# 3.15 Utilities

This section of the Final Environmental Impact Statement/Report (referred to throughout as the Final EIS/R) describes the existing utilities within the Phase 2 project area and analyzes whether implementation of the project would cause a substantial adverse effect on utilities. The information presented is based on review of existing utility resources within the area, presented in Section 3.15.1, Physical Setting, and other pertinent state and local regulations, presented in Section 3.15.2, Regulatory Setting. Using this information as context, an analysis of the utility-resources-related environmental impacts of the project is presented for each alternative in Section 3.15.3, Environmental Impacts and Mitigation Measures. The program-level mitigation measures described in Chapter 2, Alternatives, would be implemented as part of this project. Therefore, this section only includes additional mitigation measures as needed.

## 3.15.1 Physical Setting

### Methodology

The development of the baseline conditions, significance criteria, and impact analysis in this section is commensurate to and reliant on the analysis conducted in the 2007 South Bay Salt Pond (SBSP) Restoration Project Programmatic EIS/R (2007 EIS/R). The baseline condition specific to the Phase 2 pond clusters is based on the current condition of these areas. Background information was drawn from applicable regional and local general plans and policies as well as from utility representatives.

### Regional Setting

Gas and electricity are provided by Pacific Gas and Electric Company (PG&E) to all cities in the South Bay except the cities of Palo Alto and Santa Clara. PG&E owns and maintains a network of overhead transmission lines, power distribution lines, and substations. Utilities are provided by the Cities of Palo Alto and Santa Clara to their respective residents primarily through PG&E's network of transmission lines. The Cities of Palo Alto and Santa Clara own and operate small networks of transmission lines, distribution lines, and receiving stations; however, these lines and stations are all landward of the Phase 2 project area.

PG&E overhead power transmission lines traverse the SBSP Restoration Project area. Several PG&E access points for reconductoring of transmission lines are within the Alviso pond complex and one is within the Ravenswood pond complex.

Water and wastewater utilities are provided on both citywide and regional levels. The facilities and infrastructure supporting the services are maintained by the service providers. Water and wastewater infrastructure includes water and wastewater pipelines, wastewater treatment plants and discharge facilities, and storm drainage facilities. Water and wastewater pipelines are generally underneath city streets. However, in some circumstances, wastewater force mains may traverse the SBSP Restoration Project area. In the lower reaches of the watersheds, runoff from developed areas is carried through pipes and discharged to tidal sloughs or channels by gravity-driven flow or lift stations. Stormwater discharged by lift stations is relatively unaffected by slight variations in tide. An extensive inventory of stormwater facilities is provided in previous project reports (Moffatt & Nichol 2005). At present, not all storm outfalls to the restoration area have been located in the field. Data such as pipe invert information and system capacity have not been determined.

Two other utilities are near the SBSP Restoration Project's Phase 2 area. The Hetch Hetchy Aqueduct, which conveys a significant portion of the Bay Area's water supply from the Sierra Nevada, runs from east to west just south of State Route (SR) 84 and the Dumbarton Bridge near the Ravenswood Ponds. The Regional Water Quality Control Plant in Palo Alto is adjacent to and discharges to the far South Bay between the Alviso and Ravenswood pond complexes.

The agencies responsible for and the specific locations of the utility infrastructure within each SBSP Restoration Project Phase 2 pond clusters are discussed below.

## Project Setting

This section outlines the existing utilities that are in each of the Phase 2 area pond clusters.

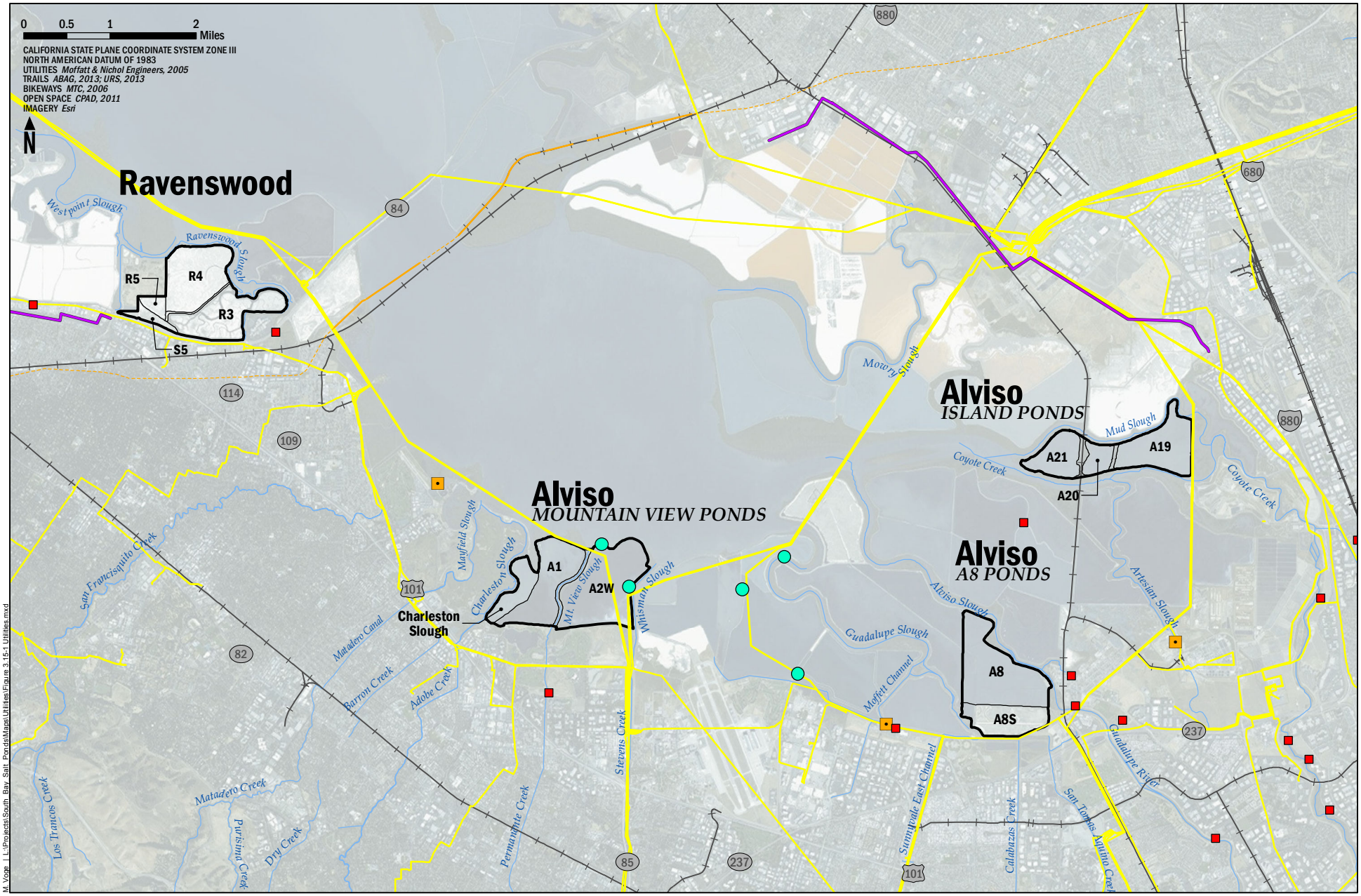
### *Alviso-Island Ponds*

No PG&E overhead transmission lines traverse the Alviso-Island pond cluster; however, an overhead power transmission line (PG&E's Newark-Kifer line) is located along the east boundary of Pond A19, outside of the project boundary. Other power distribution lines in the Island Ponds vicinity, shown on maps in the Utilities section (Section 3.16) of the 2007 EIS/R, have since been removed as part of Phase 1 or other actions. There are no water or wastewater pipelines running through the Alviso-Island pond cluster. Figure 3.15-1 shows the existing infrastructure within the Alviso-Island pond cluster.

### *Alviso-Mountain View Ponds*

Two PG&E overhead transmission lines traverse the Alviso-Mountain View pond cluster. The first line is the Newark-Ames line, which enters Pond A2W over the eastern levee boundary with Whisman Slough, enters less than 200 feet into Pond A2W, travels south parallel with the levee, then leaves Pond A2W at the southern border, continuing into the Stevens Creek Marsh. The second line is the Ravenswood-Ames line, which enters Pond A2W from the southern boundary with Stevens Creek Marsh, travels northwesterly to the northern edge of Pond A2W, makes a turn westward through Pond A2W (a distance of 800 feet), and exits the pond cluster, continuing along the boundary of Pond A1. In total, 16 transmission towers are located within Pond A2W. PG&E has two reconductoring access points on the levees of Pond A2W. There are also six towers just north of Pond A1. PG&E utilizes some of the levees of the Mountain View Ponds for vehicular access to these towers (and into the ponds via boardwalk) for regular maintenance and repair.

No water or wastewater pipelines run through the Alviso-Mountain View pond cluster. Storm drain outfalls from the City of Mountain View and other upstream communities are known to exist on Permanente Creek and Stevens Creek (Moffatt & Nichol 2005). Permanente Creek is part of the Lower Peninsula Watershed and drains an area of approximately 17 square miles. Permanente Creek becomes Mountain View Slough as it nears San Francisco Bay (Bay), in Mountain View. The creek contributes a small amount of freshwater flow to the Bay because much of the stormwater is diverted to Stevens Creek via the Permanente Creek Diversion. Two outfalls deposit into Permanente Creek approximately 300 feet north of Amphitheatre Parkway and another just north of the U.S. Highway 101 (U.S. 101) crossing. In addition to receiving peak flows from Permanente Creek, Stevens Creek drains approximately 29 square miles of the Lower Peninsula Watershed within the City of Mountain View.




Lift Station
PG&E Access Location
Wastewater Outfall
Hetch Hetchy Aqueduct (above ground)
Hetch Hetchy Aqueduct (below ground)
Waste Water Force Main
Overhead Power Transmission Line
Phase 2 Project Area

URS
*South Bay Salt Pond Restoration Project*

**Figure 3.15-1**
***Utilities***

Stevens Creek is between the outboard levees of Ponds A2W on the west and Ponds AB1 and A2E on the east. On some maps, Stevens Creek is shown as depositing flows directly into the Bay; in others, the outermost reaches of the creek are labeled as Whisman Slough. There are six existing stormwater and wastewater outfalls along Stevens Creek: at the east end of L'Avenida, just south of U.S. 101, 150 feet south of U.S. 101 (two outfalls; one enters from the east side of the creek and one from the west side), at the west end of Walker Drive, and at the intersection of East Middlefield Road and Stevens Creek Freeway. Figure 3.15-1 shows the existing infrastructure within the Alviso-Mountain View pond cluster.

#### *Alviso-A8 Ponds*

Before the Phase 1 actions at the Alviso-A8 pond cluster, a PG&E overhead transmission line crossed the A8 Ponds. However, this line was removed in conjunction with the Phase 1 actions. No water or wastewater pipelines run through the A8 Ponds; however, the Santa Clara Valley Water District has an outfall into Pond A5, adjacent to Ponds A8 and A8S. The site selection and design of the habitat transition zones in Pond A8S were done in such a way as to avoid interfering with this outfall. Figure 3.15-1 shows the existing infrastructure within the Alviso-A8 pond cluster.

#### *Ravenswood Ponds*

PG&E overhead transmission lines do not traverse the Phase 2 Ravenswood pond cluster. However, there are PG&E overhead transmission lines (the Ravenswood-Ames line), a substation, and several smaller power distribution lines in the eastern portions of the Ravenswood pond cluster and immediately adjacent to it, to the south between the ponds and State Route 84 and into Bedwell Bayfront Park to the west.

No water or wastewater facilities are within the Ravenswood pond cluster. However, the Bayfront Canal and Atherton Channel, which are stormwater management outfall systems for local cities and unincorporated areas of San Mateo County, empty into Flood Slough, immediately adjacent to the western tip of Pond S5 and Bedwell Bayfront Park. Figure 3.15-1 shows the existing infrastructure within the Ravenswood pond cluster.

## 3.15.2 Regulatory Setting

This section provides the regulatory background necessary to analyze the effects on utilities associated with Phase 2 of the SBSP Restoration Project. Applicable local and regional plans and policies are reviewed for information on existing land uses and policies.

### Overhead Electrical Transmission Lines

General Order 95 from the California Public Utilities Commission (California Public Utilities Commission 2012) includes rules governing line clearance for overhead electrical transmission lines. It states the following:

> Rule 11. Water areas not suitable for sailboating must have a line clearance of at least 25 ft (8 m) above high water.
>
> Rule 12. Water areas suitable for sailboating, with a surface area over 2,000 acres, must have a line clearance of at least 47 ft (14 m) above high water.

General Order 95 states that Rule 11 can be applied to areas where sailboating is prohibited and where other boating activities are allowed. Once ponds are breached and made tidal, they become part of the Bay, so these rules are relevant to several different ponds that would be so modified in Phase 2.

### *Alviso Ponds*

***City of Fremont.*** The City of Fremont General Plan (City of Fremont 2011) includes the following relevant policy:

> Policy 9-3.1:Water, Flood, and Sanitary Sewer Services
>
> Work with the Alameda County Water District, Union Sanitary District, and Alameda County Flood Control District to encourage their long range plans are consistent with the Fremont General Plan.

***City of San Jose.*** The City of San Jose 2040 General Plan (City of San Jose 2011) includes the following relevant goal:

> Goal IN-1 – General Provision of Infrastructure
>
> Provide and maintain adequate water, wastewater, stormwater, water treatment, solid waste and recycling, and recycled water infrastructure to support the needs of the City's residents and businesses.

***County of Santa Clara.*** The County of Santa Clara General Plan (County of Santa Clara 1994) provides public services-related strategies and policies associated primarily with new (urban) development and as such are not directly related to the proposed project or its impacts on utilities. Strategy #4 of the General Plan identifies the need to improve quality of life for all segments of the population. Policy C-EC 8(g) recognizes the need for providing adequate and efficient public services.

***City of Sunnyvale.*** The City of Sunnyvale General Plan (City of Sunnyvale 2011) includes the following citywide vision goal:

> XII. Supportive Utilities:
>
> *To provide and maintain water, sewer, solid waste disposal, and drainage facilities that are safe, efficient, and reliable, and which can develop sufficient capacity to meet the expected growth of the city.*

***City of Mountain View.*** The City of Mountain View 2030 General Plan (City of Mountain View 2012) does not provide specific relevant goals or policies associated with public utilities.

### *Ravenswood Ponds*

***City of Menlo Park.*** The City of Menlo Park General Plan Policy Document (City of Menlo Park [1994] 2001) does not provide specific relevant goals or policies associated with utilities and neither does the 2004 Menlo Park Municipal Code.

***City of Redwood City.*** The Redwood City General Plan's Built Environment: Infrastructure Element (City of Redwood City 2010) includes the following citywide vision goals:

> Goal BE-40: Provide safe and reliable potable and recycled water storage and distribution systems that will meet current and future needs.

Goal BE-41: Provide adequate and reliable wastewater collection and treatment facilities that meet current and future needs.

Goal BE-42: Support reliable, high quality, and environmentally sound energy distribution systems to meet current and future demands.

## 3.15.3 Environmental Impacts and Mitigation Measures

### Overview

The SBSP Restoration Project would restore a substantial portion of the approximately 15,100-acre SBSP Restoration Project area to tidal marsh and would therefore contribute to changes in water levels, tidal flows and sedimentation patterns in the South Bay, the tidal sloughs, and the ponds over the 50-year planning horizon. These changes would potentially affect the operation and management of existing utilities (e.g., electrical transmission lines and substations, gas pipelines, storm drains, pump stations, and wastewater treatment plant outfalls) within the SBSP Restoration Project area. Impact evaluations for the Action Alternatives are based on the existing conditions described in Section 3.15.1, Physical Setting, and not the proposed conditions that would occur under the No Action Alternative.[1] This approach mimics what was done for the 2007 EIS/R. In this case, the No Action Alternative represents no change from current management direction or level of management intensity provided in the Adaptive Management Plan (AMP) and other management documents and practices for the Don Edwards San Francisco Bay National Wildlife Refuge (Refuge), though those programs would continue as they do now.

### Significance Criteria

For the purposes of this Final EIS/R, the project would have a significant impact if it would:

- Substantially reduce the ability to access PG&E towers, stations, or electrical transmission lines;
- Reduce clearance between waterways and electrical transmission lines such that navigation of watercraft or regulatory compliance was affected;
- Reduce the integrity of PG&E's utility infrastructure;
- Change water level, tidal flow, or sedimentation such that drainage of storm drains, operation of pumping facilities, or discharge of sewer force mains were substantially affected; Disrupt Hetch Hetchy Aqueduct service so as to create a public health hazard or extended service disruption;
- Disrupt rail service due to project activities such as construction or operations and maintenance; or
- Reduce access to sewer force mains due to levee construction.

As explained in Section 3.1.2, Environmental Setting and Impact Analysis, although both Council on Environmental Quality (CEQ) Regulations for Implementing NEPA (CEQ 2015) and the California Environmental Quality Act (CEQA) Guidelines (AEP 2014) were considered during the impact analysis, impacts identified in this Final EIS/R are characterized using CEQA terminology. Please refer to Section 3.1.2 for a description of the terminology used to explain the severity of the impacts.

[1] "No Action Alternative" is the National Environmental Policy Act (NEPA) term. It corresponds to the California Environmental Quality Act (CEQA) term "No Project Alternative." This Final EIS/R uses No Action throughout.

## Program-Level Evaluation

The 2007 EIS/R conducted broad, regional analyses of program-level utility impacts from the types of activities that would be necessary to implement Programmatic Alternative A (the No Action Alternative) and Programmatic Alternatives B and C (the two program-level Action Alternatives) and the outcomes of their implementation. The 2007 EIS/R evaluated the potential utility impacts of these three long-term alternatives against nine program-level impacts, most of which were each determined to have less-than-significant impacts to utilities. The exceptions were potentially significant impacts on PG&E tower structural integrity resulting from Programmatic Alternative A (the No Action Alternative) and on rail service due to construction of coastal flood levees and tidal marsh restoration under both Action Alternatives (Programmatic Alternatives B and C).

## Project-Level Evaluation

*Phase 2 Impact 3.15-1: Reduced ability to access PG&E towers, stations or electrical transmission lines.*

### *Alviso-Island Ponds*

***Alternative Island A (No Action).*** Ponds A19, A20, and A21 do not contain PG&E towers, transmission lines, or stations. Therefore, Alternative Island A (the No Action Alternative) would not impede access to PG&E transmission facilities, and there would be no impact.

**Alternative Island A Level of Significance: No Impact**

***Alternative Island B.*** Alternative Island B actions would occur within ponds that do not contain PG&E towers, transmission lines, or stations. Therefore, Alternative Island B would not impede access to PG&E transmission facilities, and there would be no impact.

**Alternative Island B Level of Significance: No Impact**

***Alternative Island C.*** Alternative Island C actions would occur within ponds that do not contain PG&E towers, transmission lines, or stations. Therefore, Alternative Island C would not impede access to PG&E transmission facilities. Therefore, Alternative Island C would not reduce access to PG&E transmission facilities, and there would be no impact.

**Alternative Island C Level of Significance: No Impact**

### *Alviso-Mountain View Ponds*

***Alternative Mountain View A (No Action).*** Two PG&E overhead power transmission lines and a total of 16 transmission towers are within Pond A2W, with PG&E access provided via boardwalk from Shoreline Park and from the pond's outboard levee. Another two towers are on the northwestern portion of Pond A2W's outboard levee. Pond A1 and Charleston Slough do not contain any transmission towers; however, six towers are just north of Pond A1, and PG&E utilizes the levee of Pond A1 for vehicular access to these towers (via boardwalk) for regular maintenance and repair. There are another 12 towers connected to the Pond A1 levee via a boardwalk that extends northwesterly into open bay waters until reaching the mouth of Mayfield Slough. Under Alternative Mountain View A (the No Action Alternative), no new activities would be implemented as part of Phase 2. The United States Fish and Wildlife Service (USFWS) is maintaining the ponds as part of the Don Edwards San Francisco Bay National Wildlife Refuge System, the AMP, and other Refuge management documents and practices. The

pond cluster would continue to be managed through the activities described in the AMP and in accordance with current USFWS practices. The levees around Ponds A1 and A2W are high-priority levees, to be maintained for inland flood protection, and would be maintained (or repaired on failure). In addition to levee maintenance, PG&E tower improvements would be made within and around the Mountain View Ponds as part of routine maintenance, to comply with the requirements of the North American Electric Reliability Corporation (NERC) program (a cross-utility agreement to improve the safety and reliability of electrical transmission and distribution systems), and to adapt to sea-level rise. These improvements may involve raising towers and/or raising and strengthening the foundations or superstructures of towers. Because of the continued maintenance of levees and ponds and the improvements planned for towers under the NERC program, impacts to PG&E's ability to access existing towers via levees and boardwalks would be less than significant.

**Alternative Mountain View A Level of Significance: Less than Significant**

***Alternative Mountain View B.*** This section discusses Pond A2W and Pond A1 separately. Pond A2W is described first because it has power lines and access boardwalks directly within it.

***Pond A2W.*** Two PG&E overhead power transmission lines and a total of 16 transmission towers are within Pond A2W, with access provided via boardwalk from both the shore of the City of Mountain View and the northwest corner of the pond's outboard levee. Another two towers are on the northwesterly portion of the outboard levee. Implementation of the Alternative Mountain View B actions would increase water levels and sediment deposition in Pond A2W. To avoid or minimize impacts to PG&E facilities and access to those facilities for maintenance and repair, the project would include raising the concrete foundations of PG&E towers and raising and improving the maintenance boardwalks.

Pond A2W would be breached at two locations on the west side levee and two locations on the east side levee to bring tidal flows into the pond. The specific locations of these breaches would be determined during advanced construction design, but their locations would generally follow the locations of historical slough traces. Bridges would be installed across the breaches on the eastern levee to maintain the connectivity of the existing PG&E access road on this levee. A habitat transition zone would be constructed along the southern shoreline to create a transition habitat between the lower elevation of the pond and the shore to provide habitat for terrestrial species and foraging habitat for a variety of shorebirds. The habitat transition zone would be constructed around and beneath existing PG&E transmission towers and maintenance boardwalks that extend from Shoreline Park and the Pond A2W levees. Alternative Mountain View B would raise the boardwalks to above the high-tide levels that would be introduced into Pond A2W, providing a path of avoidance of any sensitive habitat that would develop on the habitat transition zone. These towers would be maintained by PG&E. Therefore, the restoration of Pond A2W would not be expected to reduce access to the existing transmission lines from the loss of levee connectivity or due to an increase in the abundance of threatened and endangered species, and impacts would be less than significant.

***Pond A1.*** Pond A1 does not contain any transmission towers within the boundary of the pond. However, there are six towers just north of Pond A1's outboard levee. This levee currently provides a connection via boardwalk to 12 more towers on a transmission line that extends northwestward into open Bay waters. The boardwalk ends at a boat dock at the mouth of Mayfield Slough, which provides a second viable means of access to these towers. Alternative Mountain View B proposes a breach on the northwest corner of Pond A1's western levee, outside of the Charleston Slough tide gate. The breach and eventual erosion of the outboard levees would terminate tower access routes that exist along the western levee of Pond A1

and along the levee of Charleston Slough (crossing over the Charleston Slough tide gate). However, as part of the Phase 2 design, PG&E would construct new sections of boardwalk across Mountain View Slough to connect the boardwalk that ends just to the northwest of Pond A1's levees with the existing boardwalk within Pond A2W. In this way, PG&E access would be maintained. Also, access to the transmission towers outside of the Pond A1 levees via boat or helicopter would not be impacted.

**Alternative Mountain View B Level of Significance: Less than Significant**

***Alternative Mountain View C.*** Impacts related to PG&E access caused by Alternative Mountain View C would be similar to those discussed in Alternative Mountain View B for Pond A2W and Pond A1. The boardwalk improvements and additions and the bridges over the breaches in Pond A2W would continue to provide PG&E with its required access to the towers and power lines. The additional incorporation of Charleston Slough into the SBSP Restoration Project would not affect PG&E's access to the towers or power lines. However, because Alternative Mountain View C would add a public access trail on the eastern and northern levee of Pond A2W, some additional precautions would need to be taken. To maintain public safety during periods of vehicle use by PG&E crews on that levee trail and access road, USFWS would suspend public access to these trails as needed. Therefore, Alternative Mountain View C would not reduce PG&E access and impacts would be less than significant

**Alternative Mountain View C Level of Significance: Less than Significant**

### *Alviso-A8 Ponds*

***Alternative A8 A (No Action).*** Ponds A8 and A8S do not contain PG&E towers or stations. Therefore, Alternative A8 A (the No Action Alternative) would not impede access to these facilities.

**Alternative A8 A Level of Significance: No Impact**

***Alternative A8 B.*** The Alternative A8 B actions at Ponds A8 and A8S would occur within ponds that do not contain PG&E infrastructure. Therefore, they would not impede access to PG&E facilities.

**Alternative A8 B Level of Significance: No Impact**

### *Ravenswood Ponds*

***Alternative Ravenswood*** A (No Action). Under Alternative Ravenswood A (the No Action Alternative), no new activities would be implemented as part of Phase 2. Ponds R3, R4, R5, and S5 do not contain PG&E towers or stations. Therefore, Alternative A would not impede access to these facilities.

**Alternative Ravenswood A Level of Significance: No Impact**

***Alternative Ravenswood B.*** Ponds R3, R4, R5, and S5 do not contain PG&E towers or stations. Therefore, Alternative Ravenswood B would not impede access to these facilities. Further, Alternative Ravenswood B would not change or impede access to the PG&E infrastructure in the surrounding areas.

**Alternative Ravenswood B Level of Significance: No Impact**

***Alternative Ravenswood C.*** Ponds R3, R4, R5, and S5 do not contain PG&E towers or stations. Therefore, Alternative Ravenswood C would not impede access to these facilities. Further, Alternative Ravenswood C would not change or impede access to the PG&E infrastructure in the surrounding areas.

**Alternative Ravenswood C Level of Significance: No Impact**

***Alternative Ravenswood*** D. Ponds R3, R4, R5, and S5 do not contain PG&E towers or stations. Therefore, Alternative Ravenswood D would not impede access to these facilities. Further, Alternative Ravenswood D would not change or impede access to the PG&E infrastructure in the surrounding areas.

**Alternative Ravenswood D Level of Significance: No Impact**

*Phase 2 Impact 3.15-2: Reduced clearance between waterways and PG&E electrical transmission lines.*

### *Alviso-Island Ponds*

***Alternative Island A (No Action).*** Ponds A19, A20, and A21 do not contain PG&E towers, transmission lines, or stations. Therefore, Alternative Island A (the No Action Alternative) would not reduce clearance between waterways and PG&E electrical transmission lines.

**Alternative Island A Level of Significance: No Impact**

***Alternative Island B.*** The Alternative Island B actions would occur within ponds that do not contain PG&E towers, transmission lines, or stations. Therefore, Alternative Island B would not reduce clearance between waterways and PG&E electrical transmission lines.

**Alternative Island B Level of Significance: No Impact**

***Alternative Island C.*** The Alternative Island C actions would occur within ponds that do not contain PG&E towers, transmission lines, or stations. Therefore, Alternative Island C would not reduce clearance between waterways and PG&E electrical transmission lines.

**Alternative Island C Level of Significance: No Impact**

### *Alviso-Mountain View Ponds*

***Alternative Mountain View A (No Action).*** Two PG&E overhead transmission lines are within and around Pond A2W. Pond A1 and Charleston Slough do not contain transmission lines or towers. Under Alternative Mountain View A (the No Action Alternative), no new activities would be implemented as part of Phase 2. USFWS is maintaining the ponds as part of the Don Edwards San Francisco Bay National Wildlife Refuge System, the AMP, and other Refuge management documents and practices. The Mountain View Ponds would continue to be managed through the activities described in the AMP and in accordance with current USFWS practices. The levees around Ponds A1 and A2W are high-priority levees to be maintained for inland flood protection and would be maintained (or repaired on failure). In addition to levee maintenance, PG&E tower improvements would be made to the lines in and around Pond A2W as part of routine maintenance, to comply with the requirements of the NERC program, and to adapt to sea-level rise. These improvements would involve raising towers and raising and strengthening the foundations or superstructures of towers. All tower improvements and modifications have previously been approved and permitted by the appropriate regulatory agencies. Because of the continued maintenance of levees and ponds and the improvements made to towers under the NERC program, Pond A2W is protected from tidal influence and therefore there is no potential impact as a result of Alternative A reducing clearance between waterways and PG&E electrical transmission lines.

**Alternative Mountain View A Level of Significance: No Impact**

***Alternative Mountain View B.*** This section discusses Pond A2W and Pond A1 separately. Pond A2W is described first because it has power lines and access boardwalks directly within it.

***Pond A2W.*** Two PG&E overhead power transmission lines are within Pond A2W. Implementation of the Alternative Mountain View B action would increase water levels and sediment deposition in Pond A2W. Conversion of this pond to tidal marsh habitat would require PG&E to upgrade the tower foundations to account for the introduced tidal flux, a maintenance and improvement activity that would occur as part of Alternative Mountain View B. The concrete pedestals on which the towers sit would be raised to elevate the metal portions of the towers above the highest tides.

The additional boardwalk section and the bridges over the breaches on the eastern side of Pond A2W would form an effective physical barrier to entry into what would otherwise be potentially navigable waterways during certain parts of the tide cycles. USFWS would prohibit boat entry into the ponds themselves, but accidental entry would still be a possibility. New sections of boardwalk connecting from Pond A2W to the existing boardwalk outside of the Palo Alto Flood Basin would also prohibit entry into Mountain View Slough.

However, because of these physical barriers, the towers themselves would not need to be extended to lift the power lines high enough that the "bellies" (the low point of the sag in the lines between two towers) would be compliant with California Public Utilities Commission General Order 95's (2012) Rule 12 regarding power lines over navigable waters. These regulations require clearance of at least 47 feet above high water. Instead, because of the barriers, the ponds would only need to be compliant with California Public Utilities Commission General Order 95's (2012) Rule 11, which requires 25 feet of clearance about high water. The existing towers and power lines would have bellies that meet this requirement even under the increased water levels in Pond A2W that would be brought about by breaching.

Once these barriers are in place, there would be no power lines over navigable waterways. Thus, the increase in water levels as a result of Alternative Mountain View B would have a less-than-significant impact on the reduced clearance between waterways and PG&E electrical transmission lines within Pond A2W.

***Pond A1***. Pond A1 does not contain PG&E transmission lines or towers. Alternative Mountain View B would not reduce clearance between waterways and PG&E electrical transmission lines in Pond A1.

**Alternative Mountain View B Level of Significance: Less than Significant**

***Alternative Mountain View C.*** Impacts from Alternative Mountain View C would be similar to those discussed in Alternative Mountain View B for Pond A1 and Pond A2W. The impacts from Charleston Slough would also be less than significant because there are no power lines or towers within it.

**Alternative Mountain View C Level of Significance: Less than significant**

### *Alviso-A8 Ponds*

***Alternative A8 A (No Action).*** There are no PG&E towers within the A8 pond cluster. Therefore, Alternative A8 A (the No Action Alternative) would not reduce clearance between waterways and PG&E electrical transmission lines.

**Alternative A8 A Level of Significance: No Impact**

***Alternative A8 B.*** There are no PG&E towers within the A8 pond cluster. Therefore, Alternative A8 B would not reduce clearance between waterways and PG&E electrical transmission lines.

**Alternative A8 B Level of Significance: No Impact**

### *Ravenswood Ponds*

***Alternative Ravenswood A (No Action).*** There are no PG&E towers within the Ravenswood pond cluster. Therefore, Alternative Ravenswood A (the No Action Alternative) would not reduce clearance between waterways and PG&E electrical transmission lines.

**Alternative Ravenswood A Level of Significance: No Impact**

***Alternative Ravenswood B.*** There are no PG&E towers within the Ravenswood pond cluster. Therefore, Alternative Ravenswood B would not reduce clearance between waterways and PG&E electrical transmission lines in the ponds or in the surrounding areas.

**Alternative Ravenswood B Level of Significance: No Impact**

***Alternative Ravenswood C.*** There are no PG&E towers within the Ravenswood pond cluster. Therefore, Alternative Ravenswood C would not reduce clearance between waterways and PG&E electrical transmission lines in the ponds or in the surrounding areas.

**Alternative Ravenswood C Level of Significance: No Impact**

***Alternative Ravenswood D.*** There are no PG&E towers within the Ravenswood pond cluster. Therefore, Alternative Ravenswood D would not reduce clearance between waterways and PG&E electrical transmission lines in the ponds or in the surrounding areas.

**Alternative Ravenswood D Level of Significance: No Impact**

*Phase 2 Impact 3.15-3: Reduced structural integrity of PG&E towers.*

### *Alviso-Island Ponds*

***Alternative Island A (No Action).*** There are no functioning PG&E towers within the Island pond cluster. Therefore, there is no potential for impacts related to loss of the towers' structural integrity under Alternative Island A (the No Action Alternative).

**Alternative Island A Level of Significance: No Impact**

***Alternative Island B.*** There are no functioning PG&E towers within the Island pond cluster. Therefore, there is no potential for impacts related to loss of the towers' structural integrity under Alternative Island B.

**Alternative Island B Level of Significance: No Impact**

***Alternative Island C.*** There are no functioning PG&E towers within the Island pond cluster. Therefore, there is no potential for impacts related to loss of the towers' structural integrity under Alternative Island C.

**Alternative Island C Level of Significance: No Impact**

### *Alviso-Mountain View Ponds*

***Alternative Mountain View A (No Action).*** There are 16 transmission towers within Pond A2W, and the pond's outboard levee provides maintenance vehicle access to these structures. Another two towers are on the northwesterly portion of Pond A2W's outboard levee. Pond A1 does not contain any transmission towers with the boundary of the pond. However, six towers are just north of Pond A1. PG&E utilizes the levees around both of these ponds for vehicular access to these towers. PG&E also has boardwalks within Pond A2W for access to the full extent of the power lines. These levees and boardwalks are used for regular maintenance and repair.

Under Alternative Mountain View A (the No Action Alternative), no new activities would be implemented as part of Phase 2. USFWS is maintaining the ponds as part of the Don Edwards San Francisco Bay National Wildlife Refuge System, the AMP, and other Refuge management documents and practices. The Mountain View Ponds would continue to be managed through the activities described in the AMP and in accordance with current USFWS practices. The levees around Ponds A1 and A2W are high-priority levees, to be maintained for inland flood protection, and would be maintained (or repaired on failure).

Continued management of the Pond A1 and Pond A2W levees would not affect the structural integrity of the PG&E towers in or around the Mountain View Ponds. More frequent overtopping of the Pond A2W levees during flood events would temporarily increase water levels. Although water level increases would be short lived, such increases would have the potential to affect the structural integrity of the 16 towers within Pond A2W. In addition to levee maintenance, PG&E tower improvements would be made within Pond A2W as part of routine maintenance, to comply with the requirements of the NERC program, and to adapt to sea-level rise. These improvements may involve raising towers and/or raising and strengthening the foundations or superstructures of the towers.

Because of the continued maintenance of the levees and ponds and the improvements made to towers under the NERC program, impacts to the structural integrity of the PG&E towers would be less than significant.

**Alternative Mountain View A Level of Significance: Less than Significant**

***Alternative Mountain View B.*** This section discusses Pond A2W and Pond A1 separately. Pond A2W is described first because it has power lines and access boardwalks directly within it.

Pond A2W. There are 16 transmission towers within Pond A2W, and the pond's outboard levee provides maintenance vehicle access to these structures. Another two towers are on the northwesterly portion of the outboard levee. Implementation of the Alternative Mountain View B action would increase water levels and sediment deposition in Pond A2W. To avoid or minimize impacts to PG&E facilities, the project would reinforce the existing concrete pedestals on which the 16 transmission towers sit, with additional concrete placed higher up on the tower legs to armor the metal portions of the towers from the corrosive action of salt water from the highest tides. The parts of the Pond A2W levee currently supporting PG&E towers would be maintained.

***Pond A1.*** Pond A1 does not contain any transmission towers. Continued maintenance of the Pond A1 levee would limit any effect of Alternative Mountain View B on the structural integrity of the PG&E towers in the pond.

**Alternative Mountain View B Level of Significance: Less than Significant**

***Alternative Mountain View C.*** Impacts from Alternative Mountain View C would be similar to those discussed in Alternative Mountain View B, except that Charleston Slough would be involved. However, Charleston Slough does not contain PG&E towers, and therefore, this alternative would not affect the structural integrity of the towers any differently than Alternative Mountain View B would.

**Alternative Mountain View C Level of Significance: Less than Significant**

### *Alviso-A8 Ponds*

***Alternative A8 A (No Action).*** There are no PG&E towers within the A8 pond cluster. Alternative A8 A (the No Action Alternative) would occur within ponds that do not contain PG&E towers, and therefore Alternative A8 A would not affect the towers' structural integrity.

**Alternative A8 A Level of Significance: No Impact**

***Alternative A8 B.*** There are no PG&E towers within the A8 pond cluster. The Alternative A8 B actions within the A8 Ponds would occur within ponds that do not contain PG&E towers, and therefore, Alternative A8 B would not affect the towers' structural integrity.

**Alternative A8 B Level of Significance: No Impact**

### *Ravenswood Ponds*

***Alternative Ravenswood A (No Action).*** There are no PG&E towers within the Ravenswood pond cluster. Levee failures and unplanned breaches near the PG&E towers within and along the banks of Ravenswood Slough could increase tidal prism at the mouth of Ravenswood Slough, possibly inducing channel widening and potentially undermining the integrity of the towers. However, if levee failure immediately adjacent to a tower were expected, USFWS would coordinate with PG&E to provide localized levee protection to avoid scour around the tower foundation.

**Alternative Ravenswood A Level of Significance: Less than Significant**

***Alternative Ravenswood B.*** The Alternative Ravenswood B actions within the Ravenswood Ponds would occur within ponds that do not contain PG&E towers, and therefore Alternative Ravenswood B would not affect the towers' structural integrity.

**Alternative Ravenswood B Level of Significance: No Impact**

***Alternative Ravenswood C.*** The Alternative Ravenswood C actions within the Ravenswood Ponds would occur within ponds that do not contain PG&E towers, and therefore Alternative Ravenswood C would not affect the towers' structural integrity.

**Alternative Ravenswood C Level of Significance: No Impact**

***Alternative Ravenswood D.*** The Alternative Ravenswood D actions within the Ravenswood Ponds would occur within ponds that do not contain PG&E towers, and therefore Alternative Ravenswood D would not affect the towers' structural integrity.

**Alternative Ravenswood D Level of Significance: No Impact**

*Phase 2 Impact 3.15-4: Changes in water level, tidal flow and sedimentation near storm drain systems.*

Stormwater facilities collect rainfall runoff from upland areas and discharge via gravity flow and/or pumping into the SBSP Restoration Project area. These flows typically discharge to channels and sloughs leading to the Bay. Most drainage channels collect stormwater from at least one outfall that discharges via gravity when water levels in the slough are lower than the outfall (at low tide). The following discussion addresses potential impacts to gravity-driven storm drainage. Potential impacts to storm drain systems that rely on pumping are addressed in Phase 2 Impact 3.15-5, below.

The potential for impacts depends on the change to low-tide elevations, amount of channel sedimentation near the outfall, the capacity of the storm drain system, and the ability of the structure to function properly with higher low-tide elevations of the receiving water. In storm drain systems that do not have the capacity to accommodate higher low-tide elevations or sedimentation near the outfall, reduced conveyance through the structures could potentially result in ponding of stormwater in developed areas.

### *Alviso-Island Ponds*

***Alternative Island A (No Action).*** Two storm drain outfalls are upstream from the Island pond cluster, one from Laguna Creek into Mud Slough and the other from the Fremont Flood Control Chanel in Coyote Creek. Under Alternative Island A (the No Action Alternative), unplanned levee breaches could temporarily affect water level, tidal flow, and sedimentation along Mud Slough and Coyote Creek, but no changes are expected to water surface elevations during high tide. Therefore, any potential changes resulting from unplanned breaches at the Island pond cluster are not expected to affect the ability to operate storm drain systems.

**Alternative Island A Level of Significance: Less than Significant**

***Alternative Island B.*** Alternative Island B would continue the transition of the Island Ponds to tidal marsh, which could result in additional sediment deposition into Coyote Creek. However, the restoration actions at the Island Ponds are far away from the storm drain systems in the upstream areas. Although Alternative Island B would modify the tidal flux in the ponds, the modifications would not cause substantial changes in tidal levels, sedimentation, or stormwater management in upstream areas.

**Alternative Island B Level of Significance: Less than Significant**

***Alternative Island C.*** Alternative Island C would continue the transition of Island Ponds to tidal marsh, which could result in additional sediment deposition into Coyote Creek and Mud Slough. However, the restoration actions at the Island Ponds are far away from the storm drain systems in the upstream areas. Although Alternative Island C would modify the tidal flux in the ponds, the modifications would not cause substantial changes in tidal levels, sedimentation, or stormwater management in upstream areas.

**Alternative Island C Level of Significance: Less than Significant**

### *Alviso-Mountain View Ponds*

***Alternative Mountain View A (No Action).*** Several outfalls are upstream from the Mountain View pond cluster, on Permanente Creek and Stevens Creek in the city of Mountain View. Under Alternative Mountain View A (the No Action Alternative), unplanned levee breaches could temporarily affect water level, tidal flow, and sedimentation along Permanente Creek (drains to Mountain View Slough) and

Stevens Creek, but no changes are expected to water surface elevations during high tide. Therefore, any potential changes resulting from unplanned breaches at the Mountain View pond cluster are not expected to affect the ability to operate storm drain systems.

**Alternative Mountain View A Level of Significance: Less than Significant**

***Alternative Mountain View B.*** Under Alternative Mountain View B, potential impacts to outfalls would be slightly greater in Alternative Mountain View B than under Alternative Mountain View A, due to the restoration of ponds connected to Permanente Creek/Mountain View Slough and Stevens Creek/Whisman Slough. However, restoration actions at the Mountain View Ponds would be designed to minimize impacts to the upstream storm drain systems, and the discharge pipes would be improved or relocated as necessary in coordination with the operating agencies. Although Alternative Mountain View B would modify the tidal flux in the ponds, modifications would not cause substantial changes in tidal levels, sedimentation, or stormwater management in upstream areas.

**Alternative Mountain View B Level of Significance: Less than Significant**

***Alternative Mountain View C.*** The sloughs affected by restoration under Alternative Mountain View C to which there are known outfalls are the same as in Alternative Mountain View B. However, restoration actions at the Mountain View Ponds would be designed to minimize impacts to the upstream storm drain systems, and the discharge pipes would be improved or relocated as necessary in coordination with the operating agencies. Outfalls are located upstream of the planned breaches.

Alternative Mountain View C would also relocate the primary water intake system for Shoreline Park's sailing lake and would raise the levees around Charleston Slough. The utilities associated with the levee improvements around Charleston Slough would be unaffected by Alternative C because the designs include modifications to the access routes and—as needed—to the utilities themselves, including pumps, pump stations, sumps, valve vaults, and so on.

Therefore, although Alternative Mountain View C would modify the tidal flux in the ponds and Charleston Slough, the modifications would not cause substantial changes in tidal levels, sedimentation, or stormwater management in upstream areas.

**Alternative Mountain View C Level of Significance: Less than Significant**

### *Alviso-A8 Ponds*

***Alternative A8 A (No Action).*** Several outfalls are upstream from the A8 pond cluster, on the Guadalupe River in the city of San Jose and San Tomas Aquino Creek in the city of Santa Clara. The Santa Clara Valley Water District has a siphon in Pond A8S, near the southwest corner of the pond, that it can use to divert particularly high outflows in Guadalupe Slough into the pond. Under Alternative A8 A (the No Action Alternative), unplanned levee breaches could temporarily affect water level, tidal flow, and sedimentation along Alviso Slough/Guadalupe River and Guadalupe Slough/San Tomas Aquino Creek, but no changes are expected to water surface elevations during high tide. Therefore, any potential changes resulting from unplanned breaches at the A8 pond cluster would not be expected to affect the ability to operate storm drain systems.

**Alternative A8 A Level of Significance: Less than Significant**

***Alternative A8 B.*** Under Alternative A8 B, habitat transition zones would be constructed along the southwestern and southeastern corners of Pond A8S, adding some flood protection, buffering against sea-level rise, adding transitional habitat, and protecting the adjacent landfill. The habitat transition zone at

the southwest corner would be placed so as to avoid affecting the structure or function of the Santa Clara Valley Water District's siphon. The addition of habitat transition zone would not affect tidal flow and sedimentation along Alviso Slough/Guadalupe River and Guadalupe Slough/San Tomas Aquino Creek. Overall, the expected changes in water levels and sedimentation patterns are not expected to substantially affect the operation of outfalls. Thus, Alternative A8 B would have the same risks and impacts as Alternative A8 A.

**Alternative A8 B Level of Significance: Less than Significant**

### *Ravenswood Ponds*

***Alternative Ravenswood A (No Action).*** Several outfalls are upstream from the Ravenswood pond cluster, on the Bayfront Canal (drains to Flood Slough). Under Alternative Ravenswood A (the No Action Alternative), unplanned levee breaches could temporarily affect water level, tidal flow and sedimentation along Bayfront Canal, but no changes are expected to water surface elevations during high tide. Therefore, any potential changes resulting from unplanned breaches at the Ravenswood pond cluster are not expected to affect the ability to operate storm drain systems.

**Alternative Ravenswood A Level of Significance: Less than Significant**

***Alternative Ravenswood B.*** Under Alternative Ravenswood B, potential impacts to outfalls would be slightly greater in Alternative Ravenswood B than under Alternative Ravenswood A due to the restoration of ponds draining to Flood Slough and Ravenswood Slough. Also, the restoration actions of Alternative Ravenswood B would be designed to minimize impacts to the upstream storm drain systems, and the discharge pipes would be improved or relocated as necessary in coordination with the operating agencies. Overall, the expected changes in water levels and sedimentation patterns would not be expected to substantially affect the operation of outfalls.

**Alternative Ravenswood B Level of Significance: Less than Significant**

***Alternative Ravenswood C.*** The sloughs affected by restoration under Alternative Ravenswood C to which there are known outfalls are the same as in Alternative Ravenswood B. The restoration actions of Alternative Ravenswood C would be designed to minimize impacts to the upstream storm drain systems, and the discharge pipes would be improved or relocated as necessary in coordination with the operating agencies. Outfalls are upstream of the planned breaches. Overall, the changes in water levels and sedimentation patterns are not expected to substantially affect the operation of outfalls.

**Alternative Ravenswood C Level of Significance: Less than Significant**

***Alternative Ravenswood D.*** The sloughs affected by restoration under Alternative Ravenswood D to which there are known outfalls are the same as in Alternative Ravenswood B. Also, Alternative Ravenswood D proposes a more complex connection between existing storm drainage and Pond S5's small, triangular forebay and then to Ponds S5 and R5, through the use of box culverts and a connection to the City of Redwood City's Bayfront Canal and Atherton Channel Project. Overall, the changes in water levels and sedimentation patterns are not expected to adversely affect the operation of outfalls, and implementation of the City of Redwood City's Bayfront Canal and Atherton Channel Project would provide a beneficial effect by improving gravity-based outflow during high-tide conditions.

**Alternative Ravenswood D Level of Significance: Less than Significant**

*Phase 2 Impact 3.15-5: Changes in water level, tidal flow and sedimentation near pumping facilities.*

The urban areas adjacent to the SBSP Restoration Project area contain several stormwater lift stations that would discharge to sloughs upstream of the levee breaches (Moffatt & Nichol 2005). Lift stations are connected to discharge pipes that extend from the lift station to the adjacent slough where the discharge occurs. During storm events, stormwater runoff from the surrounding developed areas flows through storm drain systems toward the Bay. In areas where discharge to the tidal sloughs via gravity flow is not possible, the stormwater is pumped, or "lifted," and discharged into the adjacent sloughs.

Changes to water levels or sedimentation patterns generally do not substantially affect pumping facilities, unless water surface elevations during high tide are substantially raised or sediment accumulation at discharge locations blocks outfall structures.

### *Alviso-Island Ponds*

***Alternative Island A (No Action).*** Two lift stations are upstream from the Island pond cluster, along Coyote Creek within the City of Fremont. Unplanned tidal conversion under Alternative Island A (the No Action Alternative) would potentially alter water levels in sloughs in the South Bay, although these changes in water level are not expected to affect the ability to operate existing pumping facilities. Decreases in tidal currents upstream of the levee breaches would potentially increase sedimentation. Although this effect has not been examined in detail, its impacts to pumping facilities would be expected to be minimal. Impacts resulting from changes in water level, tidal flow, and sedimentation near pumping facilities would be less than significant.

**Alternative Island A Level of Significance: Less than Significant**

***Alternative Island B.*** Alternative Island B would result in the restoration of ponds draining to Coyote Creek and Mud Slough. Two lift stations are upstream of planned levee breaches and lowering. Tidal conversion under Alternative Island B would potentially alter water levels in sloughs of the South Bay, although these changes in water level are not expected to affect the ability to operate existing pumping facilities. Decreases in tidal currents upstream of levee breaches and lowering proposed by Alternative Island B would potentially increase sedimentation; however, the changes in sedimentation patterns are not expected to substantially affect the operation of pumping facilities. Impacts resulting from changes in water level, tidal flow, and sedimentation near pumping facilities would be less than significant.

**Alternative Island B Level of Significance: Less than Significant**

***Alternative Island C.*** The sloughs affected by restoration under Alternative Island C, to which there are known stormwater lift station connections, are the same as in Alternative Island B. All lift stations would be located upstream of the planned levee breaches and lowering. Overall, the changes in water levels and sedimentation patterns are not expected to substantially affect the operation of these pumping facilities. Impacts resulting from changes in water level, tidal flow, and sedimentation near pumping facilities would be less than significant.

**Alternative Island C Level of Significance: Less than Significant**

### *Alviso-Mountain View Ponds*

***Alternative Mountain View A (No Action).*** A lift station is upstream from the Mountain View pond cluster along Permanente Creek (which drains into Mountain View Slough) within the City of Mountain View. Unplanned tidal conversion under Alternative Mountain View A (the No Action Alternative) would potentially alter water levels in sloughs in the South Bay, although these changes in water level are not expected to affect the ability to operate existing pumping facilities. Decreases in tidal currents upstream of the levee breaches would potentially increase sedimentation. Although this effect has not been examined in detail, its impacts to pumping facilities would be expected to be less than significant.

**Alternative Mountain View A Level of Significance: Less than Significant**

***Alternative Mountain View B.*** Alternative Mountain View B would result in the restoration of ponds that would drain to Permanente Creek/Mountain View Slough and Stevens Creek/Whisman Slough. The Permanente Creek lift station is upstream of planned breaches. Tidal conversion under Alternative Mountain View B would potentially alter tidal water levels in sloughs of the South Bay, although these changes in water level are not expected to affect the ability to operate existing pumping facilities. Decreases in tidal currents upstream of the levee breaches proposed by Alternative Mountain View B would potentially increase sedimentation; however, changes in sedimentation patterns would not be expected to substantially affect the operation of pumping facilities. Impacts resulting from changes in water level, tidal flow, and sedimentation near pumping facilities would be less than significant.

**Alternative Mountain View B Level of Significance: Less than Significant**

***Alternative Mountain View C.*** The sloughs affected by restoration under Alternative Mountain View C, which includes Charleston Slough, to which there are known stormwater lift station connections, would be the same as in Alternative Mountain View B. All lift stations would be upstream of the planned breaches. Alternative Mountain View C would include Charleston Slough and could potentially affect the water intake for Shoreline Park's sailing lake. However, this water intake and associated pumping facilities and utilities would be relocated as part of the project. Modeling shows that in its new location, the water intake would not experience increased rates of sedimentation or other difficulties associated with the pumping. Overall, the changes in water levels and sedimentation patterns would not be expected to substantially affect the operation of pumping facilities. Impacts resulting from changes in water level, tidal flow, and sedimentation near pumping facilities would be less than significant.

**Alternative Mountain View C Level of Significance: Less than Significant**

### *Alviso-A8 Ponds*

***Alternative A8 A (No Action).*** Several lift stations are upstream from the A8 Ponds along the Guadalupe River (which drains into Alviso Slough) within the city of San Jose and the community of Alviso. Unplanned tidal conversion under Alternative A8 A (the No Action Alternative) would potentially alter water levels within the sloughs in the South Bay, although these changes in water level would not be expected to affect the ability to operate existing pumping facilities. Decreases in tidal currents upstream of breaches would potentially increase sedimentation. Although this effect has not been examined in detail, its impacts to pumping facilities would be expected to be less than significant.

**Alternative A8 A Level of Significance: Less than Significant**

***Alternative A8 B.*** Under Alternative A8 B, potential impacts to pumping facilities would be limited because the only restoration action would be the construction of the two habitat transition zone sections. The Alviso-A8 ponds contain no known stormwater lift station connections. Overall, the changes in water levels and sedimentation patterns would not be expected to substantially affect the operation of pumping facilities. Impacts resulting from changes in water level, tidal flow, and sedimentation near pumping facilities would be less than significant.

**Alternative A8 B Level of Significance: Less than Significant**

### *Ravenswood Ponds*

***Alternative Ravenswood A (No Action).*** Several lift stations are upstream from the Ravenswood pond cluster, along the Ravenswood Slough. Unplanned tidal conversion under Alternative Ravenswood A (the No Action Alternative) would potentially alter water levels within the sloughs of the South Bay, although these changes in water level are not expected to affect the ability to operate existing pumping facilities. Decreases in tidal currents upstream of the levee breaches would potentially increase sedimentation. Although this effect has not been examined in detail, its impact to pumping facilities would be expected to be less than significant.

**Alternative Ravenswood A Level of Significance: Less than Significant**

***Alternative Ravenswood B.*** Alternative Ravenswood B would result in the restoration of ponds draining to Ravenswood Slough. All lift stations are upstream of planned breaches. Tidal conversion under Alternative Ravenswood B would potentially alter tidal water levels in Ravenswood Slough and other sloughs of the South Bay, although these changes in water level are not expected to affect the ability to operate existing pumping facilities. Decreases in tidal currents upstream of the levee breaches proposed by Alternative Ravenswood B would potentially increase sedimentation; however, changes in sedimentation patterns would not be expected to substantially affect the operation of pumping facilities. Impacts resulting from changes in water level, tidal flow, and sedimentation near pumping facilities would be less than significant.

**Alternative Ravenswood B Level of Significance: Less than Significant**

***Alternative Ravenswood C.*** The sloughs affected by restoration under Alternative Ravenswood C, to which there are known stormwater lift station connections, are the same as in Alternative Ravenswood B. All lift stations are upstream of the planned breaches. Overall, the changes in water levels and sedimentation patterns would not be expected to substantially affect the operation of pumping facilities. Impacts resulting from changes in tidal water level, tidal flow, and sedimentation near pumping facilities would be less than significant.

**Alternative Ravenswood C Level of Significance: Less than Significant**

***Alternative Ravenswood D.*** The sloughs affected by restoration under Alternative Ravenswood D, to which there are known stormwater lift station connections, are the same as in Alternatives Ravenswood B and Ravenswood C. All lift stations are upstream of the planned breaches. Overall, the changes in water levels and sedimentation patterns would not be expected to substantially affect the operation of pumping facilities. Impacts resulting from changes in water level, tidal flow, and sedimentation near pumping facilities would be less than significant.

**Alternative Ravenswood D Level of Significance: Less than Significant**

*Phase 2 Impact 3.15-6: Changes in water level, tidal flow and sedimentation near sewer force mains and outfalls.*

The San Jose/Santa Clara Waller Pollution Control Plant (WPCP) and the City of Sunnyvale WPCP discharge to sloughs that drain portions of the Alviso pond complex. The San Jose/Santa Clara WPCP discharges to Artesian Slough upstream of the Aliviso-A8 Ponds, and the City of Sunnyvale WPCP discharges to Moffett Channel, which drains to Guadalupe Slough. The City of Palo Alto Regional Water Quality Control Plant outfall is between the Alviso and the Ravenswood pond complexes. All discharges from these facilities occur outside the SBSP Restoration Project Phase 2 pond clusters (Moffatt & Nichol 2005).

### *Alviso-Island Ponds*

***Alternative Island A (No Action).*** There are no sewer force mains or outfalls in close proximity to the Island pond cluster. Therefore, under Alternative Island A (the No Action Alternative), there would be no potential for changes in water level, tidal flow, or sedimentation near sewer force mains and outfalls.

**Alternative Island A Level of Significance: No Impact**

***Alternative Island B.*** There are no sewer force mains or outfalls in close proximity to the Island pond cluster. Therefore, under Alternative Island B, there would be no potential for changes in water level, tidal flow, or sedimentation near sewer force mains and outfalls.

**Alternative Island B Level of Significance: No Impact**

***Alternative Island C.*** There are no sewer force mains or outfalls in close proximity to the Island pond cluster. Therefore, under Alternative Island C, there would be no potential for changes in water level, tidal flow, or sedimentation near sewer force mains and outfalls.

**Alternative Island C Level of Significance: No Impact**

### *Alviso-Mountain View Ponds*

***Alternative Mountain View A (No Action).*** There are no sewer force mains or outfalls in close proximity to the Mountain View pond cluster. Therefore, under Alternative Mountain View A (the No Action Alternative), there would be no potential for changes in water level, tidal flow, and sedimentation near sewer force mains or outfalls.

**Alternative Mountain View A Level of Significance: No Impact**

***Alternative Mountain View B.*** There are no sewer force mains or outfalls in close proximity to the Mountain View pond cluster. Therefore, under Alternative Mountain View B, there would be no potential for changes in water level, tidal flow, and sedimentation near sewer force mains or outfalls.

**Alternative Mountain View B Level of Significance: No Impact**

***Alternative Mountain View C.*** There are no sewer force mains or outfalls in close proximity to the Mountain View pond cluster. Therefore, under Alternative Mountain View C, there would be no potential for t changes in water level, tidal flow, and sedimentation near sewer force mains or outfalls.

**Alternative Mountain View C Level of Significance: No Impact**

### *Alviso-A8 Ponds*

***Alternative A8 A (No Action).*** There are no sewer force mains or outfalls in close proximity to the A8 pond cluster. Therefore, under Alternative A8 A (the No Action Alternative), there would be no potential for changes in water level, tidal flow, or sedimentation near sewer force mains and outfalls.

**Alternative A8 A Level of Significance: No Impact**

***Alternative A8 B.*** There are no sewer force mains or outfalls in close proximity to the A8 pond cluster. Therefore, under Alternative A8 B, there would be no potential for changes in water level, tidal flow, and sedimentation near sewer force mains or outfalls.

**Alternative A8 B Level of Significance: No Impact**

### *Ravenswood Ponds*

***Alternative Ravenswood A (No Action).*** There are no sewer force mains or outfalls in close proximity to the Ravenswood pond cluster. Therefore, under Alternative Ravenswood A (the No Action Alternative), there would be no potential for changes in water level, tidal flow, or sedimentation near sewer force mains or outfalls.

**Alternative Ravenswood A Level of Significance: No Impact**

***Alternative Ravenswood B.*** There are no sewer force mains or outfalls in close proximity to the Ravenswood pond cluster. Therefore, under Alternative Ravenswood B, there would be no potential for the Ravenswood Ponds to experience changes in water level, tidal flow, or sedimentation near sewer force mains and outfalls.

**Alternative Ravenswood B Level of Significance: No Impact**

***Alternative Ravenswood C.*** There are no sewer force mains or outfalls in close proximity to the Ravenswood pond cluster. Therefore, under Alternative Ravenswood C, there would be no potential for changes in water level, tidal flow, or sedimentation near sewer force mains and outfalls.

**Alternative Ravenswood C Level of Significance: No Impact**

***Alternative Ravenswood D.*** There are no sewer force mains or outfalls in close proximity to the Ravenswood pond cluster. Therefore, under Alternative Ravenswood D, there would be no potential for changes in water level, tidal flow, or sedimentation near sewer force mains and outfalls.

**Alternative Ravenswood D Level of Significance: No Impact**

### *Phase 2 Impact 3.15-7: Disrupt Hetch Hetchy Aqueduct service so as to create a public health hazard or extended service disruption.*

The following discussion evaluates potential impacts to service disruption of the Hetch Hetchy Aqueduct due to levee construction and habitat restoration at the Phase 2 locations. There are no Phase 2 ponds within the Phase 2 SBSP Restoration Project area in close proximity to the Hetch Hetchy Aqueduct. Therefore, there would be no potential for the Island, Mountain View, A8, or Ravenswood pond clusters to disrupt Hetch Hetchy Aqueduct service so as to create a public health hazard or extended service disruption.

### *Alviso-Island Ponds*

***Alternative Island A (No Action).*** There are no ponds within the Island pond cluster in close proximity to the Hetch Hetchy Aqueduct. Therefore, under Alternative Island A (the No Action Alternative), there would be no potential to disrupt Hetch Hetchy Aqueduct service so as to create a public health hazard or extended service disruption.

**Alternative Island A Level of Significance: No Impact**

***Alternative Island B.*** There are no ponds within the Island pond cluster in close proximity to the Hetch Hetchy Aqueduct. Therefore, under Alternative Island B, there would be no potential f to disrupt Hetch Hetchy Aqueduct service so as to create a public health hazard or extended service disruption.

**Alternative Island B Level of Significance: No Impact**

***Alternative Island C.*** There are no ponds within the Island pond cluster in close proximity to the Hetch Hetchy Aqueduct. Therefore, under Alternative Island C, there would be no potential to disrupt Hetch Hetchy Aqueduct service so as to create a public health hazard or extended service disruption.

**Alternative Island C Level of Significance: No Impact**

### *Alviso-Mountain View Ponds*

***Alternative Mountain View A (No Action).*** There are no ponds within the Mountain View pond cluster in close proximity to the Hetch Hetchy Aqueduct. Therefore, under Alternative Mountain View A (the No Action Alternative), there would be no potential to disrupt Hetch Hetchy Aqueduct service so as to create a public health hazard or extended service disruption.

**Alternative Mountain View A Level of Significance: No Impact**

***Alternative Mountain View B.*** There are no ponds within the Mountain View pond cluster in close proximity to the Hetch Hetchy Aqueduct. Therefore, under Alternative Mountain View B, there would be no potential to disrupt Hetch Hetchy Aqueduct service so as to create a public health hazard or extended service disruption.

**Alternative Mountain View B Level of Significance: No Impact**

***Alternative Mountain View C.*** There are no ponds within the Mountain View pond cluster in close proximity to the Hetch Hetchy Aqueduct. Therefore, under Alternative Mountain View C, there would be no potential to disrupt Hetch Hetchy Aqueduct service so as to create a public health hazard or extended service disruption.

**Alternative Mountain View C Level of Significance: No Impact**

### *Alviso-A8 Ponds*

***Alternative A8 A (No Action).*** There are no ponds within the A8 pond cluster in close proximity to the Hetch Hetchy Aqueduct. Therefore, under Alternative A8 A (the No Action Alternative), there would be no potential to disrupt Hetch Hetchy Aqueduct service so as to create a public health hazard or extended service disruption.

**Alternative A8 A Level of Significance: No Impact**

***Alternative A8 B.*** There are no ponds within the A8 pond cluster in close proximity to the Hetch Hetchy Aqueduct. Therefore, under Alternative A8 B, there would be no potential to disrupt Hetch Hetchy Aqueduct service so as to create a public health hazard or extended service disruption.

**Alternative A8 B Level of Significance: No Impact**

### *Ravenswood Ponds*

***Alternative Ravenswood A (No Action).*** There are no ponds within the Ravenswood pond cluster in close proximity to the Hetch Hetchy Aqueduct. Therefore, under Alternative Ravenswood A (the No Action Alternative), there would be no potential to disrupt Hetch Hetchy Aqueduct service so as to create a public health hazard or extended service disruption.

**Alternative Ravenswood A Level of Significance: No Impact**

***Alternative Ravenswood B.*** There are no ponds within the Ravenswood pond cluster in close proximity to the Hetch Hetchy Aqueduct. Therefore, under Alternative Ravenswood B, there would be no potential to disrupt Hetch Hetchy Aqueduct service so as to create a public health hazard or extended service disruption.

**Alternative Ravenswood B Level of Significance: No Impact**

***Alternative Ravenswood C.*** There are no ponds within the Ravenswood pond cluster in close proximity to the Hetch Hetchy Aqueduct. Therefore, under Alternative Ravenswood C, there would be no potential to disrupt Hetch Hetchy Aqueduct service so as to create a public health hazard or extended service disruption.

**Alternative Ravenswood C Level of Significance: No Impact**

***Alternative Ravenswood D.*** There are no ponds within the Ravenswood pond cluster in close proximity to the Hetch Hetchy Aqueduct. Therefore, under Alternative Ravenswood D, there would be no potential to disrupt Hetch Hetchy Aqueduct service so as to create a public health hazard or extended service disruption.

**Alternative Ravenswood D Level of Significance: No Impact**

*Phase 2 Impact 3.15-8: Disruption of rail service due to construction of coastal flood levees and tidal habitat restoration.*

### *Alviso-Island Ponds*

***Alternative Island A (No Action).*** A Union Pacific Railroad (UPRR) line currently exists on the levee between Ponds A20 and A21. Under Alternative Island A (the No Action Alternative), the levee containing the active UPRR line would be maintained by UPRR to allow the continued use of the tracks. Under Alternative A, this transition to tidal marsh would be allowed to continue. Aside from the monitoring and management activities of the AMP and maintenance of the railroad track, no other operation and maintenance activities would occur.

**Alternative Island A Level of Significance: No Impact**

***Alternative Island B.*** The Alternative Island B actions at Ponds A19, A20, and A21 propose no modification to the levee between Ponds A20 and A21. The levee containing the active UPRR track

would be maintained by UPRR to allow the continued use of the tracks. Under Alternative Island B, the levee between Ponds A19 and A20 would be removed or lowered to support hydrological connectivity and potentially improve the ecological function of both ponds. Aside from the monitoring and management activities of the AMP and maintenance of the railroad track, no other operation and maintenance activities would occur on the levee between Ponds A19 and A20. The levee containing the existing railroad track would be maintained to allow the continued use of the tracks.

**Alternative Island B Level of Significance: No Impact**

***Alternative Island C.*** The Alternative Island C actions at Ponds A19, A20, and A21 propose no modification to the levee between Ponds A20 and A21. The levee containing the active UPRR track would be maintained by UPRR to allow the continued use of the tracks. Under Alternative Island C, in addition to Alternative Island B activities, the following actions would be taken: levee breaches on the north sides of Ponds A20 and A21, pilot channels in Pond A19, and widening of the existing breaches on the southern levee of Pond A19. These additional components would be intended to accelerate the conversion of this Island Ponds into tidal marsh. Hydrological connectivity would be created to alter circulation and sedimentation patterns in the Island Ponds and improve the rate of sediment accretion in Pond A19 and, to a lesser extent, in Ponds A20 and A21. Aside from the monitoring and management activities of the AMP and the maintenance of the railroad track, no other operation and maintenance activities would occur on the levee between Ponds A19 and A20. The levee containing the existing railroad track would be maintained to allow the continued use of the tracks.

**Alternative Island C Level of Significance: No Impact**

### *Alviso-Mountain View Ponds*

***Alternative Mountain View A (No Action).*** There are no rail lines within the Mountain View pond cluster. Under Alternative Mountain View A (the No Action Alternative), there would be no impact on existing rail services.

**Mountain View A Level of Significance: No Impact**

***Alternative Mountain View B.*** There are no rail lines within the Mountain View pond cluster. Under Alternative Mountain View B, there would be no impact on existing rail services.

**Alternative Mountain View B Level of Significance: No Impact**

***Alternative Mountain View C.*** There are no rail lines within the Mountain View pond cluster. Under Alternative Mountain View C, there would be no impact on existing rail services.

**Alternative Mountain View C Level of Significance: No Impact**

### *Alviso-A8 Ponds*

***Alternative A8 A (No Action).*** There are no rail lines within the A8 pond cluster. Under Alternative A8 A (the No Action Alternative), there would be no impact on existing rail services.

**Alternative A8 A Level of Significance: No Impact**

***Alternative A8 B.*** There are no rail lines within the Alviso A8 pond cluster. Under Alternative A8 B, there would be no impact on existing rail services.

**Alternative A8 B Level of Significance: No Impact**

### *Ravenswood Ponds*

***Alternative Ravenswood A (No Action).*** There are no rail lines within the Ravenswood pond cluster. Under Alternative Ravenswood A (the No Action Alternative), there would be no impact on existing rail services.

**Alternative Ravenswood A Level of Significance: No Impact**

***Alternative Ravenswood B.*** There are no rail lines within the Ravenswood pond cluster. Under Alternative Ravenswood B, there would be no impact on existing rail services.

**Alternative Ravenswood B Level of Significance: No Impact**

***Alternative Ravenswood C.*** There are no rail lines within the Ravenswood pond cluster. Under Alternative Ravenswood C, there would be no impact on existing rail services.

**Alternative Ravenswood C Level of Significance: No Impact**

***Alternative Ravenswood D.*** There are no rail lines within the Ravenswood pond cluster. Under Alternative Ravenswood D, there would be no impact on existing rail services.

**Alternative Ravenswood D Level of Significance: No Impact**

*Phase 2 Impact 3.15-9: Reduced access to sewer force mains due to levee construction.*

There are four separate districts that have jurisdictional lands within the vicinity of the South Bay Salt Ponds Phase 2 project area: the South Bayside System Authority (Silicon Valley Clean Water), the City of Palo Alto, the City of Sunnyvale, and the City of San Jose. However, the 2007 EIS/R showed no buried sewer force mains within the Phase 2 project area (Figure 3.16-1 of that document).

### *Alviso-Island Ponds*

***Alternative Island A (No Action).*** There are no buried sewer force mains within the Island pond cluster. Therefore, under Alternative Island A (the No Action Alternative), there would be no potential for reduced access to sewer force mains due to levee construction.

**Alternative Island A Level of Significance: No Impact**

***Alternative Island B.*** There are no buried sewer force mains within the Island pond cluster. Therefore, under Alternative Island B, there would be no potential for reduced access to sewer force mains due to levee construction.

**Alternative Island B Level of Significance: No Impact**

***Alternative Island C.*** There are no buried sewer force mains within the Island pond cluster. Therefore, under Alternative Island C, there would be no potential for reduced access to sewer force mains due to levee construction.

**Alternative Island C Level of Significance: No Impact**

### *Alviso-Mountain View Ponds*

***Alternative Mountain View A (No Action).*** There are no buried sewer force mains within the Mountain View pond cluster. Therefore, under Alternative Mountain View A (the No Action Alternative), there would be no potential for reduced access to sewer force mains due to levee construction.

**Alternative Mountain View A Level of Significance: No Impact**

***Alternative Mountain View B.*** There are no buried sewer force mains within the Mountain View pond cluster. Therefore, under Alternative Mountain View B, there would be no potential for reduced access to sewer force mains due to levee construction.

**Alternative Mountain View B Level of Significance: No Impact**

***Alternative Mountain View C.*** There are no buried sewer force mains within the Mountain View pond cluster. Therefore, under Alternative Mountain View C, there would be no potential for reduced access to sewer force mains due to levee construction.

**Alternative Mountain View C Level of Significance: No Impact**

### *Alviso-A8 Ponds*

***Alternative A8 A (No Action).*** There are no buried sewer force mains within the A8 pond cluster. Therefore, under Alternative A8 A (the No Action Alternative), there would be no potential for reduced access to sewer force mains due to levee construction.

**Alternative A8 A Level of Significance: No Impact**

***Alternative A8 B.*** There are no buried sewer force mains within the A8 pond cluster. Therefore, under Alternative A8 B, there would be no potential for reduced access to sewer force mains due to levee construction.

**Alternative A8 B Level of Significance: No Impact**

### *Ravenswood Ponds*

***Alternative Ravenswood A (No Action).*** There are no buried sewer force mains within the Ravenswood pond cluster. Therefore, under Alternative Ravenswood A (the No Action Alternative), there would be no potential for reduced access to sewer force mains due to levee construction.

**Alternative Ravenswood A Level of Significance: No Impact**

***Alternative Ravenswood B.*** There are no buried sewer force mains within the Ravenswood pond cluster. Therefore, under Alternative Ravenswood B, there would be no potential for reduced access to sewer force mains due to levee construction.

**Alternative Ravenswood B Level of Significance: No Impact**

***Alternative Ravenswood C.*** There are no buried sewer force mains within the Ravenswood pond cluster. Therefore, under Alternative Ravenswood C, there would be no potential for reduced access to sewer force mains due to levee construction.

**Alternative Ravenswood C Level of Significance: No Impact**

***Alternative Ravenswood D.*** There are no buried sewer force mains within the Ravenswood pond cluster. Therefore, under Alternative Ravenswood D, there would be no potential for reduced access to sewer force mains due to levee construction.

**Alternative Ravenswood D Level of Significance: No Impact**

## Impact Summary

The Phase 2 impacts to utilities and the levels of significance are summarized in Table 3.15-1. The levels of significance are those remaining after implementation of program-level mitigation measures, project-level design features, and the AMP and other Refuge management documents and practices. The utilities analysis required no project-level mitigation measures to reduce the impacts to a level that was less than significant.

Table 3.15-1 Phase 2 Summary of Impacts – Utilities

| IMPACT | ALTERNATIVE | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ISLAND | | | MOUNTAIN VIEW | | | A8 | | RAVENSWOOD | | | |
| | A | B | C | A | B | C | A | B | A | B | C | D |
| **Phase 2 Impact 3.15-1:** Reduced ability to access PG&E towers, stations or electrical transmission lines. | NI | NI | NI | LTS | LTS | LTS | NI | NI | NI | NI | NI | NI |
| **Phase 2 Impact 3.15-2:** Reduced clearance between waterways and PG&E electrical transmission lines. | NI | NI | NI | NI | LTS | LTS | NI | NI | NI | NI | NI | NI |
| **Phase 2 Impact 3.15-3:** Reduced structural integrity of PG&E towers. | NI | NI | NI | LTS | LTS | LTS | NI | NI | NI | LTS | LTS | LTS |
| **Phase 2 Impact 3.15-4:** Changes in water level, tidal flow and sedimentation near storm drain systems. | LTS | LTS | LTS | LTS | LTS | LTS | LTS | LTS | LTS | LTS | LTS | LTS |
| **Phase 2 Impact 3.15-5:** Changes in water level, tidal flow and sedimentation near pumping facilities. | LTS | LTS | LTS | LTS | LTS | LTS | LTS | LTS | LTS | LTS | LTS | LTS |
| **Phase 2 Impact 3.15-6:** Changes in water level, tidal flow and sedimentation near sewer force mains and outfalls. | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| **Phase 2 Impact 3.15-7:** Disrupt Hetch Hetchy Aqueduct service so as to create a public health hazard or extended service disruption. | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| **Phase 2 Impact 3.15-8:** Disruption of rail service due to construction of coastal flood levees and tidal habitat restoration. | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |
| **Phase 2 Impact 3.15-9:** Reduced access to sewer force mains due to levee construction. | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI | NI |

Notes:
Alternative A at each pond cluster is the No Action Alternative (the No Project Alternative under CEQA).
LTS = Less than Significant
NI = No Impact

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