



**US Army Corps
of Engineers®**

Appendix B

Environmental Analysis and Coordination

South Pacific Division, Continuing Authorities Program
San Francisco District



Continuing Authorities Program (CAP), Section 103

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1 SUMMARY OF KEY MEETINGS AND COORDINATION

Date	Description
July 21, 2021	Coordination letters sent
November 4, 2021	Site visit with USFWS for FWCA
January 10, 2022	Interagency meeting
March 3, 2022	USFWS meeting to go over project description for FWCA
March 8, 2022	Tribal and Historical Society letters sent
March 8, 2022	Meeting with Colma Creek Coastal Citizens Advisory Committee
March 21, 2022	USFWS progress check-in meeting
March 30-April 15, 2022	TSP presentations held individually with each resource agency (Waterboard, NOAA Fisheries, BCDC, EPA)
June 29, 2022	Public Meeting
July 13, 2022	Public comment period closed for the draft DPR/EA

2 WETLAND DELINEATION

2.1 Introduction

This report presents the methods and results of a wetland delineation conducted for an approximately 100-acre study area for the Lower Colma Creek Continuing Authorities Program Section 103 Project (project) in San Mateo County, California (Figure 1). The U.S. Army Corps of Engineers San Francisco District (USACE) is exploring coastal storm risk management options in the vicinity of the South San Francisco San Bruno Water Quality Control Plant (WQCP). The purpose of this investigation was to determine the presence and extent of lands within the study area which may be considered waters of the U.S., and therefore subject to regulation under Section 404 of the Clean Water Act (CWA) and/or Section 10 of the Rivers and Harbors Act. As a baseline, it uses a previous wetland delineation conducted for the Colma Creek Flood Control Maintenance Project (Horizon Water and Environment, 2015), and builds on that previous effort to include areas that were not delineated before.

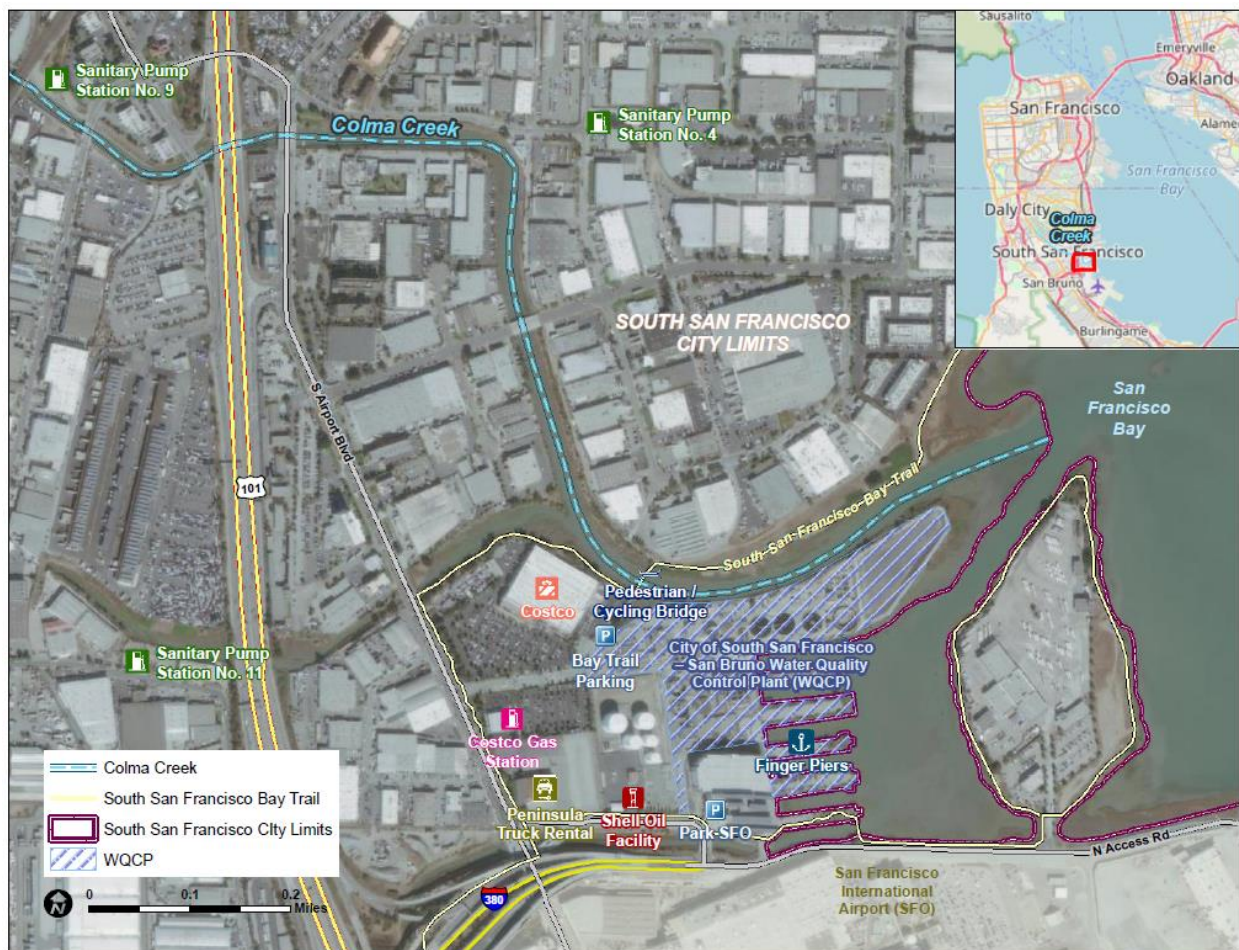


Figure 1. Lower Colma Creek study area.

2.1.1 Study Area

The study area encompasses the reach of Colma Creek adjacent to the WQCP, along with intertidal marsh, mudflat, and estuarine waters near the mouth of the creek. Colma Creek is a perennial stream that flows for approximately 8 miles from its headwaters in San Bruno Mountain State and County Park,

through the Cities of Daly City, Colma, and South San Francisco, eventually discharging into San Francisco Bay (Bay). The entirety of the Bay is considered navigable waters of the U.S. up to mean higher high water (MHHW). Land use in the study area is predominately mixed industrial and commercial, as well as some recreation and open space around the Bay.

2.1.2 Biotic Habitats

Biotic habitats in the study area include: channels, mudflats, rocky intertidal, emergent wetlands, open water, and ruderal/developed areas.

The Colma Creek channel is approximately 150 feet wide adjacent to the WQCP and the Bay. At the mouth of the creek, there is a wetland complex characterized by broad expanses of mudflat habitat with narrow bands of intertidal marsh, rocky intertidal, and upland habitats along the shoreline-Bay ecotone. The mudflats serve as important foraging habitat for many shorebirds. Up until the mid-2000s, this portion of the study area supported large contiguous stands (~50 acres) of non-native, invasive *Spartina alterniflora* (ISP 2014), which provided habitat for California Ridgway's rail (*Rallus obsoletus*). Clapper Rail density in the study area was considered high for the Bay (0.5 to 3 birds per acre (ISP 2008). Since invasive *Spartina* control began in 2006, there has been a rapid decline in the number of rails detected in the study area. Recent surveys (2012-2013 and 2018) have failed to detect Clapper Rails (ISP 2013 and BioMaAS 2018), and there is no longer suitable habitat present.

Portions of Colma Creek are within designated Essential Fish Habitat (EFH) for Pacific salmonids. EFH includes areas that were historically accessible to Pacific salmon. Colma Creek does not currently provide spawning or feeding habitat for Pacific salmonids. Although unlikely, salmon could be present in open water portions of the study area near the confluence with the Bay. The lower portions of Colma Creek could potentially provide suitable non-reproductive habitat for longfin smelt and the southern Distinct Population Segment (DPS) of green sturgeon.

2.2 Methods

The 2015 wetland delineation and this supplemental wetland delineation was conducted in accordance with the 1987 Corps of Engineers Wetland Delineation Manual (USACE 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0) (USACE 2008).¹

2.2.1 Approach

The majority of the study area was delineated in 2015 for a previous project described above (Horizon, 2015)) which encompassed the tidally influenced reaches of Colma Creek, along with intertidal marsh, mudflat, and estuarine waters near the mouth of the creek (Figure 2).

¹ While the recent Supreme Court ruling narrowed the definition of jurisdictional waters, using the prior definition in the absence of updated guidance is reasonable and would not affect the ultimate conclusion regarding impacts to jurisdictional waters.

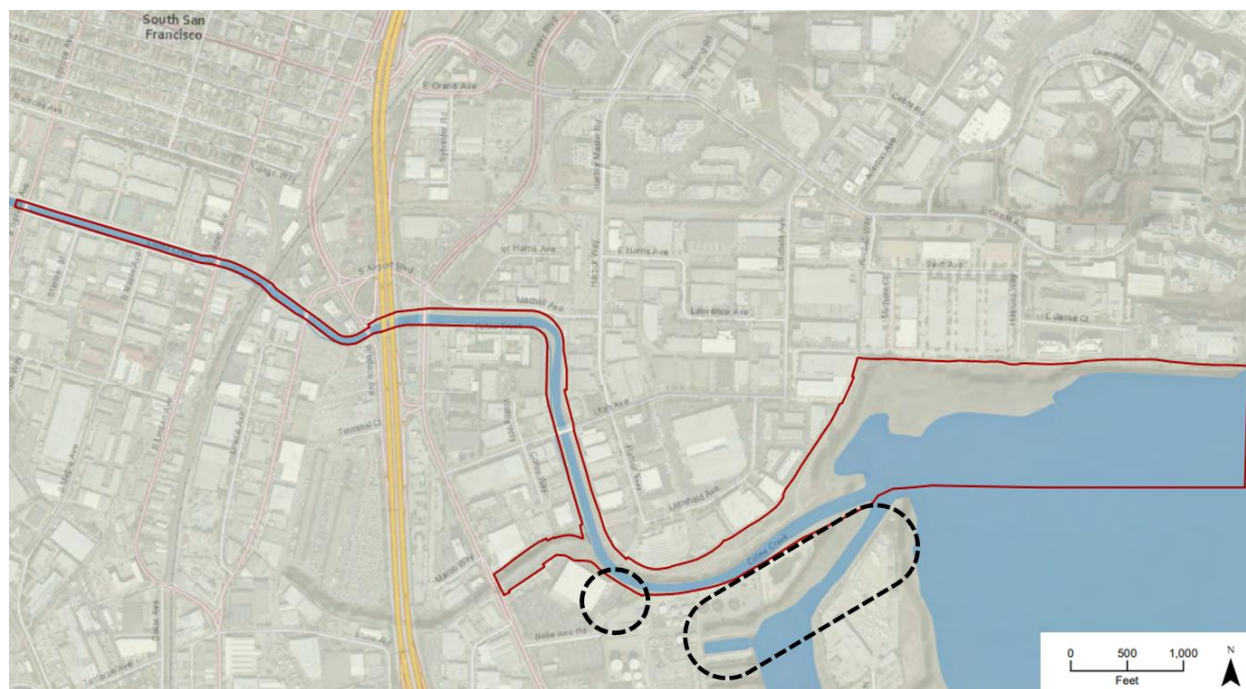


Figure 2. Original area encompassed in the 2015 wetland delineation (Horizon 2015) (red), and the two areas added as part of the 2022 wetland delineation (black dashed).

The focus of this effort was on two areas outside of that effort – the small wetland between Costco and WQCP, and the south side of the WQCP adjacent to the finger piers. These areas were thoroughly searched by foot for presence of potential wetlands. The extent of highest astronomical tide at the Alameda tide station was used as a starting point for the upland extent of intertidal marsh, and then adjusted based on satellite imagery and field data collection. Wetland boundaries were delineated by employing iterative sampling for wetland indicators (i.e., vegetation, soils, hydrology) across topographic gradients. Representative wetland delineation sample points were established within and up-gradient of the wetland boundary.

2.2.2 Data Collection

The field portion of the wetland delineation was conducted April 18, 2022 during low tide. The data collection procedures followed the methods prescribed in the Arid West Supplement. Vegetation species within the general vicinity (approximately 1 to 3 meter radius) of each sample point were identified by stratum. The wetland indicator status of plant species was determined using the 2014 Regional Wetland Plant List (Lichvar et al. 2014). The soil profile was examined to a depth of approximately 14 inches. Soils were characterized by evaluating texture and color within each distinct layer of the profile. Soil color was described using a Munsell Soil Color Chart. Redoximorphic features were noted and characterized. Each sampling location was examined for evidence of wetland hydrology. Indicators of wetland hydrology include saturation, high water table, debris deposits, etc. Depth to saturation and standing water in soil pits were noted, where present. The locations of sample points were mapped using the Avenza Maps application.

Wetland boundaries were delineated using an iterative process that involved field-based mapping and desktop analysis of aerial photographs. The GPS data were projected in Geographical Information System

(GIS) with a recent (2020) aerial photograph as a base map. The GIS and aerial photography were used to further delineate wetland boundaries based on the field indicators. The map developed in GIS was then field evaluated and revised to reflect any discrepancies with field conditions.

2.3 Results

This 2022 supplemental wetland delineation added approximately 14 acres of jurisdictional waters and wetlands of U.S. to the study area to what was delineated in 2015. A total of 132.21 acres of potential waters of the U.S., including 13.89 acres of wetland, were delineated within the study area (Table 1).

Table 1. Acres of jurisdictional waters and wetlands in the study area.

Description	2015 Delineation	2022 Supplemental Delineation	TOTAL
NON-WETLAND WATERS			
Modified Channel (MC)	5.44		5.44
Channel (C)	22.05	9.00	31.05
Intertidal Mudflat (M)	51.60	4.35	55.95
Rocky Intertidal (RI)	0.50		0.50
Open Water (OW)	25.38		25.38
WETLANDS			
Intertidal Marsh (IM)	13.03	0.86	13.89
TOTAL	118.00	14.21	132.21

The jurisdictional areas (combining both wetland delineation efforts) in the immediate study area are shown in Figure 3 below.

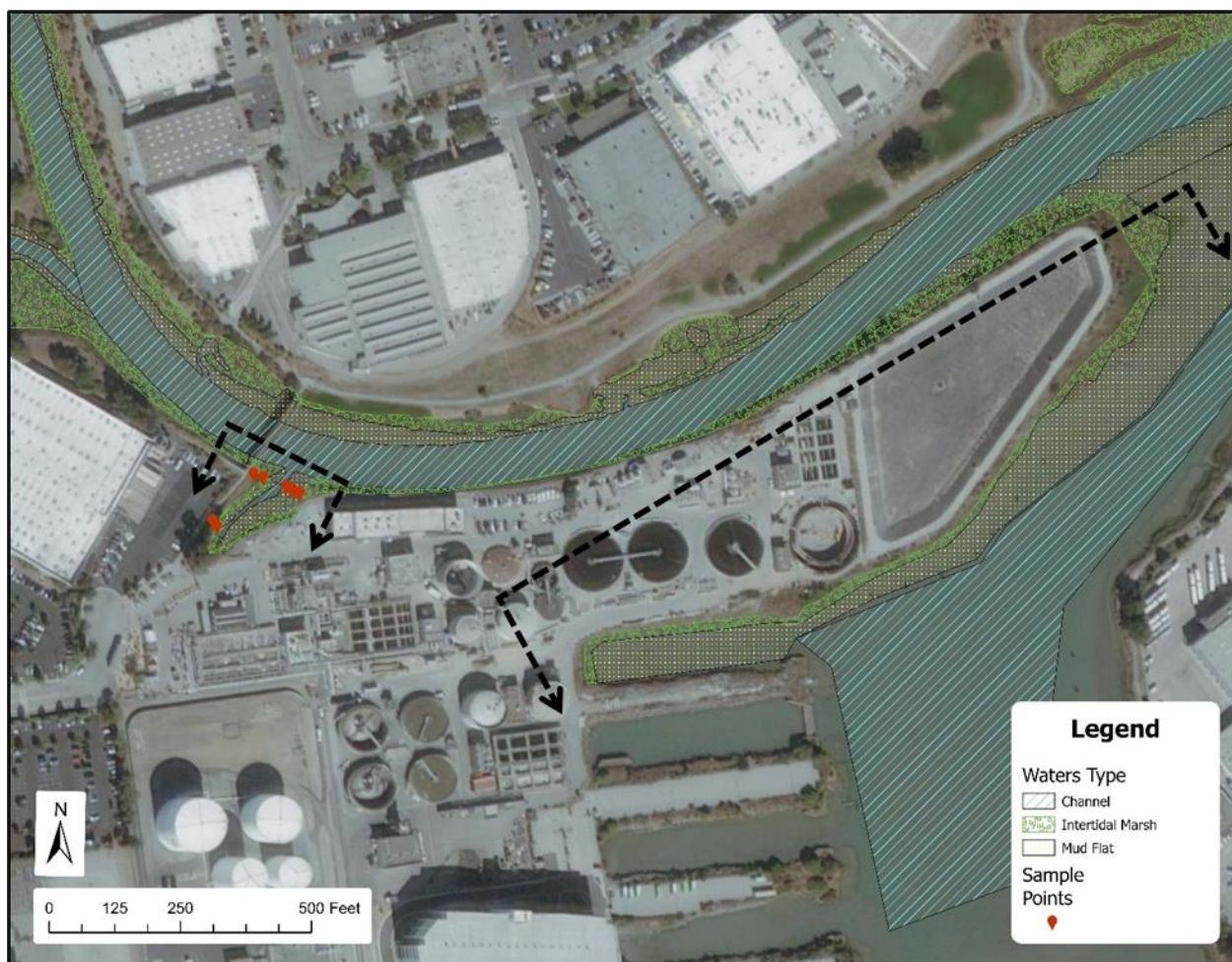


Figure 3. Wetlands and Waters of the U.S. in the vicinity of the study area, reflection the 2015 delineation and the 2022 supplemental delineation. The general location of the two new areas added to the 2015 wetland delineation for this project are indicated (black dashed lines).

The findings for these two additional areas are summarized below, with the most data given for the intertidal marsh and adjacent upland areas where wetland delineation data sheets were filled out.

2.3.1 Non-wetland Waters

There were approximately 9 acres of Channel added to the wetland delineation. This includes a smaller area in the wetland adjacent to Costco and Bay Trail, and a larger area designated as channel south of the WQCP in the large embayment where San Bruno Creek empties into the Bay.

Intertidal mudflat includes non-vegetated or sparsely vegetated (< 25% cover) areas between MLLW and approximately 2 feet above MLLW. There were approximately 4.35 acres of Mudflat added to the wetland delineation, generally located between Channel and Intertidal Marsh areas.

2.3.2 Wetlands

Wetlands in the study area include areas of intertidal marsh on the margins of Colma Creek, in the marsh complex near the mouth of the creek, and elsewhere along the margins of the WQCP. 0.86 acres of

intertidal marsh were added to the wetland delineation. The wetland delineation sample points are summarized below. Wetland delineation datasheets are available if requested.

Point 1a is located on the south bank of Colma Creek approximately 70 feet northwest from the WQCP lab facility building. Vegetation included iceplant (*Carpobrotus edulis*, UPL), stinking chamomile (*Anthemis cotula*, FACU), and yellow sweetclover (*Melilotus indicus*, FACU). With these plants, the point did not meet either the prevalence or dominance tests. Soils were a light brown clayey loam with some potential fill and angular gravel near the surface. This sample point is not considered to be within a wetland due to the dominance of upland plants, lack of hydric soils (dominance of fill), and lack of hydrologic indicators.

Point 1b is located approximately 10 feet downslope from point 1a. Dominant plant species here included pickleweed (*Sarcocornia pacifica*, OBL) and alkali heath (*Frankenia salina*, FACW). The soil had a loamy gleyed matrix (F2) and depleted matrix (F3). The soil was saturated very close to the surface (A3) and there was a very high water table visible (A2). This point was determined to be within a wetland.

Point 2a is also located on the south bank of Colma Creek, adjacent to the Bay Trail pedestrian bridge. The dominant vegetation was iceplant and field brome (*Bromus arvensis*, FACU), and there was some pickleweed and hairy gumplant (*Grindelia hirsutula*, FACW) present. The soil had a sandy texture and had minor redoxomorphic features present, but there were no hydrology indicators present. This sample point is not considered to be within a wetland due to the dominance of upland plants, lack of hydric soils, and lack of hydrologic indicators.

Point 2b is located approximately 10 feet downslope from point 2a, and had a lot of the same characteristics as point 1b. Pickleweed was the dominant vegetation, but there was also some saltgrass (*Distichlis spicata*, FAC) present. The soil was saturated and had a depleted matrix and there was a high water table. This point was determined to be within a wetland.

Point 3a is located approximately 120 feet southwest from point 2a, adjacent to the Bay Trail and near the head of the small marsh between Costco and the WQCP. Dominant vegetation in the herb stratum was salt grass and field brome, and this under a canopy of red willow (*Salix laevigata*, FACW). The soil had two distinct horizons, with a layer of duff present that appeared to be dumped there, but did not show any wetland soil indicators. There were also no hydrology indicators present. This sample point is not considered to be within a wetland due to the dominance of upland plants, lack of hydric soils, and lack of hydrologic indicators.

Point 3b is located approximately 5 feet downslope of point 3a. It is in a pickleweed marsh sharing many of the same vegetation, soil and hydrology indicators as points 1b and 2b. It was determined to be within a wetland.

The sampling plan also included points along the southern edge of the WQCP peninsula, but these were not sampled to avoid disturbing a large number of bird nests in the sample area. Instead, the highest astronomical tide boundary and satellite imagery were used to determine the upslope extent of intertidal marsh.

2.4 Conclusion

A wetland delineation was conducted for an approximately 100 acre study area to supplement a previously conducted wetland delineation. This wetland delineation identified approximately 14 acres or jurisdictional wetlands and waters of the U.S. Wetlands and non-wetland waters of the U.S. mapped in the

study area may be subject to regulation under Section 404 of the Clean Water Act (CWA) and/or Section 10 of the Rivers and Harbors Act.

The results of this wetland delineation were used to refine the project designs to avoid all impacts to jurisdictional waters and wetland. Because of this, a Section 404(b)(1) alternative analysis has not been conducted for this project.

2.5 References

- BioMaAs Inc. 2018. Colma Creek Ridgway's Rail 2018 Survey Results. Prepared for San Mateo County Department of Public Works.
- Horizon Water and Environment (Horizon). 2015. Wetland Delineation for the Colma Creek Flood Control Maintenance Project, San Mateo County, CA. Prepared for San Mateo County Department of Public Works.
- Lichvar, R.W., M. Butterwick, N.C. Melvin, and W.N. Kirchner. 2014. The National Wetland Plant List: 2014 Update of Wetland Ratings. *Phytoneuron* 2014-41: 1-42. Available at: http://wetland_plants.usace.army.mil/.
- San Francisco Estuary Invasive Spartina Project (ISP). 2008. Regional Trends in California Clapper Rail Abundance at Non-native Spartina-invaded Sites in San Francisco Estuary from 2005 to 2007. Prepared by Olofson Environmental Inc.
- Invasive Spartina Project (ISP). 2013. Clapper Rail Surveys for the San Francisco Estuary Invasive Spartina Project 2013. Accessed August 18, 2014, at: http://www.spartina.org/documents/ISPCLRAREport2013_small_000.pdf.
- San Francisco Estuary Invasive Spartina Project (ISP). 2014. Colma Creek & San Bruno Marsh Complex Control Site webpage. Accessed August 18, 2014, at: http://www.spartina.org/control/sitedetail.php?site_idref=50.
- U.S. Army Corps of Engineers (USACE). 1987. Corps of Engineers Wetland Delineation Manual. Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.
- U.S. Army Corps of Engineers (USACE). 2008. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0). ERDC\EL TR-06-16.

3 BIOLOGICAL ASSESSMENT (BA)/ESSENTIAL FISH HABITAT ASSESSMENT (EFHA)

3.1 Introduction

The purpose of this Biological Assessment/Essential Fish Habitat Assessment (BA/EFHA) is to review the project in sufficient detail to determine the extent to which the proposed action may affect (a) any threatened, endangered, or candidate wildlife and fish species regulated by the U.S. Fish and Wildlife Service (USFWS) or National Marine Fisheries Service (NMFS); (b) designated critical habitat of those species; and (c) Essential Fish Habitat (EFH) as defined by the Magnuson-Stevens Fishery Conservation and Management Act. This sub-appendix is meant to serve as the basis for informal consultation under USACE's requirements for the Endangered Species Act (ESA) and Magnuson-Stevens Fisheries Conservation Act (EFH). A table of key meetings and coordination is provided in Appendix B, Section 1. The Fish and Wildlife Coordination Act Report is included in Appendix B, Section 6. NEPA coordination agency letters are provided in Appendix B, Section 7.

3.2 Project Description

The project's recommended plan includes a 2,000-foot-long I-wall (sheetpile) floodwall, approximately 3 to 6.5 feet above grade at WQCP at the north side of the WQCP adjacent to the right-bank of Creek, as well as a second 700-foot-long floodwall approximately 2 to 4 feet above grade on the south side of the plant adjacent to San Francisco Bay. The height of the sheetpile flood walls corresponds to a wall crest elevation of 13.5 ft NAVD88. The sheetpile flood walls will be topped with a concrete cap. The footprint of disturbance will be limited to four feet on either side of the wall centerline. At Pump Station 4, a perimeter sheetpile floodwall, approximately 2 feet above grade, would be constructed, with stop log gate for vehicular access and early warning system so that plant operators would know when to seal the stop log gate.

Alternative 2 (the Tentatively Selected Plan [TSP]) meets the CSRM objectives of managing risk to human life and safety by managing the risk of the WQCP and Pump Station 4 flooding, up to an extreme tide elevation of 12.34 ft during a 0.2% AEP event with 50 years at the Intermediate SLR rate from the base year of 2023, with a wall crest elevation of 13.5 ft. This prevents flooding through the low spots on the north side from the Colma Creek channel and through the low spots on the south side of the WQCP area. The WQCP is still susceptible to overland flow from the west, but this flooding was found to enter the WQCP area only at extreme tide elevations greater than 13 ft. This would allow plant operators to keep the plant operational and avoid emergency releases of raw sewage into Colma Creek and San Francisco Bay due to plant shutdowns. It would also manage the risk of coastal flooding causing raw sewage to back up into homes and streets if pump stations were to fail or the plant were to not be able to accept pumped sewage.



Figure 4. Floodwall alignment on main property of WQCP.

3.3 Federally Threatened and Endangered Species

To help determine ESA listed species potentially present on the site, an IPaC Species Search was conducted in November 2021 to determine USFWS-managed species potentially present in the project area. Of these species, the majority do not have any potential to be in the project area, and so were not analyzed in detail. The species (and associated Critical or Essential Fish Habitats) that have been documented in the project area or nearby are analyzed in further detail below. Much of the species account information shown below is adapted from the biological assessment for the USACE South Bay Shoreline Phase I Study (H.T. Harvey and Associates 2014).

U.S. EPA and NOAA-NMFS participated in the project as formal cooperating agencies (Appendix B, Section 6). USFWS did not engage in formal consultation, but were involved throughout the project in compliance with the Fish and Wildlife Coordination Act (FWCA). Cooperating agencies and USFWS participated on a coordination call on January 10, 2022 and USFWS conducted a site visit on November 4, 2021 with USACE staff. During coordination and their review of the project, they did not identify additional species requiring analysis in this BA or in the Fish and Wildlife Coordination Act Report (Appendix B 5).

3.3.1 California Ridgway's Rail

3.3.1.1 General Distribution

The California Ridgway's rail is a secretive marsh bird that is currently endemic to marshes of the San Francisco Bay. It formerly bred at several other locations, including Humboldt Bay (Humboldt County), Elkhorn Slough (Monterey County), and Morro Bay (San Luis Obispo County), but it is extirpated from all sites outside of the San Francisco Bay.

Recently, Ridgway's rail surveys have been conducted by the Invasive Spartina Project (ISP) and its partners to assess the impacts of invasive Spartina treatment on Ridgway's rails (OEI 2011). The ISP evaluated the trend of Ridgway's rail populations at 33 marshes south of the Bay Bridge that were surveyed annually between 2005 and 2011 (OEI 2011). Between 2004 and 2006, during the peak invasive Spartina infestation, Ridgway's rail numbers were at their highest, with a peak of approximately 400 detections during the spring of 2007. Rail detections declined with the reduction in Spartina and only 129 rails were detected in 2011 at these 33 sites, suggesting Ridgway's rails occupied sites infested with invasive Spartina, but their populations declined subsequent to treatment. Because the majority of the treatment sites were surveyed between 2009 and 2011 by the ISP, a more comprehensive Estuary-wide analysis of California Ridgway's rail population trends at 132 sites was conducted during that timeframe. The number of Ridgway's rail detections at these sites varied by year, but the overall number of detections was similar between 2009 and 2011, with 276-376 rails detected in 2009, 293-384 in 2010, and 267-349 in 2011 (OEI 2011). The most notable declines in rail detections were in San Leandro Bay and on the San Francisco peninsula, where invasive Spartina removal was greatest (OEI 2011). The project area (located on the San Francisco peninsula) is a good example of where this decline was observed. Despite a relatively consistent population at the Estuary scale, rail detections appear to be highly variable between years, suggesting there is substantial annual variability in local distribution and abundance of Ridgway's rails in the Estuary. This variability in rail occupancy was documented prior to Spartina eradication efforts as described above and likely dependent on other habitat variables.

3.3.1.2 Habitat and Biology

Ridgway's rails are typically found in the intertidal zone and sloughs of salt and brackish marshes dominated by pickleweed, Pacific cordgrass (*Spartina foliosa*), gumplant (*Grindelia stricta* var. *angustifolia*), saltgrass (*Distichlis spicata*), jaumea (*Jaumea carnosa*), and adjacent upland refugia. Shrubby areas adjacent to or within these marshes are also important for predator avoidance at high tides.

Evens and Page (1983) concluded from research in a northern San Francisco Bay marsh that the Ridgway's rail breeding season, including pair bonding and nest construction, may begin as early as February. Field observations in South Bay marshes suggest that pair formation also occurs in February in some areas. The end of the breeding season is typically defined as the end of August, which corresponds with the time when eggs laid (during renesting attempts) have hatched and young are mobile. The Ridgway's rail builds a bowl shaped platform nest of marsh vegetation and detritus (DeGroot 1927, Harvey 1988, Foerster et al. 1990). Ridgway's rails typically feed on benthic invertebrates, but the diet is wide ranging, and includes seeds, and occasionally small mammals such as the harvest mouse.

Dispersal or movements by Ridgway's rails in California occurs between and outside of marshes (Orr 1939, Zembal et al. 1985, San Francisco Bay Bird Observatory [SFBBO] 1986, Page and Evens 1987, Albertson 1995). Eddleman (1989) identified movements by Yuma Ridgway's rails outside of their territories as juvenile dispersal; dispersal by an unmated individual bird; and shifts in home ranges after breeding, in winter, and during high water periods; and attributed these movements to a search for more suitable habitat where territories, mates, food, or safe refuge were better available. Juvenile dispersal apparently constitutes the main type of long distance movements by light-footed Ridgway's rails, while adult birds tend to stay within territories once they are established (Zembal and Massey 1988, Zembal et al. 1989, Ledig 1990, Zembal 1990, Zembal 1994, Zembal et al. 1996, Zembal et al. 1997, Zembal et al. 1998). Similarly, adult Ridgway's rails tend to stay within established territories or home ranges year-round (SFBBO 1986, Albertson 1995). However, territory size varies seasonally. Rohmer (2010) found that home range size of California Ridgway's rails was approximately 1.16 to 1.75 ha within a given season and 2.04 to 4.04 ha on an annual basis. Overton (2014) found that median territory size of

California Ridgway's rails ranged from 0.93 ha in December to 1.45 ha in June, with more variation in home range size in winter. Zembal and Massey (1988) noted that three of six radio-tagged light-footed Ridgway's rails that moved extensively were preyed upon within a relatively short period of time. By comparison, seven other birds that remained sedentary within established territories were not preyed upon during the telemetry period. Long-distance movements have been documented in California Ridgway's rails in the Estuary.

3.3.1.3 Threats

The Ridgway's rail was listed as endangered primarily because of habitat loss. An estimated 40,191 ac of tidal marshes remained in 1988 of the 189,931 ac of tidal marsh that historically occurred in the Estuary; this represents a 79 percent reduction from historical conditions (Goals Project 1999). The suitability of many remaining marshes for Ridgway's rails is limited and in some cases precluded by their small size, fragmentation, and lack of tidal channel systems and other micro-habitat features. These limitations render much of the remaining tidal marsh acreage unsuitable or of low value for the species. This has also been exacerbated by the necessity to treat areas of marsh for the ISP, which resulted in those areas being converted to mudflat temporarily.

3.3.1.4 Habitat Status and Distribution in the Project Area

A small population of the California Ridgway's rail was reported from salt marsh habitat of San Bruno Point in 1975, however it is unlikely that the small areas of pickleweed in the project vicinity are sufficient in size to support a local population of this subspecies (CSSF, 1997). Survey results from the 2012 Invasive *Spartina* Project (ISP) confirmed no observances of the California Ridgway's rails in or adjacent to the project area (Olofson Environmental, 2012). The last observance of a California Ridgway's rail was in 2011 at the navigable slough northwest of the project area. A more recent survey (2018) from BioMaAS, Inc. confirmed that there are no rails currently living in the project area. This status is likely to persist until the native *Spartina* becomes reestablished in the marshes near the WQCP.

3.3.2 San Francisco Garter Snake

3.3.2.1 General Distribution

San Francisco garter snake (*Thamnophis sirtalis tetrataenia*) is found on the San Francisco peninsula in San Mateo and Santa Cruz counties. The historical range extended from approximately the San Francisco-San Mateo County line south along the base of the Santa Cruz Mountains into northern Santa Cruz County. Within this area, populations may have principally occupied the Buri Buri Ridge along the San Andres Rift and south in an arc from the San Gregorio-Pescadero highlands west to Tunitas Creek. From here, San Francisco gartersnake populations extended along the west coastline of the Peninsula. A population at San Bruno Mountain may have once represented the northeastern portion of the range, though this record may have been the result of the translocation of individuals from other locations to San Bruno Mountain by amateur herpetologists in order to protect them from development at their original location, and there are no recent sightings at this location. The lack of aquatic habitat at San Bruno Mountain (currently or in early maps) supports the idea that the individuals seen here may have been translocated. Also relatively near to the project area, there is a sizable population of the San Francisco garter snake at the West-of-Bayshore property south and west of San Francisco International Airport (USFWS 2020).

3.3.2.2 Habitat and Biology

The species inhabits marshlands that border ponds and sloughs, riparian cover along streams, and bordering meadows with scattered brush. Aquatic habitat, including sag ponds, creeks, marshes, canals, and other water sources, is used for foraging and basking, with requirements related to water depth,

inundation period, salinity, and associated vegetation. They use terrestrial habitat that is contiguous to aquatic habitat to regulate its body temperature (thermoregulate), estivate, find cover, forage, mate, and hibernate. San Francisco gartersnakes use both visual and chemical cues to forage, feeding primarily on California red-legged frogs (*Rana draytonii*) and Sierran treefrogs (*Pseudacris sierra*; also Sierran chorus frog). Other prey taken to a lesser degree include western/California toad (*Anaxyrus boreas halophilus*), slender salamander (*Batrachoseps attenuatus*), small fish, newts, annelids, and even rodents (USFWS 2020).

3.3.2.3 Threats

Alteration and isolation of habitats resulting from urbanization was identified as the primary reason for decline of San Francisco gartersnakes. Habitat loss and the degradation of remaining habitat continue to be the primary threats to the species' recovery. Contributing factors include urbanization and associated habitat fragmentation, seral succession, and hydrologic changes, including drought. Illegal collection, depredation by invasive species, small population sizes, and fungal diseases are also ongoing threats to snake's survival and recovery (USFWS 2020).

3.3.2.4 Habitat Status and Distribution in the Project Area

Because their primary food source is freshwater amphibians, the San Francisco garter snake does not have suitable habitat in the fringe salt marshes surrounding the WQCP.

3.3.3 Central California Coast Steelhead

3.3.3.1 General Distribution

Steelhead (*Oncorhynchus mykiss*) are found along the entire Pacific Coast of the United States. The Central California Coast (CCC) steelhead Distinct Population Segment (DPS) includes all naturally spawned populations of steelhead in coastal streams from the Russian River (inclusive) to Aptos Creek (inclusive), and the drainages of San Francisco, San Pablo, and Suisun Bays eastward to Chipps Island at the confluence of the Sacramento and San Joaquin Rivers; and tributary streams to Suisun Marsh including Suisun Creek, Green Valley Creek, and an unnamed tributary to Cordelia Slough (commonly referred to as Red Top Creek), exclusive of the Sacramento-San Joaquin River Basin of the California Central Valley.

3.3.3.2 Habitat and Biology

The steelhead exhibits extremes in life history strategies depending on their environment. While all steelhead hatch in gravel-bottomed, fast-flowing, well-oxygenated rivers and streams, some stay in fresh water all their lives. Individuals with this resident life history are called rainbow trout. Others migrate to the ocean as juveniles and return as adults to the freshwater streams and rivers of their birth in order to spawn. Individuals with this anadromous life history are called steelhead.

In California, juveniles usually live in freshwater for 2 years (Barnhart 1986) with a range of one to 3 years (Shapovalov and Taft 1954, Busby et al. 1996) then smolt and migrate to the sea; because of this multi-year rearing time period, steelhead can only spawn in tributaries that maintain suitable temperature and other water quality parameters year-round. Most downstream smolt migration takes place between February and June. Fukushima and Lesh (1998) report the peak timing of steelhead smolt outmigration in Central California occurs in March, April, and May, while Barnhart (1986) reports most steelhead smolts in California enter the sea in March and April.

Steelhead usually spawn in gravel substrates in clear, cool, perennial sections of relatively undisturbed streams. Preferred streams typically support dense canopy cover that provides shade, woody debris, and organic matter, and are usually free of rooted or aquatic vegetation. Steelhead are capable of surviving in

a wide range of temperature conditions. They usually cannot survive long in pools or streams with water temperatures above 70° F, but they can use warmer habitats if food is available, such as at fast water riffles where fish can feed on drifting aquatic invertebrates. They do best where dissolved oxygen concentration is at least 7 parts per million. Steelhead in some coastal estuaries in central California apparently make extensive use of estuarine habitats for foraging (Bond et al. 2008), although the extent of the use of estuarine habitats by steelhead in many areas, including the south San Francisco Bay, is virtually unknown.

3.3.3.3 Threats

Steelhead populations in many areas have declined due to degradation of spawning habitat, introduction of barriers to upstream migration, over-harvesting by recreational fisheries, and reduction in winter flows due to damming and spring flows due to water diversions (NMFS 1997).

In a recent survey of coastal drainages south of San Francisco Bay, steelhead populations were either extinct or reduced in size from historical levels in at least half of the 168 surveyed mainstem streams and primary tributaries (Titus et al. in prep). In addition, only 14 percent of the streams had steelhead present where there was no discernible, significant change from historical production levels. Steelhead in most tributaries to San Francisco and San Pablo bays have been virtually extirpated (McEwan and Jackson 1996). In a 1994 to 1997 survey of 30 San Francisco Bay watersheds, steelhead occurred in small numbers at 41 percent of the sites, including the Guadalupe River, San Lorenzo Creek, and Corte Madera Creek (Leidy 1997). Current evidence (post-1992) indicates that steelhead use 134 (48 percent) of 278 San Francisco Bay tributary streams surveyed, with an additional 17 streams (6 percent) that may currently support steelhead (Leidy 2007).

Industrial and municipal wastes have been discharged into the San Francisco Bay, although large-scale pollution was partially relieved by the passage of the Clean Water Act in 1972 that resulted in the construction of new sewage treatment plants in the cities around San Francisco Bay including the WQCP in the project area. However, non-point sources of pollution, such as urban runoff and fine sediment, continue to degrade water quality. These contaminants may be impairing physiological development of juvenile salmonids and reducing their survival during the oceanic phase.

3.3.3.4 Habitat Status and Distribution in the Project Area

Colma Creek in the study area is a tidal channel that has water in it year-round. It has hardened banks, bars with marsh vegetation and mudflats that are exposed at low tide. Leidy (2007) identifies five fish species that live in Colma Creek, two of which are native (threespine stickleback and staghorn sculpin) and three of which are non-native (rainwater killifish, western mosquitofish and yellowfin goby). Insufficient information exists to assess the historical distribution of salmonids in the Colma Creek watershed. The watershed currently does not contain suitable habitat to support salmonids (Leidy et al. 2005). However, there could be migrating adults or rearing juveniles that utilize the tidal portions of the creek.

3.3.3.5 Critical Habitat

Designated critical habitat for CCC steelhead includes all tidal habitat within the project area (NMFS 2005). One of the primary constituent elements (PCEs) of critical habitat essential to the conservation of the species is present within the Action Area (PCE #4). This PCE consists of estuarine areas free of obstruction with water quality, water quantity and salinity conditions supporting juvenile and adult physiological transitions between fresh-and saltwater; natural cover such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders, and side channels, and juvenile and adult forage, including aquatic invertebrates and fishes, supporting growth and maturation.

These features are essential to conservation because without them juveniles cannot reach the ocean in a timely manner and use the variety of habitats that allow them to avoid predators, compete successfully, and complete the behavioral and physiological changes needed for life in the ocean. Similarly, these features are essential to the conservation of adults because they provide a final source of abundant forage that will provide the energy stores needed to make the physiological transition to fresh water, migrate upstream, avoid predators, and develop to maturity upon reaching spawning areas. Although Colma Creek includes these PCEs for CCC steelhead (albeit in a somewhat degraded form), juvenile steelhead are expected to make limited use of the project area. The habitat along channel margins is often not inundated except during high tides, making the tidal marsh inaccessible much of the time. However, the tidal marshes along these sloughs likely provide cover from predation when submerged during higher tides.

3.3.4 Green Sturgeon

3.3.4.1 General Distribution

Green sturgeon are anadromous fish that spend most of their lives in estuarine or marine waters and return to natal rivers to spawn. Green sturgeon (*Acipenser medirostris*) are the most broadly distributed and wide-ranging species of the sturgeon family, occurring in ocean waters from Ensenada, Mexico to the Bering Sea, and commonly occurs in coastal waters from San Francisco Bay to Canada. The actual historical and current distribution of where this species spawns is unclear because the original spawning distribution may have been reduced due to harvest and other anthropogenic effects and because they make non-spawning movements into estuaries during summer and fall (Lindley et al. 2008). Actual spawning has been documented (by the presence of juveniles) in the Rogue (Erickson et al. 2002), Klamath, Trinity (Scheiff et al. 2001), Sacramento, and Eel rivers (Lindley et al. 2008).

3.3.4.2 Habitat and Biology

Green sturgeon are long-lived, slow-growing fish and the most marine-oriented of the sturgeon species. Green sturgeon have delayed sexual maturity, somewhere between 13 and 20 years, and apparently only spawn every 2-5 years (Moyle 2002). They likely live to a maximum age of 60-70 years (Moyle 2002).

Juveniles reside in fresh water, with adults returning to freshwater to spawn when they are more than 15 years of age and more than 4 ft in size. Spawning is believed to occur every 2-5 years (Moyle 2002). In the Sacramento River, they spawn in late spring and early summer. Adults typically migrate into fresh water beginning in late February; spawning occurs March-July, with peak activity in April-June (Moyle et al. 1995). Juveniles spend 1-4 years in fresh and estuarine waters before migrating to the ocean (Beamesderfer and Webb 2002).

Green sturgeon are believed to spend the majority of their lives in nearshore oceanic waters, bays, and estuaries. In summer and fall, they commonly occur in estuaries where there has been no known spawning activity and where there are no records of their occurrence farther up the river system (Adams et al. 2007), suggesting that the species may wander widely in accessible estuarine habitat. Studies in the Sacramento-San Joaquin Delta found that juveniles feed on opossum shrimp and amphipods (Radtke 1966) and adults feed on benthic invertebrates, and even small fish (Moyle et al. 1995).

Green sturgeon spawn in deep pools or “holes” in large, turbulent, freshwater rivers (Moyle et al. 1995). Specific spawning habitat preferences are unclear, but it is likely that cold, clean water and suitable substrate (large cobble, but also clean sand and bedrock) are important for spawning and embryonic development (Moyle et al. 1995). In the lab, temperatures ranging from 11-17° C were optimal for hatching and developing embryos (Van Eenennaam et al. 2005). Because of these habitat preferences, it is unlikely that South Bay tributaries provided suitable habitat for freshwater-dependent life stages.

3.3.4.3 Threats

Potential threats or risk factors for the southern green sturgeon DPS include the concentration of spawning in the Sacramento River and the apparent small population size; loss of spawning habitat; harvest bycatch concerns; potentially lethal water temperatures for larval green sturgeon; entrainment by water projects in the Central Valley; and the adverse effects of toxic materials and exotic species (Adams et al. 2002). The principal threat to the southern DPS comes from the reduction of green sturgeon spawning to a single area in the Sacramento River (Adams et al. 2007). Impassible barriers (e.g., Shasta and Keswick dams) currently block green sturgeon from significant potential spawning habitat in the three major branches of the Sacramento River: the Little Sacramento River, the Pit River system, and the McCloud River (Adams et al. 2007). Little is known about current population size and data on population trends are lacking.

3.3.4.4 Habitat Status and Distribution in the Project Area

There is no evidence that the green sturgeon has ever spawned in Colma Creek or other nearby water bodies. Based on this species' preferences for streams having strong flow over large cobbles in deep pools, it is unlikely that Colma Creek historically provided suitable spawning habitat, and such habitat is certainly absent now. However, given that green sturgeon are known to wander in estuaries away from spawning streams, individuals (particularly juveniles) could occasionally forage in tidal waters of the project area. Post-spawning adults may be present in San Francisco Bay during the spring and early summer for months prior to migrating to the ocean.

3.3.4.5 Critical Habitat

Critical habitat for Southern DPS of green sturgeon was designated on 9 October 2009 and includes all tidally-influenced waters of the San Francisco Bay (NMFS 2009). The PCEs essential for the conservation of the Southern DPS of green sturgeon that may occur in estuarine habitats within the Action Area include:

1. Abundant prey items within estuarine habitats and substrates for juvenile, subadult, and adult life stages.
2. Water quality, including temperature, salinity, oxygen content, and other chemical characteristics, necessary for normal behavior, growth, and viability of all life stages.
3. A diversity of depths necessary for shelter, foraging, and migration of juvenile, subadult, and adult life stages.
4. Sediment quality (i.e., chemical characteristics) necessary for normal behavior, growth, and viability of all life stages.

Similar to the situation for steelhead, the PCEs for green sturgeon in the project area are in a somewhat degraded state relative to their habitat needs.

3.3.5 Essential Fish Habitat

Under Section 305 (b)(2) of the Magnuson-Stevens Fishery Conservation and Management Act, federal agencies are required to consult with NMFS on any actions that may adversely affect EFH. All subtidal and intertidal habitats within Colma Creek, are designated as EFH for a number of species federally-managed under the following three FMPs:

- Coastal Pelagic FMP – northern anchovy (*Engraulis mordax*), Pacific sardine (*Sardinops sagax*), mackerel, squid

- Pacific Groundfish FMP – leopard shark (*Triakis semifasciata*), English sole (*Parophrys vetulus*), starry flounder (*Platichthys stellatus*), and other elasmobranchs (e.g., big skate [*Raja binoculata*], soupfin shark [*Galeorhinus galeus*], spiny dogfish [*Squalus acanthias*])
- Pacific Salmon FMP – Chinook salmon (*Oncorhynchus tshawytscha*)

3.3.5.1 Coastal Pelagic FMP Species

Northern Anchovy: Despite great fluctuations in annual abundance, northern anchovy is the most abundant fish species found within the San Francisco Bay/Estuary. Spawning appears to occur in deeper channels and sloughs while larvae and juveniles are found over the productive shallows, including ponds. Eggs tend to be found in water with salinities from 32-35 ppt, but juveniles and adults are abundant in fresher bays and estuaries as well as marine waters.

3.3.5.2 Pacific Groundfish FMP

Leopard Shark: This species is the most abundant shark in San Francisco Bay, being found especially around piers and jetties. Estuaries are used as pupping and feeding/rearing grounds. Leopard sharks are most common on or near the bottom in waters less than 4 m deep and are most abundant in embayments and estuaries, although other habitats include flat, sandy areas, mud flats, and bottoms strewn with rocks near rocky reefs or kelp beds and around jetties and piers.

English Sole: Adult and juvenile English sole are abundant throughout central and southern San Francisco Bay. Adults and juveniles prefer soft bottoms composed of fine sands and mud. Optimum conditions for larval survival are salinities of 25-28 ppt and temperatures of 8-9° C. Juvenile distribution within San Francisco Bay is limited to temperatures between 12.8 and 14.5° C and salinities between 12 and 24 ppt (Baxter 1999). Temperatures around 18° C appear to be the upper thermal tolerance for juvenile English sole and they move to deeper and cooler waters as intertidal temperatures approach and exceed 20°C in late spring (Baxter 1999).

Starry Flounder: Juvenile and adult starry flounder are very common in Central and South San Francisco Bay. Juveniles in South San Francisco Bay are commonly found in shallow water, including shoals, intertidal areas, and tidal marshes. Transforming larvae and juveniles migrate from the coast to brackish or freshwater nursery areas, where they rear for one or more years. Age-0 starry flounder appear to seek warm (16.4 to 22.6° C), low salinity (<22 ppt) rearing habitats. As they grow, juveniles move to water of higher salinity. Juveniles prefer sandy to muddy substrates, and adults prefer sandy to coarse substrates. Adults are most common in the Bay from late spring through early fall.

3.3.5.3 Pacific Coast Salmon FMP Species

Chinook Salmon: Chinook salmon are not native to Colma Creek, but could occur as foraging individuals that have strayed from Central Valley runs or releases of hatchery-raised fish from Central Valley runs. There also could be stopovers from outmigrating juveniles. Juveniles can move quickly through estuaries or reside there for months. Juveniles can tolerate water temperatures between 0 and 26° C, but a range of 12-14° C is optimum. Excessive silt loads (>4,000 mg/L) may halt Chinook salmon movements or migrations. Freshwater inflow into estuaries is critical for providing adequate water temperatures, food production, and overall beneficial environmental conditions for juvenile outmigration. Chinook salmon fry prefer protected estuarine habitats with lower salinity, moving from the edges of marshes during high tide to protected tidal channels and creeks during low tide. Juveniles forage in the intertidal and shallow subtidal areas of tidal marsh mudflat, slough, and channel habitats, and open bay habitats of eelgrass and shallow sand shoal areas. As the fish grow larger, they are increasingly found in high-salinity waters and less-protected habitats.

3.3.5.4 *Habitat Areas of Particular Concern*

Some activities will occur within areas designated as Habitat Areas of Particular Concern (HAPC) for various federally managed fish species within the Pacific Groundfish FMP. HAPCs are described in the regulations as subsets of EFH that are rare, particularly susceptible to human-induced degradation, especially ecologically important, or located in an environmentally stressed area. Designated HAPCs are not afforded any additional regulatory protection under MSA; however, federal projects with potential adverse impacts to HAPCs are more carefully scrutinized during the consultation process. As defined in the Pacific Groundfish FMP, the San Francisco Bay is designated as an estuary HAPC. No other HAPCs (e.g., eelgrass) occur in the Action Area.

Estuaries: Estuaries are protected nearshore areas such as bays, sounds, inlets, and river mouths, influenced by ocean and freshwater. Because of tidal cycles and freshwater discharge, salinity varies within, estuaries and results in great diversity, offering freshwater, brackish and marine habitats within close proximity. Estuaries tend to be shallow, protected, nutrient-rich, and biologically productive, providing important habitat for marine organisms, including groundfish. The inland extent of the estuary HAPC is defined as Mean Higher High Water (MHHW), or the upriver extent of saltwater intrusion, defined as upstream and landward to where ocean-derived salts measure less than 0.5 ppt during the period of average annual low flow. The seaward extent is an imaginary line closing the mouth of a river, bay, or sound; and to the seaward limit of wetland emergent, shrubs, or trees occurring beyond the lines closing rivers, bays, or sounds. This HAPC also includes those estuary-influenced offshore areas of continuously diluted seawater, as defined by Cowardin et al. (1979).

3.4 Effects

3.4.1 General Habitat Impacts

The footprint of ground disturbance for the project is approximately 0.6 acres, including a permanent footprint of approximately 5,100 square feet. The wall has been designed to avoid impacts to intertidal marsh, and clearing will be largely in areas with ruderal vegetation. There will be some vegetation planted on the waterside of the wall to provide habitat for wildlife.

3.4.2 Effects on California Ridgway's Rail

There is currently no habitat in the project area, so there will be no impacts to the California Ridgway's Rail. The nearest suitable habitat is located far from the project, 14 miles away at Eden Landing Ecological Preserve. Furthermore, the project is designed to avoid impacts to intertidal marsh, so will be out of the way of any foraging birds in the unlikely event that they are present.

3.4.3 Effects on San Francisco Garter Snake

There is no available habitat for the San Francisco garter snake, no presence of prey species, and no documented sightings in the project area. Therefore, the project will not have an impact on San Francisco garter snake.

3.4.4 Effects on CCC Steelhead and Critical Habitat

Colma Creek does not contain suitable habitat for steelhead spawning. There may be individuals that use the tidal reaches for rearing or foraging however, the likelihood of impacts by project construction is minimal. The wall alignment is entirely outside of tidal waters, but does cross a stormwater outfall that is inundated at high tide. The stormwater outfall will not be modified as part of the project. As an avoidance and minimization measure, the construction contractor will be directed to isolate this area at low tide, when there is not sufficient water depth to support fish in that area. With this measure, the project is not likely to have adverse impacts on steelhead, but does have a small portion that intersects with critical

habitat. Preventing discharges of untreated wastewater will avoid the adverse effects of not doing the project.



Figure 5. Stormwater outfall that crosses wall alignment and is inundated at high tide.

3.4.5 Effects on Southern DPS Green Sturgeon and Critical Habitat

Similar to the case for steelhead, Colma Creek does not contain suitable spawning habitat for green sturgeon. Because sturgeon are bottom feeders that feed on benthic macroinvertebrates, they have an even lower likelihood of being impacted by project construction. The avoidance and minimization measure mentioned above will also reduce the potential for impacting green sturgeon and their critical habitat.

3.4.6 Effects on Essential Fish Habitat

The potential adverse impacts for FMP-managed species and their EFH is similar to the steelhead and green sturgeon impacts described above. Because the wall alignment is entirely upslope of tidal waters, the potential for impacting EFH is minimal.

3.4.7 Cumulative Effects

Cumulative effects include the effects of future state, tribal, local, or private actions affecting listed species and their critical habitat that are reasonably certain to occur in the action area considered in this biological assessment.

3.4.7.1 Past and Present Actions

Based on the WQCP's past actions and community's current needs, this critical infrastructure will continue to operate as it has for the past several decades. The WQCP will soon finish its recent round of capital improvement projects and continue discharging treated wastewater to the Bay. Colma Creek itself is currently a degraded (in terms of habitat) flood control channel. The WQCP's primary outfall is located in relatively deep bay waters approximately 1 mile northeast of Point San Bruno. The WQCP will continue conducting fish toxicity testing under the requirements of their National Pollutant Discharge Elimination System permit to ensure that their discharge water is not acutely toxic to fish and other bay species. Clearing of the invasive *Spartina* from the area has removed endangered CA Ridgway's rail habitat, but as the native *Spartina* species returns, the rails may return as well.

3.4.7.2 Reasonably Foreseeable Future Actions

Implementing this project will allow the WQCP to continue operating safely well into the future as sea level rises. Other regional climate adaptation projects, likely under the direction of One Shoreline, will be implemented with a focus on providing community-oriented benefits like recreation and habitat restoration while still improving flood resiliency. While these projects are still not defined well enough to be incorporated into the future without project conditions, there is no inherent conflict between them and the TSP. With the combination of safe and resilient infrastructure (improved as a result of the TSP), habitat restoration and recreation improvements, it is anticipated that the overall quality of the human environment in this area will improve in the coming years, despite climate change and sea level rise.

3.5 Determination and Conclusion

We conclude that the project will have no effect on California Ridgway's rail or San Francisco garter snake, because of the lack of suitable habitat in the project area for either of these species.

We conclude that the project is not likely to adversely affect CCC steelhead, southern DPS green sturgeon, and their critical habitats, because the floodwall will be constructed out of the water on existing banks with avoidance and minimization measures that reduce impacts to estuarine habitats.

We conclude that the project may affect, but is not likely to adversely affect EFH managed as part of the Pacific Groundfish, Pacific Salmon, Pacific Coastal Pelagic Species, and West Coast Highly Migratory Species fishery management plans because the floodwall will be constructed out of the water on existing banks with avoidance and minimization measures that reduce impacts to estuarine habitats.

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3.7 NMFS Concurrence Letter



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
West Coast Region
777 Sonoma Avenue, Room 325
Santa Rosa, California 95404-4731

February 24, 2023

Refer to NMFS No: WCRO-2021-03517

Julie Beagle
Chief, Environmental Planning Section
U.S. Department of the Army
San Francisco District, U.S. Corps of Engineers
450 Golden Gate Avenue
San Francisco, California 94102-3406

Re: Endangered Species Act Section 7(a)(2) Concurrence Letter and Magnuson-Stevens
Fishery Conservation and Management Act Essential Fish Habitat Response for the
Lower Colma Creek Storm Risk Management Project in South San Francisco, California

Dear Ms. Beagle:

On December 20, 2022, NOAA's National Marine Fisheries Service (NMFS) received your request for a written concurrence that U.S. Army Corps of Engineers' (Corps) proposed Lower Colma Creek Storm Risk Management Project (Project), under the Corps' Continuing Authorities Program Section 103, is not likely to adversely affect species listed as threatened or endangered or critical habitats designated under the Endangered Species Act (ESA).

This response to your request was prepared by NMFS pursuant to section 7(a)(2) of the ESA and implementing regulations at 50 CFR 402. On July 5, 2022, the U.S. District Court for the Northern District of California issued an order vacating the 2019 regulations that were revised or added to 50 CFR part 402 in 2019 ("2019 Regulations," see 84 FR 44976, August 27, 2019) without making a finding on the merits. On September 21, 2022, the U.S. Court of Appeals for the Ninth Circuit granted a temporary stay of the district court's July 5 order. On November 14, 2022, the Northern District of California issued an order granting the government's request for voluntary remand without vacating the 2019 regulations. The District Court issued a slightly amended order two days later on November 16, 2022. As a result, the 2019 regulations remain in effect, and we are applying the 2019 regulations here. For purposes of this consultation and in an abundance of caution, we considered whether the substantive analysis and conclusions articulated in the letter of concurrence would be any different under the pre-2019 regulations. We have determined that our analysis and conclusions would not be any different.

Thank you also for your request for consultation pursuant to the essential fish habitat (EFH) provisions in Section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act (MSA) (16 U.S.C. 1855(b)) for this action.

This letter underwent pre-dissemination review using standards for utility, integrity, and objectivity in compliance with applicable guidelines issued under the Data Quality Act (section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001, Public



Law 106-554). The document will be available within two weeks at the Environmental Consultation Organizer [<https://www.fisheries.noaa.gov/resource/tool-app/environmental-consultation-organizer-eco>]. A complete record of this consultation is on file at NMFS North-Central Coast Office in Santa Rosa, California.

Consultation History

By letter dated July 21, 2021, the Corps requested NMFS to participate as a cooperating agency in the preparation of documents pursuant to the National Environmental Policy Act for the Lower Colma Creek Coastal Storm Risk Management Feasibility Study. NMFS accepted this invitation by letter to the Corps on September 3, 2021.

By letter dated December 20, 2022, the Corps requested the initiation of informal consultation for the Project, which is a Corps Continuing Authorities Program Section 103 Project, that is being implemented by the City of South San Francisco and costs shared with the Corps. Included with the Corps' request for consultation was a biological assessment and project designs. On December 27, 2022, NMFS requested additional information by email regarding the sheet pile wall construction methods, proposed site isolation, and shoreline habitat effects. The Corps provided a partial response by email on January 13, 2023, and NMFS replied by email on January 26, 2023 with a request for additional information on site isolation and pile driving methods. The Corps provided a response on February 3, 2023. On February 6, 2023, NMFS requested additional information by email on geotechnical surveys that will be associated with the sheet pile driving. Information sufficient to initiate consultation was provided to NMFS by the Corps on February 16, 2023.

Proposed Action and Action Area

The Corps and the City of South San Francisco (City) propose to construct a new sheet pile floodwall at the South San Francisco–San Bruno Water Quality Control Plant (WQCP) and one of its pump stations. The Project aims to improve flood resilience of the WQCP, which is located on the shoreline of Lower Colma Creek, a tributary to San Francisco Bay. The duration of the construction will be 12 months.

The Project will construct 2,700 linear feet of sheet pile floodwall at the WQCP. The floodwall crest elevation will be 13.5 ft NAVD88 (North American Vertical Datum of 1988), and will be approximately 2 to 6.5 feet above grade depending on location along its length. The wall alignment will be located entirely upslope of tidal waters along its length, with a minimum distance of five feet between the floodwall and mean higher high water (MHHW; 6.77 ft NAVD88). A perimeter sheet pile floodwall will also be constructed around Pump Station 4, which is located several blocks inland from the WQCP near the intersection of Harbor Way and Mitchell Avenue in the City of South San Francisco.

To construct the floodwall, 24-inch wide steel sheet piles will be installed entirely from land with heavy equipment located upland of the proposed floodwall location. Pile driving will occur using vibratory hammers as the first priority (32 minutes per pile), and if difficulty is encountered driving the sheet pile, a 3,000 pound impact hammer will be used. Depending on ground conditions encountered, drilling may also occur to clear subsurface rock to aid sheet pile driving. The Project will install sheet piles accordingly: 15 piles per day, up to 40 strikes per pile (if

impact hammer is needed), up to 90 days of pile driving, and will include a minimum of 12 hours in between pile driving days. Cushion blocks will be used during sheet pile impact hammering.

In areas of ground disturbance near the floodwall base along its entire length, the Project will implement native hydroseeding and non-woody native vegetation planting operations. Ground disturbance will occur within approximately four feet from either side of the wall centerline.

Geotechnical surveys will be conducted on land where the sheet pile floodwall will be installed. There will be six conventional borings, including 6-inch diameter hollow-stem or mud rotary borings that will be drilled into the ground. Each boring will be completed in up to two hours, and will occur over the duration of approximately one week. Up to six 2-inch diameter cone penetration tests will occur during the same timeframe, and will be pressed into the ground and immediately removed. An inert drilling fluid will be used for the borings, and after use will be placed in 55-gallon drums and will be disposed of offsite according to state and federal regulations.

Construction equipment will include a vibratory hammer, impact hammer, planting equipment, and land-based support vehicles. Additional details are included in the biological assessment for the Project.

Avoidance and minimization measures

The City will undertake avoidance and minimization measures (AMMs) during Project activities to reduce environmental impacts during construction. Relevant AMMs include:

1. All work and staging areas will occur from land; no vessels or work crews will enter Lower Colma Creek waters.
2. Equipment will not be allowed below the level of extreme high tide to minimize impacts to sensitive habitats.
3. The Project will implement a Stormwater Pollution Prevention Plan (SWPPP) that will include sediment control measures that will be temporarily installed where active sheet pile installation will occur and may include silt fencing, straw bales, and similar measures.

We considered, under the ESA whether or not the proposed action would cause any other activities and determined that it would not.

Action Area

The action area for the Project is located at the WQCP (195 Belle Air Road, South San Francisco) along the upper shorelines of Lower Colma Creek in San Mateo County, California. The WQCP is located on Lower Colma Creek at its confluence with San Francisco Bay (Bay). The action area consists of the upland areas of the WQCP and Pump Station 4 used for staging and construction, including the waters of Lower Colma Creek downstream approximately 0.6 miles to the confluence of the Bay where elevated underwater sound levels and water quality

effects may occur during construction activities. The WQCP is a wastewater treatment plant that serves surrounding cities including San Francisco International Airport.

Lower Colma Creek is a tidal channel with hardened banks, fringe marsh vegetation, and narrow intertidal mudflats that are exposed at low tide. The upland area where the sheet pile floodwall will be installed includes existing ruderal vegetation, asphalt, and WQCP structures. The surrounding area is dominated by heavy urban development, including an oil facility, parking lots, a truck rental facility, a gas station and a large shopping center. The Bay Trail is located on the northern shore of Lower Colma Creek that includes narrow section of fringing marsh habitat. The intertidal and subtidal substrate in Lower Colma Creek is primarily mud that is expected to be inhabited by typical benthic invertebrates of the Bay (*e.g.*, crustaceans, clams, worms).

Background and Action Agency's Effects Determination

The Corps determined the Project may affect, but is not likely to adversely affect listed species and their critical habitat based on the upslope location of the wall alignment, proposed avoidance and minimization measures during construction, and low likelihood of listed fish species presence in Lower Colma Creek.

Available information indicates the following listed species or Distinct Population Segments (DPS) under the jurisdiction of NMFS may be affected by the Project:

Central California Coast steelhead DPS (*Oncorhynchus mykiss*)

threatened (71 FR 834; January 5, 2006)

critical habitat (70 FR 52488; September 2, 2005);

North American green sturgeon Southern DPS (*Acipenser medirostris*)

threatened (71 FR 17757; April 7, 2006)

critical habitat (74 FR 52300; October 9, 2009).

The life history of steelhead is summarized by NMFS (1996; 2016). Central California Coast (CCC) steelhead use the Bay primarily as a migration corridor, passing through the Bay on their way to the ocean to rear as juveniles or to upstream areas to spawn as adults. Adult steelhead typically migrate upstream from the Bay to their natal streams from December through April, and juvenile steelhead migrate downstream through the estuary during the late winter and spring months (Fukushima and Lesh 1998). There are no natal streams for CCC steelhead in the Colma Creek watershed.

The life history of green sturgeon in California is summarized in NMFS (2015; 2018). The Southern DPS (sDPS) of North American green sturgeon spawn in the deep turbulent sections of the upper reaches of the Sacramento River. The sDPS green sturgeon are anadromous, making migrations as adults to the Sacramento River in the spring (Moyle *et al.* 1995). As juvenile green sturgeon age, they migrate downstream and live in the lower delta and bays, spending from three to four years there before entering the ocean. Within the Bay, information provided by Kelly *et al.* (2007) suggests depths less than 10 meters (33 feet) may be preferred during foraging and migration. Adult green sturgeon return from the ocean every few years to spawn, and generally show fidelity to their upper Sacramento River spawning sites. Adult sDPS green sturgeon enter

the Bay in late winter through early spring (NMFS 2015) and juvenile, subadult, and adult sDPS green sturgeon may be present in the Bay and in the action area year-round.

Regarding EFH, the Corps has determined that the proposed action may adversely affect EFH. The Project area is located within an area identified as EFH for various life stages of fish species managed under the Pacific Coast Groundfish Fishery Management Plan (FMP), the Coastal Pelagic Species FMP, and the Pacific Coast Salmon FMP. San Francisco Bay, including the Project area, is also designated as an estuary habitat area of particular concern (HAPC) for various federally managed fish species, as defined in the Pacific Salmon and Groundfish FMPs.¹

ENDANGERED SPECIES ACT

Effects of the Action

Under the ESA, “effects of the action” are all consequences to listed species or critical habitat that are caused by the proposed action, including the consequences of other activities that are caused by the proposed action. A consequence is caused by the proposed action if it would not occur but for the proposed action and it is reasonably certain to occur. Effects of the action may occur later in time and may include consequences occurring outside the immediate area involved in the action (50 CFR 402.02). In our analysis, which describes the effects of the proposed action, we considered 50 CFR 402.17(a) and (b). When evaluating whether the proposed action is not likely to adversely affect listed species or critical habitat, NMFS considers whether the effects are expected to be completely beneficial, insignificant, or discountable. Completely beneficial effects are contemporaneous positive effects without any adverse effects to the species or critical habitat. Insignificant effects relate to the size of the impact and should never reach the scale where take occurs. Effects are considered discountable if they are extremely unlikely to occur.

Effects to Species

During construction, the effects of the Project to the above-listed fish are reasonably likely to include elevated underwater sound levels and degraded water quality. Elevated underwater sound levels may co-occur with CCC steelhead and sDPS greens sturgeon presence in the action area during sheet pile installation activities. A vibratory hammer will be used for driving when feasible, but sheet piles may be driven with an impact hammer if necessary. Additionally, geotechnical borings and pre-drilling for sheet pile installation will also include non-impulsive sounds. Based on results of hydroacoustic monitoring at various pile driving projects (Molnar *et al.* 2020), vibratory hammers generate non-impulsive lower sound levels and different sound wave forms that are not expected to cause physical injury or mortality of listed fish.

For installation of the Project’s 24-inch steel sheet piles, an impact hammer may be used. Impact hammers differ from vibratory hammers in that they can generate relatively large changes in underwater sound pressure as piles are struck, which can hemorrhage and rupture internal organs

¹ For more information on HAPCs designated under the Groundfish and Salmon FMPs, please see page 104 of the Groundfish FMP at <https://www.pcouncil.org/documents/2016/08/pacific-coast-groundfish-fishery-management-plan.pdf>, and page 6 of the Salmon FMP Appendix A at <https://www.pcouncil.org/documents/2019/08/salmon-efh-appendix-a.pdf>.

of a fish, including swim bladder and kidneys, leading to injury and death (Hastings and Popper 2005, Popper 2006, Halvorsen *et al.* 2011). To assess the potential effects of impact hammer pile driving, NMFS uses a dual metric criteria of 206 dB re one micropascal peak sound pressure level for any single strike and an accumulated Sound Exposure Level (SEL) of 187 dB re one micropascal squared-second to correlate physical injury to fish from underwater sound produced during the installation of piles with hammers.²

Based on hydroacoustic monitoring results from similar projects installed by impact hammers (Molnar *et al.* 2020), elevated underwater sound levels during construction by this Project should not exceed the thresholds presented above and no injury or mortality of steelhead and green sturgeon is anticipated. The location of the sheet piles being driven on land, and the use of a cushion block for all piles will ensure levels will not exceed the thresholds presented above. It is anticipated that underwater sound produced during use of an impact hammer on sheet piles by the Project will not result in physical injury or mortality to steelhead and green sturgeon. The Project site in Lower Colma Creek consists of degraded fish habitat conditions, and there is a low potential for steelhead and green sturgeon to be present. Sheet pile impact driving could result in underwater sound that may startle small numbers of steelhead and green sturgeon and result in temporary dispersion from the action area. If steelhead or green sturgeon were to react behaviorally to the sound produced by construction activities, adequate water depths and area within the adjacent open waters of Lower Colma Creek and the Bay are expected to provide steelhead and green sturgeon sufficient area to disperse for the duration of sheet pile driving. Therefore, it is anticipated that the effects to CCC steelhead and sDPS green sturgeon from elevated underwater sound levels during sheet pile driving activities will be insignificant.

Degraded water quality resulting from elevated levels of suspended sediment and mobilized contaminants may co-occur with the presence of CCC steelhead and sDPS green sturgeon during construction activities. If suspended sediment levels remain high for an extended period of time, the primary productivity of an aquatic area may be reduced (Cloern 1987) and fish may suffer reduced feeding ability and be prone to fish gill injury (Benfield and Minello 1996; Nightingale and Simenstad 2001). However, sheet piles will be installed entirely in upland areas using land-based equipment. Measures to prevent loose sediment, spills, and debris from entering adjacent waters via the Project's SWPPP will be implemented during construction activities, which are expected to effectively prevent and contain loose sediment, spills, and debris from entering the waters of Lower Colma Creek and the Bay. Background turbidity levels are consistently high in the action area, and tidal water movement in Lower Colma Creek is expected to rapidly dissipate elevated turbidity to background levels. Based on the above, effects to CCC steelhead and sDPS green sturgeon resulting from degraded water quality during construction activities are expected to be insignificant.

Effects to Critical Habitat

The action area is located within a tidal channel that is designated critical habitat for CCC

² June 12, 2008 memorandum from the Fisheries Hydroacoustic Working Group regarding the agreement in principle for interim criteria for injury to fish from pile driving activities [Document available at: <https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/ser/bio-flhwg-criteria-agree-a11y.pdf>].

steelhead and sDPS green sturgeon. The physical and biological features (PBFs)³ of designated critical habitat for CCC steelhead include estuarine areas free of obstruction with water quality, water quantity, and salinity conditions supporting juvenile and adult physiological transitions between fresh- and saltwater; natural cover such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders, and side channels; and juvenile and adult forage, including aquatic invertebrates and fishes, supporting growth and maturation. The PBFs of designated critical habitat for green sturgeon in estuarine areas include food resources, water flow, water quality, migratory corridor, water depth, and sediment quality.

During construction, effects to CCC steelhead and sDPS green sturgeon designated critical habitat will include elevated underwater sound levels, degraded water quality, and benthic (bottom) habitat disturbance. The Project's potential effects associated with elevated underwater sound levels and degraded water quality during construction on critical habitat are expected to be insignificant for the reasons presented above.

During construction, installation of the sheet piles will disturb approximately 0.6 acres of intertidal benthic substrate within several feet from the sheet piles being installed. Post-construction, permanent alteration of the substrate above MHHW will result from installation of sheet piles. Benthic disturbance and permanent alteration could potentially reduce PBFs that support foraging for CCC steelhead and sDPS green sturgeon that prey on benthic invertebrates that may inhabit the substrate of the action area (*e.g.*, crustaceans, clams, worms). However, disturbed and altered areas from Project activities will exclude only a small area of degraded habitat immediately surrounding the sheet piles during construction, and disturbance will occur over a short duration in each area. The sheet pile floodwall alignment will be installed entirely upland of regularly inundated tidal waters. The wall has been designed to avoid impacts to intertidal marsh, and vegetation clearing will be largely in areas with ruderal vegetation. The installation of the floodwall is not expected to impact the existing function of the high intertidal habitat of Lower Colma Creek. Additionally, native vegetation will be planted on the waterside of the wall. Benthic habitat in the action area has been highly modified and degraded by the existing shoreline development and surrounding urban landscape. The substrate adjacent to the proposed sheet pile floodwall is unlikely to provide quality foraging habitat for any life stage of steelhead and green sturgeon, and the Project is not expected to further degrade PBFs of critical habitat. Substrate disturbed during construction is expected to return to pre-project conditions within a few weeks due to recolonization of benthic invertebrates from adjacent areas. For these reasons, the benthic habitat disturbance that will result from Project activities are expected to be insignificant to CCC steelhead and sDPS green sturgeon designated critical habitat.

Conclusion

Based on this analysis, NMFS concurs with the Corps that the proposed action is not likely to adversely affect the subject listed species and designated critical habitats.

³ The designation(s) of critical habitat for these species used the term primary constituent element (PCE) or essential features. The new critical habitat regulations (81 FR 7414) replace these terms with physical or biological features (PBFs). This shift in terminology does not change the approach used in conducting our analysis, whether the original designation identified PCEs, PBFs, or essential features. We use the term PBF from this point forward in this letter to mean PCE or essential feature, as appropriate for the specific critical habitat.

Reinitiation of Consultation

Reinitiation of consultation is required and shall be requested by the Corps or by NMFS, where discretionary Federal involvement or control over the action has been retained or is authorized by law and (1) the proposed action causes take; (2) new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered; (3) the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the written concurrence; or (4) a new species is listed or critical habitat designated that may be affected by the identified action (50 CFR 402.16). This concludes the ESA consultation.

MAGNUSON-STEVENSON FISHERY CONSERVATION AND MANAGEMENT ACT

Section 305(b) of the MSA directs Federal agencies to consult with NMFS on all actions or proposed actions that may adversely affect EFH. Under the MSA, this consultation is intended to promote the conservation of EFH as necessary to support sustainable fisheries and the managed species' contribution to a healthy ecosystem. For the purposes of the MSA, EFH means "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity", and includes the associated physical, chemical, and biological properties that are used by fish (50 CFR 600.10). Adverse effect means any impact that reduces quality or quantity of EFH, and may include direct or indirect physical, chemical, or biological alteration of the waters or substrate and loss of (or injury to) benthic organisms, prey species and their habitat, and other ecosystem components, if such modifications reduce the quality or quantity of EFH. Adverse effects may result from actions occurring within EFH or outside of it and may include direct, indirect, site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions (50 CFR 600.810). Section 305(b) of the MSA also requires NMFS to recommend measures that can be taken by the action agency to conserve EFH. Such recommendations may include measures to avoid, minimize, mitigate, or otherwise offset the adverse effects of the action on EFH (50 CFR 600.905(b)).

Based on information provided by the Corps and the City, the proposed action may affect EFH through elevated underwater sound levels, degradation of water quality, and benthic habitat disturbance. Post-construction effects will include alteration of benthic habitat above MHHW. Therefore, NMFS has determined the proposed action would adversely affect EFH for various life stages of fish species managed under the Pacific Coast Groundfish FMP and the Coastal Pelagic Species FMP. Additionally, Project activities will adversely affect waters designated as estuary HAPC in the Groundfish FMP. However, as presented above, effects during construction activities resulting from degraded water quality and disturbance to benthic substrate are short-term, minimal, and localized. Post-construction, the sheet pile floodwall alignment will be installed entirely upland of regularly inundated tidal waters. The wall has been designed to avoid impacts to intertidal marsh, and vegetation clearing will be largely in areas with ruderal vegetation. The installation of the floodwall is not expected to impact the existing function of the high intertidal habitat of Lower Colma Creek. Additionally, native vegetation will be planted on the waterside of the wall. Therefore, NMFS has no EFH conservation recommendations to provide.

The Corps must reinitiate EFH consultation with NMFS if the proposed action is substantially revised in a way that may adversely affect EFH, or if new information becomes available that affects the basis for NMFS' EFH conservation recommendations (50 CFR 600. 920(l)). This concludes the MSA consultation.

Please direct questions regarding this letter to Brian Meux, North-Central Coast Office in Santa Rosa, California at (707) 575-1253, or via email at brian.meux@noaa.gov.

Sincerely,



Gary Stern
San Francisco Bay Branch Chief
North-Central Coastal Office

cc: Tami Church, Corps of Engineers (tami.c.church@usace.army.mil)
Copy to E-File FRN 151422WCR2021SR00134

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4 CONSISTENCY DETERMINATION

4.1 Authority

This Consistency Determination (CD) describes the U.S. Army Corps of Engineers, San Francisco District's (USACE's) proposed coastal storm damage reduction project for Lower Colma Creek in South San Francisco. This CD is being submitted in accordance with the Coastal Zone Management Act of 1972, as amended, 16 U.S.C. §1451 and the implementing regulations entitled Federal Consistency with Approved Coastal Management Programs, 15 C.F.R. Part 930. Under these regulations, USACE is responsible for managing its projects within the coastal zone jurisdiction in a manner that is consistent, to the maximum extent practicable, with the coastal zone management programs approved for California by the National Oceanic and Atmospheric Administration (NOAA). The program applicable to USACE projects in San Francisco Bay is the San Francisco Bay Plan (Bay Plan), which is administered by the San Francisco Bay Conservation and Development Commission (BCDC).

4.2 Introduction

The Lower Colma Creek Project in South San Francisco, California is a coastal storm damage reduction project at a wastewater treatment plant adjacent to the San Francisco International Airport (SFO). The South San Francisco/San Bruno Water Quality Control Plant, and North Bayside System Unit Facilities (also referred to as South San Francisco Water Quality Control Plant, or abbreviated as SSF WQCP) services an area with over 165,000 full time residents, plus the daily population of SFO airport (Figure 7). The USACE and the City of South San Francisco are cost sharing partners in this project.

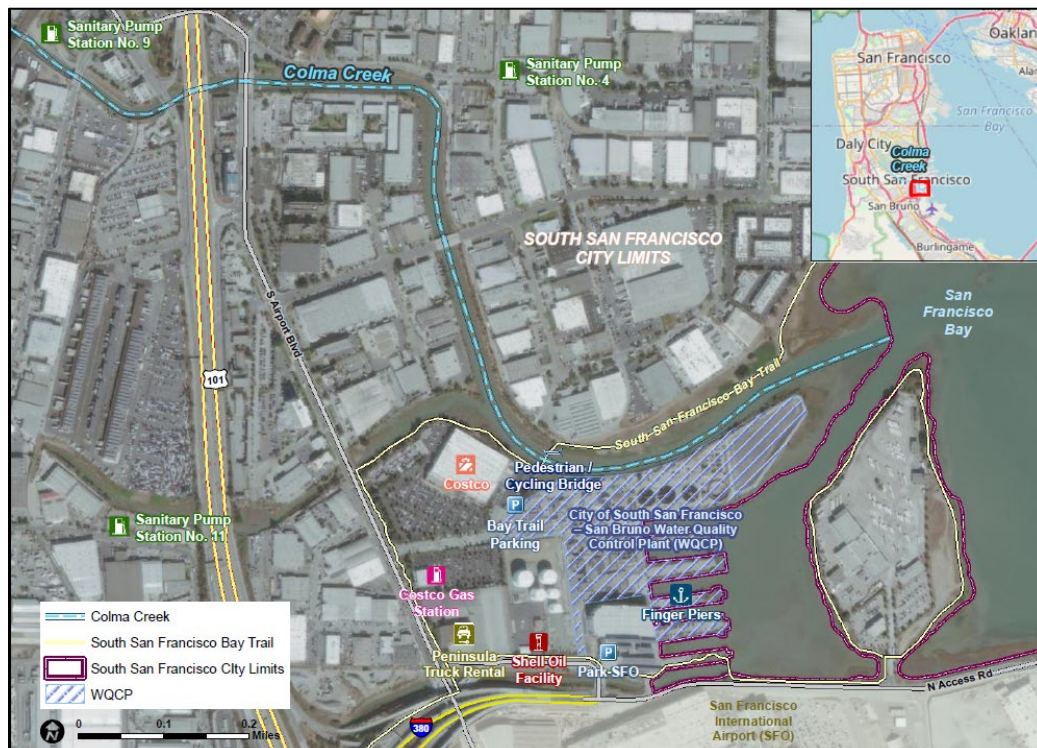


Figure 6. The South San Francisco Wastewater Quality Control Plant and nearest sanitary pump stations are located just north of San Francisco International Airport, along Colma Creek and San Francisco Bay.

4.3 Determination

The proposed Lower Colma Creek project entails building several floodwalls around the South San Francisco Water Quality Control Plant (SSF WQCP) to protect the wastewater treatment plant infrastructure from coastal storm damages and sea level rise. The total permanent footprint of the floodwall will be 5,100 sq. ft. and the total temporary construction footprint will be 16,500 sq.ft. (total impact area of 21,000 sq. ft.). All of the Colma Creek project is within the jurisdiction of BCDC's 100 ft Shoreline Band (Figure 7, Table 2).

The USACE has evaluated the proposed Lower Colma Creek Project and has determined that it is consistent, to the maximum extent practicable, with the San Francisco Bay Plan Policies. A detailed project description and an assessment of this project's consistency with those policies are provided below.

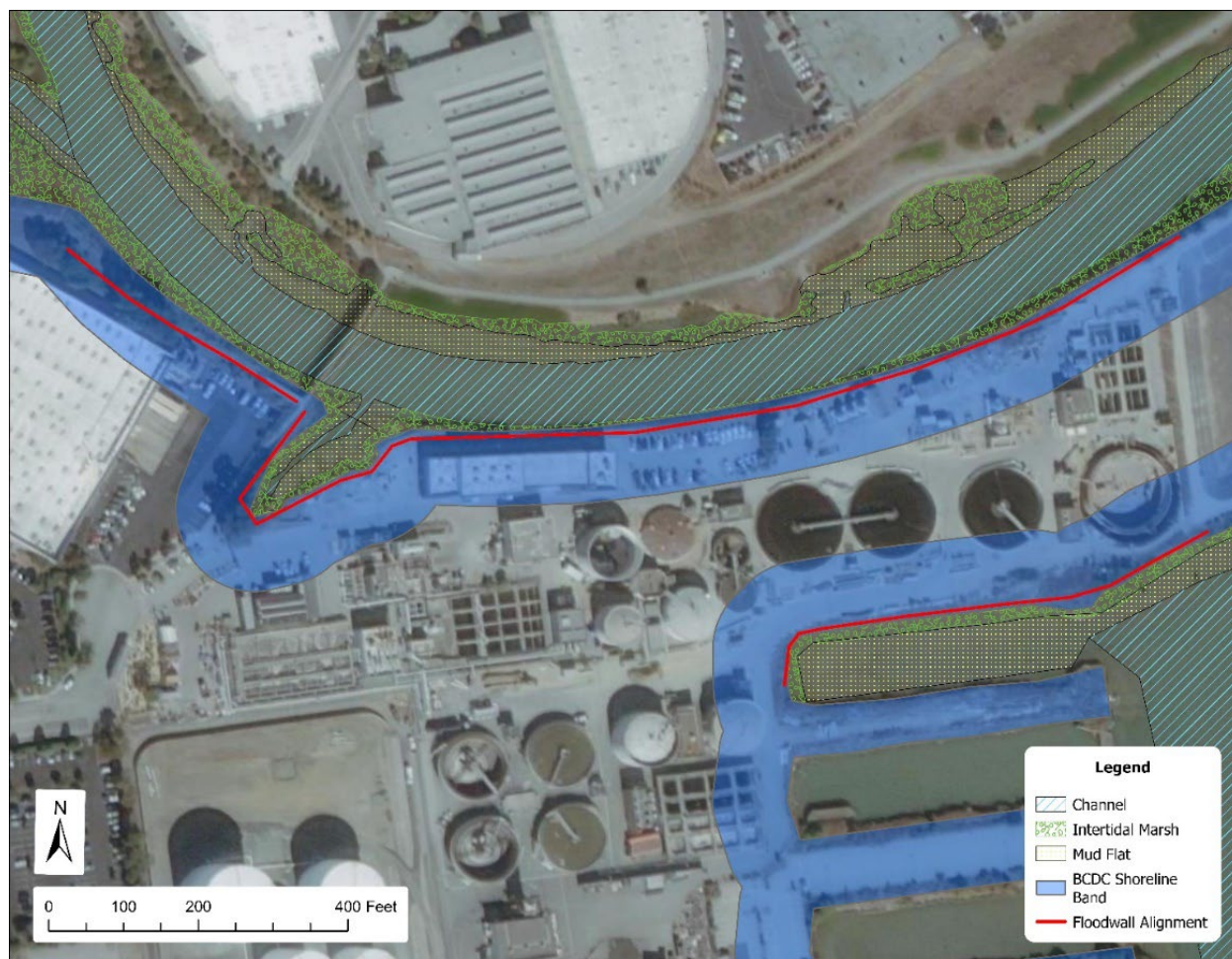


Figure 7. BCDC Shoreline Band and Wetlands and Waters of the U.S. in the vicinity of the study area.

Table 2. Project footprint in the shoreline band.

Elements of Project	Shoreline band (ft ²)
Shoreline Protection (Flood Wall)	5,100
Temporary Construction Zone	16,500
Totals:	21,600

4.3.1 Project Location and Existing Conditions

The SSF WQCP is located in the City of South San Francisco, CA (SSF), which is part of San Mateo County. South San Francisco is bordered by the cities of Brisbane to the north and San Bruno to the south (Figure 8). Project Assessor's Parcel Numbers (APNs) are shown in Table 3 and Figure 9. The approximate coordinates of the project center point are 37.64093 N, 122.39398 W.

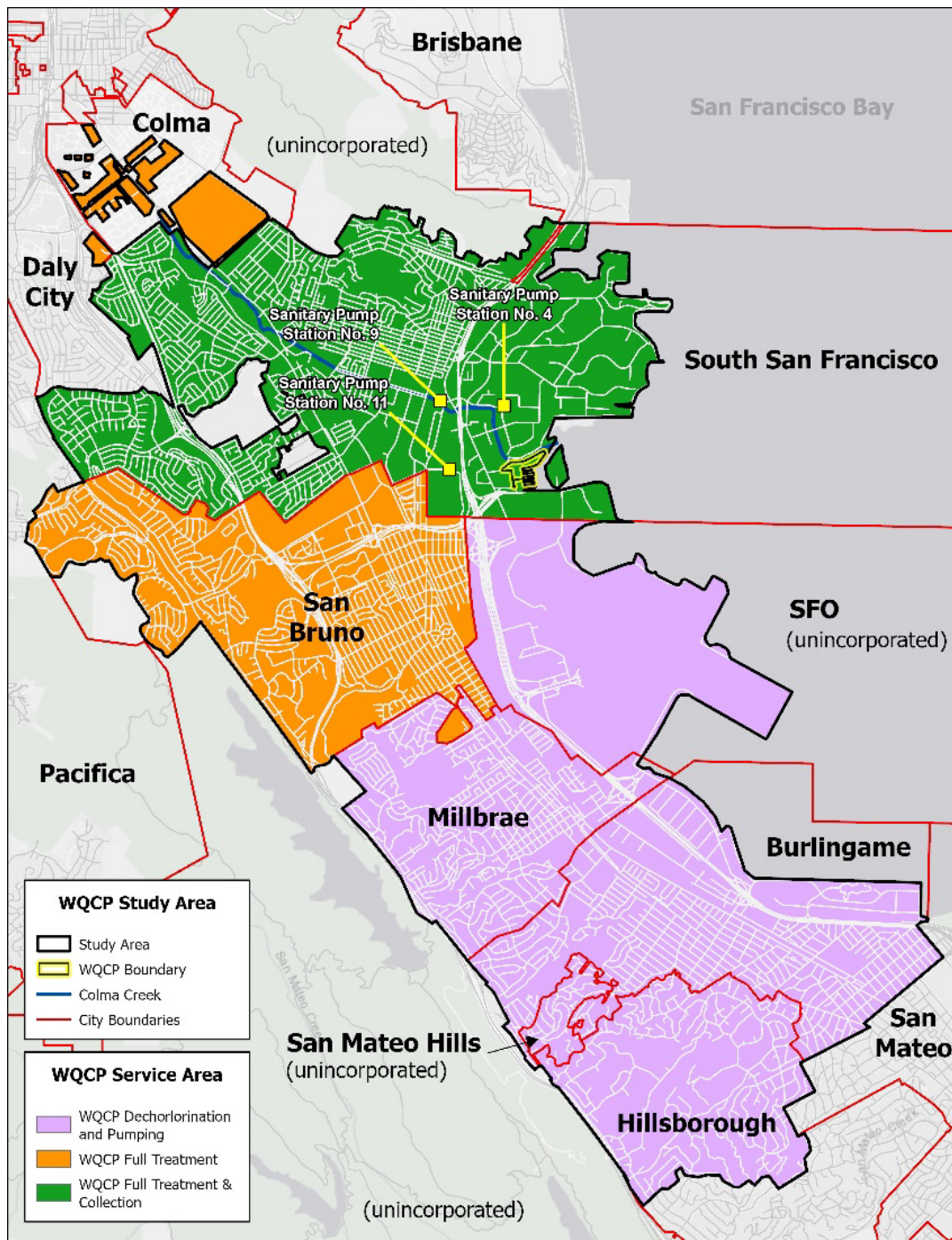


Figure 8. Location of the South San Francisco-San Bruno Water Quality Control Plant (WQCP), three pump stations which pump directly to the WQCP, and associated service areas by treatment/service type.

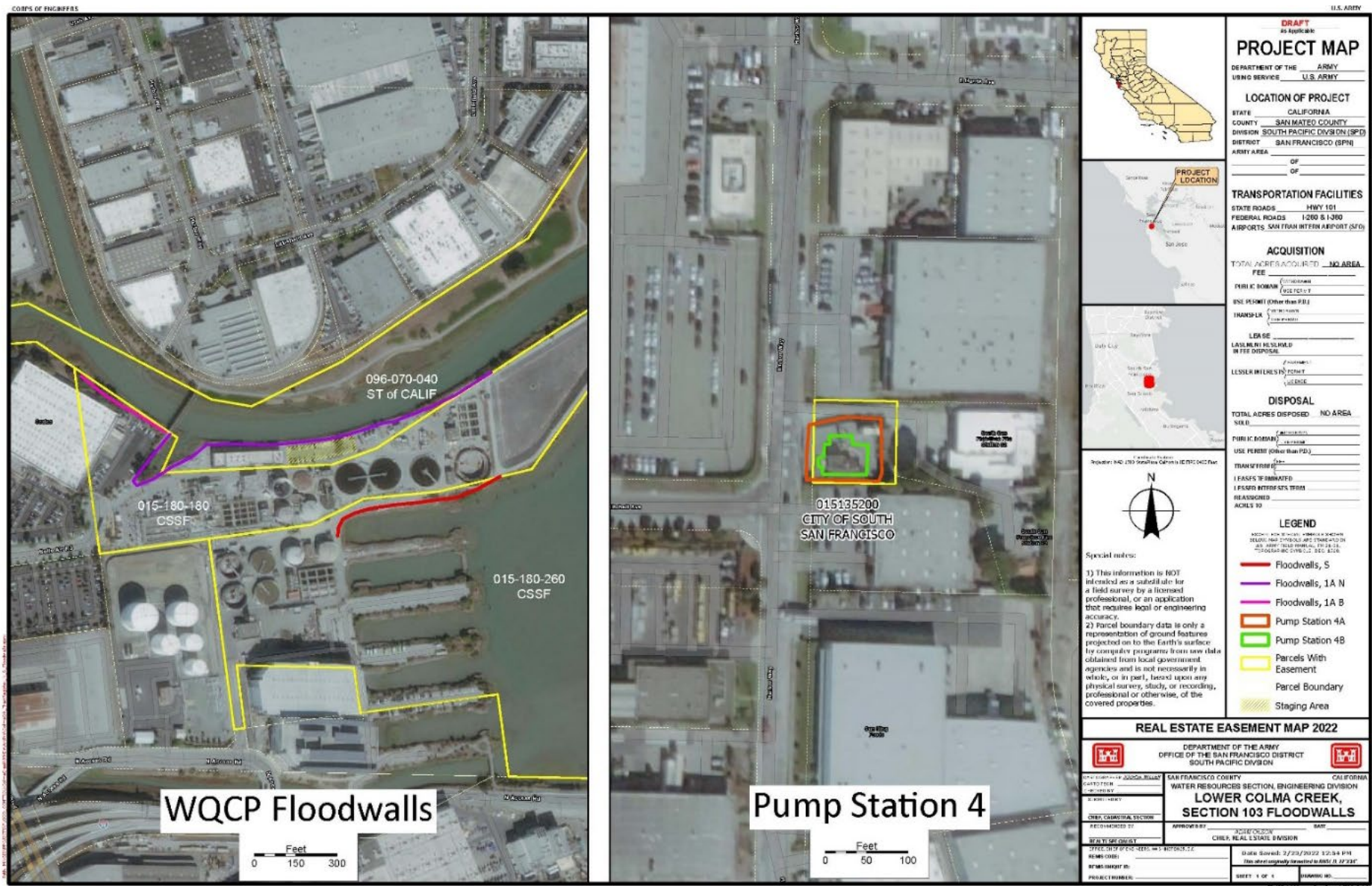


Figure 9. Real estate map.

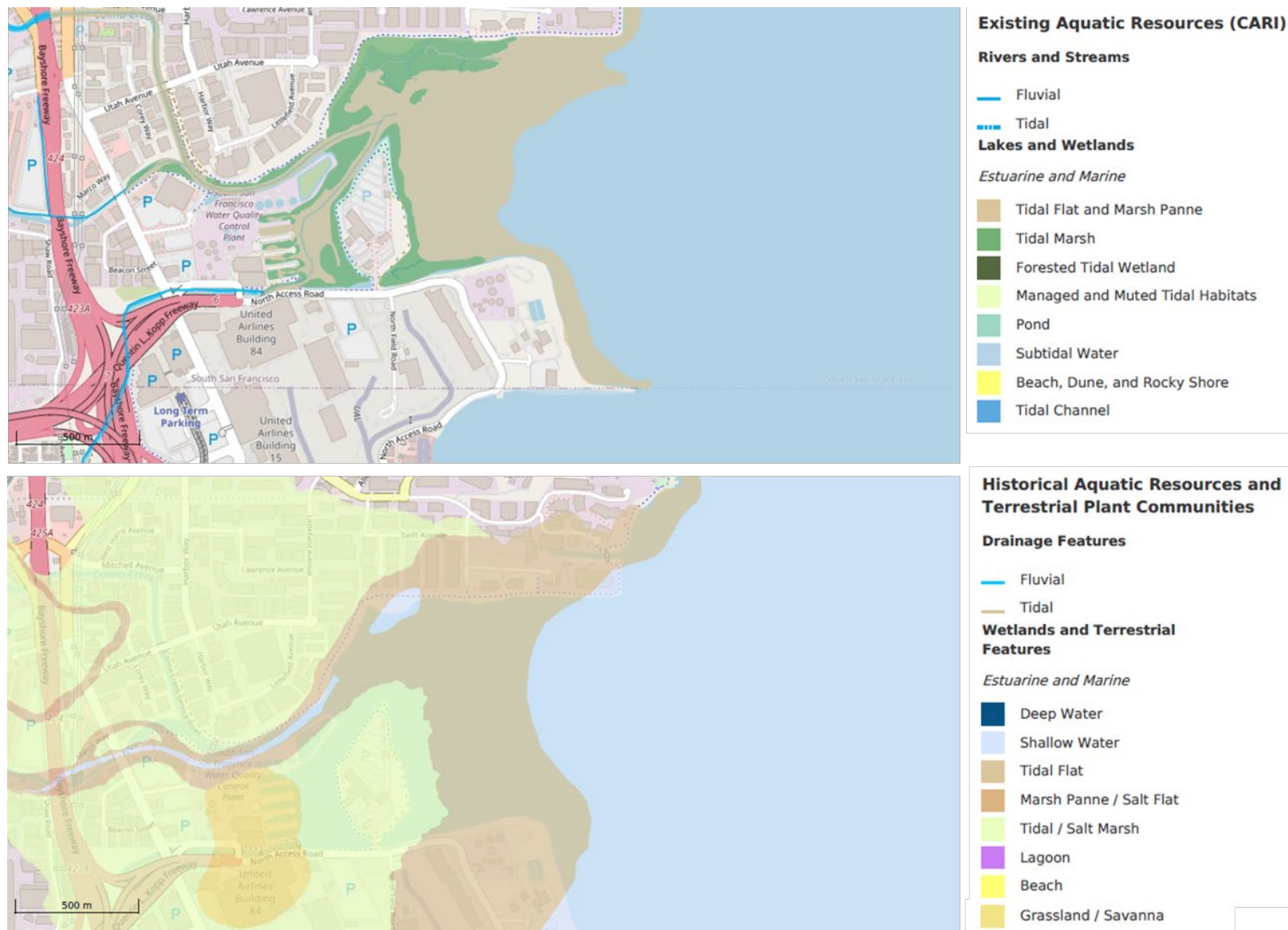


Figure 10. Present (top) and historical (bottom) San Francisco Baylands in the project vicinity. Maps produced through EcoAtlas (www.ecoatlas.org).

Table 3. Project Assessor's Parcel Numbers (APNs) for the project area.

Area	Owner	Project Assessor's Parcel Number
WQCP Floodwalls	City of South San Francisco (CSSF)	015-180-180
WQCP Floodwalls	City of South San Francisco (CSSF)	015-180-260
WQCP Floodwalls	State of California (ST of CALIF)	096-070-040
Pump Station 4	City of South San Francisco (CSSF)	015-135-200

Colma Creek drains roughly 16 square miles as it flows from San Bruno Mountain down through the heavily urbanized cities of Colma, South San Francisco, San Bruno, and Daly City on its way to San Francisco Bay (Figure 6). The creek is bordered by the San Andreas Fault to the west and San Bruno Mountain to the north. As it approaches San Francisco Bay, the Colma Creek channel once included historical salt marsh wetlands, most of which have been filled due to development (Figure 10). Limited wetland areas remain at the mouth of Colma Creek. Today, the creek serves as the City's stormwater infrastructure.

The cost for the study, permitting, design, and construction for this project is approximately \$14,571,000. The estimated duration of the construction for the floodwall and utility modification is 1 year. Construction at the earliest would be anticipated in 2024. The construction disturbances will generally be within an 8 ft wide strip (4 ft on either side of the wall) which typically excludes any existing areas of marsh. Where this strip intersects with the marsh, the contractor will be instructed to avoid disturbing the marsh. The construction equipment will move along the plant side of the wall driving the sheet piles. The construction will occur adjacent to the marsh, but not within it. The contractor will use BMPs like silt fencing to maintain separation between their work and the marsh. There will not be any work done in the Colma Creek channel itself. Updates to this schedule and cost information will be provided as appropriate.

4.3.2 Construction Description

The North Floodwall will include a 2,000 foot long I-wall (sheetpile) floodwall, approximately 3 to 6.5 feet above grade at the north side of the WQCP adjacent to the right-bank of Colma Creek. The South Floodwall will be 700 feet long and approximately 2 to 4 feet high south of the WQCP adjacent to San Francisco Bay. The height of the sheetpile flood walls corresponds to a wall crest elevation of 13.5 ft (NAVD88). The sheetpile flood walls will be topped with a concrete cap. The footprint of disturbance will be limited to four feet on either side of the wall centerline. A perimeter sheetpile floodwall, approximately 2 feet above grade, will be constructed at Pump Station 4, which is located outside the CZMA.

This floodwall meets the CSRM objectives of managing risk to human life and safety by managing the risk of the WQCP and Pump Station 4 flooding, up to an extreme tide elevation of 12.3 ft during a 0.2% AEP event with 50 years at the Intermediate SLR rate from the base year of 2023, with a wall crest elevation of 13.5 ft. This prevents flooding through the low spots on the north side from the Colma Creek channel and through the low spots on the south side of the WQCP area. The WQCP is still susceptible to overland flow from the west, but this flooding was found to enter the WQCP area only at extreme tide elevations greater than 13 ft. This would allow plant operators to keep the plant operational and avoid emergency releases of raw sewage into Colma Creek and San Francisco Bay due to plant shutdowns. It would also manage the risk of coastal flooding causing raw sewage to back up into homes and streets if

pump stations were to fail or the plant were to not be able to accept pumped sewage. The building of this floodwall will reduce economic damages that could occur annually by \$774,843 and has annual net benefits of \$340,612 and a benefit to cost ratio of 1.78. It improves resiliency to sea level rise for the project area region. The likely recommended plan also improves social justice by managing risk of impacts to human health and safety, as well as aesthetic impacts of raw sewage in socially disadvantaged communities. According to the BCDC community vulnerability database referenced in Section 2.12 of the DPR/EA, there are at least 15,000 people in the high and highest social vulnerability categories who live within a mile of the WQCP and pump station 4.

The building of this floodwall is relatively straightforward and simple to implement, with the majority of construction and staging occurring on WQCP property, limited excavation required, and low and mitigatable impacts to habitat and cultural resources. The floodwall is vulnerable to 0.2% AEP events with 20-50 years at the Intermediate SLR rate from the base year of 2023. The floodwall is vulnerable to 0.2% AEP events with 50 years at the High SLR rate. In this sense, this project reduces the risk of needing future adaptation based on higher rates of future SLR. Because the additional cost for this added resiliency is not very high, the net benefits from the project increase with this added increment.

4.3.3 Existing Conditions

As the study area is located on the shoreline of San Francisco Bay, there are a considerable amount of jurisdictional wetlands and Waters of the U.S. nearby. The channels and mudflats are “other Waters of the U.S.” and wetlands are “intertidal marsh”. To determine the extents of these jurisdictional waters and wetlands, the team used a combination of previously conducted and recently conducted delineations, satellite imagery, and in-situ measurements.

The WQCP is located on the shoreline of San Francisco Bay, just north of SFO Airport and south of Colma Creek. The project site lies on a peninsula with protected inlets of San Francisco Bay to the east and south. The WQCP site consists entirely of previously developed or landscaped areas with mostly industrial land use in the vicinity such as petroleum storage, warehousing, shipping and light manufacturing (BCDC, 1998).

4.3.4 Flood Risk

Periodic flooding occurs in South San Francisco but is generally confined to certain areas along Colma Creek north of the project site. The water levels in Colma Creek are highly influenced by both tidal action and storm events. The project site is located within a 1% annual exceedance probability (AEP) floodplain, colloquially referred to as the 100-year floodplain, designated by the Federal Emergency Management Agency (FEMA; 2012). The FEMA maps reviewed in a recent flood study (Carollo Engineers, 2010) indicate that the 1% AEP event occurring at high tide would raise water levels to 9.7 feet above mean sea level. The Maintenance Building at the project site lies at an elevation of approximately 12.82 feet (Carollo Engineers, 2010). While the water level is not regularly monitored in the stretch of the creek bordering the project site, near- flooding conditions have been observed outside the Maintenance Building (Carollo Engineers, 2010). As recently as October 13, 2009, the water level was measured to be 1.6 feet above the 1% AEP flood level (11.3 feet above mean sea level), which is approximately 1.5 feet below the Maintenance Building’s foundation elevation. The project site is not substantially higher than potential flooding events. The proposed project does not include any residential components and the proposed improvements would not likely be significantly damaged in the event that flooding occurs.

Although much of the project site is on higher ground than the 1% AEP, much of the existing electrical and pumping infrastructure for the WQCP is located in subterranean facilities that are vulnerable to flood water. Relocating, or raising this infrastructure is very costly and not always feasible, given the

interconnected nature of the facilities which pipe and pump effluent between various treatment tanks, often using gravity to move wastewater. The main discharge pipe from force main station 4 runs directly under Colma Creek, adjacent to the plant.

4.3.5 Consistency with Bay Plan Policies

An analysis of the applicable and enforceable Bay Plan policies as they relate to the proposed project is included below. The policy analysis below has been updated to refer specifically to the Lower Colma Creek project. The proposed project does not involve any areas of shell deposits, freshwater inflow, or subtidal areas, therefore these policies are not applicable. Policies concerning dredging, water-related industry, ports, airports, salt ponds, managed wetlands, and fills in accord with the Bay are not applicable since the proposed project area does not include any of these facilities or operations. Non-applicable policies are followed by (N/A).

4.3.5.1 Fish, Other Aquatic Organisms, and Wildlife

The Colma Creek project is consistent with Bay Plan policies related to fish, other aquatic organisms, and wildlife. There is no in-water work associated with this action. Colma Creek supports several aquatic resources but is not directly part of the project area. The California Ridgway's rail (*Rallus longirostris obsoletus*) and the San Francisco garter snake (*Thamnophis sirtalis tetrataenia*) are two endangered species that have been recorded near the project area. Survey results from the 2012 Invasive Spartina Project (ISP) and recent surveys from 2018 confirm no recent observances of the California Ridgway's rails in or adjacent to the project area (Olofson Environmental 2012, BioMAaS 2018). The last observance of a California Ridgway's rail was in 2011 at the navigable slough northwest of the project area. The San Francisco garter snake is found on the San Francisco peninsula in San Mateo and Santa Cruz counties. The species inhabits marshlands that border ponds and sloughs, riparian cover along streams, and bordering meadows with scattered brush. Suitable habitat is not available in the project area. USACE is consulting with the National Marine Fisheries Service (NMFS) on the project, in accordance with Section 7(a)(2) of the Endangered Species Act (ESA; 16 U.S.C. § 1536[c]) and Section 305(b) the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA; Public Law 104-297). The USACE will consider any recommendations and ensure compliance with any requirements from these agencies that are applicable to the Lower Colma Creek project to avoid potential adverse effects on special status species and their habitats.

This project has an impact area of approximately (0.6 acres). The vast majority of this is in ruderal grassland. The wall alignment has been shifted to minimize impacts to marsh species. The vegetation within 4 feet of either side of the wall alignment will be cleared prior to construction. To minimize impacts to biological resources, the project will include the following avoidance and minimization measures. Prior to construction, the project area will be surveyed by a qualified biologist for nesting birds. If active nests are found, the biologist will set up a 50 ft buffer until the nests are no longer active. If the nesting bird is a raptor, the biologist will set up a 250 ft buffer until the nest is no longer active.

The waters of the Bay adjacent to the project are critical habitat for the threatened Central California Coast (CCC) steelhead (*Oncorhynchus mykiss*) and the threatened Southern Distinct Population Segment (DPS) of green sturgeon (*Acipenser medirostris*). The project will not occur directly in the Bay. Therefore, this project is consistent to the maximum extent practicable with all Fish, Other Aquatic Organisms and Wildlife Bay policies.

4.3.5.2 Water Quality

The Lower Colma Creek project will protect Colma Creek and the adjacent Bay from discharges of untreated effluent and avoid water quality degradation and associated impacts to human health and the

environment. The WQCP services an area with over 165,000 full time residents, plus the daily population of SFO airport (Figure 7). According to the BCDC community vulnerability database, there are at least 15,000 people in the high and highest social vulnerability categories who live within a mile of the WQCP and pump station 4. Releases of untreated wastewater associated with a flooded WQCP would have significant negative impacts on the water quality of Colma Creek, the San Francisco Bay, and these vulnerable communities. This project helps protect freshwater inflow into the Bay from Colma Creek.

Best Management Practices (BMPs) will be implemented during construction to address erosion and sediment control as work will be performed adjacent to the Bay. The construction contractor will be required to get a Construction General Permit and implement a Stormwater Pollution Prevention Plan. If project plans changed and work was required below the ordinary high watermark or within wetlands, then applicable permitting and analysis would be completed prior to construction. BMPs would be implemented to ensure the protection of water quality and prevent the discharge of pollutants throughout the Lower Colma Creek project to ensure no sediment, storm water, debris, rubbish, cement, concrete or concrete washings, oil or petroleum products, or other organic or earthen material from construction or associated activities enter the Bay. Other BMPs would include use of dedicated areas for fueling equipment and performing other maintenance, avoidance of overtopping equipment gas tanks, proper containment of fluids and gases, proper disposal of debris from site and submittal of an Environmental Protection Plan prior to start of work.

Impacts to wetlands associated with flood control measures were evaluated for compliance with Section 404 of the Clean Water Act administered by USACE. The boundary of jurisdictional waters was used to avoid impacts, and therefore a 404(b)(1) evaluation has not been prepared. Section 401 Water Quality Certification is granted in the project area by the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB), but if there is no 404 discharge of fill, a 401 certification is not required. Significant impacts to water quality are not anticipated given that the project is not occurring directly in the water. This project is consistent to the maximum extent practicable with all Water Quality Bay policies.

4.3.5.3 Water Surface Area and Volume

N/A

4.3.5.4 Tidal Marshes and Tidal Flats

The surrounding areas of the WQCP were originally a mudflats and tidal marsh environment with a small hill situated at the center known as Belle Air Island (Figure 11). Adjacent and surrounding the WQCP today are portions of salt marsh within Lower Colma Creek, the San Bruno Slough and Canal, and San Francisco Bay shoreline. The project was designed to avoid impacts to the tidal marsh as much as practicable. This project will not decrease square footage of the marsh. The proposed floodwall in the Colma Creek project will protect the WQCP from sea level rise and directly provides infrastructure for sea level rise adaption. This project is consistent to the maximum extent practicable with all Tidal Marsh and Tidal Flats policies.

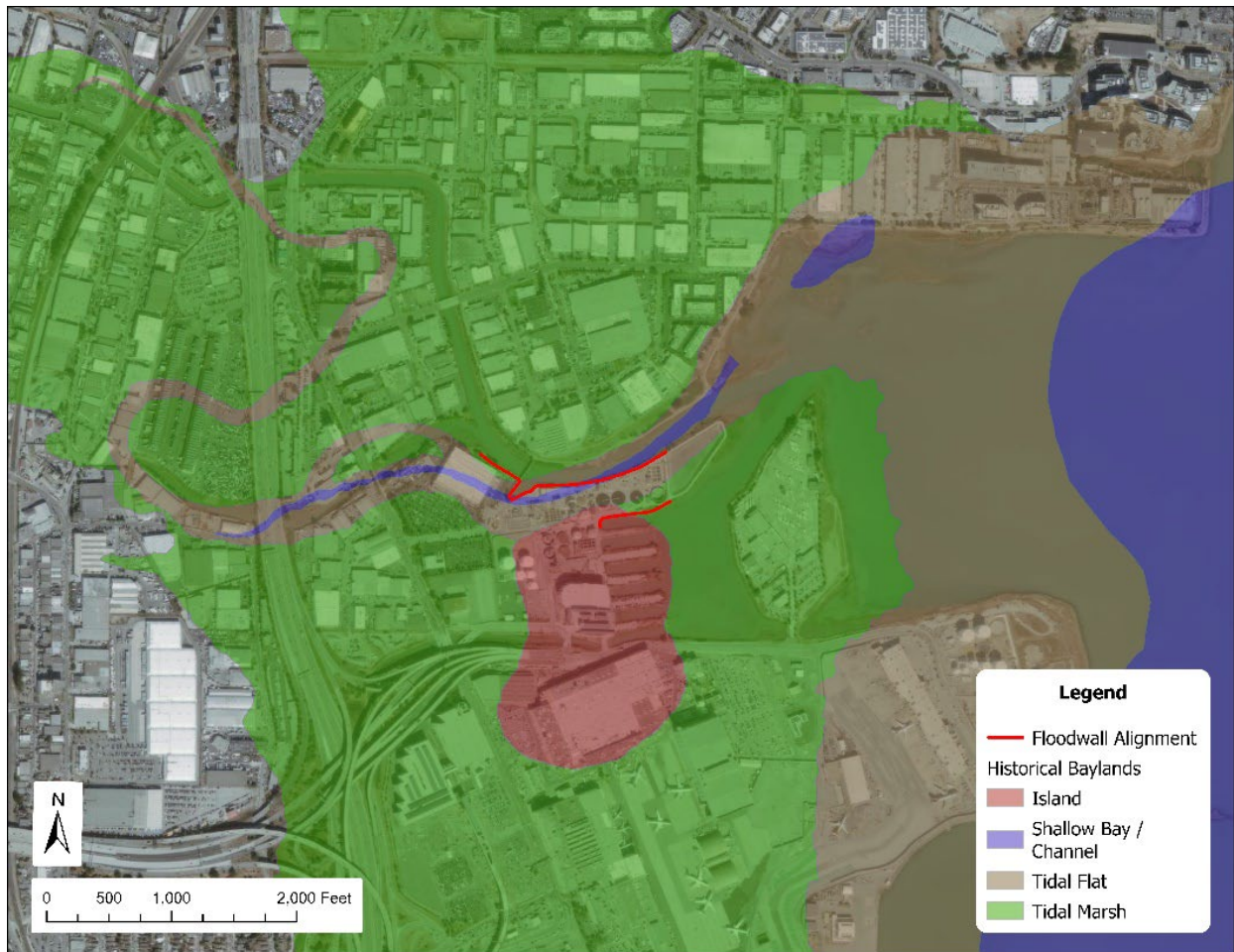


Figure 11. Historical tidal marsh overlaid with the floodwall alignment.

4.3.5.5 Smog and Weather

As stated under the Water Quality policy above, the proposed Lower Colma Creek project would not result in fill in the Bay. This project is not expected to affect the Bay's function as an environmental regulator of particulate and smog within the atmosphere of the Bay Area. This function would be maintained in compliance with the Bay Plan policy related to Smog and Weather. In addition, proper BMPs relating to minimizing idling of equipment and vehicles onsite will be implemented throughout the construction process to avoid air quality impacts. Based on this process for the emissions inventory and air quality analysis, it was determined that the emissions associated with the selected project alternative are below applicable Federal and Bay Area Air Quality Management District thresholds, and thus, the project would not cause an impact to air quality. This project is consistent to the maximum extent practicable with all Smog and Weather Bay policies.

4.3.5.6 Shell Deposits

N/A

4.3.5.7 Freshwater Inflow

N/A

4.3.5.8 Subtidal Areas

N/A

4.3.5.9 Environmental Justice and Social Equity

The proposed Lower Colma Creek Project would take place in South San Francisco, California along the shoreline of the San Francisco Bay. According to the BCDC community vulnerability mapper, the existing Lower Colma Creek Project falls in a census block group with moderate social vulnerability. Based on the BCDC contamination vulnerability mapper, there are census block groups with mapped high contamination vulnerability in or around the Lower Colma Creek Project. According to the BCDC community vulnerability database, there are at least 15,000 people in the high and highest social vulnerability categories who live within a mile of the WQCP and pump station 4. The selected project plan includes benefits/damages and avoids impacts to vulnerable populations as the project is protecting the wastewater treatment plant. This would not add to contamination, it would protect communities from contamination. Some temporary increase to emissions would occur during construction but would not adversely affect the local community. Public outreach was conducted on March 4th, 2022 when USACE met with the Colma Creek Advisory Committee for a publicly held meeting and there will be more public outreach in the future. A public meeting is scheduled for June 2022 and community organizations will be invited to attend. This project is consistent to the maximum extent practicable with all Environmental Justice and Social Equity Bay policies.

4.3.5.10 Climate Change

The proposed wall will protect the SSF WQCP from future sea level rise. By providing protection against sea level rise and flooding from Colma Creek this project is providing protection to this critical infrastructure. The floodwall is vulnerable to 0.2% AEP events with 20-50 years at the Intermediate SLR rate from the base year of 2023. The floodwall is vulnerable to 0.2% AEP events with 50 years at the High SLR rate. In this sense, this project reduces the risk of needing future adaptation based on higher rates of future SLR. The SLR analysis is based on USACE guidance and tools laid out in ER 1100-2-8162, which uses climate change projections from the Intergovernmental Panel on Climate Change and the National Research Council. After the floodwall is installed, the SSF WQCP is expected to be resilient to a mid-century sea level rise projection and likely beyond.

The proposed project will not negatively impact the Bay and will decrease risks to public health and safety through ensuring continued functioning of the SSF WQCP. This project is consistent to the maximum extent practicable with all Climate Change Bay policies.

4.3.5.11 Safety of Fills

Safety of fills does not apply, because the fill is not occurring directly in the Bay. The floodwall is categorized as fill in the 100 ft shoreline band and the WQCP is built on artificial fill. This project is not filling directly in the Bay, it is fill in the 100 ft shoreline band. This project is consistent to the maximum extent practicable with all the Safety of Fills Bay policies.

4.3.5.12 Shoreline Protection

This project is necessary to provide flood protection for the SSF WQCP which is existing critical infrastructure, built in 1950. The size and placement of the flood wall was designed to be small as possible while protecting current plant operations and avoiding impacts to wetlands. This project will help mitigate contamination by reducing the risk that sewage will spill into nearby waters during a flood event. The protective structure used for this project is appropriate for the project site and the project is properly engineered to provide flood protection for a 100-year flood event with SLR incorporated as described above. During the planning process, the project team examined a range of structural and non-structural

measures including opportunities to raise the plant, flood proof individual buildings, or even relocate the plant. However, the complex and expensive embedded infrastructure, which includes a system of sewage pipes, pumps, and treatment facilities and discharges makes these options impractical and cost prohibitive. The project team also investigated opportunities to incorporate natural and nature-based features into alternative designs. However, upon further investigation the opportunities proved limited within the constraints of this study. The project areas where natural and nature-based solutions could be implemented already have a concrete revetment or marsh in front of them so there would not be any additional need or benefit from adding these features to the project area. The areas where natural and nature-based solutions could be applied do not have flood risk and are not able to be further considered under this funding authorization. Due to security concerns, public access is not allowed on the facility grounds, including access to the shoreline. BCDC acknowledged the significant challenges here as “Significant Use Conflicts” (citing permit No. 1998.008.00) and again in permit No. 1998.011.07 (Section III, Findings and Determinations) issued to the WQCP and City of South San Francisco for work at and adjacent to the WQCP. The WQCP previously submitted a “Sites Constraints” document as well as a “Comparison of Public Access Feasibility at Treatment Facilities” document under a previous permit application which BCDC referenced in its prior permits issued for the WQCP to conclude that access at the WQCP would be unacceptable because of “safety, security, and liability problems.” Nothing has changed to improve and modify any of the safety, security, and liability concerns previously documented and confirmed by BCDC. This project is consistent to the maximum extent practicable with all Shoreline Protection Bay policies.

4.3.5.13 Dredging

N/A

4.3.5.14 Water-Related Industry

N/A

4.3.5.15 Ports

N/A

4.3.5.16 Airports

N/A

4.3.5.17 Transportation

No new transportation related fill or bridges within or across the Bay are proposed as part of the Colma Creek project, therefore, these policies are not applicable.

4.3.5.18 Commercial Fishing

N/A

4.3.5.19 Recreation

This area is not suitable for recreation due to the safety concerns and for not providing an aesthetic experience due to smells emanating from the WQCP. The WQCP is not open for public access. Due to security concerns, public access is not allowed on the facility grounds, including access to the shoreline. BCDC acknowledged the significant challenges here as “Significant Use Conflicts” (citing permit No. 1998.008.00) and again in permit No. 1998.011.07 (Section III, Findings and Determinations) issued to the WQCP and City of South San Francisco for work at and adjacent to the WQCP. The WQCP previously submitted a “Sites Constraints” document as well as a “Comparison of Public Access Feasibility at Treatment Facilities” document under a previous permit application which BCDC referenced in its prior permits issued for the WQCP to conclude that access at the WQCP would be

unacceptable because of “safety, security, and liability problems.” The alternative inland alignment selected by BCDC (Permit No. 1998.011.07), in addition to the various public access improvements required by BCDC, were recently completed by SSF and are pending close-out with BCDC.

The policies within the Bay Plan that address projects relating directly to activities of recreation do not apply. Parking and recreation in adjoining areas are not expected to be affected by the project. Minor increases in noise levels associated with the short-term operation of demolition and construction equipment during the proposed Colma Creek project could temporarily lower the quality of recreation around the action area. Noise mitigation will be done when practicable, for example a vibratory instead of a hydraulic hammer will be used to reduce noise levels. This project was designed to avoid impacts to the existing Bay Trail as much as possible. During construction, the Bay Trail will be closed at times when work is occurring immediately adjacent to the trail alignment, but access to the nearby pedestrian bridge will be maintained. The detailed information of road and trail closures will be generated and disclosed during the preconstruction engineering phase of the study prior to construction. This project is consistent to the maximum extent practicable with all Recreation Bay policies.

4.3.5.20 Public Access

As referenced above, the current Bay Trail alignment was modified inland based upon BCDC’s determination that public access along the Bay was infeasible, acknowledging the serious security and safety concerns presented by the WQCP.¹ Nothing has changed to mitigate those concerns. As understood in previous permits, rerouting the potential future SF Bay Trail to go around the north side of the WQCP along the creek and bayside would pose an unacceptable public safety risk of exposure to deadly airborne chemicals in the event of an accident. Further, there is not sufficient space for a paved trail and the cost is likely to exceed allowable thresholds for recreation within this project’s financial limits. Finally, a trail along the WQCP is likely to degrade the olfactory experience of trail users, and may not be considered an aesthetic improvement by trail users for this reason. The alternative inland alignment selected by BCDC (Permit No. 1998.011.07), in addition to the various public access improvements required by BCDC, were recently completed by SSF and are pending close-out with BCDC. Therefore, this project does not propose any modifications to the current proposed inland Bay Trail alignment.

The Colma Creek project would not involve the creation of new public access infrastructure, would not result in changes to any existing public access as the WQCP is on SF Municipal property that is not open to public access, and would be executed in a way that maintains maximum feasible public access to the nearby Bay Trail during construction. This project was designed to avoid impacts to the existing Bay Trail as much as possible. During construction, the Bay Trail will be closed at times when work is occurring immediately adjacent to the trail alignment, but access to the nearby pedestrian bridge will be maintained. The detailed information of road and trail closures will be generated and disclosed during the preconstruction engineering phase of the study prior to construction. This project is consistent to the maximum extent practicable with all Public Access policies.

4.3.5.21 Appearance, Design, and Scenic Views

The Bay Plan indicates that maximum efforts should be made to provide, enhance, or preserve views of the Bay.” The wall will be built with functionality at the forefront. However, there will be some minor

¹ The Commission and Design Review Board acknowledged in BCDC Permit No. 1998.011.07 that “constraints to public access at the WQCP are substantially greater than those at other treatment facilities, including the hazards associated with this water treatment plant, the limited space available for the plant facilities, the irregular shoreline, and the potential disturbance of wildlife” and concluded that “on-site access was undesirable, and the alternative inland alignment was selected.”

aesthetic impacts associated with the 3 to 6.5 ft tall wall along the project alignment (the wall crest elevation is set at 13.5 ft [NAVD88]). The project area is already developed and industrialized, therefore the overall nature of the viewshed would not change. A user on the existing Bay Trail is unable to view the Bay through the WQCP along the floodwall alignment, therefore the project will not impede existing views of the Bay. Similarly, vista points around the WQCP currently look across Colma Creek into the WQCP which will be minimally effected by the building of the flood wall which may impede views of the ground level of the WQCP.

All construction work will be conducted beginning in 2024. Entry onto the WQCP property will be through a private gate, avoiding public access areas mentioned above to the maximum extent possible. All hauling of materials and equipment that crosses public access, if any, will be minor and temporary and would be executed with measures to protect public safety including construction flaggers if necessary. This project is consistent to the maximum extent practicable with all Appearance, Design, and Scenic Views Bay policies.

4.3.5.22 Salt Ponds

N/A

4.3.5.23 Managed Wetlands

N/A

4.3.5.24 Other Uses of the Bay and Shoreline

The WQCP does not interfere with and is compatible with residential, recreational, or other public uses of the Bay and shoreline. The proposed project would not involve any other uses of the Bay and shoreline as described in the Bay Plan; therefore, such policies are not applicable. This project is consistent to the maximum extent practicable with all Other Uses of the Bay and Shoreline Bay policies.

4.3.5.25 Fills in Accord with the Bay Plan

N/A

4.3.5.26 Mitigation

To the maximum extent practicable, the Colma Creek project has been designed to avoid or minimize adverse environmental impacts to the San Francisco Bay in accordance with Bay Plan policies. There would be no significant effects resulting from this action that are expected to result in adverse environmental impacts. A minor increase in fill with only 5,100 ft² is the minimum fill necessary to build and ensure the future structural and seismic safety of the structure. There will be a community meeting in June 2022. This project is consistent to the maximum extent practicable with all Mitigation Bay policies.

4.3.5.27 Public Trust

The Colma Creek project would involve lands within the San Francisco Bay that are subject to the public trust. Because this project provides flood protection to WQCP and the surrounding area, and avoids emergency releases of raw sewage into Colma Creek and San Francisco Bay due to plant shutdowns, this project would preserve open space on these public trust lands and protect it from SLR. This project is consistent to the maximum extent practicable with all Public Trust Bay policies.

4.3.5.28 Navigational Safety and Oil Spill Prevention

N/A

4.4 BCDC Letter of Agreement

San Francisco Bay Conservation and Development Commission

375 Beale Street, Suite 510, San Francisco, California 94105 tel 415 352 3600 fax 888 348 5190

State of California | Gavin Newsom – Governor | info@bcdc.ca.gov | www.bcdc.ca.gov

Transmitted Via Email Only

May 3, 2023

TO: United States Army Corps of Engineers
San Francisco District, Regulatory Division
450 Golden Gate Avenue, 4th Floor
San Francisco, CA 94102-3404

FROM: Lawrence J. Goldzband, Executive Director (415/352-3653; larry.goldzband@bcdc.ca.gov)

SUBJECT: Instructions for Completing BCDC Letter of Agreement No. C2022.012.00

Dear BCDC Permit Holder:

Enclosed please find a BCDC Letter of Agreement, executed by the Executive Director.

This letter of agreement shall not take effect unless the U.S. Army Corps of Engineers, executes the letter of agreement and returns it to the Commission within 14 days after the date of the issuance of the letter of agreement¹. No work shall be done until the acknowledgment is duly executed and returned to the Commission (IV. A. Standard Conditions).

If you should have any questions regarding the Letter of Agreement or the procedure outlined above, please contact our staff at 415-352-3600 or info@bcdc.ca.gov.

¹ For your convenience, you will receive an email copy of the amended letter of agreement via DocuSign for your acknowledgement and e-signature.



San Francisco Bay Conservation and Development Commission

375 Beale Street, Suite 510, San Francisco, California 94105 tel 415 352 3600
State of California | Gavin Newsom – Governor | info@bcdc.ca.gov | www.bcdc.ca.gov

LETTER OF AGREEMENT FOR CONSISTENCY DETERMINATION NO. C2022.012.00

Issued on May 3, 2023

United States Army Corps of Engineers
San Francisco District, Regulatory Division
450 Golden Gate Avenue, 4th Floor
San Francisco, CA 94102-3404

I. Agreement

A. The San Francisco Bay Conservation and Development Commission agrees with the determination of the United States Army Corps of Engineers (“USACE”) that the following project is consistent with the Commission's Amended Coastal Zone Management Program for San Francisco Bay:

- Location:** Within the Shoreline Band and the Commission’s Coastal Zone, at the South San Francisco Water Quality Control Plant (“WQCP”) located in the City of South San Francisco, San Mateo County.
- Description:** In the Coastal Zone in the Shoreline Band:
1. Install an approximately 2,000-foot-long and 3.5- to 4-foot-tall sheetpile floodwall on the north side of the WQCP;
 2. Install a second approximately 700-foot-long and 4-foot-tall sheetpile floodwall on the south side of the WQCP adjacent to San Francisco Bay; and,
 3. Install a 325-foot-long and approximately 2-foot-tall perimeter floodwall around Pump Station 4, approximately 0.5 mile north of the WQCP.

B. The agreement is given based on the information submitted by or on behalf of the USACE in the letter dated December 19, 2022, and subsequently submitted exhibits and correspondence.

C. The work described in this Letter of Agreement may commence June 1, 2023, and must be completed by November 30, 2025, unless an extension of time is granted by amendment of this Letter of Agreement.



**LETTER OF AGREEMENT FOR CONSISTENCY
DETERMINATION NO. C2022.012.00**
United States Army Corps of Engineers

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II. Special Conditions

A. Plans and Plan Review.

1. **Construction Document(s) Review and Approval.** No work whatsoever authorized by this Letter of Agreement, except as otherwise provided by this Letter of Agreement, shall commence pursuant to this Letter of Agreement until final construction documents regarding activities authorized in this Letter of Agreement are approved in writing by or on behalf of the Commission. All documents are reviewed within 60 days of receipt.

To save time, preliminary documents may be submitted prior to the submittal of final documents. If final construction document review is not completed by or on behalf of the Commission within the 60-day period, the USACE may carry out the project authorized herein in a manner consistent with the plans referred to in Special Condition II.A.1 of this Letter of Agreement.

- a. **Document Details.** All construction documents shall be labeled with: the Mean High Water line and the tidal datum reference (NAVD88 or, if appropriate, Mean Lower Low Water (MLLW)); the corresponding 100-foot shoreline band; property lines; the location, types, and dimensions of materials, structures, and project phases authorized herein; and grading limits. Construction documents must be dated and include the preparer's certification of project safety and contact information. No substantial changes shall be made to these documents without prior review and written approval by or on behalf of the Commission through plan review or a Letter of Agreement amendment;
- b. **Conformity with Final Approved Documents.** All authorized development and uses shall conform to the final documents. Prior to use of the facilities authorized herein, the appropriate professional(s) of record shall certify in writing that the work covered by the authorization has been implemented in accordance with the approved criteria and in substantial conformance with the approved documents. No substantial changes shall be made to these documents without prior review and written approval by or on behalf of the Commission through plan review or a Letter of Agreement amendment;
- c. **Discrepancies between Approved Plans and Special Conditions.** In case of a discrepancy between final approved documents and the special conditions of this Letter of Agreement or legal instruments, the special condition shall prevail; and
- d. **Reconsideration of Plan Review.** The federal entity may request reconsideration of a plan review action taken pursuant to this special condition within 30 days of a plan review action by submitting a written request for reconsideration to the Commission's Executive Director. Following the Executive Director's receipt of such a request, the Executive Director shall respond to the federal entity with a determination on whether the plan review action in question shall remain unchanged or an additional review and/or action shall be performed by or on behalf

**LETTER OF AGREEMENT FOR CONSISTENCY
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of the Commission, including, but not limited to, an amendment to the Letter of Agreement and/or consultation with the Commission Design Review Board or Engineering Criteria Review Board.

III. Findings and Declarations

A. **Letter of Agreement.** On December 19, 2022, USACE submitted a consistency determination for the Lower Colma Creek Continuing Authorities Program Section 103 Project, a coastal storm damage reduction project at a wastewater treatment plant adjacent to the San Francisco International Airport (SFO), and requested that the Commission concur that the program is consistent with its Amended Coastal Zone Management Program for San Francisco Bay. The South San Francisco Water Quality Control Plant ("WQCP") services an area with over 165,000 full time residents, as well as the daily population of SFO airport. The activities included in this program are to manage flood risk to the WQCP and Pump Station 4 through the installation of a sheetpile floodwall system. The project will occur entirely along the shoreline and there is no work in the Bay or Bay fill associated with the project. Special Condition II.A is included to ensure that final plans are submitted for review and approval prior to commencing work, and that the work is conducted consistent with the approved plans.

As described above, the project authorized by this Letter of Agreement involves routine repairs, reconstruction, replacement, removal, and maintenance that do not involve any substantial enlargement or change in use in the Bay and the 100-foot shoreline band, as defined in Regulations Sections 10601(a)(6) and 10601(b)(5). The project is therefore a "minor repair and improvement" for which an administrative permit may be issued by the Executive Director, pursuant to Government Code Section 66632(f) and Regulation Sections 10621 and 10622.

B. **Consistent with the Commission's Amended Coastal Zone Management Program.** The Commission, pursuant to the Coastal Zone Management Act of 1972, as amended (16 USC Section 1451), and the implementing Federal Regulations in 15 CFR Part 930, is required to review Federal projects within San Francisco Bay and agree or disagree with the Federal agency's determination that the project is consistent with the Commission's Amended Coastal Zone Management Program for San Francisco Bay. This letter constitutes such review and comment. Based on the information submitted, and the conditions herein, the proposed project is hereby found to be consistent with the provisions of the Coastal Management Program for San Francisco Bay.

C. **Listing with the Commission.** Pursuant to the procedures outlined in the Commission's Regulation Section 10620, the Commission staff prepared a description for this project, along with the name and address of the USACE, and attached that information to the listing of administrative permits, marsh development permits, and federal consistency actions sent to the Commission for its April 20, 2023, meeting.

IV. Standard Conditions

A. **Concurrence.** This Letter of Agreement shall not take effect unless USACE executes this Letter of Agreement and returns it to the Commission within fourteen days after the date of the issuance of the Letter of Agreement. No work shall be done until the acknowledgment is duly executed and returned to the Commission. If USACE does not execute and return the Letter of Agreement, the concurrence shall be deemed an objection.

LETTER OF AGREEMENT FOR CONSISTENCY**DETERMINATION NO. C2022.012.00**

United States Army Corps of Engineers

Page 4

May 3, 2023

B. Other Government Approvals. All required permissions from governmental bodies must be obtained before the commencement of work; “these bodies may include, but may not be limited to, the U. S. Army Corps of Engineers, the State Lands Commission, the Regional Water Quality Control Board, and the city or county in which the work is to be performed, whenever any of these may be required. This Letter of Agreement does not relieve USACE of any obligations imposed by State or Federal law, either statutory or otherwise.

C. Built Project must be Consistent with Consistency Determination. Work must be performed in the precise manner and at the precise locations indicated in your consistency determination or has been modified by the terms of the Letter of Agreement and any plans approved in writing by or on behalf of the Commission.

D. Life of Authorization. Unless otherwise provided in this Letter of Agreement, all its terms and conditions shall remain effective for so long as it remains in effect or for so long as any authorized use or constructed feature exists, whichever is longer.

E. San Francisco Bay Coastal Zone. Any area located at the time the Letter of Agreement is granted or thereafter in the Coastal Zone of the San Francisco Bay Conservation and Development Commission (BCDC) under the Coastal Zone Management Act (CZMA) and thus presumptively subject to the jurisdiction of the BCDC under the CZMA shall continue to be located within the Coastal Zone of the BCDC notwithstanding the placement of any fill or the implementation of any substantial change in use authorized by this Letter of Agreement. Any area not located within the Coastal Zone of the BCDC that becomes, as a result of any work or project authorized in this Letter of Agreement, subject to tidal action shall be considered to be located within the BCDC’s Coastal Zone and thus presumptively subject to the Commission’s CZMA jurisdiction.

F. Changes to the Commission’s Coastal Zone Under the CZMA as a Result of Natural Processes. This Letter of Agreement reflects the location of the shoreline of San Francisco Bay when the Letter of Agreement was issued. Over time, erosion, avulsion, accretion, subsidence, relative sea level change, and other factors may change the location of the shoreline, which may, in turn, change the extent and location of the Commission’s Coastal Zone for purposes of the CZMA. Therefore, the issuance of this Letter of Agreement does not guarantee that the extent and location of the BCDC’s Coastal Zone will not change in the future.

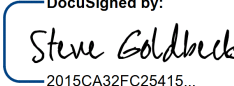
G. Abandonment. If at any time the Commission determines that the improvements in the Bay authorized herein have been abandoned for a period of two years or more, or have deteriorated to the point that public health, safety or welfare is adversely affected, the Commission may require that the improvements be removed by USACE, or its assignees or successors in interest, or by the owner of the improvements, within 60 days or such other reasonable time as the Commission, or the Executive Director on behalf of the Commission may direct.

**LETTER OF AGREEMENT FOR CONSISTENCY
DETERMINATION NO. C2022.012.00**
United States Army Corps of Engineers

Page 5
May 3, 2023

Executed in San Francisco, California, on behalf of the San Francisco Bay Conservation and Development Commission on the date first above written.

LAWRENCE J. GOLDZBAND
Executive Director
San Francisco Bay Conservation and
Development Commission

By:  2015CA32FC25415...
STEVE GOLDBECK
Deputy Executive Director

LIG/SG/SF/ra

cc: San Francisco Bay Regional Water Quality Control Board

* * * * *

Receipt acknowledged, contents understood and agreed to:

Executed at Phil Burton Building

United States Army Corps of Engineers
Permittee

On 5/16/2023 | 8:44:36 AM PDT

 646866C0649940D...
Signature

Kevin Arnett
Print Name

Lieutenant Colonel, District Commander
Title

5 AIR QUALITY AND GREENHOUSE GAS ANALYSIS

Emissions Inventory and Air Quality Analysis: Preferred Alternative- All Equipment Combined

Emissions Inventory <div></div>																
Emission Source Data					Pollutant Emission Factors for Specific Construction Equipment (lbs/hr) or (lbs/mile) ^{1,2,3}						Daily Equipment Emissions from Construction Activities (lbs/day)					
Construction Activity/Equipment Type	Power Rating (Hp)	# Active	Hourly Hp-Hrs	Hrs per Day Or Miles Per Day ⁽¹⁾	ROG	CO	NOx	SOx	PM10	PM2.5	ROG	CO	NOx	SOx	PM10	PM2.5
Worker vehicles	N/A	5	NA	40	0.00048658	0.00397866	0.00035150	0.00001072	0.00009661	0.00006389	0.097	0.796	0.070	0.002	0.019	0.013
Water Truck	N/A	1	NA	15	0.00090210	0.00457902	0.01031407	0.00004009	0.00052122	0.00039592	0.014	0.069	0.155	0.001	0.008	0.006
Dump Trucks (10 CY)	400	10	NA	8	0.00919793	0.03139379	0.05812359	0.00009674	0.00217069	0.00193192	0.736	2.512	4.650	0.008	0.174	0.155
Excavator	120	2	NA	8	0.04483418	0.49421220	0.26376217	0.00086364	0.00922464	0.00820993	0.717	7.907	4.220	0.014	0.148	0.131
Concrete/Industrial Saws	30	1	NA	8	0.03367338	0.37057343	0.24708163	0.00069733	0.00931589	0.00829114	0.269	2.965	1.977	0.006	0.075	0.066
Rubber Tired Loaders	120	1	NA	8	0.03971933	0.39159132	0.24763471	0.00069109	0.01146721	0.01020582	0.318	3.133	1.981	0.006	0.092	0.082
Dump Truck	NA	1	NA	40	0.00090210	0.00457902	0.01031407	0.00004009	0.00052122	0.00039592	0.036	0.183	0.413	0.002	0.021	0.016
Pile Driver	175	2	217	8	0.04906185	0.58582145	0.29723506	0.00119849	0.01423867	0.01267241	0.048	0.930	0.293	0.001	0.014	0.014
Water Truck	NA	1	NA	40	0.00090210	0.00457902	0.01031407	0.00004009	0.00052122	0.00039592	0.036	0.183	0.413	0.002	0.021	0.016
Roller	120	1	NA	8	0.03922055	0.38010541	0.26471585	0.00069197	0.01367858	0.01217394	0.314	3.041	2.118	0.006	0.109	0.097
Air Quality Analysis {					Peak Daily Emissions (lbs/day)						2.59	21.72	16.29	0.05	0.68	0.60
					Total Project Emissions (Tons)						0.194	1.629	1.222	0.003	0.051	0.045
					EPA Yearly De Minimis Thresholds (Tons)						100	100	100	100	100	100
					Project Emissions Exceed Federal Yearly Threshold?						No	No	No	No	No	No

*Equipment Emissions = #Active * Emission Factor * Time (hours)*

Where:

Equipment emissions = portion of emissions for each pollutant in pounds per day

Active = the number of machines in use for each type

Emission Factor = fraction of each pound of emissions for each pollutant

Time = daily operating time (hours)

EngineHP = Engine brake horsepower rating

References
1. SCAQMD 2021a
2. SCAQMD 2021b
3. SCAQMD 2021c.

Green House Gases Emissions Inventory - No-Action Alternative

GHG Emissions Inventory												
Emission Source Data						Equipment (lbs/Hp-hr) or (lbs/mile) ^{1,2,3}			Daily GHG Emissions from Construction Activities (lbs/day)			
Construction Activity/Equipment Type	Power Rating (Hp)	Load Factor	# of Trips	Hourly Hp- Hrs	Hrs per Day Or Miles Per Day ⁽¹⁾	CO ₂	CH ₄	N ₂ O	CO ₂	CH ₄	N ₂ O	CO _{2eq}
Worker Vehicles	N/A	NA	15120	NA	60	1.11019931	0.00004121	0.00035150	1007172.8	37.4	318.9	1103133.1
Emergency Response Vehicles	N/A	NA	630	NA	60	4.21483461	0.00004176	0.01031407	159320.7	1.6	389.9	275542.0
Other Vehicles (health and insurance inspection)	N/A	NA	237.6	NA	60	4.21483461	0.00004176	0.01031407	60086.7	0.6	147.0	103918.7
Other Vehicles (cleaning supplies)	N/A	NA	432	NA	10	4.21483461	0.00004176	0.01031407	18208.1	0.2	44.6	31490.5
						Total (metric tons)			564.6	0.0	0.4	686.8

CO _{2eq} = X*CO ₂ + Y*N ₂ O + Z*CH ₄
Where X = 100 Year Global Warming Potential for Carbon Dioxide = 1
Where Y = 100 Year Global Warming Potential for Nitrous Oxide = 298
Where Z = 100 Year Global Warming Potential for Methane = 25

CFR Title 40 Chapter I Subchapter C Part 98: Table A-1 Global Warming Potentials

Assumptions	Trips
cleaning of businesses would take 10 days, and would require 7 workers per business	15120
30 Emergency Response Vehicles would be active for 21 days	630
each business would require at least 2 trips for cleaning supplies which are within 5 miles	432
Health inspectors would inspect 10 businesses per day	21.6
Each business would have an insurance inspection	216
Total	16419.6

Green House Gases Emissions Inventory - Alternative 1

GHG Emissions Inventory												
Emission Source Data						Emission Factors for Construction Equipment (lbs/Hp-hr) or (lbs/mile) ^{1,2,3}			Daily GHG Emissions from Construction Activities (lbs/day)			
Construction Activity/Equipment Type	Power Rating (Hp)	Load Factor	# Active	Hourly Hp-Hrs	Hrs per Day Or Miles Per Day ⁽¹⁾	CO ₂	CH ₄	N ₂ O	CO ₂	CH ₄	N ₂ O	CO _{2eq}
Worker vehicles	N/A	NA	5	NA	40	1.11019931	0.00004121	0.00035150	222.040	0.008	0.070	243.195
Water Truck	N/A	NA	1	NA	2.8	4.21483461	0.00004176	0.01031407	11.802	0.000	0.029	20.411
Dump Trucks (10 CY)	400	NA	10	NA	8	7.62439642	0.00082991	0.05812359	609.952	0.066	4.650	1997.278
Excavator	120	NA	2	NA	8	73.62306780	0.00404531	0.26376217	1177.969	0.065	4.220	2437.205
Concrete/Industrial Saws	30	NA	1	NA	8	58.46365276	0.00303830	0.24708163	467.709	0.024	1.977	1057.359
Rubber Tired Loaders	120	NA	1	NA	8	58.91350855	0.00358381	0.24763471	471.308	0.029	1.981	1062.386
Dump Truck	400	NA	1	NA	40	4.21483461	0.00004176	0.01031407	168.593	0.002	0.413	291.579
Water Truck	400	NA	1	NA	40	4.21483461	0.00004176	0.01031407	168.593	0.002	0.413	291.579
Pile Driver	175	0.62	2	217	8	141	0.0029	0.00119849	111.090	0.002	0.001	111.429
Roller	120	NA	1	NA	8	58.98875264	0.00353881	0.26471585	471.910	0.028	2.118	1103.700
							Total (metric tons)		221.81	0.01	0.91	492.43

$CO_{2eq} = X \cdot CO_2 + Y \cdot N_2O + Z \cdot CH_4$
Where X = 100 Year Global Warming Potential for Carbon Dioxide = 1
Where Y = 100 Year Global Warming Potential for Nitrous Oxide = 298
Where Z = 100 Year Global Warming Potential for Methane = 25

CFR Title 40 Chapter I Subchapter C Part 98: Table A-1 Global Warming Potentials

Green House Gases Emissions Inventory - Alternative 2 (Preferred Plan)

GHG Emissions Inventory

Emission Source Data						Emission Factors for Construction Equipment (lbs/Hp-hr) or (lbs/mile) ^{1,2,3}				Daily GHG Emissions from Construction Activities (lbs/day)		
Construction Activity/Equipment Type	Power Rating (Hp)	Load Factor	# Active	Hourly Hp-Hrs	Hrs per Day Or Miles Per Day ⁽¹⁾	CO ₂	CH ₄	N ₂ O	CO ₂	CH ₄	N ₂ O	CO _{2eq}
Worker vehicles	N/A	NA	5	NA	40	1.11019931	0.00004121	0.00035150	222.040	0.008	0.070	243.195
Water Truck	N/A	NA	1	NA	2.8	4.21483461	0.00004176	0.01031407	11.802	0.000	0.029	20.411
Dump Trucks (10 CY)	400	NA	10	NA	8	7.62439642	0.00082991	0.05812359	609.952	0.066	4.650	1997.278
Excavator	120	NA	2	NA	8	73.62306780	0.00404531	0.26376217	1177.969	0.065	4.220	2437.205
Concrete/Industrial Saws	30	NA	1	NA	8	58.46365276	0.00303830	0.24708163	467.709	0.024	1.977	1057.359
Rubber Tired Loaders	120	NA	1	NA	8	58.91350855	0.00358381	0.24763471	471.308	0.029	1.981	1062.386
Dump Truck	400	NA	1	NA	40	4.21483461	0.00004176	0.01031407	168.593	0.002	0.413	291.579
Water Truck	400	NA	1	NA	40	4.21483461	0.00004176	0.01031407	168.593	0.002	0.413	291.579
Pile Driver	175	0.62	2	217	8	141	0.0029	0.00119849	111.090	0.002	0.001	111.429
Roller	120	NA	1	NA	8	58.98875264	0.00353881	0.26471585	471.910	0.028	2.118	1103.700
							Total (metric tons)		264.06	0.02	1.08	586.23

CO _{2eq} = X*CO ₂ + Y*N ₂ O + Z*CH ₄
Where X = 100 Year Global Warming Potential for Carbon Dioxide = 1
Where Y = 100 Year Global Warming Potential for Nitrous Oxide = 298
Where Z = 100 Year Global Warming Potential for Methane = 25

CFR Title 40 Chapter I Subchapter C Part 98: Table A-1 Global Warming Potentials

SOCIAL COSTS FROM GUIDANCE (2020 Dollars)								
	SC-CO2 3%	SC-CH4 3%	SC-CH4 3%					
Year	Discount Rate	Discount Rate	Discount Rate	Total GHG Emissions by Project Alternative (metric tons)				
2020	51	1500	18000		CO ₂	CH ₄	N ₂ O	CO ₂ e
2021	52	1500	19000	No-Action Alternative	564.63	0.02	0.41	686.78
2022	53	1600	19000	Alternative 1	221.81	0.01	0.91	492.43
2023	54	1600	20000	Alternative 2	264.06	0.02	1.08	586.23
2024	55	1700	20000	Net GHG Emissions by Project Alternative (metric tons)				
2025	56	1700	21000		CO ₂	CH ₄	N ₂ O	CO ₂ e
2026	57	1800	21000	Alternative 1	-342.82	-0.01	0.50	-194.34
2027	59	1800	21000	Alternative 2	-300.57	0.00	0.67	-100.55
2028	60	1900	22000					
2029	61	1900	22000	Total Social Costs of Greenhouse Gases (2020 Dollars)				
2030	62	2000	23000		CO ₂	CH ₄	N ₂ O	Total
2031	63	2000	23000	No-Action Alternative	31619.12	30.65	8576.18	40225.95
2032	64	2100	24000	Alternative 1	12421.23	22.00	19048.23	31491.46
2033	65	2100	24000	Alternative 2	14787.18	26.19	22676.46	37489.83
2034	66	2200	25000	Net Social Costs of Greenhouse Gases (2020 Dollars)				
2035	67	2200	25000		CO ₂	CH ₄	N ₂ O	Total
2036	69	2300	26000	Alternative 1	-19197.89	-8.65	10472.05	-8734.49
2037	70	2300	26000	Alternative 2	-16831.94	-4.46	14100.28	-2736.12
2038	71	2400	27000					
2039	72	2500	27000					
2040	73	2500	28000					
2041	74	2600	28000					
2042	75	2600	29000					
2043	77	2700	29000					
2044	78	2700	30000					
2045	79	2800	30000					
2046	80	2800	31000					
2047	81	2900	31000					
2048	82	3000	32000					
2049	84	3000	32000					
2050	85	3100	33000					

6 FISH AND WILDLIFE COORDINATION ACT REPORT (CAR)



United States Department of the Interior



In Reply Refer to:
2022-0020179

FISH AND WILDLIFE SERVICE
San Francisco Bay Delta Fish and Wildlife Office
650 Capitol Mall 8th floor 8-300
Sacramento, California 95814

Tessa Beach, Ph.D.
Chief, Environmental Branch
U.S. Army Corps of Engineers
San Francisco District
450 Golden Gate Ave 4th Floor
San Francisco, California 94102-3404

Dear Dr. Beach:

Please find enclosed our Fish and Wildlife Coordination Act report for the U.S. Army Corps of Engineers' proposed Lower Colma Creek Section 103 CAP Study.

If you have any questions on this report, please contact Steven Schoenberg of my staff at (916) 930-5672, or at Steven_Schoenberg@fws.gov.

Sincerely,

Donald Ratcliff
Field Supervisor

Enclosure

cc:

Jeneya Fertel, Corps of Engineers, San Francisco, California
Tessa Beach, Corps of Engineers, San Francisco, California
Brian Meux, NOAA Fisheries, Santa Rosa, California
Anniken Lydon, BCDC, San Francisco, California
Tahsa Sturgis, RWQCB, Oakland, California
Brian Schumacker, South San Francisco Water Quality Control Plant, San Francisco California

UNITED STATES DEPARTMENT OF THE INTERIOR

FISH AND WILDLIFE SERVICE

FISH AND WILDLIFE COORDINATION ACT REPORT FOR THE LOWER COLMA
CREEK SECTION 103 CAP STUDY

PREPARED BY:

Steven Schoenberg, Senior Fish and Wildlife Biologist
U.S. Fish and Wildlife Service
Watershed Planning Division
San Francisco Bay-Delta Fish and Wildlife Office
Sacramento, California

PREPARED FOR:

U.S. Army Corps of Engineers
San Francisco District
San Francisco, California

April 2022

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SUMMARY

The Corps of Engineers' preferred action alternative for the Lower Colma Creek Section 103 CAP Study involves constructing floodwalls to protect the South San Francisco Water Quality Control Plant and Pump Station 4 from damage from coastal flooding up to the 500 year event with intermediate projected sea level rise. A combination of already developed land, as well as a modest area of upland herbs, some dense shrubs, and a few trees, would be impacted by the project. The project would greatly reduce the risk of flooding of this critical infrastructure, interruption of and damage to wastewater conveyance and treatment facilities, and environmental damage from discharge of raw sewage into tidal waters with sensitive marsh and mudflat habitats. To avoid this risk and impact, the U. S. Fish and Wildlife Service recommends that the project be constructed as proposed.

INTRODUCTION

This document represents the United States Fish and Wildlife Service's (Service) Fish and Wildlife Coordination Act (FWCA) report on the U.S. Army Corps of Engineers' (Corps) Lower Colma Creek Section 103 CAP (Continuing Authorities Program) Study project (project). The project proposes flood control improvements to the South San Francisco-San Bruno Water Quality Control Plant (WQCP) and Pump Station 4 (PS4). The WQCP receives sewage from about 120,000 residents of South San Francisco and performs dechlorination of treated effluent from other communities including the San Francisco Airport. Over the long term, these facilities are at risk of damage and outage due to flooding from coastal storm events, especially with anticipated sea level rise. Flooding would not only cause a loss of treatment services to the human population, but poses environmental risks associated with the backing up of sewage into homes, streets, and subsequent release into Colma Creek and San Francisco Bay (Bay).

The WQCP is located on Belle Air Road on a small peninsula at the mouth of Colma Creek just east of a Costco retail store in the community of South San Francisco. The site is on about 21 acres of completely developed land consisting of buildings, storage/treatment tanks, electrical, chemical, and conduit facilities, paved roads and parking, and a lined pond on the easternmost portion, which is the only element of the facility with a levee around it. There is no flood protection elsewhere other than the surface height of the facility, which is about 11 feet above mean sea level. PS4 consists of pumps and sewage grinders in a single story building with a few exterior electrical boxes and cranes on Harbor Way, about ~0.5 mile north of the WQCP. This pump station collects and conveys sewage from several smaller pump stations in the area to the WQCP for treatment through a force main. It is approximately 400 feet from the north bank of Colma Creek, which has an existing floodwall in this location, but it is of insufficient height to protect PS4 from flooding over the long term.

Coordination activities under FWCA began in 2021 and consisted of calls with the Corps, one on January 10, 2022, which included other resource and regulatory agencies, and a site visit on November 4, 2021, by the Service and Corps only. Information considered in this report includes discussion during these activities, descriptive information and related reports provided by the Corps via email, other publicly available information on the facilities, and our observations during the site visit.

PROJECT DESCRIPTION

Only the preferred action alternative is described in this report. The Corps investigated several others alternatives, but they were screened out because they were found to be less effective or cost prohibitive. The project consists of constructing sections of floodwall at the WQCP and perimeter of PS4 to an elevation of 13.5 feet NAVD88 (Figures 1, 2). This elevation corresponds to the 0.2% annual chance exceedance event after 50 years of sea level rise with the Corps' intermediate sea level rise curve. The estimated duration to complete the proposed work is one year.

At the WQCP, the south and north sections of new floodwall will be 670 and 2,000 feet long, respectively. Within a 4-foot-wide zone along the alignment of each floodwall section, surface

vegetation, rock, and/or concrete would be removed, sheetpile would be driven into the surface, and the completed floodwall covered with an 18-inch-wide concrete cap. There is a pedestrian/bicycle bridge over Colma Creek at the west side of the site which is part of the Bay Trail. Just east of this bridge, the floodwall will be sited inland as much as possible to avoid existing marsh vegetation and allow a zone for the marsh to migrate as sea level rises. There is a low spot west of the bridge between the WQCP and a Costco retail store. The slope toe would be excavated and imported clay placed to fill this location prior to constructing the floodwall. The staging area will be somewhere on paved ground, either the area shown in Figure 1 (a parking lot), or some other paved surface nearby.

At PS4, the paved surface would be cut, and concrete slabs and excess soil removed along the alignment of 325 feet of perimeter (Figure 2). A 2-foot-high concrete floodwall would be installed with a 30-foot-wide entrance that can be sealed with stoplogs during flooding.

Excess materials (rock, concrete, and/or soil), would be removed from both work locations and disposed at a landfill. Any soil surfaces would be hydroseeded, and further measures may be needed depending on the final slope, such as erosion control netting/blanket or wire netting.



Figure 1. Proposed work at Water Quality Control Plant.



Figure 2. Proposed work at Pump Station 4.

BIOLOGICAL RESOURCES

The project location is situated at the interface between the developed urban lands of South San Francisco and remnant natural habitats at the mouth of Colma Creek where it meets the Bay. The primary natural habitats are tidal channel, vegetated (high) marsh, unvegetated mudflat at lower elevations, upland (herbaceous and shrubs) at higher elevations, and open bay waters beyond. Just east of the trail bridge, there is a small embayment that has significant growth of pickleweed (*Salicornia virginica*). Farther east along the alignment of the north floodwall, the slope of the creek is armored for at least half of its length with articulated concrete mattress, and the remainder is unarmored, with bare soil where the slope is vertical, and some growth of shrubs where the slope is more shallow (Figures 3, 4). The more significant patches of marsh vegetation occur in: an area at the tip of the peninsula beyond the storage pond, which had been formerly treated to remove invasive *Spartina*; in a small embayment just east of the bridge; and on the north margin of Colma Creek opposite the WQCP. The marsh vegetation consists of predominantly native species such as pickleweed, saltgrass (*Distichlis spicata*), gumweed (*Grindelia stricta* var. *angustifolia*), and others.

Although we did not inspect habitat along the alignment of the south floodwall during the site visit, available imagery suggests that vegetation is similar to that seen at the north floodwall alignment, with intermittent shrub or herbaceous vegetation (Figure 5). Taken as a whole, the area of likely direct permanent disturbance from floodwall construction, which would occur at the top of bank only, has very little native vegetation. This condition is probably the result of regular disturbance from WQCP maintenance activities including, we suspect, placement of fill to treat erosion pockets.



Figure 3. North floodwall alignment view east of Colma Creek, articulated concrete mattress.



Figure 4. North floodwall alignment view of Colma Creek, unarmored bank.



Figure 5. View west of south floodwall alignment east end (furnished by Corps of Engineers).

We observed very little habitat present inland along Colma Creek (i.e., just west of the proposed project). In the vicinity of PS4, the creek is confined by existing floodwalls on both sides, and between the floodwalls there is a margin of low, sparse weeds growing on what appears to be deposited sediments. However, small patches of pickleweed have been documented elsewhere in the tidal portion of the creek west of State Highway 101 (Horizon 2016).

Wildlife use in the immediate vicinity includes birds either feeding during low tide in the mudflat, feeding while diving in the channels, resting during high tide, or seeking refuge from wind. Only common species, such as coots and gulls, were seen during the site visit, but other waterbird and songbird species are known to occur there, depending on time of year. Among these are sensitive species such as the saltmarsh common yellow throat (*Geothlypis trichas sinuosa*) and Alameda song sparrow (*Melospiza melodia pusillula*). Ridgway's rail (*Rallus obsoletus*) was formerly present (ca. 2000-2003) but not since invasive *Spartina* eradication efforts that began in 2006 and resulted in the formation of mudflat in areas formerly vegetated by *Spartina*. Although the most recent protocol surveys for Ridgway's rail resulted in no detections of that species, 38 other bird species were noted, included warblers, sparrows, gulls, dowitchers, sandpipers, terns, and others (Stagnaro 2018). Habitat for the listed salt marsh harvest mouse (*Reithrodontomys raviventris*) is present, although in relatively small patches, reducing the likelihood of their presence. Due to the urbanized nature of the creek upstream, it would not support salmonid spawning, although more common bay fishes, both native and exotic, are probably present in the tidal channels.

RESOURCE CATEGORIES AND MITIGATION GOALS

The Service's Mitigation Policy (Policy) (FR 46:15 January 23, 1981) provides general guidance in making recommendations to conserve fish and wildlife resources. Under the Policy, resources are assigned to one of four Resource Categories, with a mitigation goal consistent with the values provided to fish and wildlife and the rarity of that habitat (cover-type). A mitigation goal is assigned ranging from "no loss of existing habitat value" (Resource Category 1) for the most valuable kinds of habitat to "minimize loss of habitat value" (Resource Category 4) for the less valuable and most common kinds of habitat. Application of the Policy involves designating cover-types which may be affected and assigning evaluation species based on the sensitivity of those species to the project action, their role in the ecosystem, or association with Service-wide resource management issues such as conservation of anadromous fish and migratory birds. We then state the Resource Category, the rationale for that selection, and the corresponding mitigation goal.

We are limiting the resource category designation to the upland cover-type which would be directly impacted by the construction. This upland cover-type is present along portions of the alignment of north and south floodwalls for the WQCP and would be removed, some permanently, as it is within the floodwall footprint. Based on observations made during the site visit, the quality of this vegetation varies from very sparse low plants to denser shrubs and perhaps smaller trees. In association with the creek channel and high marsh, the upland could provide limited values as foraging habitat for songbirds like the saltmarsh common yellowthroat and other passerine birds. Although this type of upland is not locally abundant, the particular locations identified for floodwall construction already experience regular disturbance from WQCP activities, and similar uplands will remain on the north side of Colma Creek. A modest area of upland adjacent to tidal emergent marsh does have value as roosting habitat for birds and as refugium for wildlife during high tidal flood events. A native species like the California vole (*Microtus californicus*) would be an appropriate evaluation species. Considering both the regional abundance as well as the importance of preserving some uplands near tidal habitats, we designate upland as Resource Category 4, with a mitigation goal to minimize loss of habitat value.

Other cover-types in the area which could be indirectly affected by the project, include tidal emergent marsh, tidal creek, mudflat, subtidal benthos, and open bay water. None of these cover-types would be adversely affected by project construction. Rather, they would benefit from the project reducing the risk of being impacted from uncontrolled sewage release due to flooding.

FUTURE WITHOUT THE PROJECT

Without the project, the WQCP and PS4 would remain susceptible to damage due to coastal flooding. Currently, without sea level rise, the WQCP would begin to flood at around the 1% annual chance of exceedance, and this risk and depth of flooding will increase over time with sea level rise. If PS4 were to become inoperable during a flooding event, sewage could not be conveyed to the WQCP for treatment. If the WQCP were to flood, it could lose power and the ability to accept, treat, and/or store sewage. Electrical systems could be severely damaged by

saltwater. With an outage of either facility, continued generation of sewage by customers would overwhelm the collection system, and the untreated overflow could end up in the storm drain system or streets, eventually discharging into Colma Creek and San Francisco Bay. Releases of sewage could continue for some period at least until emergency measures were taken, and could persist at some level until the facilities are repaired and functional. There is no immediate means to replace or substitute the lost treatment function, or to transport sewage elsewhere for treatment.

The release of untreated sewage into the environment would have multiple adverse effects, the scope and extent of which cannot be precisely quantified, although the mechanisms are well known. Sewage contains elevated quantities of acids, salts, drugs, heavy metals, petrochemicals, herbicides, pesticides, fertilizers, and other chemicals, all of which can adversely affect fish and wildlife resources and their habitats. Certain chemicals such as heavy metals biomagnify, that is, become more concentrated in animal tissues and hence have greater adverse effects as they are passed up the food chain. Some of these effects include increased mortality, reduced reproduction, oxygen depletion, excessive algal production, and illness from exposure/ingestion. Sewage also contains elevated quantities of microplastics and other debris, which would be dispersed throughout Colma Creek and nearby bay waters, and habitats. Local wildlife could be affected by sewage constituents either by direct contact, or through ingestion, including the forage organisms of fish and birds.

This suite of adverse effects could potentially occur whenever the first significant impacting event is exceeded, which is at a lower, more frequently exceeded elevation than the design event. The regularity and consequences of such events, as well as disturbance during any cleanup effort, would result in an incremental, local reduction in fish and wildlife resource populations, and a diminution of the quality of their supporting habitat. This damage would likely affect at least all of the tidal habitat at the mouth of Colma Creek (34 acres channels; 14 acres vegetated tidal marsh; 82 acres mudflat), as well as areas beyond the mouth, such as adjacent open waters and benthos, and additional mudflat fringe habitats to the north and south.

FUTURE WITH THE PROJECT

With the project, the sewage treatment facilities would remain fully functional, and fish and wildlife resources would remain unaffected by sewage, during all coastal events up to the projected 0.2% annual chance of exceedance event with intermediate sea level rise over the next 50 years. This provides substantially more protection against flooding compared to the without project scenario. A modest amount of upland would be permanently lost at the expense of the floodwall footprint (~1/4 acre). Wildlife could be disturbed by movement and noise from floodwall construction, which is expected to take one year.

DISCUSSION

As described, the proposed project of constructing floodwall protection for the WQCP and PS4 would have minimal impacts on upland habitat or associated wildlife. Protection of these facilities not only preserves function for customers, but greatly reduces the risk and consequences of environmental damage caused by release of untreated sewage during coastal

flood events. The alignment of the north floodwall is designed to avoid impacts to marsh habitat in the vicinity of the pedestrian bridge.

One element that may deserve refinement is the channel slope in the vicinity of the north floodwall alignment. This is along the outside bend of the creek channel which, on first inspection, appears to be subject to enough erosion already to warrant prior placement of articulated concrete mattress. Portions without such mattress appear to have a steep slope with some active erosion. This is very near the proposed north floodwall. We recommend the Corps evaluate the future integrity of this bank and proposed floodwall with sea level rise and determine if there is a need for any structural measure to stabilize the bank and ensure stability of the floodwall. If so, we recommend that the Corps examine opportunities for structures that include or attract living components.

CONCLUSION

The Lower Colma Creek Section 103 Study project would protect critical water treatment infrastructure from coastal flooding and consequent release of untreated sewage that would otherwise damage sensitive environmental resources. We recommend that it be constructed as proposed by the Corps.

RECOMMENDATIONS

We recommend that the Corps:

1. Implement the project as proposed;
2. Evaluate Colma Creek bank integrity in the vicinity of the proposed north floodwall and opportunities for structures that include living components;
3. Evaluate effects of the project on listed species, initiate consultation as appropriate with the Service and National Marine Fisheries Service, and implement any additional measures determined by such consultation to be needed to minimize or offset any effects; and
4. Consider measures to maximally avoid impacts to migratory birds utilizing the upland habitat that would be impacted, such as timing the removal of vegetation outside the nesting season.

REFERENCES

Horizon [Horizon Water and Environment]. 2016. Colma Creek Flood Control Channel Maintenance Project - Initial Study/Mitigated Negative Declaration. June 2016. (HWE 15.037). Prepared by Horizon Water and Environment for the San Mateo County Department of Public Works Oakland, CA. 550 pp.

Stagnaro, B. 2018. Memorandum to San Mateo County Department of Public Works. Subject: Colma Creek Ridgway's Rail 2018 Survey Results. BioMaAS, San Francisco, CA. 7 pp.

7 NEPA COORDINATING AGENCY LETTERS



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

**75 Hawthorne Street
San Francisco, CA 94105-3901**

August 12, 2021

Tessa Beach, Ph.D.
Chief, Environmental Services Branch
U.S. Army Corps of Engineers, San Francisco District
450 Golden Gate Avenue
San Francisco, California 94102-3404

Subject: National Environmental Policy Act Cooperating Agency Request for the Lower Colma Creek Coastal Flood Risk Management Feasibility Study, San Mateo County, California

Dear Dr. Beach:

The U.S. Environmental Protection Agency has reviewed the July 21, 2021 letter from the U.S. Army Corps of Engineers requesting the EPA serve as a cooperating agency in the NEPA process to manage the risk of coastal flooding to the South San Francisco Water Quality Control Plant and pump stations potentially impacted by sea level rise and flooding. The Environmental Review Branch accepts the Corps' invitation to participate as cooperating agency, as defined under the National Environmental Policy Act. Note that we currently do not anticipate any EPA actions associated with this project.

We look forward to working with the Corps to ensure that coordination assists both of our agencies in meeting statutory missions. To the extent that time and resources allow, the EPA will:

1. Participate in the NEPA process, including attending interagency coordination meetings and the public scoping process. We are interested in reviewing draft design reports and scientific studies that relate to bioengineered alternatives and the beneficial reuse of dredged materials, and potential impacts to water quality, air quality, wetland, or riparian resources. Due to limited travel funding and COVID-19, participation is likely to occur via teleconference.
2. Assist the Corps in identifying significant environmental issues, particularly those that relate to the EPA's special expertise and jurisdiction, such as air and water quality, wetlands, and environmental impact assessments. The EPA will also share resources to assist in the analyses of environmental justice and climate change considerations.
3. Strive to provide comments on preliminary versions of the Draft and Final NEPA documents to the Corps within 30 days.
4. If requested by the Corps, assist with responses to public comments that concern EPA's areas of expertise and jurisdictional responsibilities.
5. Consult with the Corps on changes to the NEPA process and work with it to ensure that the content of the Environmental Assessment is consistent with any EPA program or agency requirements.

Please note that the EPA's status as a cooperating agency does not affect our independent responsibilities under Section 309 of the Clean Air Act to review and comment publicly on all Environmental Impact Statements or other NEPA documents. Participation as a cooperating agency does not imply endorsement of the proposed project, nor can it be used as the basis to obligate, commit, or transfer funds. Please incorporate by reference this acceptance letter into the Draft and Final NEPA documents.

EPA looks forward to working with the Corps and other cooperating agencies on this project. If you have any questions please feel free to contact me at 415-947-4167, or contact Robin Truitt who will serve as EPA's point of contact as a cooperating agency at 415-972-3742, 415-380-9923 or Truitt.Robin@epa.gov.

Sincerely,

for Jean Prijatel
 Manager, Environmental Review Branch

cc: Jeneya Fertel, U.S. Army Corps of Engineers, San Francisco District



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration

NATIONAL MARINE FISHERIES SERVICE
West Coast Region
777 Sonoma Avenue, Room 325
Santa Rosa, California 95404-4731

September 3, 2021

Refer to NMFS No: DNQ-2021-00147

Tessa E. Beach, Ph.D.
Chief, Environmental Services Branch
San Francisco District
U.S. Army Corps of Engineers
450 Golden Gate Avenue
San Francisco, California 94102-3404

Re: National Environmental Policy Act Cooperating Agency Response for the Lower Colma Creek Coastal Storm Risk Management Feasibility Study, South San Francisco, California

Dear Dr. Beach:

Thank you for your July 21, 2021, letter inviting NOAA's National Marine Fisheries Service (NMFS) to participate as a cooperating agency in the preparation of documents pursuant to the National Environmental Policy Act (NEPA) for the Lower Colma Creek Coastal Storm Risk Management Feasibility Study in South San Francisco, California.

NMFS has jurisdiction under the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.), the Magnuson Stevens Fishery Conservation and Management Act (16 U.S.C. 1801-1882), and the Fish and Wildlife Coordination Act (16 U.S.C. 661). With this letter, we accept your invitation and offer to assist with NEPA development tasks related to assessment of potential impacts and conservation measures for NMFS' trust resources. We wish to limit our attendance at meetings to those where effects to listed fish, designated critical habitat, and essential fish habitat will be discussed.

The NMFS lead contact for this process will be Brian Meux of my staff. Brian can be reached by email at brian.meux@noaa.gov or by phone at 707-575-1253. Please provide background materials and a schedule for development milestones when available, and prior to public scoping. We look forward to working with the Corps of Engineers on this important project.

Sincerely,

Alecia Van Atta
Assistant Regional Administrator
California Coastal Office

cc: Jeneya Fertel (jeneya.a.fertel@usace.army.mil) Corps of Engineers, San Francisco, CA
Shelby Mendez (shelby.l.mendez@noaa.gov) NMFS, Long Beach, CA
Copy to E-Folder ARN 151422WCR2021SR00134



8 USFWS INFORMATION FOR PLANNING AND CONSULTATION (IPAC) SPECIES LIST



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Sacramento Fish And Wildlife Office

Federal Building

2800 Cottage Way, Room W-2605

Sacramento, CA 95825-1846

Phone: (916) 414-6600 Fax: (916) 414-6713



In Reply Refer To:

November 09, 2021

Consultation Code: 08ESMF00-2022-SLI-0330

Event Code: 08ESMF00-2022-E-01011

Project Name: Colma Creek CAP 103

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, under the jurisdiction of the U.S. Fish and Wildlife Service (Service) that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

Please follow the link below to see if your proposed project has the potential to affect other species or their habitats under the jurisdiction of the National Marine Fisheries Service:

http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to

utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at:

<http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>;

<http://www.towerkill.com>; and

www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

[http://](http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html)

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
-

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Sacramento Fish And Wildlife Office

Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
(916) 414-6600

Project Summary

Consultation Code: 08ESMF00-2022-SLI-0330

Event Code: Some(08ESMF00-2022-E-01011)

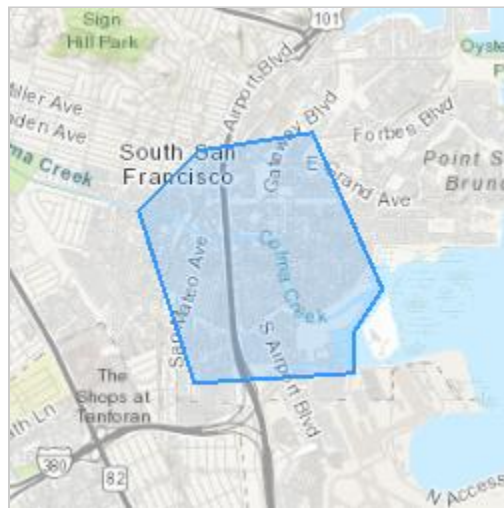
Project Name: Colma Creek CAP 103

Project Type: WASTEWATER FACILITY

Project Description: This coastal storm risk management CAP project at the site of the South San Francisco - San Bruno Water Quality Treatment Plant.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@37.6471815,-122.40331176806669,14z>



Counties: San Mateo County, California

Endangered Species Act Species

There is a total of 19 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Salt Marsh Harvest Mouse <i>Reithrodontomys raviventris</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/613	Endangered
Southern Sea Otter <i>Enhydra lutris nereis</i> No critical habitat has been designated for this species. <i>This species is also protected by the Marine Mammal Protection Act, and may have additional consultation requirements.</i> Species profile: https://ecos.fws.gov/ecp/species/8560	Threatened

Birds

NAME	STATUS
California Clapper Rail <i>Rallus longirostris obsoletus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4240	Endangered
California Least Tern <i>Sterna antillarum browni</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8104	Endangered
Marbled Murrelet <i>Brachyramphus marmoratus</i> Population: U.S.A. (CA, OR, WA) There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/4467	Threatened
Western Snowy Plover <i>Charadrius nivosus nivosus</i> Population: Pacific Coast population DPS-U.S.A. (CA, OR, WA), Mexico (within 50 miles of Pacific coast) There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/8035	Threatened

Reptiles

NAME	STATUS
Green Sea Turtle <i>Chelonia mydas</i> Population: East Pacific DPS No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6199	Threatened
San Francisco Garter Snake <i>Thamnophis sirtalis tetrataenia</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5956	Endangered

Amphibians

NAME	STATUS
California Red-legged Frog <i>Rana draytonii</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened

Fishes

NAME	STATUS
Delta Smelt <i>Hypomesus transpacificus</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/321	Threatened
Tidewater Goby <i>Eucyclogobius newberryi</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/57	Endangered

Insects

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

Flowering Plants

NAME	STATUS
California Seablite <i>Suaeda californica</i> Population: No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6310	Endangered
Franciscan Manzanita <i>Arctostaphylos franciscana</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/5350	Endangered
Presidio Manzanita <i>Arctostaphylos hookeri</i> var. <i>ravenii</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7216	Endangered
Robust Spineflower <i>Chorizanthe robusta</i> var. <i>robusta</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/9287	Endangered
San Francisco Lessingia <i>Lessingia germanorum</i> (=L.g. var. <i>germanorum</i>) No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8174	Endangered
Showy Indian Clover <i>Trifolium amoenum</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6459	Endangered
White-rayed Pentachaeta <i>Pentachaeta bellidiflora</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7782	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

9 RESPONSE TO PUBLIC COMMENTS

During the public comment period, two sets of comments were submitted:

- Ariel Cherbowsky Corkidi, Director of San Bruno Mountain Watch
- San Francisco Bay Conservation and Development Commission (BCDC)

The entirety of their comments and the subsequent USACE responses are included here.

Comment	Commenter	Response
<p>1 The draft detailed project report and environmental assessment considered natural and nature-based features (NNBFs) for managing coastal flood risk in front of the proposed foodwalls but screened out these features for various reasons. May NNBFs be considered for an area north of the Colma Creek channel, east of the pedestrian bridge over the creek, and across from the water quality control plant? Currently, this area, between the San Francisco Bay Trail and the nearby buildings, is an expanse of fill covered with invasive, non-native vegetation atop historic marshlands. Removing the fill and lowering the elevation of this area to expand upon the salt marshes and mudflats on the fringes of the creek channel could provide a restored wetland to complement the proposed floodwall on the opposite bank and help alleviate impacts from flooding and waves. Restoring this wetland would also significantly improve the aesthetics of the project area, expanding the visibility and presence of marshland to counter a viewshed currently dominated by an industrial and urban character. Hassell, a multidisciplinary architecture, design, and urban planning studio, proposed this concept in the Colma Creek Adaptation Planning Design Report in 2020 (see pages 237-238) (https://barc.ca.gov/)</p>	<p>Ariel Cherbowsky Corkidi (Director of San Bruno Mountain Watch)</p>	<p>This could be considered under a separate effort / project, but would not be an effective nor efficient way to meet the particular objectives of this study, given that coastal water inundates pump station 4 from both directions. The project idea described in this comment could potentially fall under a Continuing Authorities Program (CAP) 206 Aquatic Ecosystem Restoration project, or a General Investigations Feasibility Study, or even another CAP 103 study looking at coastal storm risk management for remaining areas in the study area. However, the scope of this is outside of what can be implemented in the existing project. In order to look into the potential for a new effort further upstream on Colma Creek, the U.S. Army Corps of Engineers would need a letter of interest from a potential non-federal sponsor. Please contact Ms. Daria Mazey if you would like to discuss this process (daria.s.mazey@usace.army.mil).</p>
<p>2 On page 54, the report states, "finger piers...are suitable for wetland restoration or enhancement, they just do not correlate well with where the NNBFs would be needed for managing coastal storm risk." Previously on page 48, the report states, "wetland restoration or transitional habitat at the finger piers would be beneficial from a habitat perspective, and could be considered in other effects." May you please clarify what is the meant by "could be considered in other effects?" I wondered if this phrase indicated the potential for ecological restoration efforts to be included in the project, even if they do not significantly contribute to protecting the water quality treatment plant from flooding and storms.</p>	<p>Ariel Cherbowsky Corkidi (Director of San Bruno Mountain Watch)</p>	<p>Removed these sentences from the report. The intent was to explain that the study is to develop a project that addresses coastal storm risk problems and is not an ecosystem restoration project.</p>
<p>3 On page 26, the report states, "the project is on the ancestral territories of the Ramaytush Ohlone cultural group." On page 91, the report notes that the project team "initiated consultation with six Native American Tribes." Among the six groups listed, I did not see the Association of Ramaytush Ohlone (https://www.ramaytush.org/).</p>	<p>Ariel Cherbowsky Corkidi (Director of San Bruno Mountain Watch)</p>	<p>The team identified the six Ohlone tribes through the Native American Heritage Commission's (NAHC) tribal consultation list for traditionally and culturally affiliated Tribes within the geographic area of the Lower Colma project.</p> <p>The Association of Ramaytush Ohlone did not appear on the NAHC tribal consultation list. However, USACE will reach out to the Association of Ramaytush Ohlone and invite them to consult at this point of the study.</p>

DRAFT REPORT: (Comments BCDC-1 through 16)

BCDC-1: (Jurisdiction) The Commission's McAteer-Petris jurisdiction includes all tidal areas of the Bay up to the line of mean high tide or, in areas of tidal wetlands, up to five feet above Mean Sea Level or the extent of tidal wetland vegetation; all areas formerly subject to tidal action that have been filled since September 17, 1965; and the shoreline band that extends 100 feet inland from and parallel to the Bay jurisdiction. Further, the Commission reviews federal projects that would affect the coastal zone, in this instance San Francisco Bay, using its Coastal Zone Management Act (CZMA) authority. The staff believes this project would affect the San Francisco Bay Coastal Zone, and therefore, the project should be reviewed for consistency with the Commission's federally-approved Coastal Management Program (CMP) for the Bay. We noted that you provided a draft version of a consistency determination in the DPR/EA in Appendix B. A final consistency determination should be submitted formally for this project for review and concurrence by the Commission prior to construction of the project. It is our understanding that USACE is moving forward with analyzing the tentatively selected plan/alternative, but that the local project sponsor, the City of South San Francisco, has not yet initiated the review process to assess the impacts of the proposed project under the California Environmental Quality Act (CEQA). As the local project sponsor, the City of South San Francisco will need to obtain a permit from the Commission for the project, and a certified CEQA analysis would be required prior to filing the permit application complete for the project.

RESPONSE: Concur with requirement for final consistency determination. The non-federal sponsor (NFS) is in the process of developing their CEQA document.

BCDC-2: (Jurisdiction) The Draft DPR/EA mentions that the footprint of the flood protection project will be approximately 5,100 square feet of permanent impacts and 16,500 square feet of temporary impacts, all within the Commission's 100-foot shoreline band. Please provide a map in the Final Consistency Determination that indicates the extent of BCDC's jurisdiction, so that we can verify whether all work is occurring within the 100-foot shoreline band or if some of the work would occur in the Bay.

RESPONSE: Figure 7 in the Environmental Appendix of the integrated report indicates the extent of BCDC's jurisdiction and the 100-foot shoreline band for work to occur in the Bay.

BCDC-3: (Shoreline Protection) The Bay Plan Shoreline Protection policies require that new shoreline protection projects be authorized if they are necessary for the flood or erosion protection of existing development, use, or infrastructure, that the type of shoreline protection be appropriate for the site and conditions, that it be properly engineered to provide erosion or flood protection for the life of the project based upon a 100-year flood event that takes future sea level rise into account, be designed to prevent significant impediments to physical or visual public access, be integrated with adjacent planned protection measures, and avoid or minimize impacts to adjacent or nearby areas. Additionally, these policies say that culturally relevant community outreach and engagement should be conducted for all shoreline protection projects and that impacts to natural resources and public access should be avoided. Additionally, these policies require an analysis of the potential for use of natural or nature-based protection measures.

RESPONSE: USACE and the NFS have conducted outreach to the relevant community via the release of the integrated document for public review and comment. Consideration of natural and/or nature-based measures is part of the alternative plan formulation process.

BCDC-4: (Climate Change) If and when flooding does occur, this could also result in disruption of wastewater treatment services and cause backups within the system, including the potential for raw sewage backups into individual residences, streets, and potential for untreated waste to be released into the Bay. The WQCP has been identified as having low adaptive capacity because there are no other plants in the area to treat the wastewater for this service area. In addition, the backup power sources are vulnerable to flooding. Loss of power could cause saltwater intrusion and untreated discharges to the Bay. Additionally, the groundwater appears to be about only about 1-2 meters below the ground surface as mentioned in the DPR/EA, but the influence of potential groundwater flooding as a result of sea level rise was not addressed much. Please further address the potential for groundwater flooding as well in the DPR/EA.

RESPONSE: Groundwater flooding was factored into the forecast inundation elevations of the total 100% AEP flood event.

BCDC-5: (Climate Change) Water levels in Colma Creek are mainly influenced by both tidal action and storm activity. During current high tides, a 100-year flood could raise the water level by about 9.7 feet above mean sea level and cause about 1.5 feet of flooding on certain parts of the site. The current project is being designed to be resilient to flooding over the anticipated 50-year life of the project and taking into account a variety of potential future sea level scenarios. In your sea level rise analysis, you utilize the USACE Guidance "Incorporating Sea Level Change in Civil Works Programs" for the sea level rise and flooding assessment, which includes evaluating designs over the entire range of possible future rates of sea-level change (SLC), represented by three scenarios of "low", "intermediate", and "high" sea-level change. Please compare the sea level rise projections used in the climate change and sea level change section of the DPR/EA to the projections recommended by the Ocean Protection Council's 2018 Sea Level Rise Guidance document, which the State considers the best available science for California and the Bay Area.

RESPONSE: The State and Federal sea level change guidances were utilized in tandem rather than separately; therefore, there is not a difference. The analysis of the forecast inundation elevations for "low, intermediate, and high" sea level change are captured in the DPR/EA and utilized data specific to the San Bruno Water Quality Control Plant's sea level rise vulnerability assessments. For example, the "low" sea level change is reflected in the baseline condition of 1% AEP event, while the "high" sea level change is reflected in the 100% AEP event.

BCDC-6: (Climate Change) Additionally, the findings in section 3.3.2 on page 45 do not seem to match the results shown on Figure 12. The findings say that "The SSF-SB WQCP area will already flood from 100% AEP events in 2033 in Intermediate SLR conditions." However, the graph appears to indicate that the WQCP will be flooded from a 1% AEP event in 2033 in the Intermediate SLR condition and would also be flooded sooner than that in the 1% AEP in the High SLR condition. The 100% AEP for the Intermediate SLR condition is not shown on this figure and should either be shown or not referenced. Please check and update this section to be sure it reflects the results of the figure or clarify the text further.

RESPONSE: Change made.

BCDC-7: (Climate Change) The WQCP will be difficult to relocate to other locations due to the fact that it is largely a gravity fed system, which requires that it be located near discharge points in San Francisco Bay. The DPR/EA mentions that the floodwalls cannot be raised later, which means that they cannot be adapted. Because of this, Alternative 2, which has the highest floodwall of the alternatives was chosen to provide resilience to the WQCP for the next 50 years (2073) from the 1% AEP occurring at the High sea level rise scenario. However, we also recommend that some sort of planning begin on what to do after that period of time, especially given that the floodwall will not be able to be adapted. We also recommend considering the potential for slowing raising this infrastructure over time as repairs are needed to help remove some of the critical infrastructure from being at risk of flooding.

RESPONSE: Planning for future conditions beyond the 50-year horizon is outside of the scope of this continuing authorities program study and implementation project.

BCDC-8: (Public Access and Recreation) The Bay Plan Public Access, Recreation, and Appearance, Design, and Scenic View policies say that any new project located along the shoreline should increase public access to the Bay to the maximum extent feasible, unless such access would be clearly inconsistent with the project because of public safety considerations or significant use conflicts. In such cases, in lieu access at another nearby site and preferably located near identified vulnerable or disadvantaged communities should be provided. Additionally, new project should be sited and designed in such a way to prevent significant adverse on any recreational uses and view of the Bay. Additionally, any proposed public access should be designed, managed, and maintained to avoid significant adverse impacts from sea level rise and shoreline flooding.

RESPONSE: The study evaluated the public access trail proposed by the Bay Trail and concluded that it is infeasible for a variety of reasons. The rough cost of this measure well exceeds the allowable 10% of the total project cost for recreation. It would additionally exceed the federal spending limit for the Continuing Authorities Program 103 projects, if included. Finally, and significantly, the trail alignment proposed by the Bay Trail would cause unacceptable safety and security concerns which cannot be mitigated as acknowledged in prior permits issued by BCDC to the City of South San Francisco.

As referenced above, the current Bay Trail alignment was modified inland based upon BCDC's determination that public access along the Bay was infeasible, acknowledging the serious security and safety concerns presented by the WQCP.¹ Nothing has changed to mitigate those concerns. As understood in previous permits, rerouting the potential future SF Bay Trail to go around the north side of the WQCP along the creek and bayside would pose an unacceptable public safety risk of exposure to deadly airborne chemicals in the event of an accident. Further, there is not sufficient space for a paved trail and the cost is likely to exceed allowable thresholds for recreation within this project's financial limits. Finally, a trail along the WQCP is likely to degrade the olfactory

¹ The Commission and Design Review Board acknowledged in BCDC Permit No. 1998.011.07 that "constraints to public access at the WQCP are substantially greater than those at other treatment facilities, including the hazards associated with this water treatment plant, the limited space available for the plant facilities, the irregular shoreline, and the potential disturbance of wildlife" and concluded that "on-site access was undesirable, and the alternative inland alignment was selected."

experience of trail users and may not be considered an aesthetic improvement by trail users for this reason. Therefore, this project does not propose any modifications to the current proposed inland Bay Trail alignment.

It is our understanding that our local partner, the City of South San Francisco, has already constructed an alternative recreation trail as part of previous negotiation with BCDC on this topic. The alternative inland alignment selected by BCDC (Permit No. 1998.011.07), in addition to the various public access improvements required by BCDC, were recently completed by SSF and are pending close-out with BCDC.

During construction, the Bay Trail will be closed at times when work is occurring immediately adjacent to the trail alignment, but access to the nearby pedestrian bridge will be maintained. The detailed information of road and trail closures will be generated and disclosed during the preconstruction engineering phase of the study prior to construction.

The proposed project design would not reduce current level of public access.

BCDC-9: (Public Access and Recreation) The DPR/EA mentions that there is insufficient space to have unrestricted public access and safe and effective wastewater treatment at the WQCP both located on the site. BCDC staff believes it is too early in the project development phase to make a definitive statement as to whether there is sufficient space for shoreline public access. We encourage the proponents to continue studying opportunities for public access and discuss them with BCDC and Bay Trail staff.

RESPONSE: The study evaluated the public access trail proposed by the Bay Trail and concluded that it is infeasible for a variety of reasons. The rough cost of this measure well exceeds the allowable 10% of the total project cost for recreation. It would additionally exceed the federal spending limit for the Continuing Authorities Program 103 projects, if included. Finally, and significantly, the trail alignment proposed by the Bay Trail would cause unacceptable safety and security concerns which cannot be mitigated as acknowledged in prior permits issued by BCDC to the City of South San Francisco.

As referenced above, the current Bay Trail alignment was modified inland based upon BCDC's determination that public access along the Bay was infeasible, acknowledging the serious security and safety concerns presented by the WQCP.² Nothing has changed to mitigate those concerns. As understood in previous permits, rerouting the potential future SF Bay Trail to go around the north side of the WQCP along the creek and bayside would pose an unacceptable public safety risk of exposure to deadly airborne chemicals in the event of an accident. Further, there is not sufficient space for a paved trail and the cost is likely to exceed allowable thresholds for recreation within this project's financial limits. Finally, a trail along the WQCP is likely to degrade the olfactory experience of trail users and may not be considered an aesthetic improvement by trail

² The Commission and Design Review Board acknowledged in BCDC Permit No. 1998.011.07 that *"constraints to public access at the WQCP are substantially greater than those at other treatment facilities, including the hazards associated with this water treatment plant, the limited space available for the plant facilities, the irregular shoreline, and the potential disturbance of wildlife"* and concluded that *"on-site access was undesirable, and the alternative inland alignment was selected."*

users for this reason. Therefore, this project does not propose any modifications to the current proposed inland Bay Trail alignment.

It is our understanding that our local partner, the City of South San Francisco, has already constructed an alternative recreation trail as part of previous negotiation with BCDC on this topic. The alternative inland alignment selected by BCDC (Permit No. 1998.011.07), in addition to the various public access improvements required by BCDC, were recently completed by SSF and are pending close-out with BCDC.

During construction, the Bay Trail will be closed at times when work is occurring immediately adjacent to the trail alignment, but access to the nearby pedestrian bridge will be maintained. The detailed information of road and trail closures will be generated and disclosed during the preconstruction engineering phase of the study prior to construction.

The proposed project design would not reduce current level of public access.

BCDC-10: (Public Access and Recreation) The DPR/EA describes that the site has some finger piers located south of the WQCP facilities that were formerly utilized for ship building and are now utilized for overflow parking by Park SFO. There is a planned Bay Trail alignment that follows the Colma Creek on the north side of the WQCO and then continues around the facility and south along the finger piers. In prior meetings, the USACE staff have expressed that this planned public access alignment is not feasible as a result of security concerns and potential human health issues from exposure to chemicals from the WQCP. More specifically, the DPR/EA mentions that the safety concerns are related to the fact that treatment chemicals are maintained in bulk quantities at the plant site and stored throughout the plant. If there were to be a spill or excessive exposure to the chemicals, they may be harmful to individuals. However, the Water Board requires that there be a strict spill prevention and control and countermeasure plan in place for the WQCP, which seems to indicate that there are measures in place to the potential exposure of the public to these chemicals. The DPR/EA should address this issue and also further describe the potential chemicals of concern, volatility, and potential human health impacts from any potential exposure. It seems that there are already existing measures in place to reduce this concern.

RESPONSE: The scope of this study is to provide coastal storm risk management measures to protect the existing WQCP. The operation and maintenance of the WQCP is out of the scope of this study.

BCDC-11: (Public Access and Recreation) We have discussed the potential to move the Bay Trail alignment inland with Bay Trail staff and they have expressed concern about shifting public access inland in this area and that this is much less desirable. We suggest that you setup a meeting with BCDC and Bay Trail staff to discuss this issue, because at this time it may be difficult for us to recommend a project that significantly impacts or precludes public access from the shoreline in favor of a lower quality public access experience inland from the Bay.

RESPONSE: The study evaluated the public access trail proposed by the Bay Trail and concluded that it is infeasible for a variety of reasons. The rough cost of this measure well exceeds the allowable 10% of the total project cost for recreation. It would additionally exceed the federal spending limit for the Continuing Authorities Program 103 projects, if included. Finally, and significantly, the trail alignment proposed by the Bay

Trail would cause unacceptable safety and security concerns which cannot be mitigated as acknowledged in prior permits issued by BCDC to the City of South San Francisco.

As referenced above, the current Bay Trail alignment was modified inland based upon BCDC's determination that public access along the Bay was infeasible, acknowledging the serious security and safety concerns presented by the WQCP.³ Nothing has changed to mitigate those concerns. As understood in previous permits, rerouting the potential future SF Bay Trail to go around the north side of the WQCP along the creek and bayside would pose an unacceptable public safety risk of exposure to deadly airborne chemicals in the event of an accident. Further, there is not sufficient space for a paved trail and the cost is likely to exceed allowable thresholds for recreation within this project's financial limits. Finally, a trail along the WQCP is likely to degrade the olfactory experience of trail users and may not be considered an aesthetic improvement by trail users for this reason. Therefore, this project does not propose any modifications to the current proposed inland Bay Trail alignment.

It is our understanding that our local partner, the City of South San Francisco, has already constructed an alternative recreation trail as part of previous negotiation with BCDC on this topic. The alternative inland alignment selected by BCDC (Permit No. 1998.011.07), in addition to the various public access improvements required by BCDC, were recently completed by SSF and are pending close-out with BCDC.

During construction, the Bay Trail will be closed at times when work is occurring immediately adjacent to the trail alignment, but access to the nearby pedestrian bridge will be maintained. The detailed information of road and trail closures will be generated and disclosed during the preconstruction engineering phase of the study prior to construction.

The proposed project design would not reduce current level of public access.

BCDC-12: (Public Access and Recreation) We noted that you did provide information in the DPR/EA stating that some closures of existing public access areas may be necessary for portions of the floodwall construction that would occur in these areas. The details of any such closures, including detour routes, time periods, and signage, should be further provided in the Final Consistency Determination

RESPONSE: The detailed information of road and trail closures will be generated and disclosed during the preconstruction engineering phase of the study prior to construction.

BCDC-13: (Water Quality) The Bay Plan Water Quality Policies say that projects should be designed in such a way to prevent water pollution to the greatest extent feasible and that the Bay's tidal marshes, tidal flats, and water surface area and volume should be conserved, restored, and increased to protect water quality. New projects should be sited in a way to minimize the discharge of pollutants into the Bay. The project does not appear at this time to

³ The Commission and Design Review Board acknowledged in BCDC Permit No. 1998.011.07 that *"constraints to public access at the WQCP are substantially greater than those at other treatment facilities, including the hazards associated with this water treatment plant, the limited space available for the plant facilities, the irregular shoreline, and the potential disturbance of wildlife"* and concluded that *"on-site access was undesirable, and the alternative inland alignment was selected."*

include any new fill or discharges to Waters of the State and the project will not be seeking a water quality certification. However, that the WQCP has an existing NPDES permit issued to the Cities of South San Francisco and San Bruno and these conditions would not be altered by the project. Additionally, the protection of the WQCP would help prevent any raw sewage discharges to the Bay and the backup of sewage into adjacent homes if the WQCP during flood events.

RESPONSE: Concur.

BCDC-14: (Tidal Marshes and Tidal Flats) The Bay Plan Tidal Marshes and Tidal Flats policies say that the impacts from any development should be avoided, minimized, and mitigated for. The DPR/EA mentions that there are small areas of pickleweed in the project vicinity. The Draft DPR/EA, mentions that no work will be occurring in the Bay, however, please provide a map with BCDC's jurisdiction in the area shown so that we can verify that this is mapped correctly and that no work will occur within the Bay or these habitat areas. If there is work that is occurring within the Bay, then we will need to know the impacts of such work and how the impacts are being minimized. Please provide additional information on how the design of the floodwall may or may not impact the tidal marsh areas through wave reflectance or other forces.

RESPONSE: Figure 7 in the Environmental Appendix of the integrated report indicates the extent of BCDC's jurisdiction and the 100-foot shoreline band for work to occur in the Bay.

BCDC-15: (Mitigation) The Bay Plan Mitigation Policies state, in part, "projects should be designed to avoid adverse environmental impacts to [the] Bay" and, further, that "[w]henver adverse impacts cannot be avoided, they should be minimized to the greatest extent practicable....[and] measures to compensate for...impacts should be required." Currently, the project does not propose any compensatory mitigation because the project includes a number of minimization measures to reduce project impacts, including siting the floodwalls out of areas of the Bay to limit impacts on tidal marsh and other aquatic habitats, and species that may be present in the project area. However, if the details and design of the project evolve and there are impacts to habitat or species, these impacts may need to be mitigated.

RESPONSE: Concur.

BCDC-16: (Environmental Justice) The Bay Plan policies on Environmental Justice and Social Equity provide guidance on how and when community engagement should be conducted, and these are also relevant and should be mentioned in section 2.12 in the Regulatory Setting section. The DPR/EA provides an analysis of the project site and nearby areas. The results indicate that the project is located in an area where approximately 15,000 residents are in communities identified as being disadvantaged and socially vulnerable groups in San Bruno and South San Francisco. An analysis using BCDC's Community Vulnerability Mapping Tool indicated that approximately nine thousand people in the project service area are in the highest social vulnerability and another six thousand are in the high social vulnerability. The DPR/EA also has some information related to the outreach and engagement has been conducted thus far, including a public meeting held for the Draft DPR/EA. Given the low turnout for that meeting and that it was mostly regulatory staff, we recommend that additional community outreach be conducted specifically in the highest and high social vulnerability locations identified and that the Final Consistency Determination include more details on the community engagement efforts and the groups that USACE attempted to engage with. If needed, we have a Community Based

Organization Directory and can connect you with individuals within or near these communities that may be to connect you with appropriate community groups to reach out to and discuss the project.

RESPONSE: Public notification would be provided prior to commencement of construction activity.

DRAFT Consistency Determination: (Comments BCDC-17 through 24)

BCDC-17: (Draft Consistency Determination) In the Draft Consistency Determination, it is difficult to see the project area in Figure 2. Please increase the size if possible and provide that with the application.

RESPONSE: Concur. A larger map will be provided with the permit application that shows the project area more clearly.

BCDC-18: (Draft Consistency Determination) The Draft Consistency Determination mentions the potential flood events that could occur in the future with sea level rise but does not discuss how the height of the proposed floodwall will protect the WQCP during certain future sea level rise conditions. Please include additional detail in this section of the Final Consistency Determination and also include an analysis of any flooding from groundwater sources that may impact the WQCP.

RESPONSE: Groundwater flooding was factored into the forecast inundation elevations of the total 100% AEP flood event.

BCDC-19: (Draft Consistency Determination) The Tidal Marshes and Tidal Flats policy analysis mentions that there are portions of salt marsh located adjacent to and surrounding the WQCP. Please note that in areas of tidal marsh vegetation, BCDC's Bay jurisdiction extends up an elevation of 5 feet above mean sea level, or the extent of tidal marsh vegetation if it ends at an elevation lower than this. Please delineate BCDC's jurisdiction on a site plan and include this in the Final Consistency Determination so that we can verify whether any work is occurring in the Bay or if it is all contained within the 100-foot shoreline band.

RESPONSE: Figure 7 in the Environmental Appendix of the integrated report indicates the extent of BCDC's jurisdiction and the 100-foot shoreline band for work to occur in the Bay.

BCDC-20: (Draft Consistency Determination) We noted that you will not be seeking a Water Quality Certification from the San Francisco Bay Regional Water Quality Control Board for this project, since there will be no placement of fill or discharge to the waters of the State.

RESPONSE: Concur. We are not seeking a Water Quality Certification from the San Francisco Regional Water Quality Control Board for this project.

BCDC-21: (Draft Consistency Determination) The public access section mentions that trail construction is not feasible because of the cost of constructing a 12-foot-wide trail and due to safety concerns. BCDC is not in agreement with this assessment at this time and would like to meet to continue discussing this issue with USACE, the local project sponsor, and the Bay Trail staff. This section of the Draft Consistency Determination also mentions that during construction there may be closures of the Bay Trail during construction activities immediately adjacent to the trail alignment. Please provide more details on where this closure may occur, for what duration of time, any detours that can be provided, and any signage that will be placed to notify the public of the closure and detours.

RESPONSE: USACE staff met with BCDC and Bay Trail staff multiple times in December to discuss the feasibility of the proposed Bay Trail alignment. Due to security concerns, public access is not allowed on the facility grounds, including access to the shoreline. BCDC acknowledged the significant challenges here as “Significant Use Conflicts” (citing permit No. 1998.008.00) and again in permit No. 1998.011.07 (Section III, Findings and Determinations) issued to the WQCP and City of South San Francisco for work at and adjacent to the WQCP. The WQCP previously submitted a “Sites Constraints” document as well as a “Comparison of Public Access Feasibility at Treatment Facilities” document under a previous permit application which BCDC referenced in its prior permits issued for the WQCP to conclude that access at the WQCP would be unacceptable because of “safety, security, and liability problems.” Nothing has changed to improve and modify any of the safety, security, and liability concerns previously documented and confirmed by BCDC.

It is our understanding that our local partner, the City of South San Francisco, has already constructed an alternative recreation trail as part of previous negotiation with BCDC on this topic. The alternative inland alignment selected by BCDC (Permit No. 1998.011.07), in addition to the various public access improvements required by BCDC, were recently completed by SSF and are pending close-out with BCDC.

The detailed information of road and trail closures will be generated and disclosed during the preconstruction engineering phase of the study prior to construction.

BCDC-22: (Draft Consistency Determination) The Draft Consistency Determination also mentions that a portion of the project is located on public trust lands, which should be consistent with the public trust needs for this area. Since a public access trail has been identified and planned in this area, this is a public trust need that BCDC will consider when evaluating the Final Consistency Determination for this project.

RESPONSE: The study evaluated the public access trail proposed by the Bay Trail and concluded that it is infeasible for a variety of reasons. The rough cost of this measure well exceeds the allowable 10% of the total project cost for recreation. It would additionally exceed the federal spending limit for the Continuing Authorities Program 103 projects, if included. Finally, and significantly, the trail alignment proposed by the Bay Trail would cause unacceptable safety and security concerns which cannot be mitigated. It is our understanding that our local partner, the City of San Francisco, has already constructed an alternative recreation trail as part of previous negotiation on this topic. The proposed project design would not reduce current level of public access.

BCDC-23: (Draft Consistency Determination) It is our understanding that the floodwall may also impact views to the Bay from the existing Bay Trail and some of the roadways near the WQCP. Please assess the impacts to views of the Bay for users of the Bay Trail that may be forced to take inland routes around the WQCP.

RESPONSE: The project area is already developed and industrialized, therefore the overall nature of the viewshed would not change. A user on the existing Bay Trail is unable to view the Bay through the WQCP along the floodwall alignment, therefore the project will not impede existing views of the Bay. Similarly, vista points around the WQCP and these currently look across Colma Creek into the WQCP which will be minimally effected by the building of the flood wall which may impede views of the

ground level of the WQCP. The proposed project design would not obstruct existing publicly-accessible views of the Bay.

BCDC-24: (Draft Consistency Determination) Also, the Draft Consistency Determination mentions that the floodwall will help preserve open space on the public struct lands and protect it from sea level rise. However, it seems that the floodwall is solely preserving WQCP infrastructure and not any open space areas. The floodwall may also impact the open space and wetland areas if there is any reflectance of waves off the wall and into the adjacent marsh habitat, which should be addressed.

RESPONSE: The proposed project was evaluated for environmental impacts and not found to negatively affect wetlands.