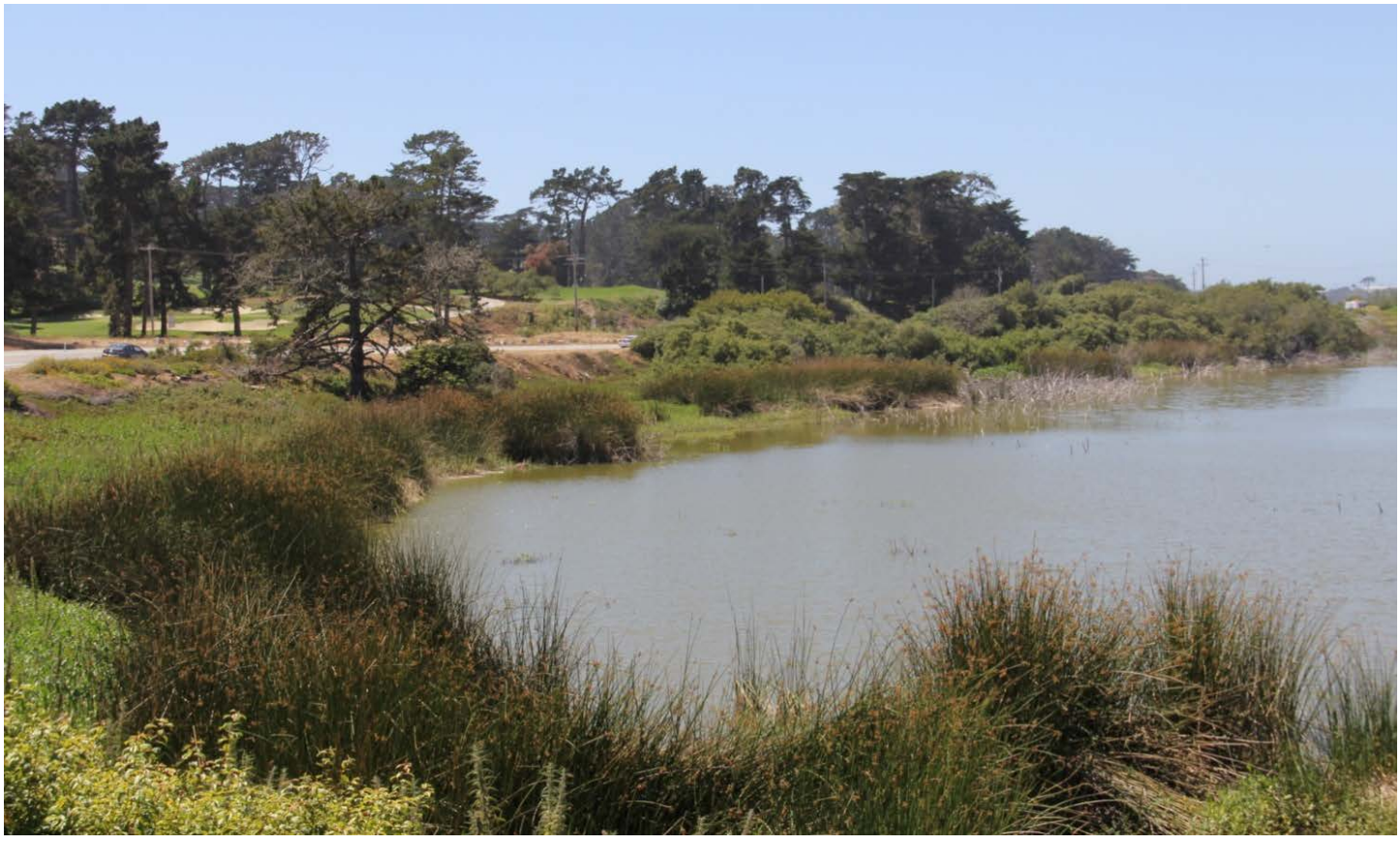
VISTA GRANDE DRAINAGE BASIN IMPROVEMENT PROJECT

Final EIR/EIS (Responses to Comments)
SCH No. 2013032001

Prepared for
City of Daly City
National Park Service

August 2017
Published September 8, 2017



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Final EIR/EIS (Responses to Comments)

Vista Grande Drainage Basin Improvement Project

The City of Daly City (Daly City), as the Lead Agency under the California Environmental Quality Act (CEQA), and the National Park Service (NPS), as the Lead Agency under the National Environmental Policy Act (NEPA) have prepared a Final Environmental Impact Report (EIR)/Environmental Impact Statement (EIS) evaluating the environmental impacts of, and alternatives to, the proposed Vista Grande Drainage Basin Improvement Project (Project). The Draft EIR/EIS together with this Responses to Comments document constitutes the Final EIR/EIS for the Project in fulfillment of CEQA requirements as consistent with CEQA Guidelines Section 15132, and in fulfillment of NEPA requirements as consistent with Council on Environmental Quality (CEQ) NEPA Regulations Section 1503.4.

Responsible agencies for the proposed Project include the U.S. Army Corps of Engineers, California Department of Fish and Wildlife, California State Lands Commission, California Coastal Commission, San Francisco Bay Regional Water Quality Control Board, County of San Mateo, and City and County of San Francisco.

The proposed Project is located in Daly City in San Mateo County, and in the City and County of San Francisco, as well as in Fort Funston, part of the Golden Gate National Recreation Area unit of NPS. The Project would improve stormwater drainage and minimize flooding risk, provide a water source for Lake Merced management, improve recreational access and reduce litter deposition at the beach below Fort Funston, and maximize the use of existing infrastructure and rights-of-way. In addition to the proposed Project, this EIR/EIS considers two action alternatives consisting of variations of the design and siting of Project components, and one No Project/No Action alternative. Analysis of environmental impacts associated with the proposed Project identified potentially significant impacts in the following areas: aesthetics, air quality, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, noise and vibration, paleontological resources, and transportation and traffic. Growth inducement potential and cumulative impacts are also addressed in the Final EIR/EIS. For environmental impacts determined to be significant or potentially significant, mitigation measures have been identified to reduce those impacts. No mitigation would reduce significant and unavoidable impacts on the historic Canal and Tunnel.

FURTHER INFORMATION: For further information about the proposed Project, contact the Project Manager for the CEQA Lead Agency:

City of Daly City, Department of Water and Wastewater Resources
Attention: Patrick Sweetland, Director
153 Lake Merced Blvd.
Daly City, CA 94015
E-mail: psweetland@dalycity.org

DECISION PROCESS: Following the publication of the Final EIR/EIS, Daly City consider whether to certify the EIR and approve the Project or an alternative to the Project. No fewer than 30 days after publication of the Notice of Availability (NOA) for the Final EIR/EIS in the Federal Register, the NPS will issue a Record of Decision (ROD) for the Project.

EXECUTIVE SUMMARY

ES.1 Project Overview and Background

The City of Daly City (Daly City) is proposing the Vista Grande Drainage Basin Improvement Project (Project) to address storm-related flooding in the Vista Grande Drainage Basin (Basin) while providing the additional benefit of augmenting the water level of Lake Merced. The Vista Grande storm drain system drains the northwestern portion of Daly City and an unincorporated portion of San Mateo County – areas originally within the watershed of Lake Merced. In the 1890s, the Vista Grande Canal and Tunnel were built to divert stormwater away from the lake to an outlet at the Pacific Ocean. The Ocean Outlet and a portion of the Tunnel are located within Fort Funston, part of the Golden Gate National Recreation Area (GGNRA), which is operated under the authority of the National Park Service (NPS). The existing Canal and Tunnel do not have adequate hydraulic capacity to convey peak storm flows, and this periodically causes backup of Tunnel flows into the Canal and flooding during peak storm events in adjacent low-lying residential areas and along John Muir Drive.

As noted, the proposed Project has two primary, mutually supporting objectives: to address storm-related flooding that periodically occurs as a result of inadequate storm drainage capacity in Daly City's Vista Grande Canal and Tunnel, and to augment water surface levels and manage water quality in San Francisco's Lake Merced. Both Daly City and San Francisco independently are proposing to address these respective issues. The proposed Project and alternatives meeting these objectives represent an approach that would jointly address both jurisdictions' proposed improvements while minimizing disturbance, maximizing the beneficial reuse of stormwater, and reconnecting a significant portion of the Lake Merced watershed to Lake Merced.

ES.2 Agency Roles and Objectives

ES.2.1 CEQA Project Objectives

Daly City has identified the following objectives for the proposed Project:

- Improve stormwater drainage of the lower Vista Grande Basin to accommodate peak flows generated by the 25-year design storm;
- Provide a sustainable source of stormwater, establish a target maximum water surface elevation, and implement a Lake Management Plan (see Appendix A of the Draft EIR/EIS) for management of Lake Merced water quality, groundwater, and surface water elevation;

- Improve recreational access and reduce litter transfer and deposition along the beach below Fort Funston; and
- Maximize use of existing rights-of-way (ROWs), easements, and infrastructure to minimize construction-related costs, habitat disturbance, and disruption to recreational users.

ES.2.2 National Park Service Federal Action

The federal action NPS is considering is whether to approve, approve with conditions, or deny Daly City's application for a special use permit for construction of the Tunnel and associated structures (e.g., Ocean Outlet and wing walls), and staging areas within NPS land; whether to amend existing easement(s) to accommodate the proposed expanded Tunnel and associated structures within the easement(s) and to clarify the rights and obligations of the parties to the easement(s); and possibly whether to issue a right-of-way permit or other authorization to accommodate any portions of the Project that lie outside of the easement(s) (e.g., wing walls).

The purpose and need for the Project is to alleviate flooding in the Vista Grande Drainage Basin and Canal and provide a sustainable source of water for management of Lake Merced water levels and quality, and to ensure that the portion of the Project within federally managed lands, if authorized, is constructed, operated, and maintained in a manner that is consistent with the protection and enhancement of resources, values, and uses of lands and waters under federal jurisdiction. In considering whether to authorize such activities, the federal government needs to engage in transparent, integrated, and informed decision-making and ensure that any final decision conforms to applicable laws and regulations. In achieving the purpose and need for the Project, NPS's objectives for implementation of the Project include the following:

- Avoid, minimize, or mitigate environmental impacts to park natural and cultural resources;
- During construction, ensure the health and safety of park visitors and staff, maintain access to and through Fort Funston, and minimize impacts to the visitor experience;
- Permanently improve public access along the beach below Fort Funston; and
- Minimize impacts on park assets and sustain or restore all park assets (e.g., facilities, features, grounds) to pre-construction or better conditions.

ES.3 Proposed Project and Alternatives

ES.3.1 Comparison of Alternatives

In addition to the proposed Project, this EIR/EIS considers two action alternatives consisting of variations on the design and siting of Project components, and one No Project/No Action alternative. Each of the following is described in detail in Chapter 2, *Project and Alternatives*:

Proposed Project. The proposed Project would consist of improvements within the Vista Grande Basin storm drain system upstream of the Vista Grande Canal; partial replacement of the existing Canal to incorporate a gross solid screening device, an approximately 2.6-acre constructed

treatment wetland, and diversion and discharge structures to route some stormwater (and authorized non-stormwater) flows from the Canal to Lake Merced and to allow lake water to be used for summer treatment wetland maintenance; modification of the existing effluent gravity pipeline so that it may be used year round to convey treated effluent from the nearby North San Mateo County Sanitation District Wastewater Treatment Plant (WWTP) to the existing outlet and diffuser by gravity, and abandoning the force main pipeline; modification of the existing lake overflow structure to include an adjustable weir and siphon that allows water from the lake to flow into the Canal and Vista Grande Tunnel; replacement of the existing Tunnel to expand its hydraulic capacity and extend its operating lifetime and replacement of the Lake Merced Portal to the Tunnel; and replacement of the existing Ocean Outlet structure and a portion of the existing 33-inch submarine outfall pipeline that crosses the beach at Fort Funston. Operational components of the Project would include management of water surface elevations in Lake Merced and a Lake Management Plan that would include water quality best management practices, including upstream improvements in the Basin and additional actions, the implementation of which may be triggered during post-Project monitoring. In addition, the Project includes NPS execution of a special use permit for construction activities within GGNRA lands and the expansion of the ROW to accommodate the replacement Ocean Outlet structure.

Tunnel Alignment Alternative. The Tunnel Alignment Alternative would replace the proposed Project's Tunnel improvement and Lake Merced (East) Portal components with an entirely new tunnel up to approximately 50 feet to the south of the existing Tunnel in an alignment to be determined following additional geotechnical investigation, and a different east portal at a location that would be determined by the final alignment. The new tunnel would run west from a new east portal at the existing Canal to a new or rehabilitated Ocean Outlet structure. The components of the Tunnel Alignment Alternative could be paired with the proposed Canal components, or could be paired with the alternative Canal components described for the Canal Configuration Alternative.

Canal Configuration Alternative. The Canal Configuration Alternative would minimize changes to the existing Canal while still allowing for some discharges to Lake Merced. This alternative would not construct the box culvert replacing the first 1,000 feet of the Canal; rather, the diversion structure described for the proposed Project would be relocated to the southern (upstream) end of the Canal. The box culvert under John Muir Drive also would be relocated and would cross under John Muir Drive close to the southern end of the Canal. The design of the diversion structure, box culvert under John Muir Drive, and Lake Merced Outlet would be approximately the same as for the proposed Project. The diversion structure would replace the first approximately 350 feet of the Canal, and the rest of the Canal would be unchanged except as needed for the Lake Merced Tunnel Portal. Under the Canal Configuration Alternative, one wetland cell of approximately 1.7 acres would be constructed, providing a reduced water treatment capacity compared to the Project. The components of the Canal Configuration Alternative could be paired with the proposed Tunnel or could be paired with the alternative Tunnel and East Portal components described for the Tunnel Alignment Alternative.

No Project/No Action Alternative. Under the No Project/No Action alternative, no physical component of the proposed Project would be constructed and none of the proposed operational changes to stormwater routing would be made. The Lake Management Plan would not be implemented. The NPS would not grant the special use permit, and no construction could occur within NPS-managed lands. Annual Canal sediment removal activities would continue, as well as as-needed maintenance activities. Because Canal and Tunnel capacity would not be improved, occasional flooding of the Canal and associated flooding of John Muir Drive into Lake Merced and in local neighborhoods would continue.

ES.3.2 CEQA Environmentally Superior Alternative and NEPA Lead Agency Preferred Alternative

CEQA Guidelines Section 15126.6(e)(2) requires an EIR to identify an environmentally superior alternative. If the environmentally superior alternative is the No Project/No Action Alternative, the EIR also must identify an environmentally superior alternative from among the other alternatives. In general, the environmentally superior alternative is defined as that alternative with the least adverse impacts to the project area and its surrounding environment.

The No Project/No Action Alternative would avoid all impacts of the Project and would not create any new significant impacts of its own. However, improvements that address the storm-related flooding in the Vista Grande Drainage Basin would not be implemented. The Basin would continue to flood during storm events, resulting in flooding of residential areas along John Muir Drive. The CEQA Guidelines define the environmentally superior alternative as that alternative with the least adverse impacts to the project area and its surrounding environment. Determining an environmentally superior alternative is difficult because of the many factors that must be balanced. Although this Final EIR/EIS preliminarily identifies an environmentally superior alternative, it is possible that, with additional information received in or developed during the project approval process, Daly City could choose to balance the importance of each impact area differently or reach a different conclusion. Daly City preliminarily has identified the proposed Project as the environmentally superior alternative.

Under NEPA, the “preferred alternative” is a preliminary indication of the Lead Agency’s preference of action among the Proposed Action and alternatives. A NEPA Lead Agency may select a preferred alternative for a variety of reasons, including the agency’s priorities, in addition to the environmental considerations discussed in the EIS. In accordance with NEPA (40 CFR 1502.14(e)) and based on the assessment in the EIR/EIS, NPS has identified the proposed Project as the preferred alternative.

ES.4 Environmental Analysis

Table ES-1 summarizes the environmental impacts of the alternatives compared to those of the proposed Project under CEQA. This table presents the significant impacts of the proposed Project as well as less-than-significant impacts whose severity would be different under the alternatives than under the proposed Project. Table ES-1 does not include less-than-significant impacts of the proposed Project that would have the same significance determination and/or impact severity as

those of the Canal Configuration Alternative or Tunnel Alignment Alternative. Similarly, **Table ES-2** summarizes the environmental impacts that would occur as a result of the proposed Project and alternatives by environmental impact under NEPA. The focus of the table is on moderate to major adverse effects, but also lists some minor and negligible effects as well.

ES.5 Areas of Controversy

Comments were received during the scoping process for the Project. The scoping process is described and public input received during that process is provided in Appendix B, *Scoping Memorandum*. Based on input received from agencies, members of the public and others, areas of controversy related to the Project include:

Aesthetics: Concerns related to changes in views from the beach at Fort Funston associated with the Ocean Outlet structure. The long-term visual effects of the rehabilitated Ocean Outlet structure are expected be beneficial as described in Draft EIR/EIS Section 3.2, Aesthetics.

Biological Resources: Concerns related to impacts on fish in Lake Merced and on special-status plants and wildlife, and impacts associated with raising lake water levels. See Draft EIR/EIS Section 3.4, Biological Resources, as revised per Final EIR/EIS Chapter 4.

Cultural Resources: Concerns associated with the loss of historic structures (e.g., Vista Grande Canal and Tunnel system). See Draft EIR/EIS Section 3.5, Cultural Resources, as revised per Final EIR/EIS Chapter 4.

Hydrology and Water Quality: Concerns associated with water quality in Lake Merced, and with maintaining Lake Merced surface water levels. See Draft EIR/EIS Section 3.9, Hydrology and Water Quality, as revised per Final EIR/EIS Chapter 4. In addition, concerns with maintaining Lake Merced surface water levels under the proposed project, while the SFPUC's San Francisco Groundwater Supply Project and Groundwater Storage and Recovery Project are under operation, influencing the underlying groundwater basin. See Draft EIR/EIS Section 3.9.6.4, discussing the cumulative operational effects of these projects on lake levels.

Recreation: Concerns related to public uses of the Project area, particularly Fort Funston and Lake Merced, and the potential impacts of the Project on public uses such as boating, swimming, surfing, and bird watching. See Draft EIR/EIS Section 3.13, Recreation.

TABLE ES-1
COMPARISON OF SIGNIFICANT IMPACTS OF PROJECT TO IMPACTS OF ALTERNATIVES UNDER CEQA

Impact	Proposed Project	Tunnel Alignment Alternative	Canal Configuration Alternative	No Project/No Action Alternative
Aesthetics				
Day and Nighttime Views	**Impact AES-3:** Project construction could result in a new source of substantial light or glare that would adversely affect day or nighttime views in the area. It is anticipated that tunneling activities could occur 24 hours per day in two to three shifts, and construction of the replacement pipe section and piers on the beach would necessitate 24-hour work over a period of several days to one week. Construction would create a new temporary source of nighttime lighting in the immediate area and the light and glare effects from Project construction could be substantial. (Less than Significant with Mitigation)	**Similar** The Tunnel Alignment Alternative would include the same types of temporary aboveground components and activities during construction as the proposed Project, and the methods and duration required to construct the Tunnel Alignment Alternative would be similar to the Tunnel portion of the proposed Project. (Less than Significant with Mitigation)	**Similar** The methods and duration to construct the Canal Configuration Alternative would not change compared to the proposed Project. (Less than Significant with Mitigation)	**No Impact** No physical component of the proposed Project would be constructed, and there would be no impacts to aesthetic resources. (No Impact)
Scenic Vista, Scenic Resource, Visual Character, and Visual Quality	**Impact AES-2:** Project operation would not result in a substantial adverse impact on a scenic vista, scenic resource, or on the visual character or quality of the site or its surroundings. The design character of the treatment wetland cells would integrate the treatment wetlands and associated infrastructure with the existing visual environment of the Project site. The Project would reduce the contrast of the Ocean Outlet and the surrounding scenery to a moderately low level by reducing the size of the structure and would provide better views of the area. Approximately every 25 years, the Ocean Outlet would be reconstructed and appear similar to the initial rehabilitation of the structure, and long-term impacts would be as described for the proposed structure. (Less than Significant)	**Increased** If a new ocean outlet location is selected, a third outlet structure (in addition to the existing Ocean Outlet structure and SFPUC's outlet structure) would be present along the beach and toe of the cliff below Fort Funston within an area of approximately 150 feet or less. This would increase the overall level of visual contrast in this location and would not provide the benefit of removing an obstruction to views. Visual conditions would remain similar to existing conditions in the vicinity of the existing outlet structure; with an additional outlet that would be moved as bluff erosion continues, as under the proposed Project. (Less than Significant)	**Similar** The design character of the treatment wetland cell would integrate the treatment wetland and associated infrastructure with the existing visual environment of the Project site. (Less than Significant)	**No Impact** Ongoing periodic maintenance activities would not be noticeable or intrude on the visual character and quality of the Project area. Future uncontrolled flood events could damage public facilities and private properties in the vicinity of Lake Merced, which could degrade the visual character and quality of the area. (No Impact)

TABLE ES-1 (Continued)
COMPARISON OF SIGNIFICANT IMPACTS OF PROJECT TO IMPACTS OF ALTERNATIVES UNDER CEQA

Impact	Proposed Project	Tunnel Alignment Alternative	Canal Configuration Alternative	No Project/No Action Alternative
Air Quality				
Air Quality Standards	**Impact AIR-1:** The Project would not violate any air quality standard or contribute substantially to an existing or projected air quality violation. Without appropriate dust controls, dust emissions generated within federally administered areas could contribute to the SFBAAB's existing PM10 and PM2.5 non-attainment status, a potentially significant impact. (Less than Significant with Mitigation)	**Similar** The Tunnel Alignment Alternative would have similar construction characteristics of the Project. The construction methods and duration to construct this alternative would not change compared to the Tunnel portion of the Project, except that a micro tunnel boring machine would be used in place of a mini excavator. (Less than Significant with Mitigation)	**Decreased** The Canal Configuration Alternative would have many similar construction characteristics of the Project. The construction methods for Canal Configuration Alternative would not change compared to the Project, except that the collection box and box culvert would not be constructed. (Less than Significant with Mitigation)	**No Impact** No construction emissions would be generated by this alternative. Regarding operational emissions, there would be no changes to the existing operations of the project site. (No Impact)
Cumulative Emissions Impacts	**Impact AIR-2:** The Project could result in a cumulatively considerable net increase of ozone, PM10, or PM2.5 (for which the SFBAAB is in non-attainment), including releasing emissions which exceed quantitative thresholds for ozone precursors. Construction activities would result in cumulatively significant fugitive dust emissions. (Less than Significant with Mitigation)	**Similar** The Tunnel Alignment Alternative would have similar construction characteristics of the Project. (Less than Significant with Mitigation)	**Similar** The Canal Configuration Alternative would have many similar construction characteristics and nearly identical methods as the Project. (Less than Significant with Mitigation)	**No Impact** No construction emissions would be generated and operational emissions would not change. (No Impact)
Biological Resources				
Special-Status Plant Species	**Impact BIO-1:** Construction of the Project could have a substantial adverse effect either directly or through habitat modifications, on plant species identified as sensitive or special-status in local or regional plans, policies, or regulations, or by the CDFW or USFWS. Project construction activities including materials and equipment staging at multiple sites within at Fort Funston associated with the Vista Grande Tunnel and Ocean Outlet replacement, maintenance on and use of the Avalon Canyon Road beach access route, and construction of the Impound Lake discharge structure could result in impacts to special-status plant populations and their supporting vegetation communities. (Less than Significant with Mitigation)	**Similar** The methods and duration to construct this alternative would not change substantially compared to the proposed Project, and similar impacts on sensitive and special-status plant species and sensitive vegetation communities are expected. Similar to the Project, potential impacts to special-status plants and the sensitive natural community central dune scrub would be significant. (Less than Significant with Mitigation)	**Similar** The methods and duration to construct this alternative would not change substantially compared to the proposed Project, and similar impacts on special-status plant species and sensitive vegetation communities are expected. Like with the Project, potential impacts to special-status plants and the sensitive natural community central dune scrub would be significant. (Less than Significant with Mitigation)	**No Impact** With the No Project/No Action Alternative there would be no change to sensitive natural and special-status plants in the study area. (No Impact)

TABLE ES-1 (Continued)
COMPARISON OF SIGNIFICANT IMPACTS OF PROJECT TO IMPACTS OF ALTERNATIVES UNDER CEQA

Impact	Proposed Project	Tunnel Alignment Alternative	Canal Configuration Alternative	No Project/No Action Alternative
Biological Resources (cont.)				
Special-Status Reptile Species	**Impact BIO-2:** Project construction could have a substantial adverse effect either directly or through habitat modifications, on reptile species identified as special-status in local or regional plans, policies, or regulations, or by the CDFW or USFWS. Construction of the Lake Merced overflow structure in South Lake and the outlet structure on the bank and within waters of Impound Lake could adversely affect the western pond turtle by direct mortality, should it be present, which would be a significant impact. (Less than Significant with Mitigation)	**Similar** The methods and duration to construct this alternative would not change substantially compared to the proposed Project, and similar impacts on special-status animal species are expected. (Less than Significant with Mitigation)	**Similar** The methods and duration to construct this alternative would not change substantially compared to the proposed Project, and similar impacts on special-status animal species are expected. Like the Project, construction of the Lake Merced outlet structure on the bank and within waters of Impound Lake could adversely affect western pond turtle. (Less than Significant with Mitigation)	**No Impact** With the No Project/No Action Alternative there would be no change to special-status reptile species in the study area. (No Impact)
Migratory Bird Species and Special-Status Bird Species	**Impact BIO-3:** Construction of the Project could have a substantial adverse effect either directly or through habitat modifications, on migratory birds and/or on bird species identified as special-status in local or regional plans, policies, or regulations, or by the CDFW or USFWS. Construction activities could disrupt birds attempting to nest in the vicinity of the Project site, disrupt parental foraging activity, or displace mated pairs with territories in the Project vicinity. (Less than Significant with Mitigation)	**Similar** The methods and duration to construct this alternative would not change substantially compared to the proposed Project, and similar impacts on migratory and special-status bird species are expected. Like with the Project, adverse effects on special-status and migratory birds associated with construction during the breeding birds season, the use of nighttime lighting, and increased noise and visual disturbance would be significant. (Less than Significant with Mitigation)	**Similar** The methods and duration to this alternative would not change substantially compared to the proposed Project, and similar impacts on migratory and special-status bird species are expected. Like with the Project, adverse effects on special-status and migratory birds associated with construction during the breeding birds season, the use of nighttime lighting, and increased noise and visual disturbance would be significant. (Less than Significant with Mitigation)	**No Impact** With the No Project/No Action Alternative there would be no change to special-status bird species in the study area. (No Impact)
Special-Status Bat Species	**Impact BIO-4:** Construction of the Project could have a substantial adverse effect either directly or through habitat modifications, on bats identified as special-status in local or regional plans, policies, or regulations, or by the CDFW or USFWS. Clearing vegetation (including trees) and removing structures in support of Project construction could result in direct mortality of special-status bats roosting in tree cavities, under bark, and in structures within the	**Similar** The methods and duration to construct this alternative would not change substantially compared to the proposed Project, and similar impacts on bat species are expected. Adverse effects on special status bats associated with tree removal and structure modification would be similar to the Project. (Less than Significant with Mitigation)	**Similar** The methods and duration to construct this alternative would not change substantially compared to the proposed Project, and similar impacts on bat species are expected. Adverse effects on special-status bats associated with tree removal and structure modification would be similar to the Project. (Less than Significant with Mitigation)	**No Impact** With the No Project/No Action Alternative there would be no change to special-status bat species in the study area. (No Impact)

TABLE ES-1 (Continued)
COMPARISON OF SIGNIFICANT IMPACTS OF PROJECT TO IMPACTS OF ALTERNATIVES UNDER CEQA

Impact	Proposed Project	Tunnel Alignment Alternative	Canal Configuration Alternative	No Project/No Action Alternative
Biological Resources (cont.)				
Special-Status Bat Species (cont.)	Project site. Direct mortality of special-status bats would be a significant impact. Additionally, common bats may establish maternity roosts in these same locations which are protected under CEQA. (Less than Significant with Mitigation)			
Central Dune Scrub	**Impact BIO-5:** Project construction could have a substantial adverse effect on central dune scrub, a sensitive natural community identified by the CDFW. Impacts to central dune scrub are expected to occur during Project-related improvements to the Avalon Canyon access road and through use of the proposed staging area at Fort Funston where approximately 0.497-acre of central dune scrub is present on the eastern and southern boundaries. In addition, restored central dune scrub has been established near Impound Lake where the outlet structure is proposed; however, the Project facilities are not located in areas where central dune scrub has been mapped. (Less than Significant with Mitigation)	**Similar** The methods and duration to construct this alternative would not change substantially compared to the proposed Project, and similar impacts on sensitive vegetation communities are expected. Similar to the Project, removal of central dune scrub vegetation would be considered a significant impact. (Less than Significant with Mitigation)	**Similar** The methods and duration to construct this alternative would not change substantially compared to the proposed Project, and similar impacts on sensitive vegetation communities are expected. Like with the Project, potential impacts to the sensitive natural community central dune scrub would be significant. (Less than Significant with Mitigation)	**No Impact** With the No Project/No Action Alternative there would be no change to a sensitive natural community in the study area. (No Impact)
Upland Vegetation Communities	**Impact BIO-6:** Project construction would not have a substantial adverse effect on upland vegetation communities identified in local or regional plans, policies, regulations, or by the CDFW or USFWS. Trees that may be impacted by the Project during construction occur in an area managed by the San Francisco Department of Public Works (SFDPW) or located on San Francisco owned land. Such areas are subject to Article 16, Section 808 of the Public Works Code as designated street or significant trees. (Less than Significant with Mitigation)	**Similar** The methods and duration to construct this alternative would not change substantially compared to the proposed Project, and similar impacts on upland vegetation communities are expected. (Less than Significant with Mitigation)	**Similar** The methods and duration to construct this alternative would not change substantially compared to the proposed Project, and similar impacts on upland vegetation communities are expected. During construction, trees could be removed within the Project area during construction. (Less than Significant with Mitigation)	**No Impact** With the No Project/No Action Alternative there would be no change to an upland vegetation community in the study area. (No Impact)

TABLE ES-1 (Continued)
COMPARISON OF SIGNIFICANT IMPACTS OF PROJECT TO IMPACTS OF ALTERNATIVES UNDER CEQA

Impact	Proposed Project	Tunnel Alignment Alternative	Canal Configuration Alternative	No Project/No Action Alternative
Biological Resources (cont.)				
Sensitive Communities	**Impact BIO-7:** Construction of the Project would have a substantial adverse effect on sensitive communities identified in local or regional plans, policies, regulations, or by CDFW or USFWS through the introduction or spread of invasive plants. Project construction activities could contribute to the spread of invasive plants and introduce new invasive plants to the study area through earth moving, transport of vehicles, equipment and materials, and unanticipated sediment dispersal during rain events which would be a significant impact. (Less than Significant with Mitigation)	**Similar** The methods and duration to construct this alternative would not change substantially compared to the proposed Project, and similar impacts on sensitive vegetation communities are expected. Like with the Project, work areas, staging areas, and access roads cleared of non-sensitive upland vegetation could contribute to the spread of invasive plants and introduce new invasive plants to the Project study area through earth moving, transport of vehicles, equipment and materials, and unanticipated sediment dispersal during rain events. (Less than Significant with Mitigation)	**Similar** The methods and duration to construct this alternative would not change substantially compared to the proposed Project, and similar impacts on sensitive vegetation communities are expected. (Less than Significant with Mitigation)	**No Impact** With the No Project/No Action Alternative there would be no change to a sensitive community in the study area. (No Impact)
Wetlands and Other Jurisdictional Waters	**Impact BIO-8:** Project construction could have a substantial adverse effect on wetlands and other jurisdictional waters. Project impacts to these potential jurisdictional features would involve temporary and permanent discharges of structures and/or fill within waters and wetlands, and/or alterations of the bed and/or banks of a lake or stream, to accommodate Project activities. (Less than Significant with Mitigation)	**Similar** The methods and duration to construct this alternative would not change substantially compared to the proposed Project, and similar impacts on potential federally jurisdictional wetlands and other waters are expected. As under the Project, there are no impacts to potential jurisdictional features from the tunnel component itself. Impacts to potential jurisdictional waters associated with rehabilitating the existing Ocean Outlet would not exceed those described under the Project. (Less than Significant with Mitigation)	**Decreased** The methods and duration to construct this alternative would not change substantially compared to the proposed Project, and similar impacts on potential federally jurisdictional wetlands and other waters are expected. Impacts to potential jurisdictional wetlands and waters associated with constructing the new facilities at Lake Merced would be less than those described under the Project due to the reduced modifications to the Canal. (Less than Significant with Mitigation)	**No Impact** With the No Project/No Action Alternative there would be no change to wetlands and other jurisdictional waters in the study area. (No Impact)
Native Resident Fish Species	**Impact BIO-9:** Construction of the Project could impede movement of native resident fish species. A variety of common fish species reside in Lake Merced and could be adversely affected by in-water work at the lake associated with the Project. (Less than Significant with Mitigation)	**Similar** The methods and duration to construct this alternative would not change substantially compared to the proposed Project, and similar impacts on fish species are expected. (Less than Significant with Mitigation)	**Similar** The methods and duration to construct this alternative would not change substantially compared to the proposed Project, and similar impacts on fish species are expected. Like the Project, construction of the Lake Merced outlet structure on the bank and within waters of Impound Lake could adversely affect common fish species. (Less than Significant with Mitigation)	**No Impact** With the No Project/No Action Alternative there would be no change to fish species in the study area. (No Impact)

TABLE ES-1 (Continued)
COMPARISON OF SIGNIFICANT IMPACTS OF PROJECT TO IMPACTS OF ALTERNATIVES UNDER CEQA

Impact	Proposed Project	Tunnel Alignment Alternative	Canal Configuration Alternative	No Project/No Action Alternative
Biological Resources (cont.)				
Native Resident or Migratory Species	**Impact BIO-10:** Construction of the Project could interfere substantially with the movement of native resident or migratory species or with established native resident or migratory corridors, or impede the use of nursery sites. Construction activities associated with the Ocean Outlet and the submarine outfall on Ocean Beach and those associated with the Fort Funston tunnel shaft staging and work area could adversely impact birds migrating along the Pacific Flyway and nearby resident wildlife with the introduction of night lighting into an otherwise dark environment. (Less than Significant with Mitigation)	**Similar** The methods and duration to construct this alternative would not change substantially compared to the proposed Project, and similar impacts on resident and migratory species are expected. Like with the Project, adverse effects on special-status and migratory birds associated with construction during the breeding birds season, the use of nighttime lighting, and increased noise and visual disturbance would be significant. (Less than Significant with Mitigation)	**Similar** The methods and duration to construct this alternative would not change substantially compared to the proposed Project, and similar impacts on resident species, migratory species, and wildlife nursery sites are expected. Like with the Project, adverse effects on special-status and migratory birds associated with construction during the breeding bird season, the use of nighttime lighting, and increased noise and visual disturbance would be significant. (Less than Significant with Mitigation)	**No Impact** With the No Project/No Action Alternative there would be no change to resident species, migratory species, and wildlife nursery sites in the study area. (No Impact)
Lake Merced Plant Species	**Impact BIO-12:** Project operation could adversely affect central dune scrub, thimbleberry, wax myrtle, and canyon live oak scrub, and Vancouver rye grassland associated with Lake Merced. Loss of central dune scrub would be less than 1 percent under the Project and canyon live oak would be unaffected. Wax myrtle scrub would be unaffected by increased lake levels up to 9 feet City Datum but would incur a 12.50 percent loss at a 10 feet City Datum WSE, which would be considered significant. Thimbleberry scrub occurs above 13 feet City Datum and would not be inundated by rising water surface elevations under any scenario. Vancouver rye grassland would incur losses below 10 percent with an increase in lake levels up through 9 feet City Datum but would experience significant impacts at 10 feet where there would be a 46.15 percent loss (i.e., if the target maximum of 9.5 WSE was selected). (Less than Significant with Mitigation)	**Similar** The Tunnel Alignment Alternative would not change operational impacts on special-status plant species associated with Project implementation. (Less than Significant with Mitigation)	**Similar** Operation of the Canal Configuration Alternative would result in similar impacts on special-status plant species as the proposed Project. (Less than Significant with Mitigation)	**No Impact** With the No Project/No Action Alternative there would be no change to special-status plant species in the study area. (No Impact)

TABLE ES-1 (Continued)
COMPARISON OF SIGNIFICANT IMPACTS OF PROJECT TO IMPACTS OF ALTERNATIVES UNDER CEQA

Impact	Proposed Project	Tunnel Alignment Alternative	Canal Configuration Alternative	No Project/No Action Alternative
Biological Resources (cont.)				
Lake Merced Wildlife	**Impact BIO-15:** Project operation could adversely affect native wildlife nursery sites associated with Lake Merced. Water level increases above 9 feet City Datum under the Project that persist for more than one month (i.e., with a target maximum WSE of 9.5 feet) would result in the change in habitat attributed to the Project in excess of 10 percent which would be considered a significant impact on these wildlife nursery sites. (Less than Significant with Mitigation)	**Similar** The Tunnel Alignment Alternative would not change operational impacts on wildlife nursery sites associated with Project implementation. (Less than Significant with Mitigation)	**Increased** Operation of the Canal Configuration Alternative would result in similar impacts on wildlife nursery sites as the proposed Project. A smaller treatment wetland would offer 0.4 acre less habitat to wildlife than the treatment wetlands proposed under the Project. (Less than Significant with Mitigation)	**No Impact** With the No Project/No Action Alternative there would be no change to wildlife nursery sites in the study area. (No Impact)
Cultural and Paleontological Resources				
Historical Resource	**Impact CUL-1:** The Project would cause a substantial adverse change in the significance of a historical resource because it would demolish the majority of the historic Vista Grande Canal and Tunnel. Construction would substantially affect the vast majority of the historic Vista Grande Canal and Tunnel as an entire drainage system. (Significant and Unavoidable)	**Decreased** The Canal improvements under the proposed Project paired with the Tunnel Alignment Alternative would adversely affect most of the Vista Grande Canal and Tunnel system as a whole, though less than the proposed Project. The Canal Configuration Alternative paired with the Tunnel Alignment Alternative would adversely affect most of the Vista Grande Canal and Tunnel as a whole. (Significant and Unavoidable)	**Decreased** The Tunnel improvements under the proposed Project paired with the Canal Configuration Alternative would have an adverse impact on most of the Vista Grande Canal and Tunnel system as a whole, though less than the proposed Project. The Canal Configuration Alternative paired with the Tunnel Alignment Alternative would adversely affect most of the Vista Grande Canal and Tunnel as a whole. (Significant and Unavoidable)	**No Impact** No new construction or ground-disturbing activities would occur under the No Project/No Action Alternative. (No Impact)
Archaeological Resource	**Impact CUL-2:** The Project could cause a substantial adverse change in the significance of an archaeological resource, including shipwrecks. While unlikely, ground-disturbing activities could expose and cause impacts on unknown archaeological resources or shipwrecks, which would be a potentially significant impact. The existing outlet is approximately 900 feet north of the shipwreck remains. (Less than Significant with Mitigation)	**Increased** Similar to the proposed Project, ground disturbing activities for the Tunnel Alignment Alternative would have the potential to uncover previously unknown archaeological resources. The Ocean Outlet structure associated with the Tunnel Alignment Alternative could be slightly closer to the 1882 schooner Neptune that wrecked in 1900 than the proposed Project. (Less than Significant with Mitigation)	**Similar** Similar to the proposed Project, ground disturbing activities for the Canal Configuration Alternative would have the potential to uncover previously unknown archaeological resources. (Less than Significant with Mitigation)	**No Impact** No new construction or ground-disturbing activities would occur under the No Project/No Action Alternative. (No Impact)

TABLE ES-1 (Continued)
COMPARISON OF SIGNIFICANT IMPACTS OF PROJECT TO IMPACTS OF ALTERNATIVES UNDER CEQA

Impact	Proposed Project	Tunnel Alignment Alternative	Canal Configuration Alternative	No Project/No Action Alternative
Cultural and Paleontological Resources (cont.)				
Human Remains	**Impact CUL-3:** Project construction could disturb human remains. Project construction could result in direct impacts to previously undiscovered human remains during earthmoving activities. (Less than Significant with Mitigation)	**Similar** Similar to the proposed Project, ground disturbing activities for the Tunnel Alignment Alternative would have the potential to uncover human remains. (Less than Significant with Mitigation)	**Similar** Similar to the proposed Project, ground disturbing activities for the Tunnel Alignment Alternative would have the potential to uncover human remains. (Less than Significant with Mitigation)	**No Impact** No new construction or ground-disturbing activities would occur under the No Project/No Action Alternative. (No Impact)
Geology and Soils				
People and Structures	**Impact GEO-1:** Construction, operation, and maintenance of the Project could expose people or structures to potential substantial adverse effects involving strong seismic ground shaking and/or seismic-related ground failure. Holocene slip was observed in trench exposures of the Serra Fault and geotechnical investigation concluded there is a high potential for rupture as a result of faulting within the proposed tunnels alignment. Groundshaking during an earthquake in the Project area has the potential to be strong, with peak ground acceleration around 0.6 g, which could result in significant groundshaking effects on the proposed facilities. Also, seismic damage due to liquefaction and related phenomena could occur along the pipeline and at other facilities. In particular, the new tunnel portal and Lake Merced overflow inlet are planned in an area of potentially liquefiable soil. (Less than Significant with Mitigation)	**Similar** As with the Project, structural damage to facilities could occur as a result of strong seismic groundshaking. As with the Project, the Tunnel Alignment Alternative also has the potential for seismic-related ground failure resulting from liquefaction and lateral spreading. (Less than Significant with Mitigation)	**Similar** Structural damage to facilities could occur as a result of strong seismic groundshaking and/or seismic-related ground failure. As with the Project, the Canal Configuration Alternative has the potential to encounter liquefaction and lateral spreading. (Less than Significant with Mitigation)	**No Impact** Under the No Project/No Action Alternative, improvements that address the storm-related flooding in the Vista Grande Drainage Basin would not be implemented. The Project site would continue to experience existing levels of geologic and seismic hazards. (No Impact)
Soil Erosion and Loss of Topsoil	**Impact GEO-2:** The Project could result in substantial soil erosion or the loss of topsoil. Construction activities such as excavating, trenching, and grading can remove stabilizing vegetation and expose areas of loose soil that, if not properly stabilized during construction, can be subject to erosion by wind and stormwater runoff, potentially	**Similar** As with the Project, the Tunnel Alignment Alternative construction could result in erosion from wind and stormwater runoff. (Less than Significant with Mitigation)	**Similar** As with the Project, the Canal Configuration Alternative construction could result in erosion from wind and stormwater runoff. (Less than Significant with Mitigation)	**No Impact** Under the No Project/No Action Alternative, improvements that address the storm-related flooding in the Vista Grande Drainage Basin would not be implemented. Daly City would continue to use the existing ocean outlet structure at Fort Funston which would continue to contribute to erosion of the cliff

TABLE ES-1 (Continued)
COMPARISON OF SIGNIFICANT IMPACTS OF PROJECT TO IMPACTS OF ALTERNATIVES UNDER CEQA

Impact	Proposed Project	Tunnel Alignment Alternative	Canal Configuration Alternative	No Project/No Action Alternative
Geology and Soils (cont.)				
Soil Erosion and Loss of Topsoil (cont.)	resulting in a significant impact with respect to soils. Also, during operation of the project, erosion and improper water flow could occur within the retaining wall backdrain systems if they are not properly maintained. (Less than Significant with Mitigation)			face where it is located. The Project site would continue to experience existing levels of geologic and seismic hazards. (No Impact)
Unstable Soil	**Impact GEO-3:** The Project may be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project. The outlet structure is in an area where the potential for shallow or wedge failures up to about 10 to 15 feet thick under static conditions is moderate to high. During large seismic events, the potential for relatively large-scale landsliding is high. In addition, there is landslide potential at Avalon Canyon which would provide beach access during construction of the outlet structure. (Less than Significant with Mitigation)	**Similar** As with the Project, excavations could trigger slope failures that could result in landslides, slumps, soil creep, or debris flows. (Less than Significant with Mitigation)	**Similar** As with the Project, excavations could trigger slope failures that could result in landslides, slumps, soil creep, or debris flows. (Less than Significant with Mitigation)	**No Impact** Under the No Project/No Action Alternative, improvements that address the storm-related flooding in the Vista Grande Drainage Basin would not be implemented. The Project site would continue to experience existing levels of geologic and seismic hazards. (No Impact)
Life and Property	**Impact GEO-4:** The proposed Project would not create substantial risks to life or property due to expansive or corrosive soils. Project area soils have a mild to moderate corrosion potential which could corrode the micropiles. (Less than Significant with Mitigation)	**Similar** Like with the Project, the area soils have a mild to moderate corrosion potential. (Less than Significant with Mitigation)	**Similar** As with the Project, the area soils have a mild to moderate corrosion potential. (Less than Significant with Mitigation)	**No Impact** Under the No Project/No Action Alternative, improvements that address the storm-related flooding in the Vista Grande Drainage Basin would not be implemented. The Project site would continue to experience existing levels of geologic and seismic hazards. (No Impact)
Greenhouse Gas Emissions and Climate Change				
Greenhouse gas emissions during construction	**Impact GHG-1:** Project construction could generate GHG emissions above regulatory thresholds. If tunnel drives are constructed concurrently, and/or if tunneling occurs on a 24-hour basis, total short-term construction-related GHG emissions would be above BAAQMD's quantitative threshold of 1,100 metric tons CO2e for non-stationary sources during construction year 2, a significant impact. (Less than Significant with Mitigation)	**Similar** The Tunnel Alignment Alternative would include similar construction characteristics and any differences in equipment used would result in a similar level of GHG emissions as the proposed Project during Construction year 2. (Less than Significant with Mitigation)	**Similar** Although construction of the collection box and box culvert would be eliminated, thereby reducing GHG emissions compared to the proposed Project, tunnel construction would occur, which would result in a significant impact during construction year 2. (Less than Significant with Mitigation)	**No Impact** No construction emissions would be generated, and operational emissions would not change. (No Impact)

TABLE ES-1 (Continued)
COMPARISON OF SIGNIFICANT IMPACTS OF PROJECT TO IMPACTS OF ALTERNATIVES UNDER CEQA

Impact	Proposed Project	Tunnel Alignment Alternative	Canal Configuration Alternative	No Project/No Action Alternative
Hazards and Hazardous Materials				
Public and Environment	**Impact HAZ-2:** Project construction could result in a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. Lead is a known contaminant within 0.25 mile of the Project site. During construction, ground-disturbing activities could unearth UXO, which would pose a safety risk to workers on-site. (Less than Significant with Mitigation)	**Similar** Like with the Project, construction activities could expose the environment, public or construction personnel to contaminated soils or groundwater or to UXO. (Less than Significant with Mitigation)	**Similar** Like with the Project, construction activities could expose the environment, public or construction personnel to contaminated soils, or groundwater. (Less than Significant with Mitigation)	**No Impact** Under the No Project/No Action Alternative, the Project would not be implemented; therefore, no hazards or hazardous materials-related impacts would occur. The Project site would continue to experience existing levels of public safety hazards. (No Impact)
Emergency Response Plan and Emergency Evacuation Plan	**Impact HAZ-3:** Project construction would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Construction could affect the availability of travel lanes when construction occurs within or adjacent to John Muir Drive, due to the presence of large, slow-moving trucks that may cause delays. These delays could interfere with implementation of the Emergency Response Plan, which would be a significant impact. (Less than Significant with Mitigation)	**Similar** Construction activities associated with the Tunnel Alignment Alternative would result in impacts on emergency access similar to those identified for the Project. (Less than Significant with Mitigation)	**Similar** Like the Project, construction could interfere or disrupt the evacuation route along John Muir Drive, as identified in San Francisco's Emergency Response Plan, due to the presence of large, slow-moving trucks that may cause delays. (Less than Significant with Mitigation)	**No Impact** Under the No Project/No Action Alternative, the Project would not be implemented; therefore, no hazards or hazardous materials-related impacts would occur. The Project site would continue to experience existing levels of public safety hazards. (No Impact)
Hydrology and Water Quality				
Water Quality Standards	**Impact HYD-1:** Project construction could violate water quality standards and/or waste discharge requirements, provide substantial additional sources of polluted runoff, or otherwise substantially degrade water quality. Construction of the Lake Merced outlet structure on the bank and within waters of Impound Lake and of the Lake Merced overflow structure in South Lake could result in discharges of pollutants to Lake Merced directly, resulting in substantial water quality effects. (Less than Significant with Mitigation)	**Similar** The construction methods and duration to construct this alternative would not substantially differ as compared to the Tunnel portion of the proposed Project, and impacts associated with the Canal portion would either be identical to the proposed Project or the Canal Configuration Alternative. (Less than Significant with Mitigation)	**Similar** As with the proposed Project, construction of the Lake Merced overflow structure in South Lake and the outlet structure on the bank and within waters of Impound Lake could result in discharges of pollutants to Lake Merced directly. (Less than Significant with Mitigation)	**No Impact** Under the No Project/No Action Alternative, the Project would not be implemented; therefore, no construction related water quality impacts would occur. (No Impact)

TABLE ES-1 (Continued)
COMPARISON OF SIGNIFICANT IMPACTS OF PROJECT TO IMPACTS OF ALTERNATIVES UNDER CEQA

Impact	Proposed Project	Tunnel Alignment Alternative	Canal Configuration Alternative	No Project/No Action Alternative
Hydrology and Water Quality (cont.)				
Alteration of Coastal Landforms or Processes	**Impact HYD-9:** The Project could conflict with plans, policies, or regulations related to alteration of coastal landforms or processes adopted for the purpose of avoiding or mitigating an environmental effect. The alteration of coastal processes would result in a potentially significant impact relating to coastal processes such as bluff retreat and alterations to the beach profile. In addition, the proposed Project could conflict with California Coastal Act Sections 30235 and 30253 and/or NPS Management Policies (described in Draft EIR/EIS Section 3.9.2.1) should bluff erosion rates an patterns alter as a result of the proposed d Project, including a local decrease of the sediment availability at the site due to diminished sand supply. (Significant and Unavoidable)	**Similar** Under this alternative, the new tunnel would terminate in a new or rehabilitated Ocean Outlet structure. If the option to connect to the existing Ocean Outlet location is selected, construction and long-term maintenance of the Ocean Outlet structure would be as described for the proposed Project. However, under this alternative, a new tunnel would be constructed to meet the terminus of the existing tunnel at the current extent of the bluff face. As the bluff recedes, both the existing abandoned-in-place tunnel and the new tunnel would become exposed, resulting in an adverse effect related to alterations of coastal landforms and coastal processes. Also, the exposure and rehabilitation of structures under this alternative could conflict with the California Coastal Act Section 30235 and 30253 and/or NPS Management Policies. (Significant and Unavoidable)	**Similar** Impacts associated with the Canal portion would either be identical to the proposed Project or the Tunnel Alignment Alternative. (Significant and Unavoidable)	**No Impact** Under the No Project/No Action Alternative, the Project would not be implemented; therefore, no alteration of coastal processes or conflicts with plans, policies, or regulations would occur. (No Impact)
Land Use				
Land Use Policies	**Impact LU-1:** The Project could be inconsistent with some of the sub-policies of the Coastal Act and with portions of the NPS Management Policies regarding coastal processes. (Significant and Unavoidable)	**Increased** The development of a new tunnel and potentially a new Ocean Outlet to the south of the existing structures may conflict with NPS Management Policies for coastal processes by introducing new developments in an area subject to wave erosion or active shoreline processes when a practicable alternative. (Significant and Unavoidable)	**Similar** Impacts associated with the Canal portion would either be identical to the proposed Project or the Tunnel Alignment Alternative. (Significant and Unavoidable)	**No Impact** Because the Project would not be implemented, no potential conflict with the Coastal Act or NPS Management Policies would occur. (No Impact)
Noise and Vibration				
Temporary Noise	**Impact NOI-1:** Project construction could temporarily expose persons to or generate noise levels in excess of local noise	**Similar** The location of the tunnel shaft would be somewhat farther from the nearest	**Increased** **Impact ALT-NOI-1:** This alternative would not construct a collection box and	**No Impact** Because no new construction would occur under the No Project/No Action Alternative,

TABLE ES-1 (Continued)
COMPARISON OF SIGNIFICANT IMPACTS OF PROJECT TO IMPACTS OF ALTERNATIVES UNDER CEQA

Impact	Proposed Project	Tunnel Alignment Alternative	Canal Configuration Alternative	No Project/No Action Alternative
Noise and Vibration (cont.)				
Temporary Noise (cont.)	ordinances or create a substantial temporary increase in ambient noise levels. (Less than Significant with Mitigation)	sensitive receptor compared to Tunnel portion of the Project. However, the location of the Lake Merced Portal would be farther from the nearest residential receiver than under the proposed Project. (Less than Significant with Mitigation)	box culvert, which would reduce the duration of construction activity. However, it would decrease the distance between the location of impact pile driving and the nearest residential receptors, resulting in noise levels up to 82 dBA and exceeding the 70 dBA Leq speech interference threshold for greater than two weeks. A noise reduction of at least 12 dBA may not be achieved with mitigation, and, therefore noise impacts associated with construction-related activities could remain significant. (Potentially Significant and Unavoidable)	no construction noise would be generated by this alternative, which would result in no impact. (No Impact)
Groundborne Vibration and Noise Levels	**Impact NOI-2:** Project construction could result in the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels. The vibration levels at the Missile Assembly Building in Fort Funston would be above the FTA's building damage threshold for susceptible buildings. (Less than Significant with Mitigation)	**Increased** The nearest vibration-sensitive receiver to the where pile driving activities would take place is the Mission Assembly Building located in Fort Funston. The vibration levels would be above both the FTA's construction vibration and building damage thresholds for historic land uses. (Less than Significant with Mitigation)	**Increased** **Impact ALT-NOI-2:** Project-related vibration levels at the nearest residential building located approximately 200 feet south-east from the John Muir Drive crossing and diversion structure would remain significant and unavoidable after mitigation. (Significant and Unavoidable)	**No Impact** Because no new construction would occur under the No Project/No Action Alternative, no ground-borne vibration would be generated by this alternative, which would result in no impact. (No Impact)
Paleontological Resources				
Paleontological Resource, Paleontological Site, Unique Geological Feature	**Impact PAL-1:** The Project would directly or indirectly destroy a unique paleontological resource or site or unique geological feature. Because new disturbance would occur within geologic units with moderate to high potential for paleontological resources, potentially significant fossils could be adversely affected during construction, particularly within the Merced Formation. Furthermore, ground-disturbing activities could expose and cause impacts on unknown paleontological resources, which would be a potentially significant impact. (Less than Significant with Mitigation)	**Similar** Similar to the proposed Project, ground disturbing activities for the Tunnel Alignment Alternative would have the potential to uncover previously unknown paleontological resources or damage unique geologic features. (Less than Significant with Mitigation)	**Similar** Similar to the proposed Project, ground disturbing activities for the Canal Configuration Alternative would have the potential to uncover previously unknown paleontological resources or damage unique geologic features. (Less than Significant with Mitigation)	**No Impact** Because no new construction or ground-disturbing activities would occur under the No Project/No Action Alternative, undiscovered paleontological resources would not be encountered. (No Impact)

TABLE ES-1 (Continued)
COMPARISON OF SIGNIFICANT IMPACTS OF PROJECT TO IMPACTS OF ALTERNATIVES UNDER CEQA

Impact	Proposed Project	Tunnel Alignment Alternative	Canal Configuration Alternative	No Project/No Action Alternative
Transportation and Traffic				
Plans, Ordinances, and Policies	**Impact TRA-1:** Project construction would cause temporary increases in traffic volumes on area roadways, which could cause substantial conflicts with the performance of the circulation system, but would not conflict with applicable plans, ordinances, or policies pertaining to the performance of the circulation system. The increased local congestion/delay and potential conflicts involving Project trucks is considered to be a significant impact. (Less than Significant with Mitigation)	**Similar** Similar to the Project, the increase in traffic volume on local roads would be noticeable, especially due to the slower movements of trucks compared to passenger vehicles, and the increased local congestion/delay and potential conflicts involving trucks is considered to be a significant impact. (Less than Significant with Mitigation)	**Decreased** Daily traffic generated by construction workers and haul/delivery trucks accessing the work site would be somewhat less than for the proposed Project. (Less than Significant with Mitigation)	**No Impact** Under the No Project/No Action alternative, no physical component of the proposed Project would be constructed, and there would be no construction-related impacts to existing transportation conditions on area roadways. (No Impact)
Designated Haul Routes	**Impact TRA-5:** Project construction would result in increased wear-and-tear on the designated haul routes. The wear-and-tear effects on road conditions and driving safety is considered to be a significant impact. Local streets (e.g., Avalon Drive and Fort Funston Road) generally are not built with a pavement thickness that will withstand substantial truck traffic volumes. (Less than Significant with Mitigation)	**Similar** Like with the Project, the use of large trucks to transport equipment and material to and from the Project work site(s) for construction could affect road conditions and driving safety on the designated haul routes by increasing the rate of road wear, which would be considered a significant impact. (Less than Significant with Mitigation)	**Similar** Like with the Project, the use of large trucks to transport equipment and material to and from the Project work site(s) for construction could significantly affect road conditions and driving safety on the designated haul routes by increasing the rate of road wear, which would be considered a significant impact. (Less than Significant with Mitigation)	**No Impact** Under the No Project/No Action alternative, no physical component of the proposed Project would be constructed, and there would be no construction-related impacts to existing transportation conditions on area roadways. (No Impact)

TABLE ES-2
COMPARISON OF SIGNIFICANT IMPACTS OF PROJECT TO IMPACTS OF ALTERNATIVES UNDER NEPA

Impact	Proposed Project	Tunnel Alignment Alternative	Canal Configuration Alternative	No Project/No Action Alternative
Aesthetics	The extended presence of construction equipment and activities at the Fort Funston staging area would be readily noticeable from passive recreation areas adjacent to this site and from trails. Also, views of the dunes in this area would be temporarily replaced by equipment and fencing. Furthermore, construction activities on the beach would be visible to hang gliders passing overhead. Mitigation would reduce visual intrusion of construction activities and equipment, so as to result in a short-term, minor adverse effect on scenic quality. The visual impacts from temporary demolition and construction impacts from restoring the Ocean Outlet and Tunnel approximately every 25 years would be similar to those described for initial demolition of the existing structure and construction of the rehabilitated Ocean Outlet.	Tunnel Alignment Alternative visual resource impacts (construction activities, lighting, and permanent structures) would contribute to visual change in the landscape, particularly related to construction activities at the Fort Funston staging area. With mitigation, changes would not appreciably alter important landscape characteristics, and views would change only slightly, so as to result in short-term, minor, adverse effect on scenic quality. Impacts to visual character and views from restoring the Ocean Outlet and Tunnel as well as restoring the abandoned, existing Ocean Outlet would be moderate, site-specific, long-term, and, thus, greater than the proposed Project.	Like the Project, changes would not appreciably alter important landscape characteristics, and views would change only slightly, so as not to negatively affect scenic quality. Thus, there would be a short-term, minor, adverse effect on scenic quality after mitigation.	Under the No Project/No Action alternative, no physical component of the proposed Project would be constructed, and there would be no impacts to aesthetic resources. Ongoing periodic maintenance activities would not be noticeable or intrude on the visual character and quality of the Project area.
Air Quality	Construction emissions of NOx, ROG, and PM2.5 are estimated to be well under the annual de minimis threshold levels applicable to the Project area The Project therefore would be exempt from General Conformity determination requirements and would have a minor adverse impact on air quality.	The Tunnel Alignment Alternative would require a reduced volume of materials to be off-hauled as compared to the Project, which would reduce the number of truck trips required and their associated emissions. Consequently, construction emissions would be well under annual de minimis threshold levels applicable to the SFBAAB, and have a minor adverse impact on air quality.	The Canal configuration Alternative would not construct the collection box and box culvert, which would result in a reduced duration of construction activity. Also, truck transport of 40,000 cubic yards of excavated materials and clean fill would no longer be needed as would be needed for the proposed Project. Consequently, construction emissions would be well under annual de minimis threshold levels applicable to the SFBAAB, and have a minor adverse impact on air quality.	Because no new construction would occur under the No Project/No Action Alternative, no construction emissions would be generated by this alternative.

TABLE ES-2 (Continued)
COMPARISON OF SIGNIFICANT IMPACTS OF PROJECT TO IMPACTS OF ALTERNATIVES UNDER NEPA

Impact	Proposed Project	Tunnel Alignment Alternative	Canal Configuration Alternative	No Project/No Action Alternative
Vegetation	*Construction* Project construction would have short-term, minor adverse impacts on vegetation communities within the Project site. Adverse effects on vegetation would be mitigated through avoidance, minimization, and mitigation measures. *Operation* Project-related lake level increase would have effects on vegetation surrounding Lake Merced that would be measurable or perceptible in elevation at which certain communities are present, but localized in context of the vegetation communities as a whole which surround the lake. Following mitigation, all impacts would be minor, but long-term.	*Construction* Impacts on sensitive natural community plant populations within the Project site are expected to be at most moderate and short-term, and would be minimized with mitigation. *Operation* Same as for the proposed Project.	*Construction* Impacts to vegetation communities within the Project site would be at most minor and short-term, and would be reduced with mitigation. *Operation* Same as for the proposed Project.	With this alternative, there would be no change to vegetation in the study area. Also, the beneficial effects of implementation of the Project or Alternatives on the biological resources of the watershed, resulting from increases to open water habitat under the Project or Alternatives, would not occur.
Potential Federally Jurisdictional Wetlands and Other Waters and Riparian Habitat	*Construction* Moderate temporary permanent impacts to potential federally jurisdictional wetlands and other waters and to riparian habitat would occur as a result of construction of the Lake Merced outlet structure in Impound Lake and installation of the new facilities within the Canal. Temporary impacts would be restored to pre-project conditions. Unavoidable permanent impacts to potentially jurisdictional other waters would include 1,350 linear feet of replacement associated with modifications to the Canal, Unavoidable permanent adverse impacts would be mitigated by on-site or off-site creation, restoration, or enhancement of previously lost or degraded waters, wetlands, and/or riparian habitats, or payment to a mitigation bank for in-kind credits.	*Construction* Same as for the proposed Project. *Operation* Same as for the proposed Project.	*Construction* Moderate temporary permanent impacts to potential federally jurisdictional wetlands and other waters and to riparian habitat would occur as a result of construction of the Lake Merced outlet structure in Impound Lake and installation of the new facilities within the Canal. Temporary impacts would be restored to pre-project conditions. Unavoidable permanent impacts to potentially jurisdictional other waters would include 350 linear feet of replacement associated with modifications to the Canal, Unavoidable permanent adverse impacts would be mitigated as described for the proposed Project. *Operation* Operational impacts related to increasing the water level at Lake Merced would be as described for the proposed Project.	With the No Project/No Action Alternative there would be no change to jurisdictional wetlands or other waters in the study area. Also, the beneficial effects of implementation of the Project or Alternatives on the biological resources of the watershed, resulting from increases to open water habitat under the Project or Alternatives, would not occur.

TABLE ES-2 (Continued)
COMPARISON OF SIGNIFICANT IMPACTS OF PROJECT TO IMPACTS OF ALTERNATIVES UNDER NEPA

Impact	Proposed Project	Tunnel Alignment Alternative	Canal Configuration Alternative	No Project/No Action Alternative
Potential Federally Jurisdictional Wetlands and Other Waters and Riparian Habitat (cont.)	*Operation* Project operations would have minor, long-term effects on wetlands resulting from increasing the water level at Lake Merced above existing conditions to a target WSE of 7.5 to 9.5 feet City Datum. Impacts associated with the periodic removal of the protruding tunnel and outlet and reconstruction of the outlet would be moderate and require similar methods described under construction for the proposed Project.			
Terrestrial Wildlife and Aquatic Wildlife	*Construction* Adverse impacts on common terrestrial wildlife are expected and include temporary disturbance of habitat or perhaps the loss of a limited number of individuals of a common species. With mitigation, adverse impacts on common terrestrial and aquatic wildlife would be minor and short-term. *Operation* There would be negligible or minor effects on terrestrial wildlife and aquatic habitat resulting from operation of the Project. Beneficial effects on aquatic habitat would likely occur as a result of the increased water volume available to Lake Merced fish species and the maintenance or improvement of water quality.	*Construction* Same as for the proposed Project or Canal Configuration Alternative. *Operation* Same as for the proposed Project or Canal Configuration Alternative.	*Construction* Impacts to terrestrial wildlife and aquatic wildlife would be at most minor and short-term, and would be reduced with mitigation. *Operation* The alternative would offer less habitat for local wildlife due to the smaller size of the treatment capacity of the wetland cell compared to the Project; however, the increase in open waters of Lake Merced resulting from implementation of this alternative would be similar to the proposed Project.	With the No Project/No Action Alternative there would be no change to terrestrial wildlife and aquatic wildlife in the study area. Also, the beneficial effects of implementation of the Project or Alternatives on the biological resources of the watershed, resulting from increases to open water habitat under the Project or Alternatives, would not occur.

TABLE ES-2 (Continued)
COMPARISON OF SIGNIFICANT IMPACTS OF PROJECT TO IMPACTS OF ALTERNATIVES UNDER NEPA

Impact	Proposed Project	Tunnel Alignment Alternative	Canal Configuration Alternative	No Project/No Action Alternative
Special-Status Species	*Construction* Impacts to special-status species such as the Northern coastal scrub communities, Western pond turtles, and various resident and migratory birds would be detectable, but they would not be expected to be outside the natural range of variability of species' populations, their habitats, or the natural processes sustaining them. Adverse effects would be short term and minor, and would be avoided, minimized, or offset by mitigation. *Operation* Rising water levels in Lake Merced resulting from operation of the Project would have minor short-term and long-term effects on special-status plants and animal species in the study area.	*Construction* Like the Project, impacts to special-status plant communities and wildlife would be detectable, but they would not be expected to be outside the natural range of variability of species' populations, their habitats, or the natural processes sustaining them. Adverse effects would be reduced with mitigation. Effects would be at most minor and short-term. *Operation* Same as for the proposed Project.	*Construction* Impacts on special-status species would be at most minor and short-term, and would be reduced with mitigation. Like the Project, impacts to special-status species would be detectable, but they would not be expected to be outside the natural range of variability of species' populations, their habitats, or the natural processes sustaining them. *Operation* Same as for the proposed Project.	With the No Project/No Action Alternative there would be no change to special-status plants and animals in the study area. Also, the beneficial effects of implementation of the Project or Alternatives on the biological resources of the watershed, resulting from increases to open water habitat under the Project or Alternatives, would not occur.
Cultural Resources	The Project would have a major adverse impact on a historic property (the Vista Grande Canal and Tunnel), even with mitigation. Construction activities could result in a minor to major impact by modifying or altering previously unknown archaeological resources, but the impact would be reduced with mitigation. Impacts to known archeological resources, including the Neptune shipwreck, would be negligible after mitigation.	The Canal improvements under the proposed Project paired with the Tunnel Alignment Alternative would adversely affect approximately 69 percent of the Vista Grande Canal and Tunnel system as a whole. The Canal Configuration Alternative paired with the Tunnel Alignment Alternative would adversely affect approximately 61 percent of the Vista Grande Canal and Tunnel as a whole. The Ocean Outlet structure associated with the Tunnel Alignment Alternative could be closer to the wreckage of the schooner Neptune than the proposed Project. This alternative would have the same adverse effect determinations as the proposed Project.	The Tunnel improvements under the proposed Project paired with the Canal Configuration Alternative would have an adverse impact on 53 percent of the Vista Grande Canal and Tunnel system as a whole. The Canal Configuration Alternative paired with the Tunnel Alignment Alternative would adversely affect approximately 61 percent of the Vista Grande Canal and Tunnel as a whole. This alternative would have the same adverse effect determinations as the proposed Project.	Under the No Project/No Action alternative, no physical component of the proposed Project would be constructed and the Vista Grande Canal and Tunnel would be retained. Therefore, no impact on historical resources and archeological resources would occur.

TABLE ES-2 (Continued)
COMPARISON OF SIGNIFICANT IMPACTS OF PROJECT TO IMPACTS OF ALTERNATIVES UNDER NEPA

Impact	Proposed Project	Tunnel Alignment Alternative	Canal Configuration Alternative	No Project/No Action Alternative
Geology and Soils	Construction activities would result in exposing areas of loose soil that could be subject to erosion by wind and stormwater runoff, but after mitigation the Project would have minor adverse effects on soil erosion. The Project also has a potential for liquefaction and lateral spreading to occur during seismic events. After mitigation, adverse effects from seismic events would be minor. Furthermore, the potential for landslides in the Project area is relatively high. However, with mitigation, the adverse effects from landslides would be minor.	Same as for the proposed Project.	Same as for the proposed Project.	Under this alternative the Project site would continue to experience existing levels of geologic and seismic hazards.
Greenhouse Gas Emissions and Climate Change	The Project would have a minor adverse impact with regard to construction related GHG emissions. Operational GHG emissions would be negligible.	The Tunnel Alignment Alternative would require a reduced volume of materials to be off-hauled as compared to the Project, which would reduce the number of truck trips required and their associated emissions. Like the Project, this alternative would have a minor adverse impact with regard to GHG emissions during construction, and a negligible impact during operation and maintenance.	Construction emissions under this alternative would be reduced compared to the Project because of the reduced amount of excavation and construction associated with the elimination of the collection box and box culvert. Like the Project, this alternative would have a minor adverse impact with regard to GHG emissions during construction, and a negligible impact during operation and maintenance.	Because no new construction would occur under this alternative, no construction-related GHG emissions would be generated by this alternative, and no changes to existing GHG emissions associated with operation and maintenance activities. Short-term increases in GHG emissions would result from occasional emergency repairs and other activities that would occur during canal flooding.
Hazards and Hazardous Materials	The Project would result in minor adverse effects on public safety after adhering to hazardous materials and stormwater regulations and the NPDES Construction Permit. Following mitigation, safety risks from encountering unexploded ordnance (UXO) and threats to the public from impeding emergency access, including the Fort Funston area and the evacuation route on John Muir Drive, would be minor.	This alternative would result in minor adverse effects on public safety after adhering to hazardous materials and stormwater regulations and the NPDES Construction Permit. Following mitigation, safety risks from encountering UXO would be minor.	This alternative would result in minor adverse effects on public safety after adhering to hazardous materials and stormwater regulations and the NPDES Construction Permit. Similar to the Project, potential human exposure to vector-borne diseases and threats to the public from impeding emergency access, including the evacuation route on John Muir Drive, would be minor.	Under this alternative the Project would not be implemented; therefore, no hazards or hazardous materials-related impacts would occur. The Project site would continue to experience existing levels of public safety hazards.

TABLE ES-2 (Continued)
COMPARISON OF SIGNIFICANT IMPACTS OF PROJECT TO IMPACTS OF ALTERNATIVES UNDER NEPA

Impact	Proposed Project	Tunnel Alignment Alternative	Canal Configuration Alternative	No Project/No Action Alternative
Hydrology and Water Quality	Construction of the Lake Merced outlet structure on the bank and within waters of Impound Lake and the Lake Merced overflow structure in South Lake could result in discharges of pollutants (sediment) to Lake Merced directly. With implementation of mitigation, Project construction would result in short-term, minor effects to water quality. Also, the proposed Project could result in an adverse effect related to alterations of coastal landforms and coastal processes and could conflict with California Coastal Act Sections 30235 and 30253, even after implementation of mitigation. Following mitigation, the impact could remain moderate to major.	Under this alternative, a new tunnel would be constructed to meet the terminus of the existing tunnel at the current extent of the bluff face. As the bluff recedes, both the existing abandoned-in-place tunnel and the new tunnel would become exposed, resulting in an adverse effect related to alterations of coastal landforms and coastal processes. Also, the exposure and rehabilitation of structures under this alternative could conflict with the California Coastal Act Section 30235 and 30253, even after implementation of mitigation. Following mitigation, the impact could remain moderate to major.	As with the proposed Project, construction of the Lake Merced overflow structure in South Lake and the outlet structure on the bank and within waters of Impound Lake could result in discharges of pollutants to Lake Merced directly. With mitigation, construction of the alternative would result in minor adverse effects.	Under the No Project/No Action Alternative, the Project would not be implemented; therefore, no adverse effects on water quality, from altering coastal processes, or from conflicting with plans, policies, or regulations would occur.
Land Use and Planning	The Project would have short-term, minor effects on existing land uses at Fort Funston due to the presence of construction activities in an area used primarily for public recreation. During operation and maintenance, the Project could conflict with the Coastal Act and/or NPS Management Policies related to coastal processes resulting in a moderate to major impact.	Construction of the Tunnel Alignment Alternative would have short-term, minor effects on existing land uses at Fort Funston due to the presence of construction activities in an area used primarily for public recreation. During operation and maintenance, the Project could conflict with the Coastal Act and/or NPS Management Policies related to coastal processes and siting development in areas previously disturbed, resulting in a moderate to major impact.	Same as for the proposed Project or Tunnel Alignment Alternative, depending on the tunnel component selected.	Under this alternative, no physical component of the Project would be constructed. Therefore, there would be no change in land use and no impact to existing land use uses or conflicts with applicable land use plans, policies or regulations.
Noise and Vibration	Noise impacts associated with construction-related activities would result in a short-term, minor adverse impact, and would be reduced with mitigation. After mitigation, vibration impacts associated with construction-related activities, such as at the Missile Assembly Building, would result in a short-term minor adverse impact. Noise impacts associated with operation-related activities would result in a negligible impact.	Like the Project, the Tunnel Alignment Alternative would have a short-term, minor adverse impact with respect to construction noise, and would be reduced with mitigation. Construction vibration impacts and noise impacts associated with operation-related activities from this alternative would have the same impact determination as the proposed Project.	This alternative would have a short-term, minor adverse impact with respect to construction noise. After mitigation, vibration impacts associated with construction-related activities would remain as a short-term, major adverse impact. Noise impacts associated with operation-related activities from this alternative would have the same impact determination as the proposed Project.	Because no new construction would occur under this alternative, no construction noise or ground-borne vibration would be generated by this alternative, which would result in no impact. Noise generated by the operation and maintenance of these components would not change.

TABLE ES-2 (Continued)
COMPARISON OF SIGNIFICANT IMPACTS OF PROJECT TO IMPACTS OF ALTERNATIVES UNDER NEPA

Impact	Proposed Project	Tunnel Alignment Alternative	Canal Configuration Alternative	No Project/No Action Alternative
Geologic and Paleontological Resources	The loss of up to 16,000 cubic feet of soils within the Colma and Merced Formations would be negligible to minor. After mitigation, the inadvertent discovery of a paleontological resource would result in a negligible impact.	The loss of up to 20,000 cubic feet of soils within the Colma and Merced Formations would be negligible to minor. Paleontological resources impacts would be the same as for the proposed Project.	Same as for the proposed Project.	Under the No Project/No Action alternative, no physical component of the proposed Project would be constructed and the Vista Grande Canal and Tunnel would be retained. Therefore, no impact to geologic and paleontological resources would occur.
Recreation	Due to construction activities, the Project would affect a small area (less than 5 percent) of Fort Funston, and would result in short-term, moderate adverse impacts to recreation at Fort Funston. Operation of the Project would result in long-term, minor beneficial impacts to recreation associated with improved beach access provided by the rehabilitated Ocean Outlet structure.	Like the Project, the Tunnel Alignment Alternative would result in short-term, moderate adverse impacts to recreation associated with construction and long-term, minor beneficial impacts to recreation associated with improved beach access provided by the rehabilitated Ocean Outlet structure.	Like the Project, the Canal Configuration Alternative would result in short-term, minor adverse impacts to recreation.	Under this alternative, no physical component of the proposed Project would be constructed, and there would be no impact to recreation.
Environmental Justice	Given the limited nature of construction-related impacts in terms of both duration and intensity, any disproportionate adverse effect on a minority population would be negligible. Furthermore, disproportionate adverse effects on minority populations associated with odors or mosquitoes would be negligible.	Same as for the proposed Project.	Same as for the proposed Project.	Under this alternative, the Project would not be constructed. Therefore, there would be no beneficial effect on minority populations from improved conditions due to reduced flooding and no disproportionate adverse effects on minority populations associated with temporary construction impacts or with odors or mosquitoes due to wetland creation.
Socioeconomics	Any adverse or beneficial socioeconomic effects resulting from reduced flooding due to Project improvements would be minor	Same as for the proposed Project.	Same as for the proposed Project.	Under this alternative, the Project would not be constructed. Therefore, there would be no adverse or beneficial socioeconomic effects as a result of reduced flooding.

TABLE ES-2 (Continued)
COMPARISON OF SIGNIFICANT IMPACTS OF PROJECT TO IMPACTS OF ALTERNATIVES UNDER NEPA

Impact	Proposed Project	Tunnel Alignment Alternative	Canal Configuration Alternative	No Project/No Action Alternative
Transportation and Traffic	With mitigation, the Project would have short-term, minor effects on regional roads, and short-term, moderate effects on local roads. The Project would have short-term, minor effects on access and negligible effects on parking.	With mitigation, the Tunnel Alignment Alternative would have short-term, minor effects on regional roads, and short-term, moderate effects on local roads.	With mitigation, the Canal Configuration Alternative would have short-term, minor effects on regional roads, and short-term, moderate effects on local roads.	Under this alternative, no physical component of the proposed Project would be constructed, and there would be no construction-related impacts to existing transportation conditions on area roadways. However, maintenance activities would continue as well as occasional emergency repairs and other traffic-generating activities when the canal floods.

CHAPTER 1
Introduction

1.1 Purpose of the Responses to Comments Document

This Responses to Comments document completes the Final Environmental Impact Report/Environmental Impact Statement (Final EIR/EIS) analyzing potential environmental effects associated with the proposed Vista Grande Drainage Basin Improvement Project (Project). The Project would improve stormwater drainage and minimize flooding risk, provide a water source for Lake Merced management, and improve recreational access and reduce litter deposition at the beach below Fort Funston. Operational components of the Project would include management of water surface elevations in Lake Merced and a Lake Management Plan that includes operations and water quality monitoring protocols. Project components would be located in northwest Daly City on land managed by the City of Daly City, on the west side of San Francisco on land managed by the San Francisco Public Utilities Commission, and within Fort Funston, part of the Golden Gate National Recreation Area which is operated under the authority of the National Park Service (NPS).

The North San Mateo County Sanitation District, a subsidiary of the City of Daly City (Daly City), the Lead Agency responsible for administering the environmental review of the Project under the California Environmental Quality Act (CEQA), and NPS, the Lead Agency under the National Environmental Policy Act (NEPA), published a Draft EIR/EIS on the proposed Project on April 28, 2016. The public comment period ended on July 1, 2016. Thus, the Draft EIR/EIS review met the CEQA 45-day minimum and NPS's NEPA 60-day minimum public review period (CEQA Guidelines §15105; NPS Director's Order No. 12 Handbook 4.8(c)). This Responses to Comments document provides written responses to comments received during the public review period.

The Draft EIR/EIS together with this Responses to Comments document constitutes the Final EIR/EIS for the Project in fulfillment of CEQA requirements as consistent with CEQA Guidelines Section 15132, and in fulfillment of NEPA requirements as consistent with Council on Environmental Quality (CEQ) NEPA Regulations Section 1503.4. This Responses to Comments document contains the following: (1) a list of persons, organizations, and public agencies commenting on the Draft EIR/EIS; (2) copies of comments received on the Draft EIR/EIS; (3) Daly City's and the NPS's responses to those comments; and (4) revisions to the Draft EIR/EIS to clarify or correct information. See Section 1.3, below, for a description of the overall contents and organization of the Responses to Comments document.

The EIR/EIS has been prepared pursuant to the requirements of CEQA (Pub. Res. Code §21000 et seq.); the CEQA Guidelines (14 Cal. Code Regs. §§15000 to 15387); NEPA (42 USC §4341 et seq.); the CEQ NEPA regulations (40 Code of Federal Regulations [CFR] Parts 1500-1508); and the NPS NEPA Guidelines (Director's Order No.12 and Handbook). The EIR/EIS is an informational document for use by (1) governmental agencies (in addition to Daly City and the NPS) and the public to aid in the planning and decision-making process by disclosing the physical environmental effects of the project and identifying possible ways of reducing or avoiding the potentially significant impacts; and (2) Daly City and the NPS prior to their decision to approve, disapprove, or modify the proposed project. If Daly City approves the proposed project, it would be required to adopt CEQA findings and a mitigation monitoring and reporting program (MMRP) to ensure that mitigation measures identified in the Final EIR are implemented. See Section 1.2, below, for further description of the environmental review process.

In accordance with CEQA and NEPA, the responses to comments address environmental issues raised in public comments that concern the adequacy or accuracy of the Draft EIR/EIS. These issues include physical impacts or changes attributable to the project rather than any social or financial implications of the project. Therefore, this document provides limited responses to comments received during the public review period that do not relate to the adequacy or accuracy of the Draft EIR/EIS.

1.2 Environmental Review Process

1.2.1 Notice of Preparation and Public Scoping

On February 28, 2013, as described in the Draft EIR/EIS, Daly City sent a Notice of Preparation and Notice of Intent to governmental agencies, organizations, and persons interested in the Project (see Appendix B in the Draft EIR/EIS). During the approximately 60-day public scoping period that ended on April 26, 2013, Daly City and the NPS accepted comments from agencies and interested parties identifying environmental issues that should be addressed in the EIR/EIS. Public scoping meetings were held on March 19, 2013 at the General's Residence at Fort Mason and on March 28, 2013 at the Doelger Senior Center to receive oral comments and solicit written comments on the scope of the EIR/EIS.

1.2.2 Draft EIR/EIS Public Review

The Draft EIR/EIS for the Project was published on April 28, 2016 and circulated to federal, state, and local agencies and to interested organizations and individuals for a 60-day public review period that ended on July 1, 2016. Both Daly City and NPS made the Draft EIR/EIS available for download on their respective project websites, the addresses for which were included in each agency's public notices. Paper copies of the Draft EIR/EIS were made available for public review at the following locations: (1) the Daly City Office of the City Clerk, 333 90th Street, Daly City, California; and (2) the Westlake Branch of the Daly City Public Library, 275 Southgate Avenue, Daly City, California. On April 28, 2016, Daly City also distributed notices of availability of the Draft EIR/EIS, published notification of its availability in a newspaper of general circulation in

Daly City and San Francisco, and posted notices at locations within the project area. The United States Environmental Protection Agency (USEPA) and the NPS also published notices of availability (NOAs) in the Federal Register on April 29, 2016 (81 FR 25666; 81 FR 25707).

During the 60-day public review period, Daly City conducted a public meeting to provide an opportunity for the public and regulatory agencies to learn about the Project and be informed about how to submit comments on the adequacy and accuracy of the Draft EIR/EIS. The public meeting was held on May 26, 2016 at City Council Chambers, 333 90th Street, Daly City.

During the Draft EIR/EIS public review period, the lead agencies received four comment letters from public agencies and three from non-governmental organizations.

1.2.3 Responses to Comments and Final EIR/EIS

Daly City and the NPS distributed this Responses to Comments document for review to the North San Mateo County Sanitation District Board of Directors and the USEPA, respectively, as well as to the agencies and organizations that commented on the Draft EIR/EIS. The EIR/EIS is intended to be used by the Sanitation District Board and the NPS, when considering selection and implementation of one of the project alternatives.

Following completion of the Final EIR/EIS, the Sanitation District Board will consider certification of the Final EIR, and will decide whether to approve or deny the proposed project. CEQA also requires the adoption of findings prior to project approval in cases where the certified EIR identifies significant environmental effects (CEQA Guidelines §§15091 and 15092) and a MMRP (§15097). If the EIR identifies significant adverse impacts that cannot be mitigated to less-than-significant levels and the project is approved, the findings must include a statement of overriding considerations for those impacts (CEQA Guidelines §15093[b]). Daly City is required to adopt CEQA findings and the MMRP prior to approving the proposed project.

Concurrent with the distribution of the Responses to Comments document, the NPS will submit the Final EIR/EIS to the USEPA and publish a NOA in the Federal Register. No fewer than 30 days after publication of this NOA, the NPS will issue a Record of Decision (ROD) for the Project documenting its consideration of the Final EIS and its decision whether to approve, deny, or modify the Project.

1.3 Agency-Initiated Project Description Revisions

As described in Draft EIR/EIS Section 2.5.3.4, Construction Power and Emergency Generators, in Chapter 2, Project and Alternatives, “Temporary construction power would be provided to the staging area at Fort Funston via a temporary Pacific Gas & Electric (PG&E) service connection. An emergency power supply (generator) with the capacity to provide 1,000 kVA would be located on-site during construction.” Following publication of the Draft EIR/EIS, Daly City determined that the provision of temporary construction power via a PG&E service connection may be infeasible, for example, if no power distribution lines of adequate voltage are within close enough proximity to the staging area to make a temporary connection. Daly City is continuing to

pursue the opportunity to provide construction power to the Fort Funston staging area via a PG&E electrical service connection. However, to provide flexibility in the event that this is infeasible, Daly City is including an option to provide temporary construction power at the Fort Funston staging area using a portable diesel-powered generator in the description of the proposed Project. This option also would be relevant to construction of the Tunnel Alignment Alternative.

Additional analysis of this option is provided in Chapter 4, Draft EIR/EIS Revisions, in which staff-initiated text changes are shown for Draft EIR/EIS Chapter 2 and Sections 3.3, Air Quality; 3.7, Greenhouse Gas Emissions and Climate Change; 3.11, Noise and Vibration; and 4.2, Energy Conservation.

Briefly, the use of a portable generator would exchange one source of power and type of fuel consumption for another by reducing the need for construction power from PG&E, while increasing the use of diesel fuel on site. A description of the mix of electrical power sources delivered to PG&E retail customers was provided in Draft EIR/EIS Section 4.2.1.2, Local Energy Systems (p. 4-3).

As described in revisions to Section 3.3, Air Quality, on the project site within Fort Funston, this change would increase average daily construction criteria pollutant exhaust emissions, but would not increase emissions of any criteria pollutant to a level that would exceed applicable CEQA significance thresholds or result in increased impact intensity under NEPA for air quality. As described in revisions to Section 3.7, Greenhouse Gas Emissions and Climate Change, the use of a generator also would increase on-site emissions of greenhouse gases during construction such that during the second year of construction, the total emissions would exceed the applicable CEQA significance threshold, resulting in a significant impact. This impact would be reduced to a less-than-significant level with implementation of Mitigation Measure 3.7-1 (see Chapter 4, Draft EIR/EIS Revisions). No change in the impact intensity under NEPA would occur with respect to greenhouse gas emissions. Daly City notes that the use of a generator on-site would result in reduced criteria air pollutant and greenhouse gas emissions from the production of electrical power that would otherwise be needed to serve Project construction. However, the methodologies used in Sections 3.3 and 3.7 focus on quantification of on-site emissions, consistent with applicable CEQA significance thresholds and NEPA impact intensity thresholds for this Project.

As described in revisions to Section 3.11, Noise and Vibration, while the use of a generator within the staging area at Fort Funston would increase the overall construction-related noise at that location, after implementation of Draft EIR/EIS Mitigation Measures 3.11-1 and 3.11-2, combined construction noise levels would not exceed applicable thresholds. Under the requirements of Mitigation Measure 3.11-1, the generator would be enclosed in a noise-attenuating acoustical enclosure. No new significant impact or increased impact intensity would occur with respect to noise.

Additionally, the use of a generator instead of a temporary PG&E connection would exchange the consumption of electricity for on-site consumption of diesel fuel. Revisions to Section 4.2, Energy Conservation, include a revised discussion of the energy consumption requirements of the

Project and alternatives. No new significant impact or increased impact intensity would occur with respect to energy consumption or conservation.

The revisions described above related to the potential use of a generator instead of a temporary PG&E power connection represent a minor change to the analysis in the EIR/EIS and do not constitute significant new information. Although the CEQA significance conclusion with respect to greenhouse gas emissions (Impact GHG-1) has been revised to disclose that a potentially significant impact could occur in the second year of construction, this impact would be reduced to a less-than-significant level with implementation of feasible mitigation measures. Daly City, as the Project proponent, does not decline to adopt this mitigation; rather, Daly City is committed to implementing all feasible mitigation measures required to reduce Project impacts to a level that is less than significant. No new significant and unavoidable impacts have been identified as a result of the minor change in construction equipment described in these staff-initiated revisions.

1.4 Document Organization

This Responses to Comments document consists of four chapters, plus supplemental attachments, as follows:

- **Chapter 1, Introduction.** This chapter summarizes the purpose of the Responses to Comment and the ongoing and environmental review process to date.
- **Chapter 2, List of Persons Commenting.** This chapter summarizes the federal, state, and local agencies, as well as the non-governmental organizations, that commented on the Draft EIR/EIS.
- **Chapter 3, Comments and Responses.** This chapter presents the comment letters received during the Draft EIR/EIS comment period, summarizes the substantive comments, and responds to those comments.
- **Chapter 4, Draft EIR/EIS Revisions.** This chapter displays the changes made to the text of the Draft EIR/EIS in response to comments on the Draft EIR/EIS or included to clarify the Draft EIR/EIS text.

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CHAPTER 2
List of Persons Commenting

This Responses to Comments document is organized to respond to all comments received on the Draft EIR/EIS, including written comments submitted by letter, fax, or email. This section lists all individuals and organizations that submitted comments on the Draft EIR/EIS. Commenters are grouped according to whether they commented as individuals or represented a public agency or non-governmental organization.

2.1 Federal, State, and Local Agencies and Commissions

- United States Environmental Protection Agency; Letter, July 1, 2016
- California State Lands Commission; Letter, July 1, 2016
- California State Transportation Agency, Department of Transportation; Letter, July 1, 2016
- San Francisco Public Utilities Commission; Letter, July 6, 2016

2.2 Organizations

- California Trout; Letter, July 1, 2016
- Golden Gate Audubon Society; Letter, July 1, 2016
- The Olympic Club; Letter, June 30, 2016

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CHAPTER 3
Comments and Responses

3.1 Comments and Responses

This section presents the comment letters received during the Draft EIR/EIS comment period, summarizes the substantive comments, and responses to those comments. The comments and responses are organized as listed in Chapter 2.

Responses have been numbered corresponding to bracketed numbers printed on the comment letters.. Responses are provided to address issues raised in the comment concerning the adequacy or accuracy of the EIR/EIS and to clarify or augment information in the Draft EIR/EIS as appropriate. Revisions to the Draft EIR/EIS are shown as indented text. New or revised text is double underlined; deleted material is shown in ~~strikethrough~~.

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

July 1, 2016

Christine Lehnertz
General Superintendent
Golden Gate National Recreation Area
Fort Mason, Building 201
San Francisco, California 94123

Subject: Draft Environmental Impact Report/Statement (DEIR/EIS) for the Vista Grande Drainage Basin Improvement Project, Golden Gate National Recreation Area, San Francisco and San Mateo Counties, California (CEQ # 20160082)

Dear Ms. Lehnertz:

The U.S. Environmental Protection Agency (EPA) has reviewed the above-referenced document pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act.

According to the DEIR/EIS, the proposed project would address storm-related flooding in Daly City by expanding the capacity of the Vista Grande Canal and Tunnel, while allowing for diversion of stormwater to Lake Merced to augment lake water levels. The project includes a Lake Managment Plan that identifies additional in-lake management actions to improve water quality, with a focus on addressing dissolved oxygen and pH levels, since Lake Merced is listed on the Clean Water Act Section 303(d) list of impaired waters for these criteria.

Based on our review, we are rating the Proposed Project and alternatives as *Environmental Concerns – Insufficient Information (EC-2)* (see enclosed "Summary of Rating Definitions"). Our concerns regard the quality of water released into the Lake during the up-to-3-year construction phase, the level of commitment to in-lake management actions to improve water quality, and the adaptive management strategy, which is not well defined. We recommend Scenario 2 be implemented for the construction phase, which would route stormwater to the San Francisco Public Utilities Commission (SFPUC) combined sewer system, and that the capability to treat flows prior to direct release into Lake Merced be included, should the SFPUC system be unable to accommodate larger storm flows or should Scenario 1 be selected. Please see our enclosed detailed comments for additional recommendations for the project and Final EIR/EIS. 1

EPA appreciates the opportunity to review this DEIR/EIS. When the Final EIR/EIS is released for public review, please send one copy to the address above (mail code: ENF-4-2). If you have any 2

questions, please contact me at (415) 972-3521, or contact Karen Vitulano, the lead reviewer for this project, at 415-947-4178 or vitulano.karen@epa.gov. 2

Sincerely,

Kathleen Martyn Goforth, Manager
Environmental Review Section

Enclosure: Summary of EPA Rating Definitions
EPA's Detailed Comments

cc: Xavier Fernandez, S.F. Bay Regional Water Quality Control Board
Patrick Sweetland, City of Daly City Department of Water and Wastewater Resources
Obi Nzewi, San Francisco Public Utilities Commission

SUMMARY OF EPA RATING DEFINITIONS*

This rating system was developed as a means to summarize the U.S. Environmental Protection Agency's (EPA) level of concern with a proposed action. The ratings are a combination of alphabetical categories for evaluation of the environmental impacts of the proposal and numerical categories for evaluation of the adequacy of the Environmental Impact Statement (EIS).

ENVIRONMENTAL IMPACT OF THE ACTION

"LO" (Lack of Objections)

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

"EC" (Environmental Concerns)

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

"EO" (Environmental Objections)

The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

"EU" (Environmentally Unsatisfactory)

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potentially unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

ADEQUACY OF THE IMPACT STATEMENT

Category "1" (Adequate)

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category "2" (Insufficient Information)

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

Category "3" (Inadequate)

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From EPA Manual 1640, Policy and Procedures for the Review of Federal Actions Impacting the Environment.

Water Quality and Hydrology

The project purpose is to reduce storm-related flooding in the Vista Grande Drainage Basin while providing the additional benefit of augmenting the water level of Lake Merced. Once the project is constructed, it would allow diversion of some stormwater to Lake Merced, while maintaining the current discharge of stormwater to the Pacific Ocean via an expanded subterranean tunnel with increased conveyance capacity.

As the DEIR/EIS notes, Lake Merced currently does not meet the Basin Plan Water Quality Objectives for dissolved oxygen (DO) and pH, and, in 2003, EPA included Lake Merced on the Clean Water Act Section 303(d) list of impaired waterbodies for these criteria (p. 3.9-23). Because of this, the project aims to address these water quality impairments while raising lake levels over time (p. 3.9-127).

Construction-phase impacts

According to the DEIR/EIS, construction of the expanded tunnel would take between 17 and 37 months to complete, during which time stormwater and non-stormwater flows (car-washing, irrigation, etc.) would have no discharge conduit. These flows would either all be directed to Lake Merced, untreated (Scenario 1) or, with agreement by the San Francisco Public Utilities Commission (SFPUC), base flows and the first hour of storm flows following a defined antecedent dry period would be routed to the SFPUC combined sewer system (Scenario 2) (p. 3.9-67-69). The DEIR/EIS evaluates both scenarios since Daly City and SFPUC do not have an agreement for such diversions.

The DEIR/EIS provides the results of stormwater sampling that was conducted in the Vista Grande Canal during 2011 and 2012 wet and dry periods to characterize the baseline water quality. These results showed elevated levels of bacteria, certain metals, and nutrients compared to baseline concentrations in the Lake, and it does not appear that stormwater was sampled for other stormwater pollutants, such as pesticides, polychlorinated biphenyls (PCBs), or other metals. We have concerns regarding potential water quality impacts from the discharge of untreated storm flows directly into the Lake, particularly under Scenario 1. Under Scenario 2, this concern would be alleviated by the routing of base flows and first flush stormwater flows to the SFPUC combined sewer system during construction. 3

> *Recommendation:* Provide an update on the diversion agreement between Daly City and SFPUC in the Final EIR/EIS (FEIR/EIS). We strongly recommend Scenario 2 be implemented for the construction phase of the project to address water quality concerns. In addition, we recommend that treatment for solids, via settling tanks, occur to the maximum extent possible, prior to any direct release into the Lake (i.e. the storm flows that discharge to the Lake after the "first flush" under Scenario 2, and all flows under Scenario 1). If Scenario 1 is selected, we also recommend additional sampling occur for the other common stormwater pollutants mentioned above, so that the impacts from Scenario 1 are fully disclosed to decision-makers in the Final EIR/EIS.

Operation-phase impacts

The project includes creation of a small treatment wetland that is predicted to treat base flows and low-volume stormwater flows and reduce levels of bacteria, metals, and nutrient concentrations. The DEIR/EIS concludes that operation of the project would improve Lake Merced water quality over the duration of operations (p. 3.9-106); however, this conclusion depends to a considerable degree on the 4

successful operation of the treatment wetlands and the accuracy of their estimated performance. The water quality impact assessment is based largely on predictive modeling, and clarifications are needed regarding the assumptions used to project wetland performance.

Recommendations: We recommend clarifying information, as discussed below, be included in the FEIR/EIS:

- For the direct algae filtration of Lake surface waters using the treatment wetlands (p. 3.9-103), the DEIR/EIS refers to certain calculations (which are not provided in the document) to assess the feasibility of using the treatment wetlands in such a manner. We recommend that the FEIR/EIS include an appendix that summarizes the feasibility calculations and considerations. It is also not clear whether the algae filtration was included in modeling results, such as those shown in Figure 3.9-19. Page 3.9-106 refers to further improvements in water quality from lake management actions, and such improvements may be above and beyond those displayed in the modeling results; however, this is not clear and should be clarified. 4
- The FEIR/EIS should discuss the assumed removal rates for nitrogen in the treatment wetlands (basic and advanced wetlands) and the basis for those assumptions. 5
- Appendix A (Lake Management Plan) notes that the treatment capacity of the wetlands would be about 1.4 cubic feet per second (cfs). The wetlands would be used to treat "low volume" stormwater flows and, after the initial storm event of the winter season, if screened storm flows meet diversion criteria, flows exceeding the capacity of the treatment wetlands would be routed directly to the Lake. Presumably the capacity limitations of the treatment wetlands were included in the modeling, but this should be clarified in the FEIR/EIS. The Lake Management Plan also indicates that criteria for diverting stormwater into the Lake remain to be developed. The FEIR/EIS should explain the criteria that were used for the modeling, and how the conclusions concerning water quality impacts could be affected if different criteria are ultimately used in the future. 6

Lake Management Plan/Adaptive Management

In general, the conclusions regarding water quality impacts to Lake Merced appear to have substantial uncertainty. The project's Lake Management Plan includes in-lake management actions and an adaptive management strategy. The DEIR/EIS notes that continued analysis and reporting under the Lake Management Plan would reduce uncertainty relating to long-term water quality trends, allow adjustment of operational protocols, and inform BMPs to maximize water quality improvements (p. 3.9-106). This adaptive management approach is an important component of the project, yet there is little information regarding how it would be implemented.

Additionally, it is not clear that the in-lake treatment actions, which are important to address water quality, will definitely occur, since the DEIR/EIS sometimes presents them as optional ("Should the additional in-lake treatment components of the Lake Management Plan be implemented…" p. 3.4-97). These in-lake management actions are important and are presented as part of the basis, along with the treatment wetlands, for a less-than-significant impact determination for water quality in the DEIR/EIS. 7

Recommendation: Include an outline of the adaptive management approach for the Lake Management Plan. Identify general administration/personnel who will implement the Plan, including roles and responsibilities; the financial, technical, and human resources needed to perform the monitoring and respond to the results; funding sources for plan implementation; the

process for altering management decisions based on monitoring results; the data management system; and the process for communicating results.

Include, in the FEIR/EIS, a firm commitment to implement the in-lake treatment actions identified in the DEIR/EIS, including the removal of algae and the flushing of the Lake to reduce the elevated background pH. Coordinate in-lake treatment actions with the Demonstration Aeration Mixing System project described on page 31 of the Lake Management Plan that SFPUC will be implementing in Lake Merced's South Lake. Continue to work closely with the Regional Water Quality Control Board towards approval of the Lake Management Plan. 7

Water Quality Assessment

A Water Quality Assessment (WQA) was prepared for Lake Merced and the Vista Grande Canal to document existing hydrologic and water quality conditions and provide analysis of potential changes to those existing conditions as a result of project operations (p. 3.9-13). The impact assessment references this document over 40 times, however it was not included as an appendix to the DEIR/EIS. The Council on Environmental Quality (CEQ) advises that the appendix should include material that pertains to preparation of the EIS and that lengthy technical discussions of modeling methodology, baseline studies, or other work are appropriately placed here. CEQ indicates that, if at all possible, the appendix should accompany the EIS, or if too voluminous to circulate, should be placed in a conveniently accessible location or furnished upon request. While the WQA was provided upon request, it is not a formal appendix to the DEIR/EIS, nor was it made available on the project websites. 8

Recommendation: We recommend including the WQA in the formal appendices of the FEIR/EIS and making it available on the project websites.

Upstream Watershed BMPs

The project description includes "A prioritized suite of best management practices that may be implemented within the Vista Grande Basin storm drain system upstream of the Vista Grande Canal and/or within the Lake Merced watershed" (p. 2-5), which are described in the Lake Management Plan in Appendix A. These Watershed BMPs include "Detention and Filtration" which involves building infrastructure for stormwater filtration, such as bioretention/rain gardens, vegetated filter strips, sand filters, and vegetated swales throughout the Vista Grande Watershed (App A, p. 24). We agree that adding upstream filtration is valuable and recommend that it be coupled with a BMP to disincentivize actions, such as the replacement of residential lawns with pavement, that increase impervious surfaces in the watershed. Unlike the eliminated Downspout Disconnection BMP, such a BMP would involve Daly City policy and planning actions, and would not be solely dependent upon homeowner participation. 9

Recommendation: Describe, in the FEIS, any existing local or regional policy or planning rule that limits the extent of impervious surfaces on residential and other properties. If no such policy or rule applicable to Daly City or the watershed exists, discuss options for the establishment of same to create disincentives for the addition of impervious surfaces to existing residential and other property in the watershed. Determine and disclose whether other cities in the Bay Area have such a policy or rule. Include, as a BMP in the Lake Management Plan, a measure, such as the establishment of a policy or planning rule, to reduce the addition of new impervious surfaces in the watershed.

Rainwater Harvesting BMP

The Lake Management Plan eliminates the watershed BMP of installing rain barrels and cisterns in the Vista Grande/Lake Merced watershed for rainwater harvesting, which could reduce peak stormwater flows and conserve water for later non-potable use. Rainwater harvesting was eliminated because it could reduce the amount of water available for diversion to the Lake, thus conflicting with the Lake Management Plan's objective of increasing surface water input to the Lake (Appendix A, p. D-3). The DEIR/EIS anticipates that considerable stormwater would still flow through the Vista Grande Tunnel to the Pacific Ocean after project completion. This suggests that sufficient water may be available for diversion to the Lake along with some rainwater harvesting in the watershed, thereby maximizing the reuse potential of the available water. 10

> *Recommendation:* Explain, in the FEIR/EIS, why no rainwater harvesting at all would be feasible, given the anticipated post-construction volume of stormwater flow to the ocean.

Impacts to Wetlands during Construction

The DEIR/EIS states that project construction could have a substantial adverse effect on wetlands and other jurisdictional waters from "temporary and permanent discharges of structures and/or fill within waters and wetlands, and/or alterations of the bed and/or banks of a lake or stream" (p. 3.4-67). The DEIR/EIS does not quantify these construction-phase impacts. It simply references various agency permit requirements, and states that unavoidable impacts to wetlands and other waters will trigger a requirement for compensatory mitigation that will be aimed at creating, restoring, or enhancing similar ecological functions and services as those displaced. It also states that this mitigation (Mitigation Measure 3.4-8b, Compensation for Impacts to Wetlands and Riparian Habitat) would reduce the impacts associated with direct loss to a less-than-significant level (p. 3.4-70). The primary permit for fill to waters of the U.S. is a Clean Water Act Section 404 permit, and it is true that an individual permit would trigger a requirement for compensatory mitigation; however, if the project qualities for a Nationwide General Permit, compensatory mitigation may or may not be required. Because the DEIR/EIS does not quantify impacts, it is not clearly disclosing the proposed mitigation for the project. 11

> *Recommendation:* In the FEIR/EIS, quantify the acreage of impacts, both temporary and permanent, to wetlands and waters of the U.S. from construction of the project. Indicate whether the project is likely to qualify for Nationwide CWA Section 404 permit(s), and if so, which one(s). Update the discussion of mitigation for Impact BIO-8 in the FEIR/EIS as appropriate.

Demolition Waste

The description of project construction quantifies the volume of demolition debris that would be generated by the project and indicates that all of the 600 cubic yards (cy) of concrete and brick canal lining in the canal area, 60 cy of asphaltic concrete at the John Muir Drive crossing, and 50 cy of concrete and brick canal lining at the East Portal would be disposed of at a landfill. It also indicates that the 2,500 cy of brick tunnel lining generated from the tunnel and shaft would "likely be disposed of along with the tunnel spoils at a landfill" (p. 2-26). The 300 cy of brick and shotcrete lined tunnel and concrete outlet structure would be "disposed of", presumably also at a landfill. 12

The DEIR/EIS cites the Daly City Construction and Demolition Recycling Program, which requires a minimum of 60 percent of debris generated by "certain construction and demolition projects" be recycled (p. 3.16-5), and the San Francisco Construction and Demolition Ordinance that mandates the recycling of construction and demolition (C&D) debris generated in the City of San Francisco. This ordinance prohibits any C&D materials from being sent directly to a landfill, with a minimum of 65 percent of the material being diverted at the recycling facility.

Recommendation: Demolition waste from the project should be recycled to the maximum extent, consistent with Daly City and San Francisco diversion goals. Commit to this diversion and update the project description's discussion of the final disposition of these materials in the FEIR/EIS. 12

Additional comments

- The DEIR/EIS indicates stormwater discharges are regulated under the 2009 Municipal Regional Permit (MRP) issued by the San Francisco Bay Regional Board (p. 3-9.1). The FEIR/EIS should be updated to reflect the 2015 reissuance of the MRP. The 2015 MRP is available at: http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/stormwater/Municipal/index.shtml 13
- The DEIR/EIS states that potential impacts on utilities and services are not considered under NEPA; however, impacts to utilities are frequently evaluated in NEPA documents, especially since overtaxing utilities, especially water and wastewater utilities, can result in significant environmental impacts. It is appropriate to evaluate utilities and public services under NEPA and we do not believe it is accurate to say that these impacts are not considered under NEPA. 14
- The DEIR/EIS states that collected garbage is directed to the Daly City Mussel Rock Transfer Station in Daly City (p. 3.16-4). According to the City of Daly City's website[1], Mussel Rock Transfer Station closed in February 2016. This sentence should be updated in the FEIR/EIS. 15

[1] http://www.dalycity.org/City_Hall/City_News___Announcements/City_News/Mussel_Rock_Transfer_Station_Closure_Feb__1st.htm

3.2 Response to Comments from United States Environmental Protection Agency

USEPA-1 Comment USEPA-1 contains a summary of the USEPA concerns regarding stormwater releases into Lake Merced during project construction and the level of commitments to in-lake management actions. Detailed responses to the overall concerns raised in Comment USEPA-1 are included below.

USEPA-2 The comment requests a copy of the Final EIR/EIS, and provides transmittal instructions. This comment is noted; and a copy of the Responses to Comments document will be provided as instructed.

USEPA-3 The comment summarizes the proposed project approach to stormwater management during tunnel construction, which includes either discharge of all stormwater to Lake Merced (Scenario 1) or discharge of baseflow and stormwater flow following a defined antecedent dry period to the San Francisco Public Utilities Commission (SFPUC) combined sewer system (Scenario 2). The comment further indicates concern with the proposed discharge of stormwater to Lake Merced during the construction phase and associated potential water quality impacts.

The commenter recommends that Daly City and NPS utilize Scenario 2 to address water quality concerns, and requests an update on the proposed diversion agreement between Daly City and SFPUC. This recommendation is noted. Daly City and SFPUC staff continue to discuss a potential diversion agreement and both parties note that use of the SFPUC system for diversion of a portion of stormwater flows during tunnel construction is preferred. However, a formal agreement and permit could not be entered into until after project approval. Thus, the EIR/EIS considers both Scenarios 1 and 2, and finds that potential water quality impacts would be less than significant for both. Potential water quality impacts associated with temporarily diverting storm flows to Lake Merced during the Tunnel construction period are comprehensively assessed in Draft EIR/EIS Section 3.9.5.1 under Impact HYD-1 (p. 3.9 *et seq*.). As noted, potential water quality impacts were assessed for two scenarios: Scenario 1, involving the temporary diversion of all Canal flows to Lake Merced during the tunnel construction period; and, Scenario 2, involving the diversion of base flows and some storm flows that follow a long antecedent dry period to the SFPUC combined sewer system and additional flows to Lake Merced.

The commenter requests that the construction phase include treatment of stormwater for solids via settling tanks for both Scenario 1 (all flows) and Scenario 2 (for stormwater flow following a defined antecedent dry period). As described in Draft EIR/EIS Section 2.5.2 (p. 2-17, *et seq*.), regardless of the diversion scenario employed, all stormwater conveyed to Impound Lake via the debris screening device, which would be completed prior to taking the tunnel out of service. The debris

screening device would remove all particulates greater than 5 mm in diameter from stormwater flows, providing direct treatment of stormwater prior to release into Lake Merced. However, additional recommended settling tanks would not be feasible given the rate and volume of typical stormwater flows requiring conveyance. Further, additional settling would not be necessary to reduce a significant impact related to Lake Merced water quality.

The commenter also recommends that additional water quality sampling be performed under Scenario 1 for pesticides, polychlorinated biphenyls (PCBs), and additional metals. Regarding concerns related to stormwater quality, Appendix B of the Water Quality Assessment, completed in support of the Project impact analysis, contains the complete hydrologic and water quality monitoring plans employed to characterize baseline water quality and hydrology in Lake Merced and the Canal. These plans describe in detail the rationale for the methodologies employed and the water quality constituents selected for monitoring and analysis. The monitoring program was developed in collaboration with Regional Water Quality Control Board staff and was based upon water quality constituents of concern known to be associated with lake water quality issues and related to the Lake Merced 303(d) listing. Additionally, the water quality constituents selected in the monitoring program were based, in part, on past monitoring efforts that have provided characterization of both stormwater quality in the Canal as well as Lake Merced water quality. The complete list of previous studies and water quality assessments reviewed as part of the development of the monitoring methodology and analysis is provided in Appendix F of the Water Quality Assessment. Past water quality analyses (EOA, 2011; Stillwater Sciences, 2008; CH2MHill, 2011; SFPUC, 2006; EDAW, 2004) conducted in both Lake Merced and the Canal have documented and assessed a broad range of water quality constituents under a range of seasonal and hydrologic conditions. The water quality constituents assessed and considered in these studies, in addition to those detailed in the WQA sampling plans, include (but are not limited to) chromium, arsenic, aluminum, boron, barium, chlorinated acid herbicides (via USEPA method 8151A) and organophosphorous pesticides (via USEPA method 8140). As an example (but not intended as an exhaustive list) water quality sampling results (CH2MHill 2004, 2011) for a broad suite of constituents related to herbicides and pesticides in Vista Grande Canal water documented that concentrations were not detectable (i.e. “non-detect”) from laboratory analysis. Based on review and assessment of such results, further sampling and analyses of pesticides was not conducted as part of the WQA. Further, as described in detail in Draft EIR/EIS Section 3.9.1.3 (p-3.9-22 *et seq*.) and in the WQA (Appendix B), the 2011-2012 wet season monitoring program included collection of detailed baseline water quality data within the Canal, including a review of Total Inorganic Nitrogen (TIN), bacteria and other microorganisms, and metals such as lead, copper, nickel, mercury, and zinc. (EIR/EIS, p. 3.9-37 to 3.9-42; WQA Appendix B) In addition, the six-year pilot program conducted by EOA (2011) for the SFPUC during the wet seasons

2003/2004 through 2008/2009 evaluated bacterial, metals (such as lead, iron, and manganese), and nutrients in the Canal stormwater to assess impacts on diversions of the Canal stormwater to the Lake. (EIR/EIS, p. 3.9-68.) Analysis of the water quality samples confirmed that the concentrations of key water quality constituents were generally in the ranges expected for urban stormwater and non-storm runoff. Thus, the general ranges of such constituents were considered as part of the impact analysis described above, and additional sampling would not be required to assess project-specific effects.

USEPA-4 The commenter introduces several comments detailed further and then, in the substantive portion of this comment, requests that Daly City and NPS provide any calculations performed for direct algae filtration of Lake surface waters through the proposed treatment wetlands in an appendix to the EIR/EIS. The commenter also requests clarification as to whether the algae filtration was included in modeling results, such as those shown in Figure 3.9-19.

The assessment of the water quality improvements resulting from the proposed recirculation of lake water for algae removal is provided under Impact HYD-8 and is based on calculations of algae removal rates, hydraulic residence times under various flow scenarios, and wetland design. The analysis related to algae removal rates from the proposed recirculation of lake water through the treatment wetlands is supported by research of similar systems employed in other water bodies. Section 6.4.1 of the Water Quality Assessment, summarized under Impact HYD-8 for the purposes of assessing impacts under CEQA and NEPA, provides details regarding the performance and feasibility of such an in-lake management action to provide additional benefits to Lake Merced water quality above and beyond those realized through implementing Project diversions of stormwater.

The environmental assessment of hydrologic and water quality impacts presented in Section 3.9 (p. 3.9-1, *et seq*.) focuses on the disclosure of potential significant environmental effects of implementing the proposed Project, consistent with the requirements of CEQA and NEPA. As described in detail under Impact HYD-8 (p. 39-80 *et seq*.), Project diversions of urban stormwater and non-storm runoff from the Canal would result in an overall, long-term, water quality improvement to Lake Merced aquatic habitat and water quality; impacts would be less than significant. Further, the assessment under Impact HYD-8 demonstrates that implementation of the in-lake management actions, such as the recirculation of lake water through the treatment wetlands, are not required to maintain or improve existing water quality in Lake Merced in order to address any potential water quality impact of the direct diversion of stormwater; impacts to Lake Merced water quality would be less than significant without such in-lake management actions. As discussed in detail under Impact HYD-8, use of the treatment wetlands could be expanded during periods of low flows (e.g., summer months) to filter and remove algae from lake waters via the recirculation of water from Lake Merced. The use of

the proposed treatment wetlands for such in-lake management was not included in the model analyses of water quality impacts related to implementing the Project. Such a management action would provide additional water quality benefits within Lake Merced, above and beyond the improvements realized as a result of the stormwater diversions.

USEPA-5 The commenter requests that the EIR/EIS discuss the assumed removal rates for nitrogen in the treatment wetlands and the basis for those assumptions. As described in detail under Impact HYD-8 (p. 39-80 *et seq*.), a key purpose of the proposed treatment wetland would be to reduce nutrients (mainly in the form of nitrate) in the diversions. A detailed assessment of the performance of the proposed treatment wetlands related to Lake Merced water quality is provided under Impact HYD-8. This assessment incorporates and summarizes the results of numerous model analyses and associated technical memoranda related to stormwater nutrient inputs, treatment wetland efficacy, and lake processes described in Section 6 of the Water Quality Assessment. The most relevant of these model analyses is provided in Appendix E of the Water Quality Assessment, under "Estimated Net Effects on Water Quality with Increased Water Additions to Lake Merced during Filling and at Steady State" (p. E-43 et. seq.). The report provided in Appendix E of the Water Quality Assessment describes in detail the assumptions and methods for assessing wetland nutrient removal. As described in Appendix E, the model analyses assumed that the constructed treatment wetlands would remove nitrate at a rate of 500 mg N/m2/d in the 7 month warmer seasonal period ($T > 15^oC$) and 100 mg N/m2/d in the 5 month cooler seasonal period ($T < 15^oC$).

Regarding the question of how the conclusions concerning water quality impacts could be affected if different flow diversion criteria are ultimately used in the future, as described in Section 4.2.2 of the Lake Management Plan (Appendix A of the Draft EIR/EIS) proposed as part of the Project, long-term water quality monitoring would be conducted to assess the efficacy of the treatment wetlands. The assessment of the treatment wetland performance would be part of the adaptive management framework of the Lake Management Plan, as is typical for treatment wetlands. The treatment wetland design and operation (e.g., wetland vegetation composition, operational flows, hydraulic residence time, etc.) would be refined to ensure treatment efficacy is consistent with project goals and objectives as well as predicted performance assumed in the model analyses.

USEPA-6 The commenter asks that Daly City and NPS clarify in the Final EIR/EIS whether the capacity limitations of the treatment wetlands were included in the modeling. As described under Impact HYD-8 (p. 39-80 *et seq*.) and in the Water Quality Assessment, the main purpose of the proposed treatment wetlands would be to reduce nitrate in the diversions. Nitrate removal rates would be highest during summer months (see response USEPA-5 for details). Various model analyses were completed to support the assessment of hydrologic and water quality impacts from

implementation of the Project. These model analyses are presented in detail in the Water Quality Assessment, which is described and summarized in Section 3.9 (p. 3.9-1, et seq.) of the Draft EIR/EIS. Details regarding the model analysis methodology and assumptions are provided in Section 6 (p. 6-1, *et seq*.) and Appendix E (p. E-1, *et seq*.) of the Water Quality Assessment. The key findings of the Water Quality Assessment are incorporated into Impact HYD-8. As described under Impact HYD-8, low volume storm flows would be routed through the proposed treatment wetlands. The primary benefit of routing low volume stormflows through the treatment wetlands would be to facilitate the settling and filtration of suspended sediments. Most pollutants, including metals and microorganisms, tend to be associated with particulates, and as such the processes of physical settling would represent an ongoing removal process during sustained (multi day) diversion events that would improve stormwater quality prior to reaching Lake Merced (see Impact HYD-8 for details). As described in detail under Impact HYD-8 and Appendix E of the Water Quality Assessment, regarding wetland treatment capacity and efficacy, the model analyses were based on an assumed nitrate removal rate of 500 mg N/m2/d in the 7 month warmer period ($T > 15^oC$) and 100 mg N/m2/d in the 5 month cooler period ($T < 15^oC$) with an assumed wetland area ranging from 1.3 to 7 acres depending on wetland composition and other hydrologic factors. Nutrient effects during the winter (5-month) and summer (7-month) periods were analyzed individually and then combined via model analysis to assess how inputs of nutrients in storm and base flows could affect algal growth in Lake Merced, with and without proposed constructed treatment wetlands.

The commenter notes that the LMP indicates that the criteria for diverting stormwater into the Lake remain to be developed and requests that the Final EIR/EIS explain the criteria that were used for the water quality modeling and how the conclusions concerning water quality impacts could be affected if different diversion criteria are used in the future. The diversion criteria incorporate a necessary degree of flexibility due to the variable nature of seasonal rainfall and storm event precipitation volumes and rates. Because long-term predictions of storm season characteristics, nor what the WSE will be in any given year, are not possible, the diversion criteria provide a range of parameters based on what is possible. As such, the diversion criteria incorporate flexibility for ongoing consideration of (1) precipitation variation within and across storm seasons and (2) variation in seasonal and annual water surface elevations.

The diversion criteria and hydrologic context for the stormwater diversions and supporting model analyses are provided in Section 2.6.1 of the Draft EIR/EIS (p. 2-28, *et seq*.). As noted, while such criteria may be refined following the start of operations, the stormwater routing criteria provided substantially represent the principal operating protocols proposed as part of the Project. Minor refinement of such diversion protocols would be unlikely to alter the conclusions presented for

long-term operations under Impact HYD-8 because the model assessments considered and addressed considerable water quality variability in Canal flows, as well as the volume of storm events in the context of overall lake volume. As such, the model results would not significantly deviate from the range of water quality results presented under Impact HYD-8 due to minor refinement of the diversion protocols. The subsection "Approach to Analysis" (p. 3.9-82, *et seq*.) provides a detailed description of the hydrologic context related to lake level model analysis to determine diversion thresholds necessary to meet WSE management objectives. The water quality model analyses assess potential changes to Lake Merced existing conditions as a result of Project operations, incorporating the hydrologic context of Project operations.

The Draft EIR/EIS's project-level analysis of the range of diversion criteria to be used in any given year conform to CEQA's requirement that an EIR analyze the impacts of a project's reasonably foreseeable consequences (see *Laurel Heights Improvement Ass'n v. Regents of Univ. of Cal.* (1988) 47 Cal.3d 376, 396 [analysis of potential future actions limited by availability of sufficient, reliable data]; *Save Round Valley Alliance v. County of Inyo* (2007) 157 Cal.App.4th 1437, 1449 [uncertain or speculative future actions not required to be analyzed as part of project]). The range of diversion criteria provided in the EIR/EIS represent the reasonably foreseeable criteria to be used to maintain WSE during Project operations.

USEPA-7 The comment expresses concern regarding uncertainty related to water quality impact conclusions, as well as the proposed Lake Management Plan (LMP). The comment appears to link the less-than-significant impact conclusion regarding Lake Merced water quality to implementation of the proposed LMP. This is not the case.

Unlike most projects reviewed under CEQA and NEPA, the core objectives of the Vista Grande Project are to *improve conditions* above baseline. The first Project objective is to increase storm drainage capacity thereby reducing the frequency existing storm-related flooding events and the related environmental effects. Second, the Project seeks to augment the water surface levels of Lake Merced above baseline conditions. The LMP is a project component that directly ties into the second objective. The LMP contains four core elements: (1) an operational plan for diverting stormwater into Lake Merced (i.e. diversion criteria); (2) in-lake treatment improvements that are components of the proposed Project (i.e. constructed treatment wetlands, an overflow structure, and collection box and debris-screening device); (3) lake monitoring; and (4) a suite of proposed BMPs to be implemented by Daly City and SFPUC that could be implemented as project components to *further improve* water quality in Lake Merced, in conjunction with regulatory adjustments to reflect site-specific conditions.

Impact HYD-8 (Draft EIR/EIS pages 3.9-80 to 3.9-109) considers the potential water quality impacts of diversion of Canal flows (screened to remove solids) to Lake Merced based on the range of diversion criteria presented in the LMP. Under the proposed diversion criteria, higher volume stormwater would not go through the constructed treatment wetlands, while lower volume flows and Canal base flow will. As a result, the EIR/EIS evaluated the water quality effects of diversion to the Lake both with and without the use of a constructed wetland. Based on comprehensive and detailed model analysis, utilizing project-specific hydrologic and water quality monitoring data, the EIR/EIS concludes that the inflow to Lake Merced, with use of solids removal and treatment wetlands, would have a less-than-significant impact on Lake Merced water quality.

The Project also includes additional in-lake treatment components (Appendix A, Section 3.2.3) that are intended to provide beneficial water quality impacts improving or maintaining baseline conditions and are not proposed for the purpose of addressing a significant water quality impact. These in-lake treatment components consist of operational actions that would be taken when specific conditions provide opportunities for water quality improvement. As described on page 2-9 of Chapter 2 of the EIR/EIS, Project and Alternatives, direct algae filtration of Lake Merced surface waters using the constructed treatment wetlands would occur during periods of high algae growth. As described on page 2-29, the controlled overflow of Lake Merced water to the Tunnel would occur when Lake Merced is at the target WSE and additional contributions to the lake are available. The infrastructure to achieve these in-lake treatment actions (algae skimmer and flexible piping) would be installed as part of the Project. However, because the frequency with which the necessary conditions would occur cannot be predicted with certainty, the analysis must acknowledge some uncertainty around their implementation. The uncertainty regarding the frequency in-lake management measures may be operated is related to variation in seasonal weather patterns and algal growth dynamics within Lake Merced, seasonal and annual precipitation and stormflow variability and, Lake Merced water levels. Regardless, the water quality analysis does not rely on LMP actions to achieve a less-than-significant impact. In addition to describing the less-than-significant water quality impacts that would result from Project operation, Impact HYD-8 also discusses the water quality improvements that would result from implementation of these in-lake treatment project components (pages 3.9-102 through 3.9-104). The Impact Conclusion section for Impact HYD-8 specifies that while the primary operational components are expected to improve water quality (a less-than-significant impact), “Operation of the in-lake management actions proposed as part of the Project would likely *further improve* water quality within Lake Merced through the removal of algae and the flushing of the Lake to reduce the elevated background pH” (pages 3.9-104 and 3.9-105, emphasis added).

The Project also includes as part of the LMP, monitoring protocols and proposed BMPs to be carried out by both Daly City and the SFPUC to address overall management of Lake Merced (EIR/EIS Appendix A). The monitoring program would satisfy on-going monitoring and reporting requirements to the RWQCB, but is not necessary to mitigate any water quality impact of the Project. The LMP would ensure that further monitoring data is collected to inform adaptive management of the Project and the lake itself to ensure that Lake Merced water quality is maintained and, where feasible, improved, as well as to inform the need and selection of BMPs should adverse water quality trends be identified during long-term monitoring (i.e., as a result of any number of variables that may affect lake water levels and quality). However, as described under Impact HYD-8, implementation of the Project is expected to present a long-term, incremental improvement of water quality in Lake Merced based on the results of modeling informed by robust baseline water quality data collection. Similarly, while implementation of the LMP would reduce uncertainty relating to long-term water quality trends, inform operational protocols and adaptive management of the lake, and potentially determine the need to implement BMPs to maximize anticipated water quality conditions and improvements, the LMP is not required to reduce or avoid significant impacts of the proposed Project.

The adaptive management framework is included in the LMP and would be informed by the results of long-term monitoring and analysis. Such data-driven and evidence-based adaptive management decision making would be employed to inform operational protocols (such as increases, decreases, or temporary curtailment of stormwater diversions or changes to the operation or management of the constructed treatment wetland) in order to maximize identified water quality improvements, not as mitigation for an identified impact. As discussed in the Draft EIR/EIS, implementation of the monitoring proposed as part of the LMP would have no direct impact on Lake Merced water quality. Further, the implementation of BMPs associated with the LMP would ensure Lake Merced water quality is maintained and, where feasible, improved, and would not cause secondary impacts (such as from construction) that could degrade water quality in Lake Merced.

The commenter requests an outline of the adaptive management plan. The adaptive management plan is described in Section 4.4 of the LMP, included as Appendix A of the Draft EIR/EIS. Adaptive management refers to the process that typically involves significant review of the experimental design of a monitoring plan and operates over a longer time cycle than annual monitoring and reporting (i.e., 5 to 10 years). The adaptive management plan proposed as part of the LMP provides an approach for assessing and responding to uncertainty inherent in complex systems such as Lake Merced and related dynamic lake hydrologic and water quality processes. Implementation of the adaptive management plan would enable refinement of and alterations to various operational protocols and would also inform the operation and management of specific Project components towards

achieving the goals and objectives of the Project. As described in detail in the WQA, Lake Merced hydrology and water quality is subject to a diverse range of influencing factors, inputs, and stressors. The LMP, and the adaptive management framework incorporated into the LMP, addresses and considers all such Project and non-Project inputs towards managing Lake Merced hydrology and water quality. As described in the LMP (Section 4.3 *et seq*., p. 20, Appendix A), monitoring, analysis, and reporting includes assessment of the extent to which any measured changes in Lake Merced hydrology and water quality are attributable to controllable factors, including inputs of Canal flows. As such, the LMP includes provisions for assessing water quality trends and the potential for available BMPs to address water quality trends attributable to addition of Canal flows or other identified watershed or lake management factors, and also includes a process for the implementation of response strategies, such as modifications to operational protocols. Specific aspects of the adaptive management plan related to operation of in-lake management actions, treatment wetland use, and monitoring and reporting are detailed in Section 4.4 of the LMP. The adaptive management plan, as proposed as part of the LMP, is assessed under Impact HYD-8.

Finally, as described in Section 1 of the LMP, once defined in more detail after final design and initial implementation of the Project as proposed, the operational plan and LMP would then be incorporated into an Operational Agreement executed between Daly City and SFPUC. This Operational Agreement will address staff roles and responsibilities, decision-making authorities, and funding for long-term implementation of the plan.

USEPA-8 The commenter requests that the Water Quality Assessment (WQA) be included in the formal appendices of the Final EIR/EIS and be made available on the project websites. As noted in the comment, the Council on Environmental Quality indicates that, if at all possible, technical materials should be included as an EIS appendix that accompanies the EIS, or if too voluminous to circulate, should be placed in a conveniently accessible location or furnished upon request. In this case, it was decided that the WQA was too voluminous to circulate and substantially summarized within the EIR/EIS and Lake Management Plan (Draft EIR/EIS Appendix A); and that the WQA should be included in the project administrative record, to be made available upon request. As acknowledged, the WQA was provided upon request to the USEPA. The WQA is also available on the City of Daly City website at:
http://www.dalycity.org/Assets/Departments/Water+and+Wastewater/pdf/ESA+2015+Vista+Grande+WQA.pdf

USEPA-9 The commenter summarizes specific proposed BMPs detailed in the LMP and suggests additional BMPs to be included. The Lake Management Plan proposed as part of the Project, including the associated BMPs linked to long-term hydrologic and water quality monitoring is assessed in detail under Impact HYD-8 (p. 39-80 *et seq*.)

in the Draft EIR/EIS. As described, the BMPs associated with the Lake Management Plan are not required to reduce or avoid significant impacts from implementation of the Project (see Response USEPA-7 for details). Regional and local regulations, plans, and policies relevant to the analysis of hydrologic and water quality impacts from construction and operation of the Project are presented in Section 3.9.2.2 (p. 3.9-55, *et seq.*). Described in Section 3.9.2.2 are the SFPUC and San Mateo County stormwater management plans, which include programs for post-construction stormwater management in new developments and redevelopment areas, such as minimizing impervious areas and increasing stormwater infiltration. A substantial addition of impervious surfaces is not proposed as part of the project and impacts related to the addition of impervious surfaces, such as altered drainage patterns or reduced groundwater recharge, would be less than significant (discussed under Impact HYD-3, p. 3.9-73). As such, the establishment of regional policies or planning rules to create disincentives for the addition of impervious surfaces within the Vista Grande watershed is not necessary to minimize or avoid identified significant impacts related to hydrology and water quality associated with the Project.

USEPA-10 The commenter notes that the LMP does not include a BMP for rainwater harvesting using rain barrels within the Vista Grande Watershed. As described in LMP Appendix D, BMP Screening and Ranking Matrix and Additional Treatment Measures (p. D-3), rainwater harvesting was assessed by the SFPUC and Daly City and was subsequently eliminated from further consideration and potential implementation due to potential conflicts with Project objectives to provide a sustainable source of stormwater for Lake Merced management. As such, a rainwater harvesting BMP has not been assessed as part of the Project in the Draft EIR/EIS and such a BMP is not necessary to minimize or avoid identified significant impacts related to hydrology and water quality associated with the Project.

USEPA-11 The commenter notes that the Draft EIR/EIS does not quantify construction phase impacts to wetlands. At the time of publication of the Final EIS-EIR, the delineation of wetlands and others waters of the United States and the project design were not sufficiently advanced to allow for a calculation of the impacts to jurisdictional wetlands and other waters of U.S. and of the state. However, the preliminary jurisdictional delineation was recently completed in consultation with the U.S. Army Corps of Engineers and more recent conceptual designs now indicate that permanent impacts would be less than 0.5 acre. The Corps of Engineers has indicated its intent to authorize the project under a Nationwide Permit or combination of Nationwide permits, as opposed to an Individual Permit. Nationwide Permits that are likely to authorize the project include NWP #7 (Outfall Structures and Associated Intake Structures), NWP #13 (Bank Stabilization), NWP #33 (Temporary Construction, Access and Dewatering), or NWP #43 (Stormwater Facilities). Text changes have been made in the EIR/EIS to reflect this assumption as provided below. The decision about which permits are

applicable will be made by the Corps based on final project design details to be developed after certification of the EIR/EIS. Even with the small impact area and reliance on Nationwide Permits, compensatory mitigation for permanent impacts (i.e., structural fill for outfalls) to jurisdictional wetlands and other waters is expected to be required. **Mitigation Measures 3.4-8a and 3.4-8b** provide the means by which this compensatory mitigation can be accomplished and the general content requirements of such mitigation, and have not been changed.

As a staff-initiated text change, EIR/EIS page 3.4-19, paragraph 3 has been revised:

> Daly City's environmental consultant (ESA) conducted a formal wetland delineation for federally jurisdictional wetlands and waters in November and December of 2012 (ESA, 2014). The field delineation identified and documented all potentially jurisdictional wetlands and other waters of the U.S. within the delineation study area. This wetland delineation found that within the study area, potential federally jurisdictional features include: Lake Merced, a freshwater lake used for recreational fishing and boating and thus, a Traditionally Navigable Water (TNW), and its adjacent wetlands; ~~Vista Grande Canal, a man-made, brick-lined channel constructed in dry land to capture and divert perennial stormwater and authorized non-storm water flows to the Vista Grande Tunnel and out to the Pacific Ocean (a TNW);~~ and the Pacific Ocean below the high tide line (HTL) at Fort Funston. With the exception of the Vista Grande Canal, which was determined by the Corps to be non-jurisdictional (USACE, 2016), ~~T~~the federal wetland delineation has not yet been verified by the Corps and should be considered preliminary until verification in writing is received from the Corps.

As a staff-initiated text change, EIR/EIS page 3.4-67, paragraphs 4 and 5 have been revised:

> As discussed in Section 3.4.1.5, potential jurisdictional features occur within the Project site, which have not been verified as such by regulatory agencies, with the exception of the Corps disavowing its jurisdiction over Vista Grande Canal. For the purpose of this Project analysis, these features are treated as potentially affected federal jurisdictional wetlands and other waters. Project impacts to these potentially jurisdictional features would involve temporary and permanent discharges of structures and/or fill within waters and wetlands, and/or alterations of the bed and/or banks of a lake or stream, to accommodate Project activities.
>
> Potentially jurisdictional wetlands and other waters would be affected by the placement of permanent or temporary fill material associated with ~~the installation of the collection box and box culvert at the headworks of the Vista Grande Canal, installation of the diversion structure within the Vista Grande Canal,~~ construction of the Lake Merced outlet structure in Impound

Lake, ~~construction of the temporary access ramp at the downstream end of the Canal,~~ replacement of the Lake Merced overflow structure in South Lake, and use of the temporary beach access route. ~~Approximately 1,500 feet of the 3,600-foot Canal(potentially jurisdictional other waters) would be replaced.~~ The total area of permanent impacts is expected to be less than 0.5 acre.

As a staff-initiated text change, EIR/EIS page 3.4-68, paragraph 2 has been revised:

Within the Project area, wetlands and other waters of the U.S. are regulated under Section 404 of the Clean Water Act. Because of the small area of permanent impacts to wetlands and other waters of the U.S. (less than 0.5 acre) the project will be authorized under the Nationwide Permit (NWP) Program, likely under NWP #7 (Outfall Structures and Associated Intake Structures), NWP #13 (Bank Stabilization), NWP #33 (Temporary Construction, Access and Dewatering), or NWP #43 (Stormwater Facilities), or a combination thereof, to be determine by the Corps.~~, and n~~Navigable waters are regulated by a Letter of Permission under Section 10 of the Rivers and Harbors Act. Wetlands and other waters of the state are regulated by the RWQCB under Section 401 of the Clean Water Act and the Porter-Cologne Water Pollution Control Act, and by the City and County and of San Francisco and the CCC under the California Coastal Act. Project activities resulting in the discharge of fill or other disturbance to jurisdictional wetlands and other waters require permit approval from the Corps, a water quality certification and/or waste discharge requirements from the RWQCB, and/or a coastal development permit from the CCC. Project impacts to wetlands and waters would occur within those areas subject to the Western Shoreline Plan Local Coastal Program, and in areas where the CCC has retained jurisdiction, including Lake Merced and its adjacent wetlands, and the Pacific Ocean. Finally, the CDFW has jurisdiction over riparian habitat, including lake and stream bed and banks, pursuant to Sections 1600-1616 of the Fish and Game Code. Any Project activity resulting in an alteration to lake or channel bed or banks, extending to the outer dripline of trees forming the riparian corridor, is subject to CDFW jurisdiction. Construction of the collection box and box culvert at the headworks of the Vista Grande Canal, installation of the diversion structure within the Vista Grande Canal, the discharge structure located at Impound Lake, and potential changes to the South Lake overflow structure would result in disturbance of the bed and bank of these areas, requiring a Lake and Streambed Alteration Agreement (LSAA) from the CDFW.

As a staff-initiated text change, EIR/EIS page 3.4-68, Table 3.4-3 has been revised:

TABLE 3.4-3
IMPACTS TO POTENTIAL FEDERALLY JURISDICTIONAL WETLANDS AND WATERS

Feature Type/Name	Impact Type	Preliminary Regulatory Jurisdiction
Waters		
Lake Merced	Temporary and permanent loss Permanent gain	Corps (Section 404 CWA, Section 10 RHA), RWQCB (Section 401, P-C), CCC jurisdiction, CDFW Section 1600
Vista Grande Canal	Permanent loss	~~Corps (Section 404 CWA),~~ RWQCB (~~Section 401,~~ P-C), CDFW Section 1600
Pacific Ocean	Temporary and permanent loss	Corps (Section 404 CWA, Section 10 RHA), RWQCB (Section 401, P-C), CCC jurisdiction
Beach at Fort Funston	Temporary and permanent loss	Corps (Section 404 CWA, Section 10 RHA), RWQCB (Section 401, P-C), CCC jurisdiction
Wetlands (Lake Merced)		
Bulrush Wetland (BW)	Temporary and possibly permanent loss	Corps, CCC, RWQCB (Section 401, P-C), CDFW Section 1600
Knotweed Wetland (KW)	Temporary and possibly permanent loss	Corps, CCC, RWQCB (Section 401, P-C), CDFW Section 1600
Arroyo Willow Wetland (AWW)	Temporary and possibly permanent loss	Corps, CCC, CDFW Section 1600

SOURCE: ESA, 2014

As a staff-initiated text change, EIR/EIS page 3.4-133 has been revised:

U.S. Army Corps of Engineers (USACE), 2016. Letter Correspondence determination regarding the Vista Grande Canal as a non-jurisdictional feature. Received April 29, 2016.

USEPA-12 This comment requests that the Final EIR/EIS update the project description's discussion of the final disposition of construction and demolition waste according to Daly City and San Francisco waste diversion ordinances. Impact UTIL-3 on page 3.16-9 of the Draft EIR/EIS discusses the impacts that project construction would have on landfill capacity. In addition, UTIL-4 on page 3.16-10 of the Draft EIR/EIS discusses the Project's compliance with government statutes and regulations pertaining to solid waste. It is in these locations that the regulatory setting for Daly City and San Francisco is applied to projected construction waste. Since much of the Project construction activities would occur within San Francisco, this analysis assumes that the Project would comply with San Francisco's C&D ordinance, ensuring that at least 65 percent of excess material (approximately 30,600 cubic yards) would be diverted from landfills and that all C&D material would be sent to a registered facility that reuses or recycles those materials. In addition, the National Park Service has expressed interest in reuse of some construction spoils at Fort Funston (see also Chapter 4, Draft EIR/EIS Text

Revisions). It is also noted that EIR/EIS Chapter 2, Project and Alternatives, acknowledges the City of Daly City waste diversion requirements.

In response to Comment USEPA-12, EIR/EIS page 2-12, paragraph 3 has been revised:

> This section details the construction locations, activities and methods for the proposed project. **Table 2-1** summarizes the proposed construction activities including demolition and tree removal; project component construction or demolition; excavation; spoils[2]storage, waste diversion[3] and disposal, and dewatering activities; and installation of work/staging areas.

[2] "Spoils" refers to soil remaining from an excavation after backfilling is completed.
[3] Diversion requirements set forth under Daly City Municipal Code 15.64.020 and San Francisco Ordinance No. 27-06

USEPA-13 This comment identifies updated information regarding the 2015 reissuance of the Municipal Regional Permit (MRP).

In response to Comment USEPA-13, page 3.9-1, paragraph 3 (continuing on page 3.9-2) has been revised:

> The study area is located within the San Francisco Coastal South Watershed (USEPA, 2015), which extends from western San Francisco to the southern end of San Mateo County. Lake Merced, the major surface freshwater feature in the study area, is a naturally occurring lake located approximately 0.25 mile from the Pacific Ocean in the southwestern corner of San Francisco. The proposed Project components are all located within the Lake Merced urban watershed, one of eight distinct urban watersheds within the City and County of San Francisco (San Francisco). A natural watershed is the land area that drains to a single body of water such as a stream, lake, wetland, or estuary, whereas an urban watershed can replace overland sheet flow to natural tributaries with constructed storm and sewer systems that separately collect and convey flows. Storm and authorized non-storm flows[1] (also referred to as exempt and conditionally exempt discharges under the Municipal Regional Stormwater Permit, RWQCB Order ~~R2-2009-0074~~ R2-2015-0049) within the urban watersheds on the western side of San Francisco, including the Lake Merced urban watershed, flow toward the Pacific Ocean through constructed stormwater conveyance systems.

[1] Authorized non-stormwater discharges (also called exempt and conditionally exempt discharges) are described in detail in Section C.15 of the Municipal Regional Stormwater NPDES Permit, RWQCB Order No. ~~R2-2009-0074~~ R2-2015-0049; detail in Section C.15 of the Municipal Regional Stormwater NPDES Permit, RWQCB Order No. ~~R2-2009-0074~~ R2-2015-0049; examples include pumped groundwater, runoff from landscape irrigation, water from foundation drains, air conditioning condensate, water from residential car washing activities, and the like.

In response to Comment USEPA-13, page 3.9-49, paragraph 4 has been revised:

> Stormwater runoff and authorized non-storm flows (conditionally exempt discharges) from Daly City and the other San Mateo County cities have been regulated under MS4 NPDES permits since 1993. These MS4 permits, including the current Municipal Regional Permit, RWQCB Order No. ~~R2-2009-0074~~ R2-2015-0049 (MRP), re-issued by the Water Board on November 19, 2015, to regulate stormwater discharges from municipalities and local agencies in San Mateo County, have contained increasingly prescriptive requirements, typically in the form of enhanced BMPs.

In response to Comment USEPA-13, page 3.9-87, paragraph 3 has been revised:

> To assess the direct and indirect long-term impacts of Project operations on Lake Merced water quality, a detailed Project-specific WQA was developed (ESA, 2015). The WQA presents analysis of the potential changes to Lake Merced existing conditions as a result of Project operations and incorporates the hydrologic context of Project operations, such as the relative volume of Canal flows as compared to overall lake volume. Additionally, as part of the analysis of potential water quality effects to Lake Merced, the water quality of Canal flows were considered within the context of proposed physical and operational Project elements (such as the screening device, the treatment wetlands, and the diversion protocols), as well as regulatory controls[12] to urban runoff water quality.

[12] As discussed in detail in the WQA and in Section 3.9.2, the existing and proposed diversions of flows from the Vista Grande Canal to Lake Merced are covered under the existing MS4 NPDES permit, called the MRP, RWQCB Order No. ~~R2-2009-0074~~ R2-2015-0049. No additional NPDES permits are needed for Project operation. The operational protocols and the use of in-lake management actions and BMPs proposed as part of the Project are described in Section 2.6.1 and 2.6.2, respectively.

USEPA-14 This comment, stating that it is appropriate and accurate to evaluate utilities and public services under NEPA, is noted. As discussed in Section 3.16 Utilities and Service Systems on page 3.16-1 of the Draft EIR/EIS, utilities and service systems are considered under CEQA, but are not considered by NPS under NEPA. Nevertheless, the effects on water, wastewater, and solid waste utilities and services were all found to be less than significant. As discussed in Impact UTIL-1 on page 3.16-7, since Daly City would comply with SFPUC Wastewater Enterprise's permit conditions for dewatering, the SFPUC Construction Site Runoff and Control Permit, and the Statewide General Construction and /or construction Site Runoff Control Permit, the Project would not exceed wastewater treatment requirements issued by the RWQCB. Furthermore, the SFPUC Oceanside Treatment Plant has adequate capacity to serve the project's temporary incremental increases in wastewater flows. As discussed in Impact UTIL-2 on page 3.16-8, the Project would require water for dust control purposes, but would otherwise have a beneficial impact

on water supply resources. As discussed in Impacts UTIL-3 and UTIL-4 on pages 3.16-9 and 3.16-10, construction and demolition wastes would be diverted from landfill according to local waste diversion ordinances, and the project would therefore not adversely affect landfill capacity; nor would the project conflict with governmental regulations pertaining to waste diversion. Finally, as discussed in Impact UTIL-5 on page 3.16-10, the Project would comply with provisions of the San Francisco Public Works Code, Cal/OSHA requirements, and SFDPW's Envista Utility Coordination tool, therefore effects related to the disruption of utility operations or accidental damage to existing utilities would be less than significant.

USEPA-15 This comment requests that the Final EIR/EIS be updated to reflect Mussel Rock Transfer Station's closure in February 2016.

In response to comment USEPA-15, EIR/EIS page 3.16-4, paragraph 1 has been revised:

Daly City

~~Allied Waste~~ Republic Services provides residential and commercial garbage collection services for Daly City. Collected garbage that is not compostable is directed to ~~the Daly City Mussel Rock Transfer Station located at Skyline Drive and Westline Drive in Daly City, and eventually~~ the Corinda Los Trancos Landfill (formerly Ox Mountain Sanitary Landfill), located 3 miles east of Half Moon Bay off of Highway 92. This facility has a ceased operational date of January 2018 with a permitted capacity of 69 million cubic yards, and total remaining capacity of approximately 26.9 million cubic yards as of May 2011 (Davies, 2014). In 2012, Daly City generated approximately 54,000 tons of solid waste and directed approximately 53,000 tons to the Corinda Los Trancos Landfill (CalRecycle, 2014d).

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Established in 1938

July 1, 2016

File Ref: SCH # 2013032001

Patrick Sweetland
City of Daly City, Department of Water and Wastewater Resources
153 Lake Merced Boulevard
Daly City, CA 94015

Subject: Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the Vista Grande Drainage Basin Improvement Project, San Mateo and San Francisco Counties

Dear Mr. Sweetland:

The California State Lands Commission (CSLC) staff has reviewed the Draft EIR/EIS for the Vista Grande Drainage Basin Improvement Project (Project), which is being prepared by the city of Daly City (City). The City, as a public agency proposing to carry out the Project, is the lead agency under the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.), and the National Park Service is the lead agency under the National Environmental Policy Act (42 U.S.C. § 4321 et seq.). The CSLC is a CEQA trustee agency for projects that could directly or indirectly affect sovereign lands and their accompanying Public Trust resources or uses. Additionally, because the Project involves work on sovereign lands, the CSLC will act as a responsible agency.

CSLC Jurisdiction and Public Trust Lands

The CSLC has jurisdiction and management authority over all ungranted tidelands and submerged lands, and the beds of navigable lakes and waterways. The CSLC also has certain residual and review authority for tidelands and submerged lands legislatively granted in trust to local jurisdictions (Pub. Resources Code, §§ 6009, subd. (c), 6301, 6306). All tidelands and submerged lands, granted or ungranted, as well as navigable lakes and waterways, are subject to the protections of the common law Public Trust.

As general background, the State of California acquired sovereign ownership of all tidelands and submerged lands and beds of navigable lakes and waterways upon its admission to the United States in 1850. The State holds these lands in trust for the benefit of all people of the State for statewide Public Trust purposes, which include but are not limited to waterborne commerce, navigation, fisheries, water-related recreation,

habitat preservation, and open space. On tidal waterways, the State's sovereign fee ownership extends landward to the mean high tide line (MHTL), except for areas of fill or artificial accretion or where the boundary has been fixed by agreement or a court. Such boundaries may not be readily apparent from present day site inspections.

The existing CSLC lease, PRC 1364.9, would need to be amended for proposed work on the existing ocean outlet structure and 33-inch outfall pipeline located on Pacific Ocean sovereign land. The uplands at this location are located within lands the State acquired and patented under a 500,000-acre federal grant. An easement over sovereign State land at this location was granted in 1962 to North San Mateo County Sanitation District for a sanitary sewer outfall line.

The MHTL remains ambulatory at this location, and so the CSLC has not fixed a precise boundary between State-owned uplands and sovereign Public Trust tide and submerged lands. A MHTL survey is required to determine the exact CSLC jurisdictional boundary and current extent of existing structures on State sovereign land. At a minimum, a Public Trust easement exists on the beach to provide public access. 1

This determination is made for the purpose of comment on the Draft EIR/EIS and is without prejudice to any future assertion of State ownership or public rights, should circumstances change or if additional information comes to our attention. This letter is not intended, nor should it be construed as, a waiver or limitation of any right, title, or interest of the State of California in any lands under its jurisdiction.

Project Description

The Project proposes to address storm water related flooding within the Vista Grande Drainage Basin through improvements to existing storm water conveyance facilities. The Project meets the City's goals and objectives as follows:

- Improve storm water drainage of the lower Vista Grande Basin to accommodate peak flows generated by a 25-year, 4-hour storm;
- Implement a lake management plan to manage water quality and hydrology for Lake Merced;
- Improve recreational access along the beach below Fort Funston;
- Reduce litter transfer and deposition along the beach below Fort Funston; and
- Maximize use of existing right-of-ways, easements, and infrastructure to minimize construction related costs, habitat disturbance, and disruption to recreational users.

From the Project Description, CSLC staff understands that the Project would include the following components:

- Ocean Outlet Structure. Replace the existing ocean outlet structure and a portion of the existing 33-inch submarine outfall pipeline that crosses the beach at Fort Funston by carrying out the following tasks:

- Install and remove cofferdam sheet piles;
- Demolish and remove the existing outlet and exposed portions of the existing Vista Grande Tunnel;
- Create a portal structure;
- Install a new ocean outlet structure of cast-in-place concrete;
- Remove an existing 27-inch force main pipeline;
- Replace approximately 120 feet of the existing 33-inch submarine outfall pipeline that crosses the beach (outside of the cofferdam) with a new 33-inch welded steel pipeline;
- Insert four, 3-foot by 3-foot concrete piers embedded in the beach sand to support the replacement pipeline; and
- Connect a new 33-inch welded steel pipeline to the existing submarine outfall pipeline.

- Make improvements to the existing upland storm drain system, which includes the Vista Grande Canal, Effluent Gravity Pipeline, Lake Overflow Structure, and Vista Grande Tunnel.

The Draft EIR/EIS identifies the proposed Project as the Environmentally Superior Alternative.

Environmental Review

CSLC staff requests that the City consider the following comments on the Project's EIR.

General Comments

1. CSLC Acronym: CSLC staff requests that the EIR/EIS correct the acronym "CSLC" throughout the document (e.g., change from "CLSC" on page 5-2). It is correctly abbreviated in the Acronyms and Abbreviations on page 6-3. 2

2. Structures to be Removed: CSLC staff requests that the following information be provided in the Final EIR/EIS:

   a. Length of 33-Inch Pipeline: CSLC staff requests that the Final EIR/EIS consistently identify the correct length of the 33-inch concrete pipeline proposed to be removed. For example, the Draft EIR/EIS states the pipeline length is 120 feet on page 2-19, and 140 feet on page 2-26. 3

   b. Pipeline Removal Locations: CSLC staff requests that the Final EIR/EIS include a map showing the locations of the pipelines proposed to be removed, so that the reader may better understand possible environmental and potential cumulative impacts resulting from Project-related activities. 4

Biological Resources

3. Use of Impact or Vibratory Pile Driving: CSLC staff requests that the Final EIR/EIS explain when an impact pile driver or a vibratory pile driver would be used for the portion of the Project on the beach. This explanation would help a reader understand 5

why one type of pile driver would be preferred over the other, if both generate the same noise levels as shown in Table 3.11-3 on page 3.11-13. 5

Cultural Resources

4. Cultural Resources Studies: Please be advised that studies proposed on lands under the CSLC's jurisdiction require a permit from the CSLC, and that no resources or artifacts may be removed from their existing location(s) on sovereign land without CSLC approval. 6

5. Mitigation Measure 3.5-3: CSLC staff requests that Mitigation Measure 3.5-3 on page 3.5-36 state that any submerged archaeological site or submerged historic resource that has remained in State waters for more than 50 years is presumed to be significant. 7

Hydrology and Water Quality

6. Spill Prevention and Cleanup Plan: CSLC staff requests that the Spill Prevention and Cleanup Plan referenced on page 3.6-18, be included as a mitigation measure in the Final EIR/EIS, because of work on the beach and equipment being brought to the site from Avalon Canyon Access Road, as seen in Figures 2-1 (page 2-3), 2-4 (page 2-21), 3.2-7 (page 3.2-8), and 3.4-1 (page 3.4-3). The Plan should provide specific, feasible, and enforceable measures to minimize potential for spills and accidents from equipment on the beach, and to explain clean up measures. 8

7. Mitigation Measure Requirements: CSLC staff requests that any existing Spill Prevention and Cleanup Plan or proposed mitigation measures be presented as specific, feasible, enforceable obligations, or be presented as formulas containing performance standards which would mitigate the significant effect of the Project (State CEQA Guidelines, §15126.4). In the event the formulation of specific mitigation measures must be deferred, the EIR should do the following: 9

   - Explain why deferral is necessary
   - Describe potential mitigation strategies or options that could be formulated
   - Describe mitigation performance standards as described above.

Climate Change

8. Sea-Level Rise: A tremendous amount of State-owned lands and resources under the CSLC's jurisdiction will be impacted by rising sea levels. With this in mind, the City should consider discussing in the Final EIR/EIS, whether and how various Project components might be affected by sea-level rise, and whether "resilient" designs have been incorporated. The Project is located in a low-lying, flood-prone area that will be affected by rising sea levels. Additionally, because of their nature and location, the lands and resources in the area of the Project are already vulnerable to a range of natural events, such as storms. As individual projects are designed and evaluated, attention should be given to sea-level rise projections to ensure the structures' designs are sufficient to ensure function, safety, and 10

protection of the environment over the expected life of the structure. Note that the State of California released the final "Safeguarding California: Reducing Climate Risk, an Update to the 2009 California Climate Adaptation Strategy" (Safeguarding Plan) on July 31, 2014, to provide policy guidance for State decision-makers as part of continuing efforts to prepare for climate risks. The Safeguarding Plan sets forth "actions needed" to safeguard ocean and coastal ecosystems and resources as part of its policy recommendations for State decision-makers.

In addition, Governor Brown issued Executive Order B-30-15 in April 2015, which directs State government to fully implement the Safeguarding Plan and factor in climate change preparedness in planning and decision making. Please note that when considering lease applications, CSLC staff will need to do the following: 10

- Request information from applicants concerning the potential effects of sea-level rise on their proposed projects;
- If applicable, require applicants to indicate how they plan to address sea-level rise and what adaptation strategies are planned during the projected life of their projects; and
- Where appropriate, recommend project modifications that would eliminate or reduce potentially adverse impacts from sea-level rise, including adverse impacts on public access.

Recreation

9. Public Access on the Beach: CSLC staff requests that appropriate mitigation measures (stated on page 1-9, but not proposed) be included in the Final EIR/EIS to avoid possible recreational impacts to the public using the beach (Figure 3.2-8 on page 3.2-14). Mitigation measures should include, but not be limited to the following measures:
    - Place notices at and around the Project site on the beach prior to construction, informing the public of when the Project site would have restricted public access; 11
    - Place maps at and around the Project site identifying alternate access points;
    - Place notices on the City and Fort Funston's websites informing the public of when these sites may have restricted public access due to Project construction; and
    - Incorporate measures on the beach to protect the public during construction activities on the beach.

10. Public Hazard on the Beach: CSLC staff requests that the Final EIR/EIS discuss how the exposed outfall pipeline on the beach (Figure 3.2-8 on page 3.2-14) would be addressed to reduce possible hazards when the pipeline is exposed during the winter months. 12

11. Abandoning Pipeline In Place: CSLC staff requests that additional analysis be included in the Final EIR/EIS explaining the location of the force main pipeline, its current conditions, how it would be abandoned in place, and why it would be abandoned in place and not removed. 13

Thank you for the opportunity to comment on the Draft EIR/EIS for the Project. As a responsible and trustee agency, the CSLC will need to rely on the Final EIR/EIS for the issuance of any amended lease as specified above, and therefore, we request that you consider our comments prior to certification of the Final EIR/EIS.

Please send copies of future Project-related documents, including electronic copies of the Final EIR/EIS, Mitigation and Monitoring Program, Notice of Determination, CEQA Findings, and if applicable, Statement of Overriding Considerations when they become available, and refer questions concerning environmental review to Afifa Awan, Environmental Scientist, at (916) 574-1891 or via e-mail at Afifa.Awan@slc.ca.gov. For questions concerning archaeological or historic resources under CSLC jurisdiction, please contact Assistant Chief Counsel Pam Griggs at (916) 574-1854 or via e-mail at Pamela.Griggs@slc.ca.gov. For questions concerning CSLC leasing jurisdiction, please contact Al Franzoia, Public Land Management Specialist, at (916) 574-0992 or via e-mail at Al.Franzoia@slc.ca.gov.

Sincerely,

Cy R. Oggins, Chief
Division of Environmental Planning
and Management

cc: Office of Planning and Research
A. Awan, CSLC
L. Calvo, CSLC
A. Franzoia, CSLC

3.3 Response to Comments from California State Lands Commission

CSLC-1 This comment notes that the existing California State Lands Commission (CSLC) lease, PRC 1364.9 would need to be amended for proposed work on the existing ocean outlet structure and 33-inch outfall pipeline. Draft EIR/EIS Section 2.11, Regulatory Requirements, Permits, and Approvals discusses the construction and other permits for proposed components or improvements and acknowledges that the CSLC has management responsibility of sovereign lands associated with the proposed project and that a lease amendment may be required. To support the regulatory permitting process, the City of Daly City has initiated discussions with the CSLC (see Section 5.1.3, discussing consultation and coordination with the CSLC), and will continue coordination with CSLC regarding potential information needs such as a mean high tide line (MHTL) survey that would determine the exact CSLC jurisdictional boundary and extent of existing, and proposed land on State sovereign land. It is also noted that the CSLC holds a least to NPS that covers land that may be within the project area; thus, the City of Daly City coordination with the CSLC will include participation by the NPS.

CSLC-2 This comment requests that the EIR/EIS correct the acronym "CSLC". In response to this comment, the following text revision has been made:

> ## 5.1.3 CSLC
>
> Daly City staff met with California State Lands Commission (C~~L~~SL̲C) staff once during preparation of the EIR/EIS. The meeting was conducted via teleconference on October 29, 2014. The purpose of the meeting was to provide C~~L~~SL̲C staff with an overview of the Project, review the agency's jurisdiction, identify resource issues that should be considered in the EIR/EIS, and to discuss permitting requirements. The Project schedule was also discussed at the meeting. Of primary interest to C~~L~~SL̲C staff was determining the landward extent of C~~L~~SL̲C jurisdiction (given the inland migration of shoreline with bluff erosion) and ensuring that resources within that jurisdiction are protected.

CSLC-3 This comment requests that the Final EIR/EIS consistently identify the correct length of the 33-inch concrete pipeline proposed to be removed. As discussed on pages 2-10 and 2-19, approximately 120 feet of the existing 33-inch submarine outfall pipeline that crosses the beach at Fort Funston, would be replaced at the same elevation as the existing pipeline. However, the exact length of the portion to be replaced will be determined during detailed design that will inform all permit applications.

In response to Comment CSLC-3, EIR/EIS page 2-26, paragraph 6 has been revised:

- **Ocean Outlet structure:** 300 cy of exposed brick and shotcrete lined tunnel and concrete structure to be demolished and disposed of. Approximately ~~140~~ 120 feet of 33-inch concrete pipe from the replacement of the submarine outfall pipeline to be disposed of.

CSLC-4 This comment requests that the Final EIR/EIS include a map showing the locations of the pipelines proposed to be removed. The Project Description is based upon preliminary design drawings and higher level engineering design drawings are being developed that will be available for review as part of the regulatory permit application process, as noted in Draft EIR/EIS Section 2.11, Regulatory Requirements, Permits, and Approvals and discussed above in response to Comment CSLC-1. The locations of the pipelines to be removed, such as the section of the 33-inch wastewater effluent gravity pipeline adjacent to the Canal, the portion of the 33-inch outfall pipe that would be replaced at the beach, and a section of the 27-inch force main at the beach, are all in the immediate vicinity of structures identified in **Figures 2-2a**, **2-2b**, and **2-3b** and within the environmental setting described and analyzed in EIR/EIS Chapter 3, Environmental Analysis.

CSLC-5 This comment requests that the Final EIR/EIS explain when an impact pile driver or a vibratory pile driver would be used for the portion of the Project on the beach. **Table 2-3** in the Project Description, found on page 2-23 of the EIR/EIS, notes that a pile driver would be used for construction related to the Shaft/Ocean Outlet and Tunnel Portal/Canal and Wetlands for a duration of 18 weeks. The type of equipment (pile driver or vibratory pile driver) would be selected by the assigned construction contractor, with the selection likely being made based on which equipment is owned by or available to the contractor. However, it is more likely that a vibratory pile driver would be used on the beach, due to its smaller size compared to an impact driver. As noted, both have the same noise level as shown in **Table 3.11-3** on page 3.11-13.

CSLC-6 This comment notes that studies proposed on CSLC lands require a permit from the CSLC and that no resources or artifacts may be removed from their existing location(s) on such lands without approval. See discussion in comment CSLC-1 for response regarding permits pertaining to the CSLC. As stated in **Mitigation Measure 3.5-3** consultation with the CSLC is required if an archaeological resource or shipwreck is discovered on lands under CSLC jurisdiction.

CSLC-7 This comment requests that **Mitigation Measure 3.5-3** state that any submerged archaeological site or submerged historic resource that has remained in State waters for more than 50 years is presumed to be significant, is noted. As stated in **Mitigation Measure 3.5-3** in the case of an inadvertent discovery of a submerged archaeological site, shipwreck, or related artifacts, the applicable jurisdictional

agency shall also contact and initiate consultation with the CSLC staff within two business days of such discovery. The CSLC will then have the opportunity to make a determination on the historical significance of the find, including a determination based on the length of time a potential cultural resource has been submerged.

CSLC-8 This comment requests that the Spill Prevention and Cleanup Plan referenced on page 3.6-18 of the EIR/EIS include work on the beach and equipment being brought to the site from Avalon Canyon, and include specific, feasible, and enforceable measures to minimize potential for spoils and accidents. The commenter references the description of the mandatory NPDES Construction General Permit regulatory requirements found on EIR/EIS page 3.6-18, However, impacts associated with potential for spills and accidents within the project area to result in soil, water quality, or hazardous materials releases are discussed in the impact analysis sections of Sections 3.6.5 (Geology and Soils); 3.8.5 (Hazards and Hazardous Materials); and 3.9.5 (Hydrology and Water Quality). Impacts from potential spills associated with construction activities in the coastal and beach areas of the Project are comprehensively assessed in Section 3.9.5.1 under Impact HYD-1 (p. 3.9-61 *et seq*.). The analysis presented under Impact HYD-1 includes consideration of the spill prevention and cleanup plan referenced in Section 3.6, Geology and Soils (p. 3.6-18). As noted under Impact HYD-1, while the use of fuels and other chemicals during construction could be spilled, the Project would be required to adhere to the requirements of the Construction General Permit (CGP), including in beach and coastal areas. As described in HYD-1, assessment of application of the CGP to the Project determined that compliance with the CGP, which includes preparation and implementation of a Stormwater Pollution Prevention Plan with associated BMPs (including developing and implementing a spill prevention and cleanup plan, specific methods and materials for controlling sediments, and other erosion control measures) as well as inspection and reporting, would effectively reduce and minimize spill related impacts during construction. The required (non-discretionary) adherence to these requirements, which include specific, feasible, and enforceable requirements under existing regulations, would effectively reduce potential impacts associated with spills or leaks of hazardous materials during construction and impacts at the beach and all construction areas were concluded to be less than significant. Because the actions required are specific, feasible, and enforceable, the suggested additional measures (description of potential strategies and options that could be formulated, and description of performance standards), is not necessary.

CSLC-9 This comment requests that the Final EIR/EIS discusses the impacts that sea-level rise may have on various Project components and whether “resilient” designs have been incorporated, as CSLC lease decisions must consider climate change preparedness in planning and decision making. As discussed in Section 2.6.1, Management of Stormwater Flow, the proposed project responds to climate change by improving stormwater drainage in the lower Vista Grande Basin to

accommodate peak flows generated by the 25-year/4-hour design storm. Storms such as this could be more frequent with climate change. In addition, the hydraulics analysis supporting the 30% project design included climate change projections in the determination of design criteria, including capacity, placement/location, and materials; and the Lake Merced Lake-Level Model, which evaluated the effects of flow diversion from the Vista Grande Project to Lake Merced, also included consideration of expected climate change impacts**.**

As noted in the comment, the Project is located in a coastal area that will be affected by sea-level rise. Baseline conditions and future baseline conditions related to sea-level rise, including flooding and flood risks, beach profile fluctuations, rates of bluff erosion, and consideration of storms and wave run-up events are described in detail in Section 3.9.1.2 of the Draft EIR/EIS under "Coastal Processes and Bluff Erosion Affecting the Vista Grande System" (p. 3.9-15, *et seq*.) and under "Flooding" (p. 3.9-20, *et seq*.). Additionally, regulations related to coastal development, sea-level rise, facility resilience, and adaptation applicable to the Project are described in Section 3.9.2.1 under "California Coastal Act of 1976" (p. 3.9-54, *et seq*.). The potential impacts of the Project related to sea-level rise and coastal flooding are comprehensively assessed, with consideration of applicable regulatory requirements and long-term policy guidance related to sea-level rise and coastal development, under Impact HYD-9 (p. 3.9-109 *et seq*.). The analysis provided under Impact HYD-9 assesses impacts associated with sea-level rise including consideration of defensible sea-level rise projections, proposed Project design in regards to coastal access, public safety, protection of the environment (including bluff erosion rates, beach profile alterations, and landslide hazard). The analysis determined that the Project could have substantial adverse effects on shoreline processes (such as sand supply and bluff erosion) and also could conflict with California Coastal Act requirements. As such, **Mitigation Measure 3.9-2, (Avoidance and Minimization of Conflicts with California Coastal Act and NPS Management Policies)**, requires the final Project engineering design to minimize conflicts with the applicable Coastal Act requirements and be designed to eliminate or mitigate adverse effects on local shoreline processes as well as assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs. **Measure 3.9-2** also requires Daly City to complete a Project-specific coastal engineering study for the final Project design, consistent with the California Coastal Commission's 2015 Sea-Level Rise Policy Guidance and implement study recommendations related to design and sea-level rise requirements. However, while implementation of such measures would reduce potential adverse effects of the Project on coastal resources, the analysis presented in the Draft EIR/EIS concluded that impacts could remain significant and unavoidable. The requirements and recommendations provided regarding CSLC considerations related to assessing lease

agreements are noted and such information would be provided as part of the coastal engineering study required by **Mitigation Measure 3.9-2** (p. 3.9-114, *et seq*.).

CSLC-10 This comment requests that mitigation measures stated to avoid possible recreation impacts on the beach be included in the Final EIR/EIS as proposed mitigation measures.

In response to Comment CSLC-11, EIR/EIS page 3.15-9, paragraph 3 (continuing on page 3.15-10) has been revised:

> **M-3.15-1: Construction Traffic Management Plan**. Daly City and/or its contractor(s) shall prepare and implement a Construction Traffic Management Plan in accordance with professional traffic engineering standards to show methods for maintaining traffic flows on roadways and access to recreational resources directly affected by Project construction, which shall include, at a minimum, the following requirements:
>
> a) Develop circulation plans to minimize impacts on local street circulation; use flaggers and/or signage to guide vehicles through and/or around the construction zone (including, as needed, for trucks turning into and out of Fort Funston at the intersection of SR 35 and Fort Funston Road). Circulation plans may be modified during construction, based on observed conditions.
>
> b) Identify truck routes and, to the extent possible, use haul routes that minimize truck traffic on local roadways and residential streets.
>
> c) Schedule truck trips to minimize trips during the peak morning and evening commute hours, and the peak hours of arrivals and departure from Fort Funston, to the extent possible.
>
> d) Provide sufficient staging areas for trucks accessing construction zones to minimize disruption of access to adjacent land uses, particularly within residential neighborhoods.
>
> e) Maintain pedestrian and bicycle access and circulation during Project construction where safe to do so. If construction activities encroach on a bicycle lane, post warning signs that indicate bicycles and vehicles are sharing the lane.
>
> f) Maintain public safety and access on the beach by posting notices and maps at and around the project site and on the Golden Gate National Recreation Area's website prior to and during construction, informing the public about when and where public access could be restricted and about alternative access points, if applicable; and incorporate measures on the beach to protect the public during construction activities.
>
> ~~f~~g) Store all equipment and materials in designated contractor staging areas on or adjacent to the worksite, in such a manner to minimize obstruction of traffic.

~~g~~h) Implement roadside safety protocols and provide advance "Road Work Ahead" warning signs and speed control (including signs informing drivers of state-legislated double fines for speed infractions in a construction zone) to achieve required speed reductions for safe traffic flow through the work zone.

~~h~~i) Coordinate construction with facility owners or administrators of sensitive land uses such as police and fire stations (including all fire protection agencies), transit stations, hospitals, and schools, as well as Fort Funston. Notify facility owners or operators in advance of the timing, location, and duration of construction activities.

~~i~~j) Provide residents adjacent to Project construction areas (e.g., on Avalon Drive and Westmoor Avenue) with information regarding Project construction in their area, including anticipated start and end of construction activities.

~~j~~k) Coordinate construction with local traffic agencies, SFMTA, NPS, and SamTrans, to minimize disruption and arrange for the temporary relocation of bus stops in work zones as necessary.

CSLC-11 This comment requests that the Final EIR/EIS discuss how the exposed outfall on the beach would be addressed to reduce possible hazards when the pipeline is exposed in the winter.

As discussed in EIR/EIS Section 1.3.1, CEQA Project Objectives, Daly City has identified the following objectives for the proposed Project:

- Improve stormwater drainage of the lower Vista Grande Basin to accommodate peak flows generated by the 25-year/4-hour design storm;
- Provide a sustainable source of stormwater, establish a target maximum water surface elevation, and implement a Lake Management Plan (see Appendix A) for management of Lake Merced water quality, groundwater, and surface water elevation;
- Improve recreational access and reduce litter transfer and deposition along the beach below Fort Funston; and
- Maximize use of existing rights-of-way, easements, and infrastructure to minimize construction-related costs, habitat disturbance, and disruption to recreational users.

While removal and replacement or other methods of reducing exposure of the submarine outfall pipeline would improve recreational access along the beach below Fort Funston, it would not meet the other project objectives, and is not related to the primary objectives of the project (stormwater management and Lake Merced management). Thus, replacement or other methods of reducing exposure of the submarine outfall pipeline are not part of the proposed project. As described in the EIR/EIS at page 3.2-18, the outfall pipeline would continue to be exposed during some times of the year, as currently occurs.

Should replacement or other changes to the submarine outfall pipeline be required in the future, such as due to pipeline failure risk, such an undertaking would be subject to CEQA, NEPA, and regulatory permitting processes. It is noted that replacement of the outfall pipeline at a lower elevation that would avoid beach exposure would require that the entire pipeline, which extends 2,500 feet from the shore would need to be replaced in order a change in elevation at the beach to be accommodated, which would likely be associated with substantial impacts on marine ecology and other natural resources.

CSLC-12 This comment requests that the Final EIR/EIS include additional analysis explaining the location, current conditions, and abandonment procedures of the force main pipeline. The force main pipeline begins at the Daly City Wastewater Treatment Plant at 153 Lake Merced Boulevard in Daly City and crosses under the Olympic Club and Fort Funston until it emerges on the cliff face. Abandonment in place of the pipeline will consist of filling the pipeline with a flowable, stable material, such as cellular concrete. Injection points would be via existing pipeline access points such as manholes and or air/vacuum valves, and would be selected based on accessibility, as well as grade and distance between points. In general, points will be selected approximately 200 to 700 feet apart. Injection would be from the high point of the backfilled reach, and material would flow to the low point. It is likely that cellular concrete would be delivered via a ready mix concrete truck. The truck would deliver a partial load of neat cement grout, and a trailer mounted foam generator plant would inject the desired amount of foam into the concrete truck to create cellular concrete. The mixture would then be pumped or tailgated directly into the forcemain injection point. Abandonment in place of the force main pipeline would have far fewer impacts than removal of the pipeline. Removal of the pipeline would require ground disturbance of approximately 4,500 feet within the Olympic Club and approximately 1,900 feet within Fort Funston, much of it being south of the entrance road. Disturbance of Olympic Club activities and property is discouraged by the Olympic Club. In addition, portions of Fort Funston south of the entrance road include substantial areas of sensitive habitat and NPS has requested that the project avoid this area to the highest extent possible. Therefore, filling the force main and abandoning in place is preferred. As noted in Section 2.4.2, Vista Grande Tunnel and East and West Portals, on pages 2-10 and 2-12, the exposed portion of the 27-inch force main that currently protrudes from the cliff face would be removed back to the cliff face.

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STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY EDMUND G. BROWN Jr., Governor

DEPARTMENT OF TRANSPORTATION
DISTRICT 4
P.O. BOX 23660
OAKLAND, CA 94623-0660
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SCL/35/PM 0.5
SCH# 2013032001

Mr. Patrick Sweetland
Department of Water and Wastewater Resources
City of Daly City
153 Lake Merced Boulevard
Daly City, CA 94015

Dear Mr. Sweetland:

Vista Grande Drainage Basin Improvement Project – Draft Environmental Impact Report and Draft Environmental Impact Statement

Thank you for continuing to include the California Department of Transportation (Caltrans) in the environmental review process for the above-referenced project. Our comments are based on the Draft Environmental Impact Report (DEIR) and Draft Environmental Impact Statement (DEIS). Please also refer to the previous comment letter, dated March 5, 2013, on this project and incorporated herein.

Project Understanding
The proposed project is located at State Route (SR) 35 in Fort Funston, crossing under the State right-of-way (ROW) to the east and west near John Muir Drive. It would improve the Vista Grande Drainage Basin by partially replacing the existing Vista Grande Canal.

Lead Agency
As the lead agency, the City of Daly City (City) is responsible for all project mitigation, including any needed improvements to State highways. The project's fair share contribution, financing, scheduling, implementation responsibilities and lead agency monitoring should be fully discussed for all proposed mitigation measures. 1

Traffic Impact Fees
Given the project's contribution to area traffic and its proximity to SR 35, the project should contribute fair share traffic impact fees. These contributions would be used to lessen future traffic congestion and improve transit in the project vicinity. 2

Transportation Management Plan

Since it has been determined that traffic restrictions and detours will affect SR 35, the Construction Traffic Management Plan (CTMP) will require approval by Caltrans prior to construction. It must be prepared in accordance with Caltrans' *TMP Guidelines*, including a location map that shows the location of the project ingress and egress off of SR 35. Further information is available for download at the following web address: www.dot.ca.gov/hq/traffops/trafmgmt/tmp_lcs/index.htm. 3

Please ensure that such plans are also prepared in accordance with the TMP requirements of the corresponding jurisdictions. For further TMP assistance, please contact the Caltrans District 4 Office of Traffic Management Operations at (510) 286-4579. 4

Encroachment Permit

Please be advised that any work or traffic control that encroaches onto the State ROW requires an encroachment permit that is issued by Caltrans. To apply, a completed encroachment permit application, environmental documentation, and five (5) sets of plans clearly indicating State ROW must be submitted to: David Salladay, District Office Chief, Office of Permits, California Department of Transportation, District 4, P.O. Box 23660, Oakland, CA 94623-0660. Traffic-related mitigation measures should be incorporated into the construction plans prior to the encroachment permit process. See this website for more information: www.dot.ca.gov/hq/traffops/developserv/permits.

Should you have any questions regarding this letter, please contact Brian Ashurst at (510) 286-5505 or brian.ashurst@dot.ca.gov.

Sincerely,

for PATRICIA MAURICE
District Branch Chief
Local Development - Intergovernmental Review

c: Scott Morgan, State Clearinghouse

3.4 Response to Comments from California State Transportation Agency, Department of Transportation

Caltrans-1 The comment describes the City's responsibilities as lead agency for the project. As discussed in Section 3.15, Traffic and Transportation, in **Mitigation Measures 3.15-1** and **3.15-2**, Daly City will prepare and implement a Construction Traffic Management Plan in accordance with professional traffic engineering standards and will enter into an agreement prior to construction that details a post-construction roadway rehabilitation program. Both mitigation measures indicate the responsibility of the lead agency. In addition, as lead agency, Daly City is responsible for carrying out identified mitigation measures via the Mitigation Monitoring and Reporting Program.

Caltrans-2 The comment requests that the project be conditioned to contribute fair share traffic impact fees. Traffic impact fees apply to land use development that generate on-going traffic increases that would adversely affect traffic conditions, and are used to lessen traffic congestion and to improve transit service. As stated on page 3.15-10 of the Draft EIR/EIS, project operation would only require periodic maintenance-related trips, and is expected to be similar to current operation and maintenance activities, and that on balance, any increases in traffic generated by project operation and maintenance would be minimal compared to existing conditions and would not result in a noticeable increase in traffic on area roads. Therefore, traffic impact fees are not applicable to this project.

Caltrans-3 The comment states that the project's Construction Traffic Management Plan (**Mitigation Measure 3.15-1**, page 3.15-9 of the Draft EIR/EIS) will require approval by Caltrans because of the project's traffic restrictions and detours that will affect State Route 35. Contrary to the commenter's assertion, as stated on pages 3.15-8 and 3.15-9 of the Draft EIR/EIS, the proposed project would not require any lane or road closures (i.e., no traffic restrictions or detours) on any area roads, including SR 35. Therefore, approval of the project's Construction Traffic Management Plan would not be required.

Caltrans-4 The comment notes that an encroachment permit would be required from Caltrans for any work that would encroach onto the State right-of-way. That requirement is acknowledeged, and is understood to apply to activities that would encroach within, under, or over the State rights-of-way. As stated on page 3.15-3 of the Draft EIR/EIS, project construction and maintenance activities would not occur on state highways or highway rights-of-way (state roadways would be used solely as access routes for construction workers and construction vehicles). However, the tunnel portion of the project would be excavated under State Route 35, and the City of Daly City and its contractors would obtain the necessary encroachment permit for that

work. It is noted that no surface effects, including ground vibration, would occur within the State Route 35 right-of-way.

In response to Comment Caltrans-4, page 3.15-3, paragraph 7 (continuing on page 3.15-4) has been revised:

> Caltrans' construction practices require temporary traffic control planning "during any time the normal function of a roadway is suspended" (Caltrans, 2012). Furthermore, Caltrans requires that permits be obtained for transportation of oversized loads and transportation of certain materials, and for construction-related traffic disturbance. Project construction and maintenance activities would not occur on state highways or highway rights-of-way; state roadways would be used solely as access routes for construction workers and construction vehicles. However, the tunnel portion of the project would be excavated under SR 35. Therefore, Caltrans encroachment permits would ~~not~~ be required. Further, oversized vehicles (by weight, height, length, or width) or vehicles carrying hazardous materials that require Caltrans permits would not be used. Caltrans' facilities that are likely to be used as access routes by construction workers and construction vehicles to the planned work sites include: SR 1, SR 35, and I-280 (described above).

San Francisco
Water Power Sewer
Operator of the Hetch Hetchy Regional Water System

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July 6, 2016

City of Daly City Department of Water and Wastewater Resources
Attention: Patrick Sweetland, Director
153 Lake Merced Boulevard
Daly City, CA 94015

RE: Comments on Vista Grande Drainage Basin Improvement Project Draft Environmental Impact Report/Environmental Impact Statement.

Dear Mr. Sweetland:

The San Francisco Public Utilities Commission ("SFPUC") received the Draft Environmental Impact Report/Environmental Impact Statement for the Vista Grande Drainage Basin Improvement Project ("Project").

The proposed Project would improve stormwater drainage and minimize flooding risk, provide a water source for Lake Merced management, improve recreational access and reduce litter deposition at the beach below Fort Funston, and maximize the use of existing infrastructure and rights-of-way.

As a responsible agency under the California Environmental Quality Act, the SFPUC offers the general comments attached in Table 1 for informational purposes. We support Daly City's approach for implementing improvements to the drainage basin.

1

Following review of the Draft EIR/EIS the SFPUC has no comments on the adequacy of analysis conducted for the EIR/EIS.

If you have any questions, please contact Obi Nzewi at (415) 554-1876 or onzewi@sfwater.org.

Sincerely,

Steven R. Ritchie
Assistant General Manager, Water

Attachment: Table -1 General Comment Log

Review of CEQA Documents for Non-SFPUC Projects
San Francisco Public Utilities Commission

Document Name: Vista Grande Drainage Improvements Draft EIR/EIS

SFPUC BEM Coordinator: **Sally Morgan**
Date: **May 6, 2016**

Comment Number	Commenter Name & SFPUC Division	Document Section Title or Section Number	Page Number	Figure Number	Review Comment
1	Jessica Arm- City Distribution Division	2.5	2-15	T 2-1	The 16-inch ductile-iron water main in John Muir Drive must be supported during excavation and construction of the John Muir Drive Crossing and Lake Merced Overflow Structure per SFPUC- CDD Protection of Existing Water and AWSS Facilities specifications (see attached for reference).
2	Jessica Arm- City Distribution Division	2.5.1.4	2-17; 2-60	T 2-8	Emergency access to the low-pressure fire hydrants on John Muir Drive must be maintained during all construction activities. If traffic is rerouted to the west of John Muir Drive in the vegetated area, fire trucks will need access to the existing hydrants.
3	Jessica Arm- City Distribution Division	2.5.1.4	2-17; 2-60	T 2-8	Emergency access to the existing 16-inch gate valve, two (2) 4-inch bypass valves, and the 4-inch blow-off vavle at the southern end of John Muir Drive must be maintained for SFPUC-CDD maintenance and operations during the project's construction.
4	Jessica Arm- City Distribution Division	2.5.4	2-25	na	Construction staging shall not be located above the 16-inch ductile-iron water main in John Muir Drive.
5	Jessica Arm- City Distribution Division	2.4.1.1	2-8	na	The collection box must maintain five (5) feet of clearance with the existing 16-inch gate valve, two (2) 4-inch bypass valves, and the 4-inch blow-off vavle at the southern end of John Muir Drive.
6	Jessica Arm- City Distribution Division	2.5.8	2-27	na	Accumulation of water around water valves poses a contamination threat to the potable water distribution system. During construction, the accumulation of water around the existing water valves on John Muir Drive shall be prevented. Additionally, the completed project shall not create an environment where stormwater accumulates above water valves.
7	Jessica Arm- City Distribution Division	2.4.1.3; 2.7	2-9; 2-40	na	Proposed wetlands that are adjacent to John Muir Drive shall be constructed in a way that prevents seepage and infiltration onto the 16-inch ductile-iron water main. Regular infiltration above water mains increases the risk of corrosion and liquefaction of soil.
8	Jessica Arm- City Distribution Division	2.4.1.3; 2.7	2-9; 2-40	na	Potholing will be required to confirm the location and material of the 16-inch water main and the joints of the water main in John Muir Drive. If it is determined that the water main is cast-iron or if the joints are lead-based, the Project Sponsor may be required, at minimum, to implement safety methods in order to support and work around the water main. If required, it may be necessary for the Project Sponsor to replace the existing water main with ductile iron and/or the existing lead-based joints with restrained joints to prevent pipe movement in saturated soils caused by the project's proximity to wetlands and increased groundwater levels.
9	Jessica Arm- City Distribution Division	2.7.2.2	2-38 to 2-40	T 2-7	The 16-inch ductile-iron water main in John Muir Drive must be supported during excavation and construction of the Rehabilitated Lake Merced Overflow, Wetland Outlet Pipe, and Discharge into Lake Merced per SFPUC- CDD Protection of Existing Water and AWSS Facilities specifications (see attached for reference).
10	Jessica Arm- City Distribution Division	2.9	2-59	T 2-8	Should there be any water-related work that results from this project, SFPUC-CDD may request that the Project Sponsor provide health and safety support services to SFPUC-CDD crews, such as contaminant testing, soil handling/disposal, and relevant PPE provisions.
11	Jessica Arm- City Distribution Division	2.9	2-62	T 2-8	To protect the water facilities against construction-caused groundborne vibrations, the Project Sponsor will be required to follow SFPUC- CDD Protection of Existing Water and AWSS Facilities specifications (see attached for reference).
12	Fan Lau, Water Resources Division	3.3 Air Quality	page 2-25,paragraph 4	N/A	Water used for dust control in San Francisco must be non-potable per Article 21 of the San Francisco Public Works Code. Article 21 is already cited in Section 3.3 Air Quality, page 3.3-14 in the context of air quality. However, it is not clear if this requirement is acknowledged in the description of water consumption.

3.5 Response to Comments from San Francisco Public Utilities Commission

SFPUC-1 The SFPUC indicates that upon review of the Draft EIR/EIS, they have no comments on the adequacy of analysis conducted for the EIR/EIS. SFPUC provided general comments for informational purposes that will further guide construction specifications to be included in the 100 percent design. The general comments do not introduce new environmental issues not considered in the EIR/EIS, nor would they require project description changes or additions, but further expand upon design considerations included in the current Project Description.

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July 1, 2016

Patrick Sweetland, Director
Department of Water and Wastewater Resources
City of Daly City
153 Lake Merced Blvd.
Daly City, CA 94015
pweetland@dalycity.org

Re: Vista Grande Drainage Basin Improvement Project

Dear Mr. Sweetland:

California Trout hereby comments on the Draft Environmental Impact Report/Statement (EIR/S) for this project.

CalTrout supports the project purposes (p. 2-1), which are to address storm-related flooding caused by the Vista Grande Canal and Tunnel, and to raise the level of Lake Merced. We agree (p. 2-72) that the record to date shows that the proposed project is feasible and will not have any significant impacts on environmental quality. We are grateful for the clarity, thoroughness, and quality of the document.

Our only comment is that the document does not fully describe the project component related to operation (p. 2-5). It acknowledges (p. 2-30) that operation, and specifically, the quantity of diverted stormwater, will be driven by choice of Water Surface Elevation (WSE) as management objective for Lake Merced. After explaining that WSE scenarios range from 7.5 to 9.5 feet elevation (City datum), the document reports (App. A, pp. 3-4) that San Francisco Public Utilities Commission (SFPUC) will determine which WSE is the management objective, after completion of the EIR/S. We believe that this EIR/S can and should support the SFPUC's determination for purposes of the California Environmental Quality Act and National Environmental Policy Act. We therefore request that Daly City, in consultation with the SFPUC, address the following questions in the final document. 1

1. What process will the SFPUC use for that determination? When does it expect to make that determination? We believe that the determination should be made as soon as possible after the publication of the final EIR/S, and well before the completion of construction.

2. What are the comparative impacts of WSE scenarios on recreation? While the EIR/S does a very thorough job of comparing the incremental impacts of scenarios on natural resources (see pp. 3.4-83 *et seq.*), we have not located any such analysis for recreation. The discussion in Chapter 3.13 related to operation appears to be limited to the outlet on Ocean Beach. See p. 3.13-17. 2

Thank you for this excellent document, which represents significant progress towards an approvable project. We enthusiastically support the project.

Sincerely,

Curtis Knight
Executive Director,
California Trout

Richard Roos-Collins
Water and Power Law Group PC

Attorney, California Trout

Cc: Steve Ritchie, San Francisco Public Utilities Commission

3.6 Response to Comments from California Trout

TROUT-1 This comment requests that the San Francisco Public Utilities Commission (SFPUC) clarify the process it will use to determine the target water surface elevation (WSE) and when it expects to make the determination. The comment notes that the determination should be made immediately after publication of the Final EIR/EIS, and before the completion of construction. The City of Daly City has solicited SFPUC staff input on their separate approval process. Staff have indicated that SFPUC staff will make their recommendation about a target lake WSE range to the SFPUC Commission following evaluation of potential impacts detailed in this EIR/EIS document. Following Daly City's certification of the Vista Grande EIR/EIS document, the SFPUC Commission will review the potential impacts of various target lake WSE ranges, and will review the staff recommendation for a target Lake Merced WSE range. After considering the certified EIR/EIS and the staff recommendation, the SFPUC Commission would adopt a Lake Merced Management Plan that will specify a target Lake Merced WSE range and implement the plan to manage the level of Lake Merced to the target WSE.

TROUT-2 The commenter requests clarification about the impacts of different WSE scenarios on recreation. As acknowledged in Comment Trout-2, the Draft EIR/EIS considers the impacts of different WSE scenarios on biological resources (pages 3.4-74 to 3.4-101) since WSE increases may adversely affect biological resources differently based upon the rate of increase and total increase. However, there are no expected adverse environmental impacts on recreation resources from any of the WSE scenarios; thus, analysis of the incremental effects of different WSE scenarios on recreational resources is not necessary because it would not inform decision-makers about the effects of one WSE scenario compared to another. As discussed on page 3.13-4 of the Draft EIR/EIS, there is an acknowledgement of an overall improvement in recreational resources from any WSE increase since it would not only potentially improve water quality, but could result in a minor increase in available lake surface areas used for boating. As operational water levels increase, the increase in available lake surface areas also increases. Thus, while not an environmental impact, it is noted the higher the operational WSE target selected, the greater the improvement on recreational resources. In addition, there is no anticipation that increased lake surface could generate additional use that would cause or accelerate the physical deterioration of the lake or recreational areas associated with it.

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July 1, 2016

2945 Ulloa St.
San Francisco, CA 94116

City of Daly City, Department of Water and Wastewater Resources
Attention: Patrick Sweetland, Director
153 Lake Merced Blvd.
Daly City, CA 94015
E-mail: psweetland@dalycity.org

Submitted by e-mail only.

Re: Vista Grande Drainage Basin Improvement Project EIR/EIS

Mr. Sweetland:

The Golden Gate Audubon Society (GGAS) supports the preferred alternative for the Vista Grande Drainage Basin Improvement Project. Our interest in this project stems from almost 100 years of advocating for Lake Merced, providing free field trips there and commenting on various projects that impacted the lake. Since at least the 1980s we have observed floodwaters from the Vista Grande Canal wash across John Muir Dr. and damage the lake's edge as well as infrastructure that benefits the citizens of both Daly City and San Francisco. Over the years we have lost a fishing pier, culverts, paths, parts of John Muir Dr. and freshly restored uplands have been seriously damaged. Erosion to Lake Merced's upper banks between the perimeter path and edge of the marsh has been extreme.

The problem is pretty simple; the Vista Grande Canal can no longer handle the amount of runoff from Daly City. It is not that there is more water in the system itself, it is that Daly City has been urbanized and much less water can percolate into the aquifer than it did when the original canal system functioned at the level for which it was designed. Because storm water now lands on streets, paved yards and parking lots, it remains on the surface to the bottom of the drainage basin where the canal's capacity for peak flow is frequently overwhelmed.

The preferred alternative solves the problem of flooding for up to 25-year flood events. GGAS would prefer seeing a drainage system with a greater capacity, but this should suffice for the vast majority of storm flows. Modification of the three swales along John Muir Dr. that were constructed as temporary emergency structures to permanent overflow swales could reduce impacts of floods that exceed projected 25-year events. We suggest removing rip-rap between the perimeter path and the lake's edge. Insert in its place permanent swales with hard beds perhaps using concrete or minimal rip rap to break the impact of falling water, and use willow, red elderberry and marsh plants at the lake's edge as the primary erosion control measure. Observations of past restoration efforts indicate native plants do in fact hold the sandy banks of Lake Merced if they are given two to three years to establish themselves. It should be recalled that several years ago GGAS agreed with Cal Trout, Daly City and the San Francisco PUC that use of rip-rap lined swales were necessary emergency measures that could reduce infrastructure damage, but we insisted they should be temporary. We trust they will now be adapted to permanent structures that utilize mostly natural features to control flood flows into the lake during peak storm periods.

1

We agree that water from the Vista Grande can be a positive addition to the waters of Lake Merced. Given the measures stated in the EIR/EIS to assure water quality, this additional water seems like a resource that could successfully stabilize the water level and water quality of the lake. Additionally it will reduce the outflow to the Pacific Ocean and add to the Westside Aquifer. 2

The constructed wetlands offer not only a means of purifying water for Lake Merced and for Ocean discharge, but they offer an opportunity to enhance habitat. In recent years Mallard, Wood Duck, Killdeer, Wilson's Snipe and a number of other species have used the Vista Grande Canal where the wetlands will be constructed. In conjunction with the stated uses for the wetlands, GGAS encourages the use of this area for waterfowl and upland species. We also encourage that the design for this area include either a trail by the wetlands or viewing platforms. This will enable our growing birding community to observe the waterfowl and upland species we expect will use the ponds. Plants used in the ponds and nearby should be consistent with vegetation in Lake Merced and in its environs. The addition of red elderberry and coffeeberry is desirable as they provide important food sources for birds. We encourage continued use of local oaks in the project area. 3

It is of great importance that timing of the project also be considered. Given the presence of significant wildlife populations in this area, including the presence of listed species such as Common Yellowthroat and Tricolored Blackbird, large numbers of blackbirds that use the nearby marshes as winter roosts, Green Heron, Marsh Wren, Song Sparrow and other marsh nesting species, we urge the timing of major project work start at times when it will be least disruptive to our natural resources. For example, parts of the project that require removal of marsh vegetation should not start between February 1 and July 31. Clearing marsh vegetation between August 1 and January 31 should enable the project to progress with minimal disruption to the nesting season. Removal of trees should follow the same schedule, but it should be accompanied by a survey of the trees to determine if they contain hummingbird, raptor or owl nests. We do not anticipate significant problems if measures like this are followed. 4

San Francisco's only known Cliff Swallow colony is located on the north facing side of the concrete bridge that is located just north of the project site. It may be necessary to remove silt from under the bridge to enhance flow between the South Lake and the Impound Lake. Though the colony failed in both 2015 and 2016, any such dredging should take place outside the nesting period for those swallows. If the birds return to the colony site it will be between mid March and the end of July. If they do not it will be obvious by mid May. A simple survey under the bridge will suffice to tell if any nests are present. Since this is not a stated area that should be impacted by the project, we include our concern only if the need for dredging under the bridge is necessary. 5

Thank you for the opportunity to comment on this project. We look forward to working with you in the future.

Very truly yours,

Daniel P. Murphy
San Francisco Conservation Committee

Golden Gate Audubon Society

3.7 Response to Comments from Golden Gate Audubon Society

GGAS-1 This comment suggests creating a drainage system with more capacity that required to accommodate up to 25-year flood events, such as via permanent overflow swales in place of the existing rip-rap between the lake's edge and the perimeter path. The commenter's preference for greater flood control capacity than proposed under the project is noted; however, the proposed objective is to "improve stormwater drainage of the lower Vista Grande Basin to accommodate peak flows generated by the 25-year/4-hour design storm" (see EIR/EIS page 1-4). Regarding the suggestion to replace the existing rip-rap between the lake edge and the perimeter path, it is noted that the structures are under the management of the San Francisco Public Utilities Commission (SFPUC). As discussed in **Table 3.1-1** on page 3.1-10, the John Muir Drive Erosion Control Project, proposed by the SFPUC, was implemented to repair three severely eroded areas adjacent to John Muir Drive along the South Lake Merced shoreline. Installation of the erosion control features referred to by the commenter as rip-rap and repair of eroded areas is complete; removal of erosion control structures (or potential revision of the structure, as suggested by the commenter) would be considered in the future by SFPUC, following completion of Vista Grande Drainage Basin Improvement Project. Any future revisions to these features would be undertaken by the SFPUC.

GGAS-2 This comment, which supports the addition of Vista Grande water to Lake Merced for water quality improvements and groundwater level increase, is acknowledged.

GGAS-3 This comment supports constructed wetlands for water treatment and habitat enhancement and requests that consideration of public access opportunities be included in the treatment wetlands design.

As noted on page 8 of the Lake Management Plan, included as Appendix A in the Draft EIR/EIS, the treatment wetlands would be planted with emergent plants such as cattails or bulrush, which would be consistent with the composition of native vegetation along the shoreline of Lake Merced, and would also provide water quality improvement by intercepting and settling out suspended particulates and providing attachment surfaces for beneficial bacteria. The composition of vegetation within the treatment wetlands is intentionally similar to the shoreline vegetation of Lake Merced, though on a much smaller scale, and would not provide unique habitat for local wildlife. The lake provides a more diverse array of supportive habitats and opportunities for the public to observe wildlife, including bird species noted in this comment, than would be practical at the proposed treatment wetlands.

Public access at or around the treatment wetlands is not included in the design for the proposed project for the following reasons. First, the area that is available for

the treatment wetlands is constrained by John Muir Drive and the Olympic Club, and any area available has been designed to maximize treatment capacity. Second, there is no safe public access point to the location of the treatment wetlands. The closest crosswalk connecting the north and south sides of John Muir Drive is located approximately 2,000 feet north of the bridge separating Impound Lake from South Lake, in the vicinity of the Lakewood Apartment complex and the sidewalk adjacent to the complex ends at the edge of that complex. There is no street parking or sidewalk adjacent to the treatment wetland areas, and no way to safely cross John Muir Drive to access the areas. The inclusion of public access points at the treatment wetlands would introduce safety hazards if people would attempt to cross two lanes of traffic on a road with a speed limit that varies between 30 and 40 mph, plus a bike lane. Daly City welcomes opportunities to explore recreation and education, such as the placement of educational materials at the Lake Merced side of the treatment wetlands and will explore opportunities with the SFPUC and San Francisco Recreation and Parks Department.

GGAS-4 This comment requests that the construction schedule be timed to be least disruptive to wildlife and natural resources. As discussed in Section 3.4.5.1, implementing **Mitigation Measure 3.4-3**, Nesting Bird Protection Measures, which restricts certain construction activities during breeding bird season (e.g., vegetation removal and pile driving), requires preconstruction surveys, and implementation of avoidance measures if active nests are located would reduce potential Project-related impacts on migratory and special-status birds. The restriction of certain construction activities within the breeding bird season is consistent with the suggestions made in Comment GGAS-4. Additionally, adverse effects associated with nighttime construction lighting on the beach at the Ocean Outlet and at the Fort Funston staging area, such as avian entrapment, collisions, or disturbance to nocturnal behavior, would be reduced by implementing **Mitigation Measure 3.4-9**, Night Lighting Minimization. Further, Project workers would be educated about sensitive species and common wildlife found within the Project study area, avoidance measures and procedures to ensure Project impacts on wildlife are minimized, and the regulatory requirements and penalties for noncompliance through implementation of **Mitigation Measure 3.4-2a**, Worker Environmental Awareness Program Training. The environmental training would provide specific protection measures and protocols for encountering wildlife that could occur within or around the Project sites, work and staging areas, and access roads to minimize Project-related disturbance.

GGAS-5 This comment requests that any silt removal required for the Project under the concrete bridge located just north of the Project site be scheduled to avoid the cliff swallow nesting period. The Project does not include any dredging of silt beneath the bridge separating South Lake and Impound Lake, where the cliff swallow colony has been historically located. Nevertheless, as discussed above, Project **Mitigation Measure 3.4-3**, Nesting Bird Protection Measures, would require

preconstruction surveys to identify active nests (including nesting colonies) in the Project vicinity and require implementation of avoidance measures if active nests (or nesting colonies) located within the Project's sphere of influence in order to reduce potential Project-related impacts on migratory and special-status birds.

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THE OLYMPIC CLUB

June 30, 2016

City of Daly City Department of Water and Wastewater Resources
Attention: Patrick Sweetland, Director
153 Lake Merced Boulevard
Daly City, CA 94015
Email: psweetland@dalycity.org

General Superintendent
Golden Gate National Recreation Area
Attention: Vista Grande Project
Fort Mason, Building 201
San Francisco, CA 94123
Email: goga_planning@nps.gov

SUBJECT: Comments on Joint Draft Environmental Impact Report and Environmental Impact Statement (EIR/EIS) for the proposed Vista Grande Drainage Basin Improvement Project (Project)

Dear Madame Superintendent and Mr. Sweetland:

In response to the Notice of Availability issued on April 28, 2016, The Olympic Club ("Olympic," or "Club") hereby submits its comments on the Joint Draft Environmental Impact Report and Environmental Impact Statement ("EIR/EIS") for the proposed Vista Grande Drainage Basin Improvement Project ("Project") for which the City of Daly City and the National Park Service ("NPS") are, respectively, the State CEQA law and the Federal NEPA law Lead Agencies. Please be advised that we are simultaneously sending this letter to you via United States mail and by e-mail to the address shown above.

Olympic owns the majority of the real property on, under, or adjacent to which the Project has been proposed. More specifically, other than real property which we understand to be owned by the NPS, and perhaps a small amount of land we understand is owned by San Francisco, Olympic believes it owns all of the land that will be utilized for the proposed Project, and most if not all of the privately held land the Project will in any way affect. The Club has particularly noted over the years that as the principal private property owner affected by the Project, Daly City and other project proponents need to view Olympic as a critical stakeholder, and to take its interests and concerns into account. The Club has appreciated the frequent good faith and open communication and dialog with Daly City and the other interested agencies, particularly including the San Francisco Public Utilities Commission ("SFPUC") over the years, and looks forward to continued and long-term good working relationships.

1

Olympic has been directly or indirectly involved with the proposed Project, or its direct antecedents, since at least 2006. Club representatives have participated in numerous meetings with officials and agents of both entities, and Olympic has offered comments and observations on a number of previous occasions. We have reviewed some of our past correspondence and find some of it to be relevant to the present Project proposal – particularly three letters which appear in the Appendices to the EIR/EIS, in Attachment C, at pages 174 to 191. They include Olympic's letters of October 19, 2007 to the SFPUC's Manager of Water Resources Planning, and of October 15, 2008 to the City Manager of Daly City. Much of the content of this comment letter parallels that contained in a June 7, 2013 letter from the Club's special counsel to the Superintendent of the Golden Gate National Recreation Area, a copy of which is also in Attachment C. Although each of the three previous letters dealt with a slightly different subject than the EIR/EIS, all three touched on issues which were and which remain of significant concern to the Club. We therefore respectfully incorporate the attached letters by reference as a part of these comments on the current EIR/EIS. This letter reiterates some of what appears there -- the reiteration is solely for emphasis on fundamental facts and concerns.

Olympic owns and operates two world-renowned golf courses along with a 9-hole par three course, and has a large and very active membership which utilizes these courses and the balance of the Club's Lake Merced property to their fullest extent. The Club has played host to the United States Open (i.e., the men's' national championship of American golf, and one of the world's four top annual golf events) on five occasions, the most recent of which was 2012. The Club is a candidate to be selected for another Open in the near future, and it has been particularly honored to be selected to host the 2021 U.S. Women's Open, which has the same worldwide level of high significance and prestige. Olympic hosted the inaugural United States Golf Association ("USGA") Amateur Four-Ball Championship in April 2015, and it has been the site of the U.S. Amateur Championship three times.

When an Open or other USGA event is held at Olympic, it is one of the most significant events of any type that occurs in the Bay Area in that year, with as many as 50,000 attendees per day for the four days of competition, and large numbers of people who attend pre-tournament practice rounds and related activities, many of which are hosted by leading national and international corporations. Television coverage prior to and during these events – especially the Opens -- is extensive, worldwide, and reaches a huge audience. Preparation for a Championship takes a number of years prior to the competition, and if neighboring construction or related activities have the potential to in any way delay or disrupt that work, the USGA may decide that the Championship be held elsewhere. Olympic therefore needs the maximum possible advance notice from the proponents of the proposed Project prior to the commencement of any site preparation or construction activities. 2

The Club has for many years expressed to both Daly City and San Francisco its concern the proposed Project should reflect coordinated and integrated water (and other) resources management by the two Cities, working with the various Federal and State regulatory agencies with which they must interact as well as with the communities, individuals, and other entities that any such undertaking might affect. After reviewing the EIR/EIS, Olympic believes that although Daly City and the SFPUC have made efforts to achieve such integrated planning, we remain somewhat uncertain as to whether it has been done in a comprehensive and completed manner. For example, we note that although the EIR/EIS contains a Lake Management Plan (Appendix A) which is said (in Para. 2.6.4 at page 2-31) to have been developed and agreed upon by the two Cities, and contains significant discussion of the 3

Lake Merced water surface elevation ("WSE") resulting from the proposed Project. But there also is reference in the document to a separate and subsequent determination of the actual WSE range to be made at some indefinite future time by the SFPUC (which owns and operates the Lake), and which reportedly will not occur until after the current EIR/EIS is completed (see, e.g., Para. 2.6.3 on page 2-30). That separate and subsequent determination will purportedly take into account the input of other San Francisco departments, the details of which are undisclosed and therefor currently unknown to readers of the EIR/EIS; one aspect of this uncertainty is Olympic does not now know whether the SFPUC or any other San Francisco department may need to do subsequent environmental analysis. The EIR/EIS is at least ambiguous as to whether and how the SFPUC will take this EIR/EIS and the Project proposal into account. Since the EIR/EIS focuses so heavily on how the proposed Project will be operated with regard to the resultant WSE, it is not clear whether the EIR/EIS accurately and completely discloses the environmental effects of the proposed Project. In environmental law terms, this appears to be a potential cumulative impacts disclosure matter. 3

Similarly, the Club is aware that the SFPUC is separately pursuing a water supply project involving conjunctive use of surface water and groundwater in areas generally south and east of Olympic's property. Daly City is certainly involved in that project effort, because it uses groundwater and water it purchases from the SFPUC's Hetch Hetchy system as the municipal water supply for its water service customers. That project, which is currently at least partially under construction (and which was the subject of an entirely separate environmental review), reportedly has the potential to have an impact on the WSE of Lake Merced. The EIR/EIS for the current Project is at least ambiguous as to whether the proposed Project has fully taken the conjunctive use project into account; e.g., if for some (perhaps not fully foreseen) reason the conjunctive use project's impacts on Lake Merced's WSE are less or greater than anticipated, might that require some modification in the Project operations described in the EIR/EIS in order to either put more or less water through the proposed treatment wetlands or to otherwise route more or less water through the Project into the Lake? Should something like that occur, Olympic is concerned that it is not quite sure to whom to turn if it has questions or concerns about the modified operations of facilities located on or immediately adjacent to its property. The EIR/EIS does little to dispel this type of uncertainty. 4

The proposed Project will involve the partial replacement of the Vista Grande Canal, construction of a "treatment wetlands" in or above a portion of the Canal, and replacement of the Vista Grande Tunnel. The Canal is on Olympic-owned property, over which San Francisco owns an easement we understand has been assigned to Daly City. It is immediately adjacent to large portions of the Club's Lake Course, the golf course used for the U.S. Open and the other significant tournaments. Olympic has concerns about both the Canal and wetlands aspects of the proposed Project.

During the construction phase of the proposed Project, the Club is not quite sure what it can expect in terms of the duration and extent of potential interference with its use and enjoyment, and that of its members and guests, of its property – particularly the Lake Course. It is Olympic's understanding the proposed Project's design has been completed to the 30% level, according to the designer who spoke at the May 26, 2016 meeting at Daly City's Council Chamber. Although we have reviewed those portions of the EIR/EIS that deal with the "footprint" of the proposed Project and anticipated construction techniques and impacts, the Club remains very concerned about details of how the 5

project will be built, how it will be isolated or screened from users of Club property. Areas of special concern insofar as Canal construction work is concerned include the work at the uppermost and lowest reaches of the Canal, where the most extensive work is likely to occur along the Canal, together with the other areas in which connections to other infrastructure will occur, and especially the area of the proposed wetlands. For example, where the connection between the modified Canal and the new Tunnel will take place at or near the downstream end of the Canal, we understand the EIR/EIS to suggest that the work areas involved may actually encroach into the golf course, but the extent and duration of any such encroachment is essentially unknown. 5

For those portions of construction of elements of the proposed Project that will be located on, under, or adjacent to Club property, Olympic believes that since the proposed Project is being solely undertaken by others, the Project proponents should bear full financial responsibility for a construction monitor or monitors to work on behalf of and at the direction of the Club. The purpose for this requirement is so that Olympic will have and independent trained presence to observe those aspects of construction that have potential to impact the Club. The details of any such arrangement will need to be worked out via negotiations, but Olympic believes that if Daly City's City Council decides to approve the Project, in so doing it should expressly commit to a working arrangement of this nature, at Daly City's expense. 6

Olympic remains particularly concerned about the wetlands element of the proposed Project. Olympic still does not have a clear picture of what it will mean to have a large constructed "treatment wetlands" on or adjacent to its property at the edge of its property.. Comments have periodically been made about concerns about aesthetics, odors, and insects, largely because Olympic is still unable to thoroughly describe to its members what this new facility would look (or smell) like. Olympic prides itself on being an excellent steward of the lands it owns, and has been recognized for that ethic and for vigorously implementing it – e.g., it has received certification by the International Audubon Society for its environmentally sensitive management practices. One component of such certification deals with use of best management practices with regard to safe and protective use of fertilizers and pesticides as a part of a successful golf course; Olympic is concerned that construction of the proposed wetlands immediately adjacent to its golf course not adversely restrict or otherwise impact its operations in this or any other regard. Establishment of a new sensitive habitat or facility on or adjacent to Olympic's property should not expressly or implicitly create any new form of liability, responsibility, or any other form of obligation for Olympic. Olympic would object to inclusion of provision for public access into its property as part of any treatment wetlands element of the proposed Project, primarily for safety, security, and environmental protection reasons. 7 8

Similarly, if the proposed wetlands should provide new or enhanced habitat for animal or plant species not now present on or adjacent to Olympic's property, the Club should not bear any responsibility whatsoever for such species, and the proponents of the proposed Project should expressly acknowledge and agree to permanently assume all such responsibility. The proponents should also be made expressly responsible for preventing any spread or migration of attracted species onto Olympic's property. Olympic should not have any responsibility for provision or establishment of any form of buffer between the proposed wetlands and Olympic's golf course, nor for any aspect of the physical, biological, chemical, hydrological or any other form of security for the wetlands or for any other portion of the Canal. For example, Olympic has its principal maintenance facility near the 9

uppermost portion of the Canal, and should not be limited or restricted in its use, maintenance, or replacement of its facilities as a result of the proposed wetlands or any other element of the proposed Project. 9

It is Olympic's understanding the proposed Project is intended to be able to cope with stormwater resulting from a storm that can be statistically predicted to occur once every 25 years, with the most concentrated rainfall coming in a 4-hour period. As it has noted several times in the past, Olympic is quite concerned about what will happen in a more severe storm, particularly in light of what Olympic understands to be the current scientific consensus about the types, magnitudes, and frequency of recurrence of storms that might be predicted as a result of climate change. In marked contrast to the 25-year storm design criterion, Olympic understands the 2004 storm event that resulted in significant flooding near the site of the proposed Project is believed by some experts to have been a 1000-year event. Olympic is aware the current Project proposal calls for construction of the proposed wetlands above the Canal, so that it would purportedly not be impacted by even the highest anticipated stormflows. In spite of this aspect of the current Project proposal, the Club still needs to know what is predicted to happen to the wetlands, the Canal, and Olympic's adjacent property if the facilities in the proposed Project are subjected to a more severe storm than the design criteria. The project proponents should expressly assume all responsibility for any impacts of stormflows that exceed the design criteria. The post-storm-wetlands are critical among Olympic's concerns (e.g., what will it look and smell like, and for how long?), and Olympic believes the proponents of the proposed Project must expressly accept all responsibility for cleaning up, restoring or remediating the site after any flood or similar incident affecting the proposed Project. In addition, the Club should be indemnified for damage to any other property damaged as a result of the damage that may occur. 10

Both the existing and proposed new Tunnel are/will be located under Olympic-owned property in which San Francisco owns an easement. The Club understands that easement was leased to Daly City in 2007, so that it could continue to operate and maintain the Tunnel, and the lease will expire in 2017. We are not aware of the details of the land transaction(s) between the two Cities intended to provide the necessary land rights to Daly City for the proposed Projects, or how it might impact Olympic. 11

Daly City's wastewater system also includes a treated wastewater "force main" 30 inches in diameter andoccupies still another easement under Olympic-owned property. Unlike the Canal and the Tunnel which are generally on, under, or adjacent to the periphery of Olympic's property, the force main crosses it diagonally. We understand the existing force main will be abandoned as part of the proposed Project, but we are now aware of whether that means it will be entirely abandoned in place, whether any portions of it may be removed or filled with sand, slurry, or some other material to reduce the chance of land subsidence should the abandoned pipeline collapse over time, or if/how surface features (e.g., air valves, access structures) of the existing line will be abandoned or removed. 12

Olympic is aware that Daly City is pursuing various governmental approvals and/or permits for the proposed Project, and is in that regard interacting with entities including (but certainly not limited to) the U.S. Army Corps of Engineers ("COE"), the Regional Water Quality Control Board, and the California Coastal Commission. Since several of those approvals/permits have not yet been issued, 13

Olympic is concerned that the ultimate actions might in some way imp-act the Club's interest, particularly with regard to its continued use and enjoyment of its property, including but now limited to its golf courses, without interruption or disruption. One example is the COE "wetlands delineation," which is important to understanding whether COE will assert jurisdiction over the proposed Project and the lands it will occupy or involve. We are aware that the COE determination of no jurisdiction was made in a letter received by Daly City in late April, 2016. However, by its terms, the letter made it clear that the COE determination is subject to revision after 5 years from the letter's date – since the letter was undated, the ambiguity and uncertainty that creates both for the Project proponents and for Olympic is quite obvious. Because of the inherent uncertainties, the Club has no choice but to reiterate that it anticipates that the Project proponents will expressly assume all responsibility for any changes in Project details or implementation that result from governmental approvals or permits that have not yet been issued. 13

Olympic is similarly aware that Daly City is now starting into the process of seeking funding sources for the proposed Project. In particular, at Daly City's request, the Club has indicated it will send a letter of support for Daly City's application for State bond funds for at least the planning stage of the proposed Project. Olympic hereby respectfully requests it be kept regularly informed with regard to Daly City's anticipated effort to obtain additional funding from either State or Federal sources. 14

We offer these comments in the spirit of cooperation, as part of the community directly affected by the on-going Vista Grande issues, and efforts to address them. Olympic appreciates the opportunity to provide these comments on the Joint Draft EIR/EIS. Olympic will continue to track and monitor Project planning and environmental documentation work, and reserves the right to make further comments when and if it deems that to be necessary.

Sincerely,

Patrick R. Finlen

Patrick R. Finlen
General Manager
The Olympic Club

PF/cp

3.8 Response to Comments from Olympic Club

Olympic-1 This comment asserts that the Olympic Club owns the majority of the real property on, under, or adjacent to which the project has been proposed, and that the Club is the principal private property owner affected by the Project. It is acknowledged that the Canal and a portion of land adjacent to the Canal is on a parcel of land owned by the Olympic Club, over which San Francisco owns an easement that has been assigned to Daly City. The land between the Olympic Club owned parcel, John Muir Drive, and Lake Merced are owned by the City and County of San Francisco. The City of Daly City will coordinate with the Olympic Club regarding any real estate interests or agreements necessary to implement the project, beyond those measures described in the EIR/EIS to avoid or reduce environmental effects, as further discussed in this response to comments.

Olympic-2 This comment requests maximum advanced notice prior to commencement of any site preparation or construction activities. The project proponent has an extensive history of engaging with stakeholders with regards to general project information, scoping, public outreach, and opportunities for comment since 2007 and will continue to hold public meetings and communicate with interested parties during project implementation. Construction of the proposed project is expected to begin in late 2017. As noted in **Table 2-2** on page 2-22 of the Draft EIR/EIS, construction of the Canal and its various components is expected to occur over 26 months. In addition, as discussed in **Mitigation Measure 3.15-1** on page 3.15-9, Daly City and/or its contractors would implement a Construction Traffic Management Plan that requires them to provide residents and/or facility owners adjacent to project construction areas with information in advance of the timing, location, and duration of construction activities in their area. The continuation of the overall stakeholder engagement process and required notification via **Mitigation Measure 3.15-1** would ensure maximum advanced notice prior to commencement of any site preparation or construction activities, as requested.

Olympic-3 This comment asks whether the SFPUC and other San Francisco departments would need to do subsequent environmental analysis to determine the target water surface elevation (WSE) for Lake Merced and how the SFPUC will take the Draft EIR/EIS into account in its determination.

The City of Daly City has solicited SFPUC staff input on their separate approval process. They indicate that no additional environmental review would be required by the SFPUC prior to selecting a target lake level range. SFPUC staff will make its recommendation to the SFPUC Commission regarding target lake levels following evaluation of potential impacts detailed in the Draft EIR/EIS. Following Daly City's certification of the Final EIR, the SFPUC as a responsible agency will review and consider the EIR/EIS, review the potential impacts of various target lake level ranges, and will review the staff recommendation for Lake Merced level range. After

considering the certified EIR/EIS and the staff recommendation, the SFPUC Commission would adopt and implement a Lake Merced Management Plan to manage the level of Lake Merced to the target water surface elevation.

Olympic-4 The comment states that it is unclear to the Olympic Club whether the EIR/EIS properly discloses the environmental effects of the proposed Project or whether potentially cumulative impacts are being disclosed in the document. See the response to Comment Trout-2 regarding environmental effects associated with operation of the proposed project at a range of Lake Merced water surface elevations. As discussed in that response, the effects of operations at any water surface elevation under consideration was assessed as part of the proposed project (rather than a cumulative action). Thus, the effects of operations at any anticipated water surface elevation have been disclosed as part of this EIR/EIS.

Olympic-5 This comment requests clarity regarding whether the proposed project has fully taken into account the impacts that SFPUC's current water supply project involving conjunctive use of surface water and groundwater could have on Lake Merced WSEs in terms of the modification of the volume of water routed into the lake. If operations are modified, the Olympic Club requests clarity regarding which entity to contact with questions or concerns. The Regional Groundwater Storage and Recovery (GSR) Project and the SFPUC Ground Water Supply Project (GSP) are identified in the Draft EIR/EIS as having the potential to cause impacts related to hydrology and water quality within Lake Merced. The potential for the GSR and GSP to cause impacts relating to hydrology and water quality within Lake Merced in a manner that could combine with those of the Project are analyzed and discussed in detail in the Draft EIR/EIS in Section 3.9.6, Cumulative Effects.

As described in detail in Section 3.9.6.4 (p. 3.9-130, *et seq*.), a model analysis for the cumulative scenario for the SFPUC projects and this project was completed that comprehensively assessed the cumulative effects on lake levels of adding consistent pumping in western San Francisco and the in-lieu recharge and pumping of the GSP and GSR Projects, respectively. The model analysis was based on a representative period of historical climatic conditions, including consideration of major droughts, to evaluate future WSEs in Lake Merced following implementation of the GSP and GSR projects both with and without diversions implemented as part of the Project. The model analysis was conducted in a manner that reasonably anticipated the range of potential WSEs that could occur in Lake Merced during long-term project operations, including major climatic variations (i.e., major drought and above average hydrologic years). The cumulative effect of the combined projects is generally lower lake levels than observed for the proposed Project alone, but still higher than the No Project Scenario (i.e., if no diversions to Lake Merced were implemented under the Project).

Additionally, as described in the Draft EIR/EIS and presented in full in Appendix A (p. A-1, *et seq*.), a Lake Management Plan is proposed as part of the Project that establishes a long-term hydrology and water quality monitoring, analysis, and reporting plan for Lake Merced that is integrated with Project operations. As part of the Lake Management Plan, WSE monitoring would be conducted to inform adaptive management planning and further actions (such as assessing diversion thresholds for stormwater diversions to Lake Merced from Vista Grande Canal) that may be implemented related to water quality and WSE objectives for Lake Merced. Hydrologic impacts to Lake Merced related to operation of the GSP and the GSR projects are assessed in detail in the San Francisco Groundwater Supply Project Final EIR (San Francisco, 2013) and the Groundwater Storage and Recovery Project Final EIR (San Francisco, 2014). As SFPUC manages Lake Merced as a whole, any concern regarding future operational changes associated with water surface elevation should be referred to SFPUC.

Olympic-6 This comment requests clarity regarding the extent and duration of construction that would be directly adjacent to or encroach onto Olympic Club property, and clarity on details of how project construction would be isolated or screened from Club users, in particular the areas of the uppermost and lower reaches of the Canal, and the constructed treatment wetlands. As shown in **Table 2-2** on page 2-22 of the EIR/EIS, construction of the Canal and its various components is expected to occur over 26 months, including 4.5 months of construction for the constructed treatment wetland and 4 months of construction time for the Lake Merced Portal. Construction is expected to begin in late 2017. As discussed in response to Comment Olympic-2, the project proponent will continue to hold public meetings and other outreach opportunities with interested parties during project implementation. The Draft EIR/EIS Project Description is based upon preliminary 30 percent design drawing and higher level design drawings are being developed that will be available for review as part of the regulatory permit application process, as noted in Draft EIR/EIS Section 2.11, Regulatory Requirements, Permits, and Approvals. This information will also be used in any required discussions regarding real estate interests or other agreements required for construction of project elements within the Olympic Club owned parcel (see response to Comment Olympic-1).

Regarding the question of how project construction would be isolated or screened from Club users, see EIR/EIS impact AES-1. As discussed, construction areas would be visible as viewers move past the project construction site; however, their viewing period would be brief as they move past the site. The same would be expected of Club users. Further, the golf course areas adjacent to the Canal are at a higher elevation than the Canal; and include trees that partially screen views to the north. No tree removal between the Canal and golf course is included as part of the project.

Olympic-7 This comment requests that the project proponents assume full financial responsibility for construction monitors who work on behalf of and at the direction of the Club in order to retain a presence to observe construction impacts to the Club. As discussed on page 1-3 of the EIR/EIS, the joint EIR/EIS is an informational document intended to inform both the decision makers and the public of the potentially significant environmental effects associated with the construction, operation, and long-term maintenance of the proposed stormwater management Project. As lead agency, Daly City is responsible for the scope, content, and legal adequacy of the document, and its role is to identify project objectives, potential impacts, and carry out identified mitigation measures via the Mitigation Monitoring and Reporting Program (MMRP). The EIR/EIS (and MMRP) require survey and monitoring of certain resources during project construction to ensure that substantial environmental impacts are avoided or reduced, such as, but not limited to, **Mitigation Measures 3.3-1** (Dust Control Plan Implementation) which requires monitoring during construction to ensure the watering of exposed surfaces, covering of trucks, and sweeping of visible mud or dirt onto adjacent public roads; **Mitigation Measures 3.4-6** (Implement Tree Protection Measures and Plant Replacement Trees), which requires the establishment of a tree protection zone by a certified arborist and monitoring during construction; **Mitigation Measures 3.4-7a** (Control Measures for Spread of Invasive Plants), which requires monitoring during construction to ensure that soil stockpiles are covered and that tools and equipment are cleaned; and **Mitigation Measures 3.11-1** which requires monitoring during construction to ensure that equipment and vehicles use best available noise-control techniques. In terms of any additional monitoring for purposes beyond protection of environmental resources, such as real estate interests, see the response to Comment Olympic-1.

Olympic-8 This comment requests clarity regarding the possible aesthetics, odors, and insect impacts that the treatment wetlands could have on the Olympic Club's property. As described in Section 3.2, Aesthetics on page 3.2-9, and shown in Photos 1 and 2 in **Figure 3.2-3**, Wetland Cell A would be located on the western side of John Muir Drive, in a currently unimproved area with a few shrubs. Wetland Cell B would be located on the western side of John Muir Drive in an open area with weedy vegetation (grasses) with utility poles and scattered trees and shrubs (see Photo 4 in **Figure 3.2-4**). As noted in Section 2.4.1.3, Constructed Treatment Wetland on page 2-9, the wetlands would be planted with emergent reeds such as cattails or bulrush. As discussed in on page 3.3-23, Impact AIR-4 concludes that the project would have a less than significant impact with regard to objectionable odors. The constructed wetlands would be operated using a recirculating pump, which would prevent water from stagnating in the treatment wetland cells. In addition, as discussed in Section 2.6.5, Project Maintenance, operation of the treatment wetlands would require mosquito control using bacterial methods and trash removal on an annual basis, harvesting of biomass approximately every 5 years,

and removal of silt and other organic material every 10 to 20 years. Therefore substantial decomposed organic material would not be present.

Overall, the wetlands are designed to be treatment wetlands for the purposes of stormwater and lake water treatment. They would not be considered jurisdictional waters or new areas of sensitive biological resources habitat. See the response to Comment Olympic-1 regarding other real estate interests, such as the Olympic Club's existing use of fertilizers and pesticides, creation of any form of obligation or liability, and continued use of existing facilities as currently occurs.

Olympic-9 This comment, discussing the Olympic Club's objection to the provision of public access into its property as part of any treatment wetlands element, is noted. No public use of the treatment wetlands is proposed, as discussed in response to Comment GGAS-3.

Olympic-10 This comment requests that the Olympic Club not be held responsible for any new animal or plant species that are not currently present on or adjacent to Olympic Club property that could become established as a result of the proposed wetlands, that the project proponents should permanently assume all such responsibility, and that existing use of facilities in the vicinity of the project be allowed to continue. See response to Comment GGAS-3, discussing the types of plants that would be included in the treatment wetlands and indicating composition of vegetation within the treatment wetlands is intentionally similar to the shoreline vegetation of Lake Merced, though on a much smaller scale, and would not provide unique habitat for local wildlife.

Olympic-11 This comment requests clarity regarding potential effects if the proposed project facilities are subject to a storm more severe than the 25-year, 4-hour storm design criteria. As discussed in Section 2.6.1, Management of Stormwater Flow, on pages 2-28 and 2-29 of the Draft EIR/EIS, the proposed project is conservatively sized to more than accommodate peak flows generated by the 25-year design storm, which is approximately 1,070 cfs. The box culvert alone would be designed to accommodate a minimum of 1,070 cfs, the Canal between the diversion structure and Tunnel portal would have a capacity of approximately 500 cfs, and the Tunnel would have a capacity of at least 500 cfs. The capacity leading up to the diversion structure is 1070 cfs, and the total capacity beyond the diversion structure is 1570 cfs. In addition, for storms exceeding the 25-year, 4-hour criteria, if screened storm flows meet diversion criteria after the initial storm event, flows exceeding the capacity of the treatment wetlands would be routed to Impound Lake. The treatment wetlands would have a negligible drainage basin, therefore large storms would have a negligible impact on the wetlands. If stormwater flows from the Vista Grande watershed exceed the combined capacity of Lake Merced and the Canal and Tunnel, Canal flows would overtop the Canal and the wetlands and flow across John Muir Drive to Lake Merced, as occurs under current conditions. Flows would

cross the existing hardscape areas (riprap) between John Muir Driver and South Lake. Inflows to the lake would result in overflows back to the Tunnel as capacity is available and would be discharged via the Ocean Outlet. This could temporarily raise lake levels above the target WSE, providing short-term storage during major storm events to reduce flooding in the Vista Grande Basin

As noted in comments Olympic-7 and Olympic-10, as the project proponent, Daly City is responsible for implementing the proposed project according to the provisions of required regulatory permits and CEQA and NEPA guidelines regarding the identification of construction and operational impacts to the environment, and the implementation of mitigation measures via the MMRP. Daly City therefore bears responsibility for the operation and maintenance of the proposed project and its components. See also the response to Comment Olympic-1.

Olympic-12 This comment requests clarity regarding the details of land transactions between San Francisco and Daly City with regards to the easement owned by San Francisco and leased to Daly City for the Olympic Club's land where the Tunnel is/would be located. The comment does not raise any issue concerning the adequacy or accuracy of the Draft EIR/DEIS. The comment is noted. As discussed in Section 2.4.2 Vista Grande Tunnel and East and West Portals on page 2-10 in the Draft EIR/EIS, San Francisco holds the tunnel easement and leases it to Daly City. As part of the Project, San Francisco would convey this easement to Daly City subject to a reserved drainage easement for Lake Merced. Daly City would replace the Tunnel within the easement, as amended and clarified through agreement with NPS. Daly City would also potentially seek a right-of-way permit or other authorization from NPS to accommodate any portions of the Project that lie outside of the easement(s). These easement updates and potential right-of-way permit or other authorization are within the scope of the Project.

Olympic-13 This comment requests clarity regarding how the 30-inch treated wastewater "force main" that runs diagonally under Olympic Club property will be abandoned and whether portions will be removed or filled to reduce the chance of subsidence (or settlement) in case of collapse. The force main is a 27-inch pipeline, as opposed to a 30-inch pipeline. The 27-inch force main pipeline that crosses under the Olympic Club will be abandoned in place and filled from available access points with materials to prevent collapse or settlement. This is preferable to replacement as it minimizes disruption. See also the response to Comment CSLC-13.

Olympic-14 This comment requests that project proponents assume all responsibility for changes in project details or implementation that could result from governmental approvals or permits that have not yet been issued. As noted in comments Olympic-6, Olympic-10, and Olympic-121, as the project proponent, Daly City is responsible for implementing the proposed project according to the provisions of required regulatory permits and CEQA and NEPA guidelines regarding the

identification of construction and operational impacts to the environment, and the implementation of mitigation measures via the MMRP. Daly City therefore bears responsibility for changes that could result from government approvals or permits that have not yet been issued. See also the response to Comment Olympic-1.

Olympic-15 This comment, requesting that the Olympic Club be kept informed of any efforts by the project proponents to obtain funding for the project from State or Federal sources, is noted. As discussed in comment Olympic-2, Daly City will continue to hold public meetings and engage in communication with interested parties throughout the project's lifetime, including updates regarding project schedule and funding.

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CHAPTER 4
Draft EIR/EIS Revisions

The following changes to the text of the Draft EIR/EIS are made in response to comments on the Draft EIR/EIS or are included to clarify the Draft EIR/EIS text. For each change, new language is double underlined, while deleted text is shown in ~~strikethough~~.

Executive Summary

As a staff-initiated text change, EIR/EIS Table ES-1, Comparison of Significant Impacts of Project to Impacts of Alternatives Under CEQA, has been revised:

Impact	Proposed Project	Tunnel Alignment Alternative	Canal Configuration Alternative	No Project/No Action Alternative
Greenhouse Gas Emissions and Climate Change				
Greenhouse gas emissions during construction	**Impact GHG-1:** Project construction could generate GHG emissions above regulatory thresholds. If tunnel drives are constructed concurrently, and/or if tunneling occurs on a 24-hour basis, total short-term construction-related GHG emissions would be above BAAQMD's quantitative threshold of 1,100 metric tons CO2e for non-stationary sources during construction year 2, a significant impact. (Less than Significant with Mitigation)	**Similar** The Tunnel Alignment Alternative would include similar construction characteristics and any differences in equipment used would result in a similar level of GHG emissions as the proposed Project during Construction year 2. (Less than Significant with Mitigation)	**Similar** Although construction of the collection box and box culvert would be eliminated, thereby reducing GHG emissions compared to the proposed Project, tunnel construction would occur, which would result in a significant impact during construction year 2. (Less than Significant with Mitigation)	**No Impact** No construction emissions would be generated, and operational emissions would not change. (No Impact)

Chapter 2, Project and Alternatives

In response to Comment USEPA-12, EIR/EIS page 2-12, paragraph 3 has been revised:

> This section details the construction locations, activities and methods for the proposed project. **Table 2-1** summarizes the proposed construction activities including demolition and tree removal; project component construction or demolition; excavation; spoils[2]

storage, waste diversion[3] and disposal, and dewatering activities; and installation of work/staging areas.

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2 "Spoils" refers to soil remaining from an excavation after backfilling is completed.
3 Diversion requirements set forth under Daly City Municipal Code 15.64.020 and San Francisco Ordinance No. 27-06.

As a staff-initiated change, EIR/EIS page 2-23, Table 2-3 has been revised:

TABLE 2-3
CONSTRUCTION EQUIPMENT USAGE BY PROJECT COMPONENT

Equipment	Construction Usage			
	Project Component	Number	Duration of Use (weeks)	Daily Use (hours/day)
Compactor (CAT 563)	Canal and Wetlands	1	26	6
Excavator with hammer (750 Hitachi)	Canal and Wetlands	1	~~18~~6	6
Excavator to clean ditch (CAT 320E L)	Canal and Wetlands	1	~~18~~30	6
Excavator (CAT 320E L)	Shaft/Ocean Outlet and Tunnel Portal	1	18	6
Loader (CAT 966 or 950)	Ocean Outlet and Tunnel Portal/Canal and Wetlands	1	20	8
Pile Driver	Shaft/Ocean Outlet and Tunnel Portal/Canal and Wetlands	1	18	8
Drill Rig	Ocean Outlet and Tunnel Portal	1	2	6
Concrete pump (75 HP)	Ocean Outlet	1	1	3
Loader (CAT 966 or 950)	Tunnel	1	72 to 160	8
Road Header (Alpine EBZ132) or mini-excavator	Tunnel	2 or 1[a]	28 to 112[a]	8 to16
Crane (150 ton)	Tunnel	1	72 to 160	12 to 24
Air Compressor	Tunnel	1	72 to 160	12 to 24
Ventilation Fan (100 HP)	Tunnel	2	72 to 160	12 to 24

NOTE:
[a] If tunnel drives are completed sequentially, one road header or mini excavator would be used for a total duration of 56 weeks (24-hour tunneling) or 112 weeks (daytime tunneling only). If tunnel drives are completed concurrently, two would be used for a duration of 28 weeks (24-hour tunneling) or 56 weeks (daytime tunneling only).

As a staff-initiated text change, EIR/EIS page 2-24, paragraph 2 has been revised:

Electricity demand during construction would be approximately 1,300 kilowatts (kW) and would be required for the shaft staging area only. For a conventional tunneling operation, the estimated minimum required power connection is about 3,000 kVA. Equipment included in this estimate includes roadheader or mini-excavator per tunnel drive; and

ancillary equipment consisting of shotcrete application equipment, a batch plant, a compressor, pumps, ventilation fans, water treatment facilities, shop equipment and warehouse, a change house, yard lighting, and office trailers. Temporary construction power would be provided to the staging area at Fort Funston via a temporary Pacific Gas & Electric (PG&E) service connection, or by using a portable diesel-powered generator. If a temporary PG&E service connection is used, a~~A~~n emergency power supply (generator) with the capacity to provide 1,000 kVA would be located on-site during construction.

In response to Comment CSLC-3, EIR/EIS page 2-26, paragraph 6 has been revised:

- **Ocean Outlet structure:** 300 cy of exposed brick and shotcrete lined tunnel and concrete structure to be demolished and disposed of. Approximately ~~140~~ 120 feet of 33-inch concrete pipe from the replacement of the submarine outfall pipeline to be disposed of.

As a staff-initiated text change, EIR/EIS page 2-72, paragraph 3 has been revised:

2.10 Lead Agency Preferred Alternative

Under NEPA, the "preferred alternative" is a preliminary indication of the Lead Agency's preference of action among the proposed action and alternatives. A NEPA Lead Agency may select a preferred alternative for a variety of reasons, including the agency's priorities, in addition to the environmental considerations discussed in the EIS. ~~Although the Lead Agency may identify a preferred alternative in the Draft EIS, the NPS has not yet identified its preference of action among the Proposed Action and alternatives, and will identify the preferred alternative in the Final EIR/EIS i~~In accordance with NEPA (40 CFR 1502.14(e)) and based on the assessment in this EIR/EIS, NPS has identified the proposed Project as the preferred alternative.

Section 3.3, Air Quality

As a staff-initiated text change, EIR/EIS page 3.3.19, Table 3.3-4 has been revised:

TABLE 3.3-4
CONSTRUCTION CRITERIA POLLUTANT EXHAUST EMISSIONS

Emissions Source	Average Daily Construction Emissions (pounds/day)			
	ROG	NOx	PM10	PM2.5
Construction Activities	~~2.8~~4.9	~~23.1~~20.0	~~1.5~~0.9	~~1.5~~0.9
Vehicle Trips	~~1.1~~0.7	~~21.5~~12.3	~~0.5~~0.3	~~0.4~~0.2
Average Daily (pounds/day)	**~~3.9~~5.6**	**~~44.6~~32.2**	**~~1.9~~1.2**	**~~1.9~~1.2**
BAAQMD Significance Threshold	54	54	82	54
Significant Impact?	No	No	No	No

NOTES: Emissions were estimated using emission factors from the Off-road emissions inventory database and EMFAC 2011. Numbers may not sum due to rounding. Refer to Appendix C for details on the emissions estimates.

As a staff-initiated text change, EIR/EIS page 3.3-24, Table 3.3-5 has been revised:

TABLE 3.3-5
NEPA-RELEVANT CONSTRUCTION CRITERIA POLLUTANT EMISSIONS OF THE PROPOSED PROJECT

Emissions Source	Total Annual Construction Emissions (tons/year)*			
	ROG	NOx	PM2.5	CO
Year 1				
Construction Activities	~~0.2~~0.1	~~1.8~~0.8	~~0.1~~0.0	~~1.1~~0.0
Vehicle Trips	~~0.1~~0.1	~~2.5~~2.2	~~0.0~~0.0	~~0.9~~0.0
Total Annual	**~~0.4~~0.3**	**~~4.3~~2.9**	**~~0.2~~0.1**	**~~2.0~~0.1**
De Minimis Level	100	100	100	100
Exceeds De Minimis Level?	No	No	No	No
Year 2				
Construction Activities	~~0.5~~1.1	~~4.1~~4.3	~~0.3~~0.2	~~2.8~~0.2
Vehicle Trips	~~0.2~~0.1	~~3.5~~1.6	~~0.1~~0.0	~~1.4~~0.0
Total Annual	**~~0.7~~1.2**	**~~7.5~~5.8**	**~~0.3~~0.2**	**~~4.2~~0.2**
De Minimis Level	100	100	100	100
Exceeds De Minimis Level?	No	No	No	No
Year 3				
Construction Activities	~~0.1~~0.3	~~1.2~~1.0	~~0.1~~0.0	~~0.8~~0.0
Vehicle Trips	~~0.0~~0.0	~~0.6~~0.0	~~0.0~~0.0	~~0.2~~0.0
Total Annual	**~~0.2~~0.3**	**~~1.8~~1.1**	**~~0.1~~0.0**	**~~1.0~~0.0**
De Minimis Level	100	100	100	100
Exceeds De Minimis Level?	No	No	No	No

* NOTE: numbers may not sum due to rounding. These annual construction emissions were estimated based on the conservative assumption that construction activities would commence in early 2016. Although this construction schedule no longer is feasible, the estimated emissions are conservative because construction in later years will benefit from a cleaner fleet of off-road equipment as a result of CARB's In-Use Offroad Diesel Vehicle Regulation, and the New Offroad Compression Ignition Diesel Engines and Equipment Program.

As a staff-initiated text change, EIR/EIS page 3.3-25, paragraph 4 has been revised:

> The Tunnel Alignment Alternative would have similar construction characteristics of the Project. The construction methods and duration to construct this alternative would not change compared to the Tunnel portion of the Project, as described in Chapter 2, except that a digger shield or micro tunnel boring machine would be used in place of a mini excavator. From an air quality perspective, this would represent replacing one type of equipment ~~diesel engine~~ with another, and the power requirements and resulting criteria pollutant emissions would be similar. Both types of equipment engines would operate over the same construction phase duration and have similar engine load factors and would not meaningfully change the emissions estimated for the proposed Project which are primarily determined by these characteristics.

Section 3.4, Biological Resources

As a staff-initiated text change, EIR/EIS page 3.4-19, paragraph 3 has been revised:

> Daly City's environmental consultant (ESA) conducted a formal wetland delineation for federally jurisdictional wetlands and waters in November and December of 2012 (ESA, 2014). The field delineation identified and documented all potentially jurisdictional wetlands and other waters of the U.S. within the delineation study area. This wetland delineation found that within the study area, potential federally jurisdictional features include: Lake Merced, a freshwater lake used for recreational fishing and boating and thus, a Traditionally Navigable Water (TNW), and its adjacent wetlands; ~~Vista Grande Canal, a man-made, brick-lined channel constructed in dry land to capture and divert perennial stormwater and authorized non-storm water flows to the Vista Grande Tunnel and out to the Pacific Ocean (a TNW);~~ and the Pacific Ocean below the high tide line (HTL) at Fort Funston. With the exception of the Vista Grande Canal, which was determined by the Corps to be non-jurisdictional (USACE, 2016), ~~T~~the federal wetland delineation has not yet been verified by the Corps and should be considered preliminary until verification in writing is received from the Corps.

As a staff-initiated text change, EIR/EIS page 3.4-67, paragraphs 4 and 5 have been revised:

> As discussed in Section 3.4.1.5, potential jurisdictional features occur within the Project site, which have not been verified as such by regulatory agencies, with the exception of the Corps disavowing its jurisdiction over Vista Grande Canal. For the purpose of this Project analysis, these features are treated as potentially affected federal jurisdictional wetlands and other waters. Project impacts to these potentially jurisdictional features would involve temporary and permanent discharges of structures and/or fill within waters and wetlands, and/or alterations of the bed and/or banks of a lake or stream, to accommodate Project activities.
>
> Potentially jurisdictional wetlands and other waters would be affected by the placement of permanent or temporary fill material associated with ~~the installation of the collection box and box culvert at the headworks of the Vista Grande Canal, installation of the diversion structure within the Vista Grande Canal,~~ construction of the Lake Merced outlet structure in Impound Lake, ~~construction of the temporary access ramp at the downstream end of the Canal,~~ replacement of the Lake Merced overflow structure in South Lake, and use of the temporary beach access route. ~~Approximately 1,500 feet of the 3,600-foot Canal(potentially jurisdictional other waters) would be replaced.~~ The total area of permanent impacts is expected to be less than 0.5 acre.

As a staff-initiated text change, EIR/EIS page 3.4-68, paragraph 2 has been revised:

> Within the Project area, wetlands and other waters of the U.S. are regulated under Section 404 of the Clean Water Act. Because of the small area of permanent impacts to wetlands and other waters of the U.S. (less than 0.5 acre) the project will be authorized under the

Nationwide Permit (NWP) Program, likely under NWP #7 (Outfall Structures and Associated Intake Structures), NWP #13 (Bank Stabilization), NWP #33 (Temporary Construction, Access and Dewatering), or NWP #43 (Stormwater Facilities), or a combination thereof, to be determine by the Corps.~~, and n~~ Navigable waters are regulated by a Letter of Permission under Section 10 of the Rivers and Harbors Act.

As a staff-initiated text change, EIR/EIS page 3.4-68, Table 4.3-3 has been revised:

TABLE 3.4-3
IMPACTS TO POTENTIAL FEDERALLY JURISDICTIONAL WETLANDS AND WATERS

Feature Type/Name	Impact Type	Preliminary Regulatory Jurisdiction
Waters		
Lake Merced	Temporary and permanent loss Permanent gain	Corps (Section 404 CWA, Section 10 RHA), RWQCB (Section 401, P-C), CCC jurisdiction, CDFW Section 1600
Vista Grande Canal	Permanent loss	~~Corps (Section 404 CWA),~~ RWQCB (~~Section 401,~~ P-C), CDFW Section 1600
Pacific Ocean	Temporary and permanent loss	Corps (Section 404 CWA, Section 10 RHA), RWQCB (Section 401, P-C), CCC jurisdiction
Beach at Fort Funston	Temporary and permanent loss	Corps (Section 404 CWA, Section 10 RHA), RWQCB (Section 401, P-C), CCC jurisdiction
Wetlands (Lake Merced)		
Bulrush Wetland (BW)	Temporary and possibly permanent loss	Corps, CCC, RWQCB (Section 401, P-C), CDFW Section 1600
Knotweed Wetland (KW)	Temporary and possibly permanent loss	Corps, CCC, RWQCB (Section 401, P-C), CDFW Section 1600
Arroyo Willow Wetland (AWW)	Temporary and possibly permanent loss	Corps, CCC, CDFW Section 1600

SOURCE: ESA, 2014

As a staff-initiated text change, EIR/EIS page 3.4-133 has been revised:

U.S. Army Corps of Engineers (USACE), 2016. Letter Correspondence determination regarding the Vista Grande Canal as a non-jurisdictional feature. Received April 29, 2016.

Section 3.5, Cultural Resources

As a staff-initiated text change, EIR/EIS page 3.5-34, paragraph 3 has been revised:

Although approximately 58 percent or about 2,100 feet of the Canal would remain intact after completion of the Project, the Project would demolish the remaining 1,500 feet of the Canal and all of the 3,000-foot-long Tunnel, thereby substantially affecting of the vast majority (6~~9~~8 percent) of the Vista Grande Canal and Tunnel as an entire drainage system.

Section 3.6, Geology and Soils

A discussion of the California Building Code (CBD) begins on page 3.6-16 of the EIR/EIS. It is acknowledged that the ASCE/SEI has updated their seismic standards since the publishing of the Draft EIR/EIS from ASCE 7-10 to ASCE 7-16. The 2016 edition of the CBD was published by the California Building Standards Commission on July 1, 2016, effective January 1, 2017.

Section 3.7, Greenhouse Gas Emissions and Climate Change

As a staff-initiated text change, EIR/EIS page 3.7-10, paragraph 2 has been revised:

> During Project construction, construction equipment, trucks, worker vehicles, and ground-disturbing activities would generate GHG emissions directly. The construction equipment inventory and use assumptions input to estimate construction emissions were developed based on the assumed weekly construction schedule for the Project combined with equipment types and duration of use information provided by Daly City. Construction of the Canal is expected to occur ~~for almost the full 28 months of total Project construction~~over approximately the first year of Project construction. Tunnel construction would occur for ~~21~~ 17 to 37 months and would occur concurrently with construction of the Ocean Outlet, which is expected to last 5.5 months. Construction activities would include site demolition, tree and vegetation removal, excavation, tunneling, grading, pile driving, drilling, backfilling, and material loading.

As a staff-initiated text change, EIR/EIS page 3.7-10, Impact GHG-1 has been revised:

a) Impact GHG-1: Project construction and operation would generate GHG emissions. (Less than Significant with Mitigation)

As a staff-initiated text change, EIR/EIS page 3.7-11, Table 3.7-2 has been revised:

TABLE 3.7-2
CONSTRUCTION-RELATED GHG EMISSIONS (METRIC TONS CO_2E)

Construction Activity Source	Year 1	Year 2	Year 3
Off-road Equipment Emissions	~~175.1~~192.4	~~436.0~~1,575.8	~~119.5~~393.7
Vehicle Emissions	~~845.3~~700.7	~~550.1~~622.4	~~97.9~~41.9
Total Construction Emissions	~~1,020.4~~893.1	~~986.1~~**2,198.2**	~~217.3~~435.5
Significance Threshold	1,100.0	1,100.0	1,100.0
Significant Impact?	**No**	**~~No~~Yes**	**No**

As a staff-initiated text change, EIR/EIS page 3.7-11, paragraphs 3 and 4 have been revised and a mitigation measure has been added:

As indicated in Table 3.7-2, total short-term Project construction-related GHG emissions would be ~~at most 1,020 metric tons CO2e per year, which is lower than~~below BAAQMD's quantitative threshold of 1,100 metric tons CO2e per year for non-stationary sources in construction years 1 and 3, but would be above this threshold during year 2. Therefore, GHG emissions from Project construction are considered ~~*less than*~~ *significant* during year 2.

The estimates provided in Table 3.7-2 reflect the most intensive construction schedule among the possible options related to tunneling (i.e., concurrent tunnel drive construction, 24 hours per day). Some of the emissions estimated to occur in year~~s 1 and~~ 2 ~~likely~~ would be displaced into year 3 and potentially a fourth year of construction if the tunnel drives were constructed sequentially and/or if tunnel construction was limited to between 7:00 a.m. and 7:00 p.m. because construction would be spread out over a greater number of months (up to 44 months in total; see Table 2-2). The overall total construction emissions would be similar, but less intensive construction would result in lower annual emissions. If the least intensive construction schedule is implemented (i.e., subsequent tunnel drive construction, 12 hours per day), annual emissions would be below the annual threshold during each construction year and would be less than significant. ~~Under all circumstances, i~~Impacts associated with construction-related GHG emissions would be ~~*less than*~~ *significant* if tunnel drives are constructed concurrently, if tunneling occurs on a 24-hour basis, or both. ~~.~~Implementation of Mitigation Measure 3.7-1 would reduce the impact associated with construction-related GHG emissions to a *less-than-significant* level.

Mitigation Measure 3.7-1: Greenhouse Gas Emission Reduction

Daly City and/or its contractor(s) shall implement the following measures to reduce greenhouse gas emissions from construction:

1. On-road vehicle idling time shall be minimized and shall not exceed a 5-minute maximum. Additionally, off-road engines shall not idle for longer than 5 minutes, per Section 2449(d)(3) of Title 13, Article 4.10, Chapter 9 of the California Code of Regulations. Clear signage of this requirement shall be provided for construction workers at all access points to construction areas.

2. Utilize B20 biodiesel for generator fueling to reduce greenhouse gas emissions of generator operation by approximately 20 percent.

3. Following finalization of project design and construction phasing, but prior to the start of construction activities, Daly City and/or its contractors shall use best available modeling tools to estimate annual greenhouse gas emissions resulting from construction. After accounting for the use of B20 biodiesel as under Item 2, Daly City shall purchase carbon offsets in the amount that construction emissions would exceed the greenhouse gas emissions significance threshold of 1,100 MT/CO2-equivalent per year from an accredited source.

As a staff-initiated text change, EIR/EIS page 3.7-11, paragraph 5 (continuing on page 3.7-12) has been revised:

> Once construction is complete, the Project would result in negligible new sources of GHG emissions. GHG emissions would result from the use of a vacuum truck to clean the debris screening device, from vehicles required during other annual maintenance activities, from electricity used to pump water to the wetlands, and from periodic replacement of the Ocean Outlet (approximately 25 years) as bluff erosion proceeds. However, the Project also would allow Daly City to discontinue pumping treated effluent from the Wastewater Treatment Plant through the force main during wet weather because it would accommodate the use of the gravity pipeline during wet weather. This would eliminate the GHG emissions associated with electricity used to power the pumps that supply water to the force main when needed. Additionally, the LMP includes an operational plan for the proposed Vista Grande diversions, a water quality monitoring plan, and best management practices that could result in occasional maintenance vehicle trips. Therefore, there would be a negligible net change in long-term baseline conditions as a result of the Project, and the long-term operational impact with respect to GHG emissions would be *less than significant.*
>
> **Significance after Mitigation:** Less than significant.
>
> ~~**Mitigation**: None required.~~

As a staff-initiated text change, on EIR/EIS page 3.7-12, the first full paragraph has been revised:

> The 25,000 metric tons CO2e threshold for adverse environmental impacts is described in Section 3.7.3.2. As shown in Table 3.7-2, construction-related GHG emissions would be below this federal reporting threshold for all years (up to ~~4~~ 9 percent of the threshold in the ~~first~~ second year). Therefore, the Project would have a minor adverse impact with regard to construction related GHG emissions. As described above, operational GHG emissions which would result from the use of electricity to power seasonal pump and diversion gate operations and from occasional vehicle trips to perform maintenance operations would not be a daily occurrence and would generate negligible GHG emissions (less than 1 percent of the threshold). Therefore the Project would have a negligible impact with regard to operational GHG emissions.

As a staff-initiated text change, on EIR/EIS page 3.7-12, the third full paragraph (continuing on page 3.7-13) has been revised:

> The Tunnel Alignment Alternative would have many similar construction characteristics of the Project. The general construction methods and duration required to construct the Tunnel Alignment Alternative would not change compared to the Tunnel portion of the proposed Project, as described in Chapter 2. The details of the construction activities and methods for the Project, which would be the substantially similar to those of the Tunnel Alignment Alternative with the exception that a digger shield or micro tunnel boring

machine would be used in place of a mini excavator, are summarized in Table 2-1 and include demolition; alternative component construction or demolition; excavation; spoils storage, diversion, and disposal and dewatering activities; and installation of work/staging areas. From a GHG emission perspective, use of a digger shield or micro tunnel boring machine in place of a mini excavator would represent replacing one type of ~~diesel engine~~equipment with another, and the power requirements and resulting greenhouse gas emissions would be similar. Both types of equipment engines would operate over the same construction phase duration and have similar engine load factors and would not meaningfully change the GHG emissions estimated for the proposed Project which are primarily determined by these characteristics.

As a staff-initiated text change, on EIR/EIS page 3.7-13, the first full paragraph has been revised:

The Tunnel Alignment Alternative would require a reduced volume of materials to be off-hauled as compared to the Project, which would reduce the number of truck trips required and their associated GHG emissions. However, this reduction in the number of truck trips would not reduce GHG emissions in construction year 2 to below ~~Like the Project, the Tunnel Alignment Alternative would have annual construction-related GHG emissions that would not exceed~~ the BAAQMD's significance threshold, and the Tunnel Alignment Alternative would result in a significant impact during construction year 2, like the proposed Project~~s~~. Mitigation Measure 3.7-1 would be required for construction of the Tunnel Alignment Alternative. ~~Therefore,~~With implementation of mitigation, construction-related GHG emissions associated with the Tunnel Alignment Alternative would be *less than significant*.

As a staff-initiated text change, on EIR/EIS page 3.7-13, the fourth full paragraph has been revised:

The Tunnel Alignment Alternative would require a reduced volume of materials to be off-hauled as compared to the Project, which would reduce the number of truck trips required and their associated emissions. Like the Project, the Tunnel Alignment Alternative would have annual construction-related GHG emissions that would be below the federal reporting threshold for all years (up to 9 ~~4~~ percent of the 25,000-ton reporting threshold). Operational GHG emissions resulting from the use of electricity to power seasonal pump and diversion gate operations and from occasional vehicle trips to perform maintenance operations would not be a daily occurrence and would generate negligible GHG emissions (less than 1 percent of the 25,000-ton reporting threshold). Therefore, this alternative would have a minor adverse impact with regard to GHG emissions during construction, and a negligible impact during operation and maintenance.

As a staff-initiated text change, on EIR/EIS page 3.7-14, the first full paragraph has been revised:

The construction methods and duration to construct this alternative would not change substantially compared to the Project, as described in Chapter 2 except that the collection box and box culvert would not be installed. This would result in reduced duration of

construction activity as removal of approximately 1,500 feet of the canal structure and installation of box culverts described for the proposed Project would not occur, resulting in fewer annual emissions. Additionally, truck transport of excavated materials and clean fill associated with the box culvert would not be required under this alternative that would occur under the proposed Project, also reducing annual emissions. ~~Like the Project,~~ Because the Canal Configuration Alternative would be paired with either the proposed tunnel construction or construction of the Tunnel Alignment Alternative, it would be a component of the overall construction that would result in a significant impact during construction year 2, like the proposed Project. Mitigation Measure 3.7-1 would be required to reduce ~~have annual construction-related GHG emissions that would not exceed the BAAQMD's significance thresholds. Therefore,~~ construction-related GHG emissions associated with the ~~Tunnel Alignment~~Canal Configuration Alternative and either tunnel option to~~would be~~ *less than significant*.

As a staff-initiated text change, on EIR/EIS page 3.7-14, the third full paragraph has been revised:

The construction methods and duration to construct the Canal Configuration Alternative would not change compared to the Project. Construction emissions under the Canal Configuration Alternative would be reduced compared to those presented in Table 3.7-3 for the Project because of the reduced amount of excavation and construction associated with the elimination of the collection box and box culvert. Consequently, like the Project, the Canal Configuration Alternative would have annual construction-related GHG emissions that would be below the federal reporting threshold for all years (less than 9~~4~~ percent of the 25,000-ton reporting threshold). Operational GHG emissions resulting from the use of electricity to power seasonal pump and diversion gate operations and from occasional vehicle trips to perform maintenance operations would not be a daily occurrence and would generate negligible GHG emissions (less than 1 percent of the 25,000-ton reporting threshold). Therefore, this alternative would have a minor adverse impact with regard to GHG emissions during construction, and a negligible impact during operation and maintenance.

As a staff-initiated text change, EIR/EIS page 3.7-15, paragraph 2 has been revised:

GHG emissions are inherently a cumulative concern because it is the accumulation of GHG emissions in the atmosphere around the earth that results in global climate change; therefore, the geographic scope of cumulative impacts related to GHG emissions and climate change is global. The Project would result in ~~minor~~ short-term GHG emissions during construction that would ~~be below~~exceed the applicable CEQA threshold~~s developed by BAAQMD~~during construction year 2, but would be reduced to below this threshold with implementation of Mitigation Measure 3.7-1, and would have negligible long-term GHG emissions during operation. The Project would not conflict with the state's GHG reduction goals, and as described in Section 3.7.3.3, Criteria and Thresholds with No Impact or Not Applicable, would support the goals of the Climate Change Scoping Plan. The Tunnel Alignment Alternative and Canal Configuration Alternative

would result in reduced construction emissions, but would still exceed the applicable CEQA threshold during construction year 2 and require implementation of Mitigation Measure 3.7-1. ~~and~~These alternatives would have substantially similar operation and maintenance emissions compared to the Project. Therefore, they would not conflict with the state's GHG reduction goals, and they would support the Climate Change Scoping Plan. The No Project/No Action alternative would not result in substantial GHG emissions. All of the cumulative projects described in Table 3.1-1 in Section 3.1, *Introduction and Overview*, could contribute to global warming due to the generation of short-term and/or long-term GHG emissions. If GHG emissions continue globally such that climate change results in the impacts described in Section 3.7.1.1, the overall global cumulative impact would be *significant* and adverse. However, the Project's and the alternatives' contributions to this impact would not be cumulatively considerable because implementation of Mitigation Measure 3.7-1 would reduce emissions to below all applicable thresholds.

Section 3.9, Hydrology and Water Quality

In response to Comment USEPA-13, EIR/EIS page 3.9-1, paragraph 3 (continuing on page 3.9-2) has been revised:

The study area is located within the San Francisco Coastal South Watershed (USEPA, 2015), which extends from western San Francisco to the southern end of San Mateo County. Lake Merced, the major surface freshwater feature in the study area, is a naturally occurring lake located approximately 0.25 mile from the Pacific Ocean in the southwestern corner of San Francisco. The proposed Project components are all located within the Lake Merced urban watershed, one of eight distinct urban watersheds within the City and County of San Francisco (San Francisco). A natural watershed is the land area that drains to a single body of water such as a stream, lake, wetland, or estuary, whereas an urban watershed can replace overland sheet flow to natural tributaries with constructed storm and sewer systems that separately collect and convey flows. Storm and authorized non-storm flows[1] (also referred to as exempt and conditionally exempt discharges under the Municipal Regional Stormwater Permit, RWQCB Order ~~R2-2009-0074~~ R2-2015-0049) within the urban watersheds on the western side of San Francisco, including the Lake Merced urban watershed, flow toward the Pacific Ocean through constructed stormwater conveyance systems.

[1] Authorized non-stormwater discharges (also called exempt and conditionally exempt discharges) are described in detail in Section C.15 of the Municipal Regional Stormwater NPDES Permit, RWQCB Order No. ~~R2-2009-0074~~ R2-2015-0049; detail in Section C.15 of the Municipal Regional Stormwater NPDES Permit, RWQCB Order No. ~~R2-2009-0074~~ R2-2015-0049; examples include pumped groundwater, runoff from landscape irrigation, water from foundation drains, air conditioning condensate, water from residential car washing activities, and the like.

In response to Comment USEPA-13, EIR/EIS page 3.9-49, paragraph 4 has been revised:

> Stormwater runoff and authorized non-storm flows (conditionally exempt discharges) from Daly City and the other San Mateo County cities have been regulated under MS4 NPDES permits since 1993. These MS4 permits, including the current Municipal Regional Permit, RWQCB Order No. ~~R2-2009-0074~~ R2-2015-0049 (MRP), re-issued by the Water Board on November 19, 2015, to regulate stormwater discharges from municipalities and local agencies in San Mateo County, have contained increasingly prescriptive requirements, typically in the form of enhanced BMPs.

In response to Comment USEPA-13, EIR/EIS page 3.9-87, paragraph 3 has been revised:

> To assess the direct and indirect long-term impacts of Project operations on Lake Merced water quality, a detailed Project-specific WQA was developed (ESA, 2015). The WQA presents analysis of the potential changes to Lake Merced existing conditions as a result of Project operations and incorporates the hydrologic context of Project operations, such as the relative volume of Canal flows as compared to overall lake volume. Additionally, as part of the analysis of potential water quality effects to Lake Merced, the water quality of Canal flows were considered within the context of proposed physical and operational Project elements (such as the screening device, the treatment wetlands, and the diversion protocols), as well as regulatory controls[12] to urban runoff water quality.

[12] As discussed in detail in the WQA and in Section 3.9.2, the existing and proposed diversions of flows from the Vista Grande Canal to Lake Merced are covered under the existing MS4 NPDES permit, called the MRP, RWQCB Order No. ~~R2-2009-0074~~ R2-2015-0049. No additional NPDES permits are needed for Project operation. The operational protocols and the use of in-lake management actions and BMPs proposed as part of the Project are described in Section 2.6.1 and 2.6.2, respectively.

As a staff-initiated text change, EIR/EIS page 3.9-112, a new second paragraph has been included:

> Altering erosion rates and patterns, increasing local scour, and reducing the vertical beach profile at and beyond the project site as a result of reflected wave energy from the proposed wing walls (as described above) could further adversely affect the efforts of ongoing beach nourishment projects being conducted in the project vicinity. The SFPUC, in cooperation with the NPS, is conducting annual sand management activities at south Ocean Beach in an area between Sloat Boulevard and Fort Funston to address severe coastal erosion threatens local highway infrastructure and public access (NPS, 2016; CCC, 2015b). Such beach nourishment efforts have involved the annual placement of up to 100,000 cubic yards of sand. Additionally, the USACE, in cooperation with the City of San Francisco and the U.S. Geologic Survey, has been beneficially reusing dredge material (sand only) in the vicinity of Sloat Boulevard to reduce ongoing severe erosion along southern Ocean Beach (USACE, 2011, 2013). As part of this effort, the USACE has placed dredge material along southern Ocean Beach directly and off shore in the near shore area in the vicinity of the Sloat Boulevard parking area. Such beach nourishment efforts are continuing and predicted to continue for the foreseeable future. The proposed

wing walls would be constructed approximately 0.75 miles from sand placement locations associated with local beach nourishment efforts and could locally alter erosion rates as well as sand transport and distribution patterns in a manner that reduces the efficacy of such efforts aimed at reducing local severe coastal erosion rates.

As a staff-initiated text change, EIR/EIS page 3.9-133, paragraph 1 has been revised:

One project was identified as having the potential to cause impacts relating to coastal processes and erosion that could combine with those of the Project: the Ocean Beach Master Plan. The Ocean Beach Master Plan presents recommendations for the management and protection of San Francisco's Ocean Beach, a 3.5-mile stretch of beach north of Fort Funston. The plan includes recommendations for rerouting the Great Highway behind the San Francisco Zoo via Sloat and Skyline Boulevards and restoring dunes through sand replenishment. Prior to implementation of the Ocean Beach Master Plan, beach nourishment efforts, involving the placement of sand at locations along south Ocean Beach (approximately 0.75 miles from the proposed wing walls), have occurred and continue as an interim solution for the erosion issues at Ocean Beach (described in detail under Impact HYD-9). As described under Impact HYD-9, the proposed Project could result in the alteration of coastal processes that would result in a potentially *significant and unavoidable* coastal erosion impact. Additionally, the proposed Project wing wall structure could increase reflected wave energy resulting in increased local scour and subsequent reduction of the beach vertical profile as well as alteration of local sand transport rates and patterns. The Project's contribution to this potentially *significant* cumulative impact would be cumulatively considerable because the Project could exacerbate the effects of coastal erosion as a result of alterations to the local shoreline proposed as part of the Ocean Beach Master Plan. However, **Mitigation Measure 3.9-2, Comprehensive Coastal Engineering Investigation and Implementation of Recommendations**, ~~would reduce this potential impact to a *less than significant* level by requiring~~ require Daly City to complete and implement the recommendations of a Project-specific coastal engineering study consistent with the requirements of California Coastal Commission draft policy guidance relating to sea-level rise as relevant to coastal development. Such a study would require a site-specific hazard analysis that includes assessment of the cumulative effects of the Project on coastal process elements, such as erosion and wave reflection, with applicable existing or future projects, including (at a minimum) the adjacent SFPUC structures, the Ocean Beach Master Plan, and other existing outfall structures in the area. With implementation of Mitigation Measure 3.9-2, the Project's contribution to the cumulative impact on coastal erosion would not be cumulatively considerable.

As a staff-initiated text change, the following references have been added to Section 3.9, Hydrology and Water Quality:

California Coastal Commission, 2015b. Staff Report (Th14b), application number 2-15-1357 for annual movement of up to 100,000 cubic yards of sand from North Ocean Beach to South Ocean Beach.

NPS, 2016. Ocean Beach Erosion Protection Measures – Immediate Action Plan. [https://parkplanning.nps.gov/projectHome.cfm?parkID=303&projectID=59587] Accessed October 12, 2016.

U.S. Army Corps of Engineers (USACE), 2011. Report of Dredging and Placement of Dredged Material in San Francisco Bay in 2010. Dredged Material Management Office (DMMO), Long Term Management Strategy.

USACE, 2013. Dredging and Placement of Dredged Material in San Francisco Bay. Dredged Material Management Office (DMMO), Long Term Management Strategy. January-December 2012 Report.

Section 3.11, Noise and Vibration

As a staff-initiated text change, EIR/EIS page 3.11-13, Table 3.11-3 has been revised:

TABLE 3.11-3
TYPICAL NOISE LEVELS FROM CONSTRUCTION EQUIPMENT

Construction Equipment	Noise Level[a] (dBA, L_{eq} at 50 Feet)
Excavator	81
Compactor	83
Impact or Vibratory Pile Driver	101
Crane	81
Loader	79
Drill Rig	79
Air Compressor	78
Ventilation Fan	79
Dump truck	76
Generator	81

dBA = A-weighted decibels, Lmax = maximum noise exposure level for the given time period

[a] Maximum noise levels correspond to a distance of 50 feet from the noisiest piece of equipment associated with a given piece of construction equipment.

SOURCE: FHWA, 2006

As a staff-initiated text change, EIR/EIS page 3.11-15, paragraph 1 has been revised:

The Project's ongoing non-impact Tunnel construction activities occurring over a period of approximately 17 to 37 months would result in noise levels up to ~~77~~ 80 dBA immediately outside the staging area fence line, decreasing to approximately ~~71~~ 73 dBA along the Sunset Trail extending south from the parking lot, and to ~~59~~ 62 dBA or lower along the portion of the Sunset Trail extending north from the parking lot. Non-impact construction noise would attenuate such that it is indistinguishable from ambient noise from Battery Davis northward, but may be audible above ambient noise in other portions of Fort Funston. For areas closest to the construction staging area, this could result in a substantial temporary increase above noise levels existing without the Project, a potentially significant impact.

As a staff-initiated text change, EIR/EIS page 3.11-15, the third bullet point of Mitigation Measure 3.11-1 has been revised:

- Stationary construction noise sources shall be located as far from adjacent residential receptors as possible. Stationary noise-generating construction equipment shall be muffled and enclosed within temporary sheds, incorporate insulation barriers, and/or controlled using other measures to the extent this does not interfere with construction purposes. Specifically, any generator used on site shall be muffled using an acoustical enclosure.

Section 3.15, Transportation and Traffic

In response to Comment Caltrans-4, EIR/EIS page 3.15-3, paragraph 7 (continuing on page 3.15-4) has been revised:

> Caltrans' construction practices require temporary traffic control planning "during any time the normal function of a roadway is suspended" (Caltrans, 2012). Furthermore, Caltrans requires that permits be obtained for transportation of oversized loads and transportation of certain materials, and for construction-related traffic disturbance. Project construction and maintenance activities would not occur on state highways or highway rights-of-way; state roadways would be used solely as access routes for construction workers and construction vehicles. However, the tunnel portion of the project would be excavated under SR 35. Therefore, Caltrans encroachment permits would ~~not~~ be required. Further, oversized vehicles (by weight, height, length, or width) or vehicles carrying hazardous materials that require Caltrans permits would not be used. Caltrans' facilities that are likely to be used as access routes by construction workers and construction vehicles to the planned work sites include: SR 1, SR 35, and I-280 (described above).

In response to Comment CSLC-11, Mitigation Measure 3.15-1 on EIR/EIS page 3.15-9 (continuing on page 3.15-10) has been revised:

> **Mitigation Measure 3.15-1: Construction Traffic Management Plan**. Daly City and/or its contractor(s) shall prepare and implement a Construction Traffic Management Plan in accordance with professional traffic engineering standards to show methods for maintaining traffic flows on roadways and access to recreational resources directly affected by Project construction, which shall include, at a minimum, the following requirements:
>
> a) Develop circulation plans to minimize impacts on local street circulation; use flaggers and/or signage to guide vehicles through and/or around the construction zone (including, as needed, for trucks turning into and out of Fort Funston at the intersection of SR 35 and Fort Funston Road). Circulation plans may be modified during construction, based on observed conditions.
>
> b) Identify truck routes and, to the extent possible, use haul routes that minimize truck traffic on local roadways and residential streets.

c) Schedule truck trips to minimize trips during the peak morning and evening commute hours, and the peak hours of arrivals and departure from Fort Funston, to the extent possible.

d) Provide sufficient staging areas for trucks accessing construction zones to minimize disruption of access to adjacent land uses, particularly within residential neighborhoods.

e) Maintain pedestrian and bicycle access and circulation during Project construction where safe to do so. If construction activities encroach on a bicycle lane, post warning signs that indicate bicycles and vehicles are sharing the lane.

f) Maintain public safety and access on the beach by posting notices and maps at and around the project site and on Golden Gate National Recreation Area's website prior to and during construction, informing the public about when and where public access could be restricted and about alternative access points, if applicable; and incorporate measures on the beach to protect the public during construction activities.

~~f~~g) Store all equipment and materials in designated contractor staging areas on or adjacent to the worksite, in such a manner to minimize obstruction of traffic.

~~g~~h) Implement roadside safety protocols and provide advance "Road Work Ahead" warning signs and speed control (including signs informing drivers of state-legislated double fines for speed infractions in a construction zone) to achieve required speed reductions for safe traffic flow through the work zone.

~~h~~i) Coordinate construction with facility owners or administrators of sensitive land uses such as police and fire stations (including all fire protection agencies), transit stations, hospitals, and schools, as well as Fort Funston. Notify facility owners or operators in advance of the timing, location, and duration of construction activities.

~~i~~j) Provide residents adjacent to Project construction areas (e.g., on Avalon Drive and Westmoor Avenue) with information regarding Project construction in their area, including anticipated start and end of construction activities.

~~j~~k) Coordinate construction with local traffic agencies, SFMTA, NPS, and SamTrans, to minimize disruption and arrange for the temporary relocation of bus stops in work zones as necessary.

Section 3.16, Utilities and Service Systems

In response to comment USEPA-15, EIR/EIS page 3.16-4, paragraph 1 has been revised:

Daly City

~~Allied Waste~~ Republic Services provides residential and commercial garbage collection services for Daly City. Collected garbage that is not compostable is directed to ~~the Daly City Mussel Rock Transfer Station located at Skyline Drive and Westline Drive in Daly City, and eventually~~ the Corinda Los Trancos Landfill (formerly Ox Mountain Sanitary Landfill), located 3 miles east of Half Moon Bay off of Highway 92. This facility has a ceased operational date of January 2018 with a permitted capacity of 69 million cubic yards, and total remaining capacity of approximately 26.9 million cubic yards as of

May 2011 (Davies, 2014). In 2012, Daly City generated approximately 54,000 tons of solid waste and directed approximately 53,000 tons to the Corinda Los Trancos Landfill (CalRecycle, 2014d).

As a staff-initiated text change, EIR/EIS page 3.16-9, paragraph 4 has been revised:

As described in Section 3.16.3, Local Regulatory Setting, Daly City's Recycling and Diversion of Construction and Demolition Debris Ordinance requires that at least 60 percent of waste tonnage is recycled. San Francisco's 2006 C&D ordinance requires that a minimum of 65 percent of the material be diverted from the landfill. Since much of the Project construction activities would occur within San Francisco, this analysis assumes that the Project would comply with San Francisco's C&D ordinance, ensuring that at least 65 percent of the excess material (approximately 30,600 cubic yards) is diverted from landfills and that all C&D material is sent to a registered facility that reuses or recycles those materials. Approved facilities that accept mixed C&D debris include the following: Blue Line Transfer Inc. in South San Francisco, San Bruno Garbage Co, Inc., Allied San Carlos Transfer Station in San Carlos, and Recology's transfer station. As a result, the receiving landfill would receive up to 16,500 cubic yards of C&D materials over the construction period. The National Park Service has also expressed interest in potential reuse of some construction spoils at Fort Funston. The Project's contribution to the receiving landfill would be equal to less than 0.06 percent of the remaining capacity of the Corinda Los Trancos Landfill. However, as described in Section 3.16.1.6, operation of the Corinda Los Trancos Landfill is scheduled to be closed in January 2018, and Project construction could extend through mid-2018. Therefore, Daly City would need to find an alternative landfill for disposal of any additional construction waste generated from January 2018 through the end of the Project construction phase. It is possible that some Project-related waste could be off-hauled to the landfill that gets selected (possibly the Recology Ostrom Road Landfill in Yuba County). Other landfills in the San Francisco Bay Area that could accept waste include the Keller Canyon Landfill, which is located in Pittsburg and has an estimated remaining capacity of 63,408,410 cubic yards, and the Acme Landfill, which is located in Martinez and has a remaining capacity of approximately 175,000 cubic yards (CalRecycle, 2014e and 2014f). Because adequate capacity exists at the Corinda Los Trancos Landfill and because any additional construction waste generated beyond 2018 could be accommodated by other Bay Area landfills, potential impacts related to exceeding permitted landfill capacity during construction would be *less than significant.*

Chapter 4, Other CEQA/NEPA Considerations

As a staff-initiated text change, Section 4.2.2.1, Energy Consumption and Effects on Local and Regional Energy Supplies, on EIR/EIS page 4-3 (continuing on page 4-4) has been revised:

Direct energy use would include the consumption of petroleum fuel for vehicles and the use of electricity for equipment and facilities. Indirect energy use includes the energy required to make the materials and components used in construction of the Project. This

includes energy used for extraction of raw materials, manufacturing, and transportation associated with manufacturing.

Although construction-related energy consumption would occur temporarily during the construction period, it would represent irreversible consumption of finite natural energy resources. Construction-related energy expenditures would include direct uses of energy in the form of fuel (typically diesel fuel for trucks and on-site equipment, and gasoline for commuter vehicles). The precise amount of petroleum fuel demand that would be required to construct the Project is uncertain; however, for the purposes of this analysis, fuel usage in terms of gasoline and diesel have been estimated based on greenhouse gas (GHG) emission estimates for the Project (see Section 3.7, *Greenhouse Gas Emissions and Climate Change*) and The Climate Registry fuel use emission factors (The Climate Registry, 2015). Based on the projected GHG emissions shown in Section 3.7, it is estimated that the Project would use approximately 100,000 gallons of gasoline and 260,000 gallons of diesel during the entire 24- to 44-month construction period. Under the most intensive construction schedule (24 months), the annual construction fuel consumption would be 50,000 gallons of gasoline and 130,000 gallons of diesel. Combined, this annual fuel consumption would represent less than 0.001 percent of statewide annual petroleum fuel use. ~~it is anticipated that gasoline and diesel would be used for construction equipment and worker and haul vehicles~~The use of petroleum fuels during construction would be comparable to similar construction projects, and ~~that~~ this consumption would not have a measurable effect on local and regional energy supplies. If construction power is provided by a temporary PG&E connection instead of a diesel-powered generator, the overall amount of diesel fuel consumed would be substantially lower. The temporary PG&E power connection would not have a significant impact on local or regional electricity supplies because it would be infeasible to provide a temporary connection that would create localized shortages or require additional energy procurement. However, to the extent that electrical power from PG&E comes from non-renewable sources (see Table 4-1), this use of energy would represent an irreversible consumption of those resources (e.g., natural gas).

The primary material used in construction of the Project would be the concrete needed for the collection box, box culvert, diversion structure, Lake Merced portal, tunnel, and Ocean Outlet structure. The use of concrete and other construction materials would result in indirect energy consumption as a result of the energy required to produce them. Daly City's Recycling and Diversion of Construction and Demolition Debris Ordinance requires that at least 60 percent of waste tonnage is recycled. San Francisco's 2006 Construction and Demolition Debris ordinance requires that a minimum of 65 percent of the material be diverted from the landfill. Required compliance with these ordinances would ensure that most of the concrete and other materials to be removed from construction sites would be recycled, contributing to indirect energy conservation by putting these materials to use instead of new materials.

During operation, consumption of diesel and/or gasoline would be limited to infrequent maintenance trips to empty the gross solids screening device, periodic maintenance of the constructed treatment wetlands, and removal and reconstruction of the Ocean Outlet structure (assumed to occur at approximately 25-year intervals). This removal and reconstruction would use a fraction of the amount of fuel required for Project construction because it would be comparable to construction of the proposed Ocean Outlet structure, which is a relatively small portion of the overall Project construction effort.

~~and generators~~Electricity would be used to operate the new diversion structure pumps and gates. However, the Project also would allow Daly City to discontinue pumping treated effluent from the Wastewater Treatment Plant through the force main during wet weather because it would accommodate the use of the gravity pipeline during wet weather. This would eliminate the need for energy consumption to power the existing pumps that currently convey water to the force main.

This energy use would be necessary to implement the Project, and none of the proposed energy-consuming activities associated with each phase would be a wasteful, inefficient, or unnecessary use of energy. The Project would not have a significant impact with respect to fuel and electrical energy requirements or on local or regional energy supplies.

The Tunnel Alignment Alternative and Canal Configuration Alternative would result in similar energy consumption patterns compared to the proposed Project. The Canal Configuration Alternative would use less concrete than the proposed Project because it would omit the box culvert portion of the canal improvements. The Tunnel Alignment Alternative would use a similar amount of concrete compared to the proposed tunnel improvements.

Mitigation: None required.

A reference has been added to EIR/EIS page 4-10:

The Climate Registry, 2015. Table 13.1 US Default CO2 Emission Factors for Transport Fuels. [https://www.theclimateregistry.org/wp-content/uploads/2016/03/2015-TCR-Default-EFs.pdf]

Chapter 5, Consultation and Coordination

In response to Comment CSLC-2, EIR/EIS page 5-2, paragraph 2 has been revised:

5.1.3 CSLC

Daly City staff met with California State Lands Commission (C~~L~~SLC) staff once during preparation of the EIR/EIS. The meeting was conducted via teleconference on October 29, 2014. The purpose of the meeting was to provide C~~L~~SLC staff with an overview of the

Project, review the agency's jurisdiction, identify resource issues that should be considered in the EIR/EIS, and to discuss permitting requirements. The Project schedule was also discussed at the meeting. Of primary interest to C~~L~~SL̲C staff was determining the landward extent of C~~L~~SL̲C jurisdiction (given the inland migration of shoreline with bluff erosion) and ensuring that resources within that jurisdiction are protected.

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APPENDIX C (REVISED)

Air Quality

Summary

Summary of Criteria Pollutants Emissions (CEQA)

Average Daily Construction-related Emissions (lbs/day)

	ROG	CO	NOX	SOX	PM2.5	PM10
Off-road	4.9	84.8	20.0	0.0	0.9	0.9
On-road	0.7	5.4	12.3	N/A	0.2	0.3
Combined	**5.6**	**90.1**	**32.2**	**0.0**	**1.2**	**1.2**

Annual Construction Related Emissions (MT/year)

	Year 1	**Year 2**	**Year 3**	All Years
	CO2e	CO2e	CO2e	CO2e
Off-road	192.4	1,575.8	393.7	2,161.9
On-road	700.7	622.4	41.9	1,365.0
Combined	**893.1**	**2,198.2**	**435.5**	**3,526.8**

Summary of Criteria Pollutants Emissions (NEPA)

Year 1

	ROG	CO	NOX	SOX	PM2.5	PM10
Off-road	0.1	2.1	0.8	0.0	0.0	0.0
On-road	0.1	0.6	2.2	N/A	0.0	0.0
Combined	**0.3**	**2.7**	**2.9**	**0.0**	**0.1**	**0.1**

Year 2

	ROG	CO	NOX	SOX	PM2.5	PM10
Off-road	1.1	19.0	4.3	0.0	0.2	0.2
On-road	0.1	0.8	1.6	N/A	0.0	0.0
Combined	**1.2**	**19.8**	**5.8**	**0.0**	**0.2**	**0.2**

Year 3

	ROG	CO	NOX	SOX	PM2.5	PM10
Off-road	0.3	4.8	1.0	0.0	0.0	0.0
On-road	0.0	0.2	0.0	N/A	0.0	0.0
Combined	**0.3**	**5.0**	**1.1**	**0.0**	**0.0**	**0.0**

Construction Equipment Usage by Project Component

Provided by Project Applicant

Equipment	**Construction Usage**				
	Project Component	**Number**	**Duration of Use (weeks)**	**Daily Use (hours/day)**	
Crane (150 ton)	Tunnel	1	90	24	
Excavator (CAT 320E L)	Shaft/Ocean Outlet and Tunnel Portal	1	6	6	
Excavator with hammer (750 Hitachi)	Canal and Wetlands	1	30	6	
Excavator to clean ditch (CAT 320E L)	Canal and Wetlands	1	18	6	
Road Header (Alpine EBZ132) or mini-excavator	Tunnel Drive (each)	1[a]	28[a]	16	ON GENERATOR
Loader (CAT 966 or 950)	Tunnel/Ocean Outlet and Tunnel Portal/Canal and Wetlands	1	110	8	
Pile Driver	Shaft/Ocean Outlet and Tunnel Portal/Canal and Wetlands	1	18	8	
Drill Rig	Ocean Outlet and Tunnel Portal	1	2	6	
Compactor (CAT 563)	Canal and Wetlands	1	26	6	
Air Compressor	Tunnel	1	90	24	ON GENERATOR
Ventilation Fan (100 HP)	Tunnel	2	90	24	ON GENERATOR

Note: Equipment use hours split up evenly between project components, when applicable.

Off-road Equipment Inventory

Project Equipment Use Summary — Year 1

Equipment	total hours	Total workdays
Excavator with hammer (750 Hitachi)	180	30
Excavator to clean ditch (CAT 320E L)	900	150
Crane (150 ton)	560	40
Loader (CAT 966 or 950)	352	44
Air Compressor	0	40
Ventilation Fan (100 HP)	0	20
Excavator (CAT 320E L)	390	65
Drill Rig	40	10
Pile Driver	120	30
Compactor (CAT 563)	780	130
Generator	560	40
See tables below for details		

Project Equipment Use Summary — Year 2

Equipment	total hours	Total workdays
~~Compactor (CAT 563)~~		
Crane (150 ton)	3,052	218
Road Header (Alpine EBZ132) or mini-excavator	0	140
Loader (CAT 966 or 950)	2,086	261
Pile Driver	120	30
Drill Rig	40	10
Air Compressor	0	261
Ventilation Fan (100 HP)	0	261
Generator	5,529	261
See tables below for details		

Project Equipment Use Summary — Year 3

Equipment	total hours	Total workdays
Crane (150 ton)	910	65
Loader (CAT 966 or 950)	160	20
Air Compressor	0	65
Ventilation Fan (100 HP)	0	30
Generator	1,394	66
See tables below for details		

Vista Grande Canal

Equipment	No.	hours/day	days/location	total hours	Total days	Year*	
Excavator with hammer (750 Hitachi)	1	6	30	180	30	Year 1	Assuming occurs in first phases of construction activity, in Year 1
Excavator to clean ditch (CAT 320E L)	1	6	150	900	150	Year 1	Assuming occurs in first phases of construction activity, in Year 1
Compactor (CAT 563)	1	6.0	130	780	130	Year 1	Assuming occurs in first phases of construction activity, in Year 1
Pile Driver	1	4.0	30	120	30	Year 1	Assuming occurs in first phases of construction activity, in Year 1

Vista Grande Tunnel

Equipment	No.	hours/day	days/location	total hours	Total days	Year*	
Crane (150 ton)	1	14.0	40	560	40	Year 1	
Crane (150 ton)	1	14.0	218	3,052	218	Year 2	
Crane (150 ton)	1	14.0	65	910	65	Year 3	
Loader (CAT 966 or 950)	1	8.0	44	352	44	Year 1	Loader emissions assigned to Tunnel only, for simplicity
Loader (CAT 966 or 950)	1	8.0	261	2,086	261	Year 2	Loader emissions assigned to Tunnel only, for simplicity
Loader (CAT 966 or 950)	1	8.0	20	160	20	Year 3	Loader emissions assigned to Tunnel only, for simplicity
Pile Driver	1	4	30	120	30	Year 2	Assuming occurs in middle phases of construction activity, in Year 2
Drill Rig	1	4	10	40	10	Year 2	Assuming occurs in middle phases of construction activity, in Year 2
Generator (daytime)	1	14	40	560	40	Year 1	Shaft Excavation and support
Generator (daytime)	1	14	73	1,020	73	Year 2	Shaft Excavation and support
Generator (24h)	1	24	188	4,509	188	Year 2	Excavate and support tunnel, Install final lining and contact grout
Generator (24h)	1	24	46	1,114	46	Year 3	Install final lining and contact grout
Generator (daytime)	1	14	20	280	20	Year 3	Shaft backfill

Ocean Outlet

Equipment	No.	hours/day	days/location	total hours	Total days	Year*	
Excavator (CAT 320E L)	1	6	65	390	65	Year 1	Assuming occurs in first phases of construction activity, in Year 1
Drill Rig	1	4	10	40	10	Year 1	Assuming occurs in first phases of construction activity, in Year 1

All equipment designated to each project component, by year, based on project parameters provided by the applicant, unless otherwise noted.

Year 1

Emission Source	Off-road: Construction Emissions (pounds) ROG	CO	NOX	SOX	PM	CO2
Excavator with hammer (750 Hitachi)	3.52	23.99	38.43	0.05	1.89	4,927.96
Excavator to clean ditch (CAT 320E L)	17.62	119.96	192.14	0.24	9.45	24,639.78
Crane (150 ton)	15.11	60.65	171.08	0.12	7.76	12,146.20
Loader (CAT 966 or 950)	10.22	42.37	98.87	0.09	5.51	9,012.91
Excavator (CAT 320E L)	7.63	51.98	83.26	0.10	4.10	10,677.24
Drill Rig	0.92	9.55	13.30	0.02	0.39	2,377.52
Pile Driver	4.45	15.82	37.26	0.03	2.92	2843.70
Compactor (CAT 563)	12.41	99.06	148.78	0.18	6.91	18348.00
Generator	205.38	3783.33	724.24	0.00	32.43	339242.46
Sum (pounds):	**277**	**4,207**	**1,507**	**1**	**71**	**424,215.8**
Sum (metric tons):						**192.4**

Year 2

Emission Source	Off-road: Construction Emissions (pounds) ROG	CO	NOX	SOX	PM	CO2
Crane (150 ton)	74.12	330.63	840.74	0.63	37.48	66,210.05
Loader (CAT 966 or 950)	55.85	251.10	531.59	0.51	29.62	53,412.37
Pile Driver	4.30	15.82	36.05	0.03	2.82	2,843.79
Drill Rig	0.83	9.55	11.55	0.02	0.33	2,376.63
Generator	2,027.61	37,350.69	7,149.99	0.00	320.15	3,349,152.49
Sum (pounds):	**2,163**	**37,958**	**8,570**	**1**	**390**	**3,473,995**
Sum (metric tons):						**1,575.8**

Year 3

Emission Source	Off-road: Construction Emissions (pounds) ROG	CO	NOX	SOX	PM	CO2
Crane (150 ton)	22.10	98.58	250.68	0.19	11.18	19,741.53
Loader (CAT 966 or 950)	3.89	17.33	44.08	0.03	1.96	3,471.04
Generator	511.36	9,419.71	1,803.20	0.00	80.74	844,644.25
Sum (pounds):	**537**	**9,536**	**2,098**	**0**	**94**	**867,857**
Sum (metric tons):						**393.7**

Total Sum for all years (pounds)	2,977	51,700	12,175	2	556	4,766,068
Total Sum for all years (MT)						2,162
Average pounds/day	**4.88**	**84.75**	**19.96**	**0.00**	**0.91**	**7,813.23**

On-road Criteria Pollutant Emissions

Note: All trips are round trips

Construction Vehicle ROUND Trips PER DAY

Provided by the Project Applicant

Trip Type	Tunnel / Staging Area	Project Component: Ocean Outlet and Tunnel Portals	Canal and Wetlands
Concrete Truck*	30	2	5
Haul Truck**	17	3	40
Worker Vehicle	70	5	10
Maximum Total	**117**	**10**	**55**

*Concrete Truck Staging Area trips would occur for 30 days, according to the project applicant, and are assumed to occur in 2019. Concrete trucks for Ocean Outlet would occur over 80 days

**Haul truck staging area trips would occur for 165 days, according to the project applicant, and are assumed to occur in 2019.

All other trips are assumed to occur for the full length of the project component, for each year construction is expected to occur.

Construction Vehicle Round Trips **Year 1**

Calculated

Trip Type	Tunnel / Staging Area	Project Component: Ocean Outlet and Tunnel Portals	Canal and Wetlands	Totals
Concrete Truck	-		1,198	1,198
Haul Truck	-		9,586	9,586
Worker Vehicle	1,525		2,396	3,921
Totals	1,525	-	13,180	

Construction Vehicle Round Trips **Year 2**

Calculated

Trip Type	Tunnel / Staging Area	Project Component: Ocean Outlet and Tunnel Portals	Canal and Wetlands	Totals
Concrete Truck	900	160	436	1,496
Haul Truck	2,805	231	3,486	6,522
Worker Vehicle	15,700	386	871	16,957
Totals	19,405	777	4,793	

Construction Vehicle Round Trips **Year 3**

Calculated

Trip Type	Tunnel / Staging Area	Project Component: Ocean Outlet and Tunnel Portals	Canal and Wetlands	Totals
Concrete Truck	-	131		131
Haul Truck	-	-		-
Worker Vehicle	3,950	329		4,279
Totals	3,950	460	-	

Total Workdays per year: 261

Emission Factors

Vehicle Type	Units	Running Exhaust Emission Factors: ROG	NOx	PM10	PM2.5	CO	CO2
Light duty truck (LDT2 gas)*	g/mile	0.04	0.20	0.00	0.00	1.63	411.65
Light duty truck (LDT2 gas)	lb/mile	0.00	0.00	0.00	0.00	0.00	0.91
Light duty truck (LDT2 diesel)*	g/mile	0.04	0.59	0.03	0.03	0.23	293.27
Light duty truck (LDT2 diesel)	lb/mile	0.00	0.00	0.00	0.00	0.00	0.65
Heavy duty truck (T7 diesel)*	g/mile	0.25	4.80	0.10	0.09	1.21	1657.64
Heavy duty truck (T7 diesel)	lb/mile	0.00	0.01	0.00	0.00	0.00	3.65

* Emission factor obtained online from EMFAC 2011 for 2016, San Mateo County, average model years, and average speed.

Year 1 Total Worker and Material Delivery/Haul-off Trips Criteria Pollutant Emissions

Vehicle Type	Trips/year	miles/trip	ROG	NOx	PM10	PM2.5	CO
Light duty truck (gas)	1,961	24.8	4.5	21.8	0.2	0.2	174.4
Light duty truck (diesel)	1,961	24.8	4.5	63.0	3.5	3.2	24.8
Heavy duty truck - Haul	9,586	40.0	208.4	4053.6	82.3	75.7	1022.9
Heavy duty truck - Vendor	1,198	14.6	9.5	184.9	3.8	3.5	46.7
Total Annual Emissions (pounds/year)			**227**	**4,323**	**90**	**83**	**1,269**
Average 2018 Daily Emissions (lbs/day)			**0.87**	**16.58**	**0.34**	**0.32**	**4.87**

Year 2 Total Worker and Material Delivery/Haul-off Trips Criteria Pollutant Emissions

Vehicle Type	Trips/year	miles/trip	ROG	NOx	PM10	PM2.5	CO
Light duty truck (gas)	8,479	24.8	19.5	94.3	0.9	0.8	754.0
Light duty truck (diesel)	8,479	24.8	19.3	272.2	15.2	14.0	107.2
Heavy duty truck - Haul	6,522	40.0	141.8	2758.1	56.0	51.5	696.0
Heavy duty truck - Vendor	1,496	14.6	11.9	230.9	4.7	4.3	58.3
Total Annual Emissions (pounds/year)			**181**	**3,125**	**72**	**66**	**1,615**
Average 2019 Daily Emissions (lbs/day)			**0.69**	**11.98**	**0.28**	**0.25**	**6.20**

Year 3 Total Worker and Material Delivery/Haul-off Trips Criteria Pollutant Emissions

Vehicle Type	Trips/year	miles/trip	ROG	NOx	PM10	PM2.5	CO
Light duty truck (gas)	2,139	24.8	4.9	23.8	0.2	0.2	190.2
Light duty truck (diesel)	2,139	24.8	4.9	23.8	0.2	0.2	190.2
Heavy duty truck - Haul	0	40.0	0.0	0.0	0.0	0.0	0.0
Heavy duty truck - Vendor	131	14.6	0.2	20.3	0.4	0.4	5.1
Total Annual Emissions (pounds/year)			**10**	**48**	**0**	**0**	**386**
Average 2020 Daily Emissions (lbs/day)			**0.04**	**0.18**	**0.00**	**0.00**	**1.48**

Total Construction Period - Total Worker and Material Delivery/Haul-off Trips Criteria Pollutant Emissions

	ROG	NOx	PM10	PM2.5	CO
Average Daily Emissions (lbs/day)	**0.68**	**12.29**	**0.27**	**0.24**	**5.36**

All trips per day are round-trips. The light-duty truck trips represent employee commute trips. Trips lengths based on CalEEMod v2103.2.2 defaults for San Mateo County.

It is assumed that half of total trips would be associated with light-duty diesel vehicles and half would be associated with light-duty gasoline vehicles.

On-road GHG Emissions

CH4 and N2O Emission Factors

Vehicle Type	Running Exhaust Emission Factors (pounds/mile)	
	CH4***	N2O***
Light duty truck (gas)	0.0001	0.0001
Light duty truck (diesel)	0.0001	0.0001
Heavy duty truck	0.0000	0.0000
Total	0.0003	0.0002

** Emission factor obtained online from EMFAC 2011, for San Mateo County, average model years, and average speed.

*** California Climate Action Registry, General Reporting Protocol, Reporting Entity-Wide Greenhouse Gas Emissions, Version 3.1, January 2009. Tables C.3 and C.6.

Year 1 Worker and Material Delivery/Off-haul Trips GHG Emissions

Vehicle Type	Trips/year	miles/trip	CO2	CH4	N2O	CO2e
Light duty truck (gas)	1,961	24.8	20.02	0.00	0.00	20.60
Light duty truck (diesel)	1,961	24.8	14.26	0.00	0.00	14.85
Heavy duty truck - Haul	9,586	40	635.59	0.00	0.00	636.21
Heavy duty truck - Vendor	1,198	14.6	29.00	0.00	0.00	29.03
Total (metric tons)	**NA**	**NA**	**698.87**	**0.01**	**0.01**	**700.69**

Year 2 Worker and Material Delivery/Off-haul Trips GHG Emissions

Vehicle Type	Trips/year	miles/trip	CO2	CH4	N2O	CO2e
Light duty truck (gas)	8,479	24.8	86.6	0.0	0.0	89.1
Light duty truck (diesel)	8,479	24.8	61.7	0.0	0.0	64.2
Heavy duty truck - Haul	6,522	40	432.5	0.0	0.0	432.9
Heavy duty truck - Vendor	1,496	14.6	36.2	0.0	0.0	36.2
Total (metric tons)	**NA**	**NA**	**616.88**	**0.03**	**0.02**	**622.41**

Year 3 Worker and Material Delivery/Off-haul Trips GHG Emissions

Vehicle Type	Trips/year	miles/trip	CO2	CH4	N2O	CO2e
Light duty truck (gas)	2,139	24.8	21.8	0.0	0.0	22.5
Light duty truck (diesel)	2,139	24.8	15.6	0.0	0.0	16.2
Heavy duty truck - Haul	0	40	0.0	0.0	0.0	0.0
Heavy duty truck - Vendor	131	14.6	3.2	0.0	0.0	3.2
Total (metric tons)	**NA**	**NA**	**40.58**	**0.01**	**0.00**	**41.86**

Total Construction Period - Total Worker and Material Delivery/Haul-off Trips Criteria Pollutant Emissions

	CO2	CH4	N2O	CO2e
Total (metric tons)	**1,356.33**	**0.04**	**0.03**	**1,364.97**
Average Daily Emissions (lbs/day)	**4,902**	**0.00**	**0.00**	**4,902**

All trips per day are round-trips. The light-duty truck trips represent employee commute trips. Trips lengths based on CalEEMod v2103.2.2 vehicles.

Notes: 0.907194 metric tons = 1 ton; 2000 pounds = 1 ton; 2204.6 pounds = 1 metric ton.
Global Warming Potential for CH4 = 23; GWP for N2O = 296.

Gasoline emission factors for GHG

0.0563 g CH4/mile (CCAR, 2009)
0.03639 g NO2/mile (CCAR, 2009)

Diesel emission factors for GHG (CCAR, 2009)

0.0048 g CH4/mile (CCAR, 2009)
0.0051 g NO2/mile (CCAR, 2009)

Reference:

California Climate Action Registry, General Reporting Protocol, Reporting Entity-Wide Greenhouse Gas Emissions, Version 3.1, January 2009. Tables C.3 and C.6.

Off-road Output

Emission factors below are provided by the SMAQMD Road Construction Emissions Model Version 7.1.5.1, which is based off of OffRoad 2011 Model factors.

Year 1

			ROG	CO	NOX	SOX	PM	CO2	Load Factors	ROG	CO	NOX	SOX	PM	CO2	
Equipment Type	**Horsepower**	**Max HP**	**g/hp/hr**							**g/hr**						gal/hr
Crane	226.2	250	0.188	0.754	2.126	0.001	0.096	150.967	0.288	**12.2**	**49.1**	**138.6**	**0.1**	**6.3**	**9,838**	
Excavator	162.7	175	0.143	0.973	1.559	0.002	0.077	199.859	0.382	**8.9**	**60.5**	**96.8**	**0.1**	**4.8**	**12,418**	
Rubber Tired Loader	170	175	0.214	0.888	2.072	0.002	0.116	188.830	0.362	**13.2**	**54.6**	**127.4**	**0.1**	**7.1**	**11,614**	
Trencher (proxy for Pile Driver)	80.8	120	0.414	1.473	3.468	0.003	0.272	264.741	0.503	**16.8**	**59.8**	**140.8**	**0.1**	**11.0**	**10,749**	
Bore/Drill Rigs	205.8	250	0.101	1.047	1.458	0.002	0.043	260.705	0.503	**10.5**	**108.3**	**150.8**	**0.3**	**4.4**	**26,961**	
Roller (Compactor)	145	175	0.133	1.059	1.590	0.002	0.074	196.123	0.375	**7.2**	**57.6**	**86.5**	**0.1**	**4.0**	**10,670**	
Air Compressor	105.7	120	0.367	1.837	2.353	0.003	0.197	272.784	0.480	**18.6**	**93.2**	**119.4**	**0.2**	**10.0**	**13,840**	
Ventilation Fan	100	120	0.464	2.617	3.388	0.005	0.248	420.542	0.740	**34.3**	**193.7**	**250.7**	**0.4**	**18.4**	**31,120**	
Generator	1089	1089	0.255	4.690	0.898	0.000	0.040	420.542	0.600	**166.4**	**3064.4**	**586.6**	**0.0**	**26.3**	**274,782**	

Year 2

			ROG	CO	NOX	SOX	PM	CO2	Load Factors	ROG	CO	NOX	SOX	PM	CO2
Equipment Type	**Horsepower**	**Max HP**	**g/hp/hr**							**g/hr**					
Crane	226.2	250	0.169	0.754	1.917	0.001	0.085	150.998	0.288	**11.0**	**49.1**	**125.0**	**0.1**	**5.6**	**9,840**
Excavator	162.7	175	0.133	0.973	1.413	0.002	0.070	199.819	0.382	**8.3**	**60.4**	**87.8**	**0.1**	**4.3**	**12,416**
Rubber Tired Loader	170	175	0.197	0.888	1.880	0.002	0.105	188.858	0.362	**12.1**	**54.6**	**115.6**	**0.1**	**6.4**	**11,616**
Trencher (proxy for Pile Driver)	80.8	120	0.401	1.473	3.356	0.003	0.263	264.749	0.503	**16.3**	**59.8**	**136.3**	**0.1**	**10.7**	**10,749**
Bore/Drill Rigs	205.8	250	0.091	1.047	1.267	0.002	0.036	260.607	0.503	**9.4**	**108.3**	**131.0**	**0.3**	**3.8**	**26,951**
Roller (Compactor)	145	175	0.123	1.059	1.453	0.002	0.068	196.072	0.375	**6.7**	**57.6**	**79.1**	**0.1**	**3.7**	**10,667**
Air Compressor	105.7	120	0.340	1.831	2.215	0.003	0.179	272.784	0.480	**17.3**	**92.9**	**112.4**	**0.2**	**9.1**	**13,840**
Ventilation Fan	100	120	0.426	2.606	3.196	0.005	0.227	420.542	0.740	**31.5**	**192.8**	**236.5**	**0.4**	**16.8**	**31,120**
Generator	1089	1089	0.255	4.690	0.898	0.000	0.040	420.542	0.600	**166.4**	**3064.4**	**586.6**	**0.0**	**26.3**	**274,782**

Year 3

			ROG	CO	NOX	SOX	PM	CO2	Load Factors	ROG	CO	NOX	SOX	PM	CO2
Equipment Type	**Horsepower**	**Max HP**	**g/hp/hr**							**g/hr**					
Crane	226.2	250	0.146	0.754	1.663	0.001	0.072	150.973	0.288	**9.5**	**49.1**	**108.4**	**0.1**	**4.7**	**9,839**
Excavator	162.7	175	0.109	0.973	1.117	0.002	0.054	199.828	0.382	**6.8**	**60.4**	**69.4**	**0.1**	**3.4**	**12,416**
Rubber Tired Loader	170	175	0.170	0.888	1.580	0.002	0.088	188.862	0.362	**10.4**	**54.6**	**97.2**	**0.1**	**5.4**	**11,616**
Trencher (proxy for Pile Driver)	80.8	120	0.346	1.472	2.972	0.003	0.226	264.562	0.503	**14.1**	**59.8**	**120.7**	**0.1**	**9.2**	**10,742**
Bore/Drill Rigs	205.8	250	0.081	1.043	1.082	0.002	0.031	259.656	0.503	**8.4**	**107.9**	**111.9**	**0.3**	**3.2**	**26,852**
Roller (Compactor)	145	175	0.104	1.059	1.194	0.002	0.055	196.125	0.375	**5.7**	**57.6**	**64.9**	**0.1**	**3.0**	**10,670**
Air Compressor	105.7	120	0.312	1.825	2.073	0.003	0.160	272.784	0.480	**15.9**	**92.6**	**105.2**	**0.2**	**8.1**	**13,840**
Ventilation Fan	100	120	0.387	2.595	2.999	0.005	0.204	420.542	0.740	**28.6**	**192.0**	**222.0**	**0.4**	**15.1**	**31,120**
Generator	1089	1089	0.255	4.690	0.898	0.000	0.040	420.542	0.600	**166.4**	**3064.4**	**586.6**	**0.0**	**26.3**	**274,782**

Generator Emission Factors (Tier 4)

ROG	CO	NOX	SOX	PM	CO2
g/kW-hr					
0.190	3.500	0.670		0.030	

ROG	CO	NOX	SOX	PM	CO2
g/hp-hr					
0.255	4.690	0.898	0.000	0.040	Use Default

Road Dust Calculations

Source: AP-42 Handbook, Chapter 13.2.1, page 5

Equation:

E equals $[k (sL)^{0.91} \times (W)^{1.02}]*(1-P/4N)$

where:

k	=	particle size multiplier for particle size range and units of interest. k = particle size multiplier. The AP-42 value for PM10 is 1.00 g/mile and that for PM2.5 is 0.25 g/mile.
sL	=	road surface silt loading (grams per square meter)
W	=	average weight (tons) of *all the vehicles* traveling the road (2.4 tons)
P	=	number of "wet" days with at least 0.254 mm (0.01 in) of precipitation during the averaging period, and
N	=	number of days in the averaging period (e.g., 365 for annual, 91 for seasonal, 30 for monthly)

For the Existing Scenario (San Francisco Bay Area):

For PM_{10}			**For $PM_{2.5}$**		
k	=	1	k	=	0.25
sL	=	0.1	sL	=	0.1
W	=	2.4	W	=	2.4
P	=	64	P	=	64
N	=	365	N	=	365
Therefore:			Therefore:		
E	=	**0.287308**	E	=	**0.071827**

2016 Road Dust

Miles Travelled = 498173.9

PM10 Emissions =	143129.5 gm/yr	=	0.157773 ton/yr
PM2.5 Emissions =	35782.36 gm/yr	=	0.039443 ton/yr

Fugitive Dust Calculations

1.Truck Loading

Processes such as truck dumping on the pile or loading out from the pile to a truck with a front-end loader also cause fugitive dust emissions.
Calculated emissions use the methodology described in Section 13.2, Introduction to Fugitive Dust Sources, of USEPA AP-42.
The emission factor that is based on the material moisture content and mean wind speed is calculated using the following formula:

A. Emission factors

EF = k x (0.0032) x ((u/5)^1.3/(M/2)^1.4)

Where:
EF = Emission factor (lb/ton)
k = particle size multiplier (AP-42)
U = mean wind speed (mph)
M = material moisture content (%)

k =	0.35	pm10
	0.053	pm2.5
U =	10.3	mph (SFO)
M =	12	% (cover)
EF_{pm10} =	2.33E-04	lb/ton
$EF_{pm2.5}$ =	3.53E-05	lb/ton

B. Emissions

Emissions = EF x throughput (tons)

i. Year 1

Truck trips =	9,586	daily round trips (loads)
Assume 18 cy/truck =	172542.9	cy/year

Annual thoughput =	172542.9	cy/year		
Loam density =	1.264	tons/cy (CalEEmod)		
Annual throughput =	218094.2	tons		
PM10 emissions =	50.87	lb/yr	=	0.025436 ton/yr
PM2.5 emission =	7.70	lb/yr	=	0.003852 ton/yr

ii. Year 2

Truck trips =	6,522	daily round trips (loads)
Assume 18 cy/truck =	117398.6	cy/year

Annual thoughput =	117398.6	cy/year		
Loam density =	1.264	tons/cy (CalEEmod)		
Annual throughput =	148391.8	tons		
PM10 emissions =	34.61	lb/yr	=	0.017307 ton/yr
PM2.5 emission =	5.24	lb/yr	=	0.002621 ton/yr

iii. Year 3

Truck trips =	0	daily round trips (loads)
Assume 18 cy/truck =	0	cy/year

Annual thoughput =	0	cy/year		
Loam density =	1.264	tons/cy (CalEEmod)		
Annual throughput =	0	tons		
PM10 emissions =	0.00	lb/yr	=	0 ton/yr
PM2.5 emission =	0.00	lb/yr	=	0 ton/yr