

# SAN FRANCISCO BAY CONSERVATION AND DEVELOPMENT COMMISSION

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May 6, 2010

## Application Summary

(For Commission consideration on May 20, 2010)

**Number:** Consistency Determination No. CN 2-10  
**Date Tendered:** April 30, 2010  
**Action Required By:** June 27, 2010  
**Staff Assigned:** Jessica Hamburger (415/352-3660 [jessicah@bcdc.ca.gov](mailto:jessicah@bcdc.ca.gov))

### Summary

**Applicant:** U. S. Army Corps of Engineers, San Francisco District

**Location:** In the Bay, at the following navigation channels (Exhibit A), deep-draft channels include: (1) Oakland Inner and Outer Harbor (Exhibit B); (2) Brooklyn Basin South Channel (Exhibit C); (3) Richmond Harbor (Exhibit D); (4) Suisun Bay Channel and New York Slough (New York Slough is outside of the Commission's jurisdiction) (Exhibit E); (5) Pinole Shoal (Exhibit F); and (6) Redwood City Harbor (Exhibit G). Shallow-draft channels include: (7) Napa Upper and Lower River (Exhibit H); (8) Petaluma River Channel and "Petaluma Across the Flats" (Exhibit I); (9) San Rafael Creek and "San Rafael Across the Flats" (Exhibit J); and (10) San Francisco Main Ship Channel (outside of the Commission's jurisdiction) (Exhibit K).

In the Bay, at the state- and federally-designated, dredged sediment disposal sites near Alcatraz Island (SF-11), Carquinez Strait (SF-09), Suisun Bay (SF-16), San Pablo Bay (SF-10) (Exhibit A); beneficial reuse sites including Hamilton-Bel Marin Keys V Wetland Restoration Project (Exhibit L), Bair Island (Exhibit M), Montezuma Wetland Restoration Project (Exhibit N), Van Sickle Island (Exhibit O) and outside the Commission's jurisdiction at Schollenberger Park (Exhibit P), Edgerly Island and Napa Salt Ponds (Exhibit P), Imola Sanitation (Exhibit Q), Sherman Island, Winter Island (Exhibit N), and Kennedy Park; and the federally



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authorized ocean disposal sites including San Francisco Bar (SF-08) (Exhibit A), the Ocean Beach Nourishment Site (Exhibit A) and the San Francisco deep ocean disposal site (SF-DODS) (Exhibit R).

**Project:**

During the calendar years 2010, 2011 and 2012, maintenance dredge up to a total estimated volume of 6,500,000 cubic yards (cy), conduct knockdown events of sediment from federal navigation channels in San Francisco Bay located within the Commission's jurisdiction, and dispose and/or beneficially reuse the sediment at various sites including the state- and federally-authorized Suisun Bay, Carquinez Strait, San Pablo Bay, Alcatraz in-Bay disposal sites, and the San Francisco Bar and deep ocean disposal site, as well as a number of upland sites adjacent to the Bay. For most of its projects, the Corps proposes to use a specific upland site as the preferred sediment placement alternative. However, in the event that placement of dredged sediment at the proposed upland site is determined to be infeasible at the time of dredging, the alternative site would be the deep ocean disposal site or one of the identified in-Bay disposal sites.

In 2010, the Corps proposes to: (1) dredge an estimated 500,000 cy (up to a maximum of 700,000 cy) of sediment from Oakland Inner and Outer Harbor; (2) dredge an estimated 400,000 cy (up to a maximum of 600,000 cy) of sediment from Richmond Inner Harbor; (3) dredge an estimated 200,000 cy (up to a maximum of 400,000 cy) of sediment from Richmond Outer Harbor; (4) dredge an estimated 175,000 cy (up to a maximum of 300,000 cy) of sediment from Suisun Bay and New York Slough Channel; (5) dredge an estimated 175,000 cy (up to a maximum of 300,000 cy) of sediment from Pinole Shoal; (6) dredge an estimated 150,000 cy (up to a maximum of 250,000 cy) of sediment from San Rafael Canal; and (7) dredge an estimated 350,000 cy (up to a maximum of 500,000 cy) of sediment from the San Francisco Main Ship Channel, outside the Commission's jurisdiction; and (8) conduct "knockdown events" of up to five percent of any estimated volume, or up to 15,000 cy, whichever is greater (the largest knockdown would be up to 25,000 cy under this scenario). Knockdown events involve moving one or more shoals within the project footprint into lower areas within the project footprint using an I-beam that is pulled or pushed by a tugboat or barge.

In 2011, the Corps proposes to: (1) dredge an estimated 500,000 cy (up to a maximum of 700,000 cy) of sediment from Oakland Inner and Outer Harbor; (2) dredge an estimated 400,000 cy (up to a maximum of 600,000 cy) of sediment

from Richmond Inner Harbor; (3) dredge an estimated 200,000 cy (up to a maximum of 400,000 cy) of sediment from Richmond Outer Harbor; (4) dredge an estimated 175,000 cy (up to a maximum of 300,000 cy) of sediment from Suisun Bay and New York Slough Channel; (5) dredge an estimated 175,000 cy (up to a maximum of 300,000 cy) of sediment from Pinole Shoal; (6) dredge an estimated 350,000 cy (up to a maximum of 500,000 cy) of sediment from the Redwood City Harbor Channel; and (7) dredge an estimated 350,000 cy (up to a maximum of 500,000 cy) of sediment from the San Francisco Main Ship Channel, outside the Commission's jurisdiction; and (8) conduct "knockdown events" of up to five percent of any estimated volume, or up to 15,000 cy, whichever is greater (the largest knockdown would be up to 25,000 cy under this scenario).

In 2012, the Corps proposes to: (1) dredge an estimated 500,000 cy (up to a maximum of 700,000 cy) of sediment from Oakland Inner and Outer Harbor; (2) dredge an estimated 400,000 cy (up to a maximum of 600,000 cy) of sediment from Richmond Inner Harbor; (3) dredge an estimated 200,000 cy (up to a maximum of 400,000 cy) of sediment from Richmond Outer Harbor; (4) dredge an estimated 175,000 cy (up to a maximum of 300,000 cy) of sediment from Suisun Bay and New York Slough Channel; (5) dredge an estimated 175,000 cy (up to a maximum of 300,000 cy) of sediment from Pinole Shoal; and (6) dredge an estimated 350,000 cy (up to a maximum of 500,000 cy) of sediment from the San Francisco Main Ship Channel, outside the Commission's jurisdiction; (7) conduct "knockdown events" of up to five percent of any estimated volume, or up to 15,000 cy, whichever is greater (the largest knockdown would be up to 25,000 cy under this scenario); and (8) conducted advanced maintenance dredging within the proposed volume for individual projects, within existing authorized footprints and depths.

If Congressional funding is made available, the Corps proposes to dredge the following projects in 2010, 2011 or 2012: (1) an estimated 450,000 cy (up to a maximum of 550,000 cy) from Brooklyn Basin South Channel in Oakland Harbor; (2) an estimated 200,000 cy (up to a maximum of 300,000 cy) from the Petaluma River Channel; (3) an estimated 500,000 cy (up to a maximum of 650,000 cy) from Petaluma Across the Flats; and (4) an estimated 500,000 cy (up to a maximum of 650,000 cy) of sediment from the upper and lower reaches of the Napa River.

**Issues  
Raised:**

The staff believes that the consistency determination raises three primary issues: (1) whether the proposed maintenance dredging of federal navigation channels is consistent with the Commission's laws and the Bay Plan policies regarding dredging, water quality, fish, other aquatic organisms, and wildlife, and subtidal areas; (2) whether identifying the proposed disposal site as a particular beneficial reuse, upland disposal or ocean disposal site with an ocean or in-Bay fallback site is sufficient in meeting the Commission's policies on feasible alternatives to in-Bay disposal when other beneficial reuse, upland disposal or ocean disposal sites may be available; and (3) whether the steps outlined below to protected state- and federally-listed species are consistent with the Commission's laws and Bay Plan policies.

### Project Background

The U.S. Army Corps of Engineers (Corps) has the responsibility to maintain the federal navigation channels in San Francisco Bay to provide a reliable federal navigation system that is essential to the economic well-being and national defense of the country. Under the federal Coastal Zone Management Act of 1972, as amended, federal agencies are generally required to carry out their activities and programs in a manner "consistent" with the Commission's coastal management program. The Commission's decisions on federal consistency matters are governed by the provisions of the Coastal Zone Management Act and the Department of Commerce regulations.

Historically, most of the material dredged from the Bay was disposed of in the Bay. During the late 1980's and early 1990's dredging became highly controversial, due to the capacity problems at the Alcatraz disposal site and concerns raised by the resource agencies and the environmental and fishing communities regarding the impacts of the disposal of dredged sediment on Bay natural resources. As a result, the Long Term Management Strategy for the Placement of Dredged Material in the San Francisco Bay Region (LTMS) was developed and adopted by the U.S. Environmental Protection Agency (EPA), the Corps, the San Francisco Bay Regional Water Quality Control Board (Water Board), the State Water Resources Control Board (SWRCB), and the Commission. The goal of the LTMS is to gradually decrease in-Bay disposal by implementing beneficial reuse and other alternatives. 2010 marks the tenth year of the LTMS program implementation and the beginning of the third phase of voluntary reduction of overall in-Bay disposal of dredged material. From 2007 through 2009 the total in-Bay disposal volume target was 2.1 million cy. From 2010 to 2012, in-Bay disposal is limited to 1.64 million cy or less per year. After 2012, the target will be 1.25 million cy or less per year. In order to accomplish this goal under the LTMS, in-Bay disposal is being reduced, while beneficial reuse, upland and ocean disposal options are increasing.

As an LTMS partner and the largest dredger in the Bay, the Corps is instrumental in development and implementation of the LTMS Program. Prior to the issuance of the LTMS Management Plan, the District worked to reduce in-Bay disposal through placement of dredged sediment at Jersey Island (Contra Costa County), Winter Island (Solano County), and Van Sickle Island (Solano County) to reinforce levees; at the Sonoma Baylands project (Sonoma County) to restore marsh habitat; and at Schollenberger Park (Sonoma County), Kennedy Park (Solano County) and San Leandro Marina's upland disposal site (Alameda County). From 1997 through 2009 the Corps has taken maintenance material from Richmond Inner Harbor Channel (Contra Costa County) and Oakland Harbor Inner and Outer Channels (Alameda County) to the San

Francisco deep ocean disposal site (SF-DODS), the Montezuma Wetland Restoration Project site, and the Hamilton Wetland Restoration Project site. The Corps, as the federal sponsor for the Port of Oakland 50-Foot Deepening Project, which was completed in 2009, beneficially reused the dredged sediment at the Montezuma and Hamilton Wetland sites and the Middle Harbor Enhancement Area, and disposed of a minimum volume at the deep ocean disposal site. During 2008 and 2009, the Hamilton site, which the Corps helped create, received approximately 5.51 million cy of material from federal projects, primarily the Oakland Harbor -50 Foot Deepening Project. The project has received 5.92 million cy to date. The Corps has also collaborated with the U.S. Fish and Wildlife Service to place over 200,000 cy at Bair Island in the Don Edwards National Wildlife Refuge.

Current beneficial reuse and upland disposal options include Hamilton and Montezuma Wetland Restoration Projects, Bair Island Restoration Project, Carneros River Ranch, Van Sickle Island levee project, Winter Island levee project and upland site, and specific sponsor-provided upland sites. In order to support the transition from reliance on in-Bay disposal, the Corps has proposed to take dredged sediment upland or to the deep ocean disposal site where feasible. The Corps has prepared an integrated alternative disposal site analysis to maximize ocean and upland alternatives, and minimize in-Bay disposal over the next three years. This plan relies heavily on the Hamilton Wetland Restoration Project. The Corps has committed to bring the Oakland Harbor sediment to the Hamilton site in 2010, if feasible. In the event that the proposed beneficial reuse sites are found infeasible, the SF-DODS site would be used.

The Corps has submitted an integrated disposal site alternatives analysis (IAA) for all of its proposed projects that explains how it will meet the LTMS goals during the period from 2010 to 2012. The Corps has stated that “[u]pdates to the IAA will be provided to the DMMO, as necessary, and will be submitted in the form of an addendum to the IAA.” In the event that the in-Bay sites are used, Corps projects and other in-Bay disposal projects must be carefully managed to avoid exceeding the in-Bay disposal site monthly target volumes and the in-Bay annual target volume.

### Project Description

**Project  
Details:**

The Corps 2010-2012 consistency determination describes the project as follows:

**In the Bay and Certain Waterways:**

- a. Dredge an estimated 1,500,000 cy (up to a maximum of 2,100,000 cy) of sediment from Oakland Inner and Outer Harbors (project depth: -50 feet MLLW, plus two feet over-dredge depth) over three years and beneficially reuse the sediment at the Hamilton Wetland Restoration Project, the Montezuma Wetlands Restoration Project, or another approved upland location. If upland reuse is infeasible, dispose of the sediment at the San Francisco deep ocean disposal site (SF-DODS);
- b. Dredge an estimated 1,200,000 cy (up to a maximum of 1,800,000 cy) of sediment from Richmond Inner Harbor (project depth: -38 feet MLLW, plus two feet over-dredge depth) over three years. Beneficially reuse the sediment at the Hamilton Wetland Restoration site or another approved upland location. If upland reuse is infeasible, dispose of the sediment at SF-DODS;
- c. Dredge an estimated 600,000 cy (up to a maximum of 1,200,000 cy) of sediment from Richmond Outer Harbor (project depth: -45 feet MLLW, plus two feet over-dredge depth) over three years. Dispose of the sediment at the Alcatraz (SF-11) disposal site or an approved upland location;

- d. Dredge an estimated 525,000 cy (up to a maximum of 900,000 cy) of sediment from Suisun Bay Channel (project depth: -35 feet MLLW, plus two feet over-dredge depth) over three years and dispose of the sediment at the Suisun Bay (SF-16) or Carquinez Strait (SF-9) disposal site;
- e. Dredge an estimated 525,000 cy (up to a maximum 900,000 cy) of sediment from Pinole Shoal (project depth: -35 feet MLLW, plus two feet over-dredge depth) over three years and dispose of the sediment at the San Pablo Bay (SF-10) or Carquinez Strait (SF-9) disposal site;
- f. Dredge an estimated 150,000 cy (up to a maximum of 250,000 cy) of sediment from San Rafael Creek Across-the-Flats (project depth: -8 feet MLLW, plus two feet over-dredge depth), and from San Rafael Canal (project depth: -6 feet MLLW, plus two feet over-dredge depth), which is partially outside the Commission's jurisdiction. Place the sediment at the Alcatraz (SF-11) disposal site or an approved upland location;
- g. Dredge an estimated 450,000 cy (up to a maximum of 550,000 cy) of sediment from Brooklyn Basin South Channel (project depth: -30 to -35 feet MLLW, plus two feet over-dredge depth) and beneficially reuse the sediment at the Hamilton Wetland Restoration Project or the Montezuma Wetland Restoration Project. If upland and ocean placement are infeasible, place the sediment at the Alcatraz (SF-11) disposal site;
- h. Dredge an estimated 500,000 cy (up to a maximum of 650,000 cy) of sediment from Napa River, upper reach outside of the Commission's jurisdiction, (project depth: -10 feet MLLW, plus two feet over-dredge depth) and Napa River, lower reach within the Commission's jurisdiction (project depth: -15 feet MLLW, plus two feet over-dredge depth) and dispose of the sediment at a sponsor-provided upland disposal site adjacent to the Napa River located outside the Commission's jurisdiction;
- i. Dredge an estimated 500,000 cy (up to a maximum of 650,000 cy) of sediment from Petaluma Across-the-Flats (project depth: -8 feet MLLW, plus two feet of over-dredge depth) and beneficially reuse the sediment at the Hamilton Wetland Restoration Project. If this option is infeasible, dispose of the sediment at the San Pablo Bay (SF-10) disposal site;
- j. Dredge an estimated 200,000 cy (up to a maximum of 300,000 cy) of sediment from the Petaluma River with the Commission's jurisdiction (project depth: -8 feet MLLW, plus two feet over-dredge depth) and dispose of the sediment at a sponsor-provided upland disposal site;
- k. Dredge an estimated 350,000 cy (up to a maximum of 500,000 cy) of sediment from Redwood City Harbor (project depth: -30 feet MLLW, plus two feet over-dredge depth) over three years. In 2011, dispose of the sediment at Bair Island or the Hamilton Wetland Restoration Site. If upland beneficial reuse is infeasible, dispose of sediments at the Alcatraz (SF-11) or San Pablo Bay (SF-10) disposal site;
- l. Dredge an estimated 1,050,000 cy (up to a maximum of 1,500,000 cy) of sediment from the San Francisco Main Ship Channel over three years and dispose of the sediment each year at the San Francisco Bar Channel (SF-8) disposal site or at the Ocean Beach nourishment site (SF-17), (both dredging and disposal sites are outside the Commission's jurisdiction);

- m. Conduct annual “knockdown events” of up to five percent of any estimated volume, or up to 15,000 cy, whichever is greater (the largest knockdown would be up to 25,000 cy under this scenario); and
- n. Dredge up to 90,000 cy of sediment from the Corps’ navigational channels only if needed in emergency situations, with each episode totaling 30,000 cy or less and no more than three episodes per year during the three-year span of this consistency determination, and place sediment at various state- and federally-designated in-Bay or ocean disposal sites or upland sites.
- o. Conduct advanced maintenance of projects when the volume, depth and existing footprint is within the existing authorization.

Richmond Inner and Outer Harbors, Oakland Inner and Outer Harbors, Pinole Shoal, Suisun Bay Channel and the San Francisco Main Ship Channel are annual projects. The other listed projects depend on annual Congressional appropriations for execution. If Congress does not fund a particular project in the year that the Corps scheduled the project, it may be delayed until sufficient funding is appropriated. Depending on the length of delay, the project volume may increase due to additional sedimentation but should be within the maximum volume.

**Public  
Benefits:**

The proposed project would result in the maintenance of existing deep and shallow water channels, thereby insuring that such channels remain navigable as well as safe and efficient for use by commercial, military, and recreational vessels. Dredged sediment taken to the Montezuma, Bair Island or Hamilton Wetland Restoration projects would augment the natural sedimentation process at these locations, thereby accelerating the creation of tidal marshes and improving the overall health of the Bay ecosystem and providing these projects with a better chance of maintaining marsh vegetation as sea level rises. Placement of dredged sediment at the deep ocean disposal site or other upland locations would reduce in-Bay disposal and further the goals of the LTMS Management Plan. Reducing in-Bay disposal would improve water quality and further protect fish and wildlife in the Bay.

**Schedule:**

The Corps expects that the project would begin June 1, 2010, and be completed by December 31, 2012.

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**Table 1: Authorized Maintenance Dredging Volumes and Placement Sites, 2010-2012**

Channel	Project Depth mllw (ft.) <sup>a</sup>	Estimated Volume (cy)	Maximum Volume (cy)	Proposed Placement Site	Alternate Placement Site	Beneficial Use/Upland	In-Bay Disposal	Ocean Disposal
<b>2010</b>								
Oakland Harbor	-50	500,000	700,000	HWRP	SF-DODS	500,000	0	0
Richmond Inner Harbor	-38	400,000	600,000	SF-DODS	HWRP	0	0	400,000
Richmond Outer Harbor	-45	200,000	400,000	SF-11	HWRP	0	200,000	0
Suisun Bay and NY Slough	-35	175,000	300,000	SF-16	SF-9	0	175,000	0
Pinole Shoal (San Pablo Bay)	-35	175,000	300,000	SF-10	SF-9	0	175,000	0
San Rafael	-8	150,000	250,000	SF-11	HWRP	0	150,000	0
<b>Total Dredging Volume w/o SF Main Ship Channel</b>		1,600,000	2,550,000			500,000	700,000	400,000
				<b>Percentages</b>		31%	44%	25%
<b>2011</b>								
Oakland Harbor	-50	500,000	700,000	HWRP	SF-DODS	500,000	0	0
Richmond Inner Harbor	-38	400,000	600,000	HWRP	SF-DODS	400,000	0	0
Richmond Outer Harbor	-45	200,000	400,000	SF-11	HWRP	0	200,000	0
Suisun Bay and NY Slough	-35	175,000	300,000	SF-16	SF-9	0	175,000	0
Pinole Shoal (San Pablo Bay)	-35	175,000	300,000	SF-10	SF-9	0	175,000	0
Redwood City	-30	350,000	500,000	Bair Island	SF-11	350,000	0	0
<b>Total Dredging Volume w/o SF Main Ship Channel</b>		1,800,000	2,800,000			1,250,000	550,000	0
				<b>Percentages</b>		69%	31%	0%
<b>2012</b>								
Oakland Harbor	-50	500,000	700,000	HWRP	SF-DODS	500,000	0	0
Richmond Inner Harbor	-38	400,000	600,000	HWRP	SF-DODS	400,000	0	0
Richmond Outer Harbor	-45	200,000	400,000	SF-11	HWRP	0	200,000	0
Suisun Bay and NY Slough	-35	175,000	300,000	SF-16	SF-9	0	175,000	0
Pinole Shoal (San Pablo Bay)	-35	175,000	300,000	SF-10	SF-9	0	175,000	0
<b>Total Dredging Volume w/o SF Main Ship Channel</b>		1,450,000	2,300,000			900,000	550,000	0
				<b>Percentages</b>		62%	38%	0%
<b>2010 - 2012 Potential Projects</b>								
Brooklyn Basin South Channel	-30/-35	450,000	550,000	HWRP	MWP, SF-DODS, SF-11 <sup>b</sup>	450,000	0	0
Petaluma ATF	-8	500,000	650,000	HWRP	SF-10	500,000	0	0
Petaluma Upper	-8/-4	200,000	300,000	Upland	Upland	200,000	0	0
Napa River	-10/-15	500,000	650,000	Upland	Upland	500,000	0	0
<b>Total Dredging Volume for Potential Projects</b>		1,650,000	2,150,000			1,650,000	0	0
				<b>Percentages</b>		100%	0%	0%
<b>2010 - 2012 Summary Without Potential Projects</b>								
<b>Total Dredging Volume w/o SF Main Ship Channel</b>		4,850,000				2,650,000	1,800,000	400,000
				<b>Percentages</b>		55%	37%	8%
<b>With Potential Projects</b>								
<b>Total Dredging Volume w/o SF Main Ship Channel</b>		6,500,000				4,300,000	1,800,000	400,000
				<b>Percentages</b>		66%	28%	6%

<sup>a</sup> All contracted dredging includes 2 feet of overdepth allowance (1 foot paid, 1 foot unpaid) beyond project depth. All government hopper dredging includes 1 foot of overdepth allowance beyond project depth, with the exception of 2 feet at the SF Main Ship Channel.

<sup>b</sup> Only if needed for emergency dredging.

<sup>c</sup> If feasible due to additional available funding or other unforeseen circumstances, these projects may be beneficially reused at Hamilton or other available sites.

### Staff Analysis

- A. **Issues Raised.** The staff believes that the consistency determination raises three primary issues: (1) whether the proposed maintenance dredging of federal navigation channels is consistent with the Commission's laws and the Bay Plan policies regarding dredging, water quality, subtidal areas, and fish, other aquatic organisms, and wildlife; (2) whether identifying the proposed disposal site as a particular beneficial reuse, upland disposal or ocean disposal site with an in-Bay alternate site is sufficient in meeting the Commission's policies on feasible alternatives to in-Bay disposal when other beneficial reuse, upland disposal or ocean disposal sites may be available; and (3) whether the steps outlined below to protected state- and federally-listed species are consistent with the Commission's laws and Bay Plan policies.

**San Francisco Bay Plan Policies.** The McAteer-Petris Act states, in part that "dredging is essential to establish and maintain navigational channels for maritime commerce, which contributes substantially to the local, regional and state economies...."

The Bay Plan Dredging Policy No. 1 states, in part, that "[d]redging and dredged material disposal should be conducted in an environmentally and economically sound manner. Dredgers should reduce disposal in the Bay over time to achieve the LTMS goal of limiting in-Bay disposal volumes to a maximum of 1.25 million cubic yards per year...."

The Bay Plan Dredging Policy No. 2 states, in part, that "[d]redging should be authorized when the Commission can find: (a) the applicant has demonstrated that the dredging is needed to serve a water-oriented use or other important public purpose; (b) the materials to be dredged meet the water quality requirements of the San Francisco Bay Regional Water Quality Control Board; (c) important fisheries and Bay natural resources would be protected through seasonal restrictions established by the California Department of Fish and Game, the U.S. Fish and Wildlife Service and/or the National Marine Fisheries Service, or through other appropriate measures; (d) the siting and design of the project will result in the minimum dredging volume necessary for the project; and (e) the materials would be disposed of in accordance with Policy 3."

The Bay Plan Dredging Policy No. 3 states, in part, that "[d]redged materials should, if feasible, be reused or disposed outside the Commission's Bay and certain waterways jurisdictions. Except when reused in an approved fill project, dredged material should not be disposed of in the Commission's Bay and certain waterways jurisdiction unless disposal outside these areas is infeasible and the Commission finds: (a) the volume to be disposed is consistent with applicable dredger disposal allocations and disposal site limits adopted by the Commission by regulation; (b) disposal would be at a site designated by the Commission; (c) the quality of the material disposed of is consistent with the advice of the San Francisco Bay Regional Water Quality Control Board and the interagency Dredged Material Management Office (DMMO); and (d) the period of disposal is consistent with the advice of the California Department of Fish and Game, the U.S. Fish and Wildlife Service and the National Marine Fisheries Service."

The Bay Plan Dredging Policy No. 5 states, in part, that "[t]o ensure adequate capacity for necessary Bay dredging projects and to protect Bay natural resources, acceptable non-tidal disposal sites should be secured and the deep ocean disposal site should be maintained. Further, dredging projects should maximize use of dredged material as a resource consistent with protecting and enhancing Bay natural resources, such as creating, enhancing, or restoring tidal and managed wetlands, creating and maintaining levees and dikes, providing cover and sealing material for sanitary landfills, and filling at approved construction sites."

The Bay Plan Dredging Policy No. 6 states, in part, that “[d]redged materials disposed in the Bay and certain waterways should be carefully managed to ensure that the specific location, volumes, physical nature of the material, and timing of disposal do not create navigational hazards, adversely affect Bay sedimentation, currents or natural resources, or foreclose the use of the site for projects critical to the economy of the Bay Area.”

The Bay Plan Dredging Policy No. 10 states, in part that “[i]nterested agencies and parties are encouraged to explore and find funding solutions for the additional costs incurred by transporting dredged materials to non-tidal and ocean disposal sites, either by general funds contributed by ports and other relevant parties, dredging applicants or otherwise.”

1. **Reduce In-Bay Disposal.** Bay Plan Dredging Policy No. 1 calls for the reduction of in-Bay disposal of dredged material. The Corps as a partner in the LTMS Management Plan has shown its commitment to the LTMS goal of reducing disposal of dredged sediment in the Bay. In the years past, the Corps has acquired additional federal funds to implement beneficial reuse of sediment at both ocean and upland sites.

The Corps states that it will “support the LTMS objective as long as alternatives to in-Bay placement are available and economically feasible.” To support this objective, the Corps has proposed to take sediment to a beneficial reuse site, an upland facility or to the deep ocean disposal site when feasible and use an alternate, in-Bay disposal site only after determining other options are infeasible. The Corps has provided an integrated alternative disposal site analysis for its maintenance dredging program, which identified the maximum beneficial reuse, upland and ocean disposal feasibility for the current level of Congressional funding. The Corps has committed to updating the integrated alternatives analysis each year, thereby providing more opportunity to reduce in-Bay disposal.

In addition, the Corps is the federal partner in the Hamilton Wetland Restoration Project, which will beneficially reuse 10.6 million cy of dredged sediment over a ten year period. The Corps intends to place sediment dredged from Oakland Inner and Outer Harbors and Richmond Inner Harbor at Hamilton. If funding is available to dredge Brooklyn Basin South Channel and Petaluma Across-the-Flats, the sediment will be placed at Hamilton.

The Corps also proposes to conduct advanced maintenance of the federal channels when regular annual maintenance does not prevent shoals from creating navigational hazards within a channel. Advanced maintenance would be performed within the existing authorized project depth, footprint and volume for the individual channel. In the event that advanced maintenance became necessary outside of the parameters listed above, the Corps would request an amendment to this consistency determination prior to conducting the work.

The Commission must determine if these efforts are sufficient to meet the Bay Plan policies to reduce in-Bay disposal.

2. **Water-Oriented Uses.** Dredging Policy No. 2, in part, states that “[d]redging should be authorized when the Commission can find: (a) the applicant has demonstrated that the dredging is needed to serve a water-oriented use....” The Corps maintains the federal navigation channels located in San Francisco Bay, pursuant to Congressional authorization, to support waterborne commerce, transportation, and recreation. Historically, the Corps has prepared a single consistency determination covering a group of navigation channels to be maintained over a defined period of time rather than submitting individual determinations for separate maintenance episodes. Consistency Determination No. 2-10 covers 14 maintenance dredging projects in federal channels to be completed in 2010, 2011 and 2012.

The Corps consistency determination states that “[m]aintenance of deep draft channels is essential for the continued efficient operation of the ports serving commercial vessels. Dredging the shallow draft channels is essential for access to the Bay by recreational and fishing vessels and commercial ships and barges. Without regular dredging, our shallow-draft channels would become unnavigable, and our deep-draft channels would not safely serve the vessels that use them.” The proposed maintenance dredging activities would ensure that deep draft channels remain navigable and ensure efficient and safe conditions for commercial and recreational vessels, all serving valuable water-oriented uses.

The Commission must determine if the dredging serves water-oriented uses as required by the Bay Plan.

3. **Water Quality and Regional Board Requirements.** Dredging Policy No. 2 states in part, that “[d]redging should be authorized when the Commission can find:...(b) the materials to be dredged meet the water quality requirements of the San Francisco Bay Regional Water Quality Control Board....”

In addition, the Bay Plan Dredging Policy No. 3(c) states, in part that “the quality of material disposed is consistent with the advice of the Regional Board and the Dredged Material Management Office.” The Corps states in the consistency determination that the material will be determined suitable for the proposed disposal or reuse by the DMMO (which includes the Regional Board) or the material will be disposed of at an appropriate alternate site.

Water Quality Policies Nos. 1 and 2 state respectively “Bay water pollution should be prevented to the greatest extent feasible. The Bay’s tidal marshes, tidal flats, and water surface area and volume should be conserved and, whenever possible, restored and increased to protect and improve water quality...” and “Water quality in all parts of the Bay should be maintained at a level that will support and promote the beneficial uses of the Bay as identified in the San Francisco Bay Regional Water Quality Control Board’s *Water Quality Control Plan, San Francisco Bay Basin* and should be protected from all harmful or potentially harmful pollutants. The policies, recommendations, decisions, advice and authority of the State Water Resources Control Board and the Regional Board, should be the basis for carrying out the Commission’s water quality responsibilities.”

The San Francisco Bay Regional Water Quality Control Board (Water Board) issued its Waste Discharge Requirements for the Corps maintenance dredging projects at the Board’s meeting on March 14, 2007. The Waste Discharge Requirements identified targets for maximum monthly discharge of dredged sediments at the Alcatraz, Carquinez, San Pablo Bay, and Suisun Bay disposal sites, and described self-monitoring activities that the Corps must follow for maintenance dredging and the management of the disposal sites, including providing quarterly reports on all in-Bay disposal volumes. The same information provided to the Water Board will be provided to the Commission. The Waste Discharge Requirements have been provided to Commission staff for inclusion in the BCDC staff recommendation on the project. The Commission staff has reviewed the order and finds no conflict between this consistency determination and the Water Board’s Waste Discharge Requirements. The Commission staff intends to condition the consistency determination with the same conditions that the Water Board includes in its Order.

The Corps states in the consistency determination that it will prepare an approval request package for each dredging episode in accordance with the Dredged Material Management Office (DMMO) guidelines. “This package shall contain the current condition survey, the estimated volume to be dredged based on that survey, and either a Tier

1 Evaluation [i.e., a request for an exemption from testing] or the sampling and analysis data report.” The Corps states that it will provide copies of all laboratory results, sediment testing data and findings, and will comply with the self-monitoring and reporting requirements in the Water Board’s Waste Discharge Requirements for in-Bay disposal. In addition, the Corps also states that the material will be determined suitable for the proposed disposal or reuse by the DMMO (which includes the Water Board), or the material will be disposed of at an appropriate alternate site.

The Water Board’s 2007 Waste Discharge Requirements authorized the Corps to conduct maintenance dredging of a total maximum volume of 12,100,000 cy. During the period from 2007 to 2009, the Corps’ actual volume of maintenance dredging and disposal was 5,730,000 cy. Therefore, the Commission can authorize dredging of the up to 6,370,000 cy and still be consistent with the Waste Discharge Requirements. However, in order to be consistent with these policies, the Corps would need to receive an additional Waste Discharge Requirement from the Water Board prior to dredging additional sediment beyond the 6,730,000 cy.

The 2007 Waste Discharge Requirements will suffice for the maximum volume requested by the Corps for maintenance dredging in 2010, including the potential projects (i.e., those dependent on annual Congressional authorization), but may not cover the volumes requested for 2011 and 2012, depending on actual volumes dredged. If the Corps’ maintenance dredging program were to exceed the maximum volume of 6,370,000 cy, it would no longer be consistent with the current Waste Discharge Requirements. However, it is anticipated that the Water Board will issue updated Waste Discharge Requirements authorizing additional dredging volumes before the start of the 2011 dredging season. The Commission staff intends to condition the consistency determination to require the Corps to obtain a new Water Board Order prior to additional dredging and disposal beyond the currently authorized volume.

The Commission must determine whether the proposed project is consistent with the Bay Plan’s policies on Water Quality for approval for dredging projects.

4. **Protection of Fish, Other Aquatic Organisms and Wildlife.** Bay Plan Dredging Policy No. 2, in part, states that “[d]redging should be authorized when the Commission can find:... (c) important fisheries and Bay natural resources would be protected through seasonal restrictions established by the California Department of Fish and Game, the U.S. Fish and Wildlife Service and/or the National Marine Fisheries Service, or through other appropriate measures....” In addition, the Bay Plan Fish, Other Aquatic Organisms and Wildlife Policies Nos. 1 and 2 state, in part and respectively, “[t]o assure the benefits of fish, other aquatic organisms, and wildlife for future generations, to the greatest extent feasible, the Bay’s tidal marshes, tidal flats, and subtidal areas should be conserved, restored and increased,” and “[s]pecific habitats that are needed to conserve, increase or prevent the extinction of any native species, species threatened or endangered, ... or any species that provides substantial public benefits, should be protected....” In addition, Policy No. 4 directs Commission staff to consult with and give appropriate consideration to the advice of the California Department of Fish and Game, the U.S. Fish and Wildlife Service and/or the National Marine Fisheries Service “whenever a proposed project may adversely affect an endangered or threatened plant, fish or other aquatic organism, or wildlife species.” Finally, Policy No. 4 directs the Commission to not authorize projects that would result in “taking” of any listed species “...unless the applicant has obtained the appropriate ‘take’ authorization....”

The Corps’ consistency determination states that the “environmental effects of each of the District’s maintenance dredging projects in San Francisco Bay were originally presented in the Final Composite Environmental Statement for Maintenance Dredging, Existing Navigation Projects, San Francisco Bay Region, California (1975). Since 1975, the

Corps has conducted an environmental review of each recurring dredging episode and has prepared an Environmental Assessment (EA), as appropriate, for each project. The Corps continues to believe that only short-term impacts occur at the dredging and placement sites and that there are no significant impacts to the Bay's environment and biological resources from the proposed dredging and placement operations, supporting the findings of the 1975 document."

To demonstrate the Corps' commitment to reducing impacts to the Bay resources, in 2003 the Corps installed "anti-turbidity valves" on the hopper dredge *Essayons* to reduce the amount of air in the overflow water returning to the Bay, thus reducing potential effects of turbidity on aquatic organisms.

The Corps is currently developing a 20-year Dredged Material Management Plan for the San Francisco Region, which will be consistent with the LTMS Management Plan and will involve preparation of an environmental impact statement (EIS) under the National Environmental Policy Act. Once this process is complete, it is expected that the Dredged Material Management Plan EIS will supersede the 1975 Final Composite Environmental Statement.

As part of the regional coordination for the LTMS Management Plan, the California Department of Fish and Game (CDFG), the U.S. Fish and Wildlife Service (FWS) and the National Marine Fisheries Service (NOAA Fisheries) completed consultation on the LTMS Environmental Impact Statement/Environmental Impact Report and issued, in 2000, a programmatic biological opinion for dredging and disposal projects in the Bay. In their opinion, the resource agencies identified periods of the year for specific geographic areas within the Bay and Delta when dredging and disposal can occur without significantly impacting threatened, endangered and other important Bay species. It also identified periods of the year for specific geographic areas and species where further consultation is required if dredging or disposal is proposed. These environmental work windows are included in the LTMS Management Plan.

In its consistency determination, the Corps states that "[t]he dredging and disposal of sediments will be completed within these work windows, or we will consult with the appropriate resource agencies." In addition, the Corps has been actively involved in the LTMS Environmental Windows Work Group, a multi-agency and stakeholder group seeking to identify ways to lessen the impacts of dredging to Bay resources while completing as many of the dredging projects as possible within the environmental work windows, or providing avenues for efficient consultations.

However, since the issuance of the LTMS Programmatic Biological Opinion, there have been additional species listed by both CDFG (longfin smelt) and NOAA Fisheries (green sturgeon), and it is anticipated that FWS will list the longfin smelt in 2011. Further, through the LTMS program and other scientific endeavors, additional information has been provided to the resource agencies regarding these species and the potential effects of dredging on them. As a result of these listings and the additional information, the LTMS agencies have initiated a new programmatic consultation with NOAA Fisheries regarding salmonids and green sturgeon and expect to receive an amended biological opinion from NOAA Fisheries in 2010. This amended biological opinion will refine the environmental work window set forth in 2000 for salmonids and will likely include new terms and conditions to protect the listed green sturgeon. The Endangered Species Act "4(d) Rule" prohibiting take of green sturgeon takes effect June 21, 2010. NOAA Fisheries staff has confirmed that NOAA Fisheries does not need to provide separate take authorization for maintenance dredging projects occurring between April 2010 and the date the biological opinion is finalized. In the event that the programmatic biological opinion is not completed, the Corps would be required to consult with NOAA Fisheries on a project-by-project basis for impacts to green sturgeon.

In April, 2010, the CDFG determined that the Corps' maintenance dredging projects completed with a hydraulic dredge (the *Essayons*) are likely to result in incidental take of two fish species listed as threatened or endangered under the California Endangered Species Act, the delta smelt and longfin smelt. Further, on April 29, 2010, CDFG provided to the Corps a letter clarifying that the potential take was limited to hydraulic dredging, and outlining seventeen measures, including ten take minimization measures and six notification and reporting measures. The final measure in the letter directs the Corps and the CDFG to participate in a working group to develop and standardize minimization, mitigation, funding and effectiveness monitoring measures for hydraulic dredging projects in the Bay. This coordination work would be completed by July 31, 2010. The Commission staff intends to recommend these seventeen measures as conditions of the Commission's letter of agreement to this consistency determination. The Corps has agreed to implement items one through sixteen, and item number seventeen to the extent authorized by federal law. The Corps is concerned that it may not have authorization from Congress to fund mitigation required by the CDFG.

The *Essayons* is scheduled to begin dredging on June 1, 2010 at Pinole Shoals. The CDFG staff has notified the Commission staff that they will not object to this project going forward as long as the Commission's letter of agreement to the consistency determination, with the appropriate measures, is in place.

The Commission should determine if the proposed project is consistent with the Bay Plan policies protecting fish, other aquatic organisms and wildlife.

5. **Tidal Marshes and Tidal Flats.** Bay Plan Tidal Marsh and Tidal Flats Policies Nos. 1 and 2 state, respectively, "that tidal marshes and tidal flats should be conserved to the fullest possible extent...dredging projects that would substantially harm tidal marshes or tidal flats should be allowed only for purposes that provide substantial public benefits and only if there is no feasible alternative" and "...any proposed dredging project should be thoroughly evaluated to determine the effect of the project on tidal marshes and tidal flats, and designed to minimize, and if feasible, avoid any harmful effects."

Redwood City Harbor, Petaluma River, San Rafael Creek, and Napa River are federal channels that are adjacent to tidal mudflat and marsh areas. The Corps has committed to dredging these channels during the environmental work windows recommended by the resource agencies to minimize impacts to listed species or to seek additional consultation. However, the dredging of these channels provides public benefits of navigational safety and economic benefits to the communities who use them.

Consistent with Tidal Marshes and Tidal Flats Policy 2, the District has prepared an Environmental Impact Statement and continues to supplement that document with annually prepared Environmental Assessments for each maintenance project. The Corps states that only short-term physical impacts result from maintenance dredging and disposal, and the Corps continues to seek new ways to further minimize those impacts. The Environmental Assessments and an updated Integrated Alternatives Analyses will be provided to the Commission annually. In addition, the Corps states that the channel that is dredged through the tidal mudflat at both "Petaluma River Across the Flats" and "San Rafael Creek Across the Flats" is the minimum necessary to ensure safe navigation.

The Corps' consistency determination states that some its projects "have nearby upland placement sites that may require transport of the material through the marsh habitat. This transport is typically accomplished through pipelines temporarily crossing the habitat to place the material. Through coordinated efforts, the Corps has avoided impacts to special status species in these habitats in the past. Past efforts have included

surveying for the species of concern and then implementing the project in a manner that does not affect them. The Corps would continue to coordinate any work that may affect the tidal marsh habitat, or its species, with the appropriate resource agencies."

The Commission must determine whether the proposed project is consistent with the Commission's policies on tidal marshes and tidal flats.

6. **Subtidal Areas.** Bay Plan Subtidal Areas Policy No. 1 states that "[a]ny proposed filling or dredging project in a subtidal area should be thoroughly evaluated to determine the local and Bay-wide effects of the project on: (a) the possible introduction or spread of invasive species; (b) tidal hydrology and sediment movement; (c) fish, other aquatic organisms and wildlife; (d) aquatic plants; and (e) the Bay's bathymetry. Projects in subtidal areas should be designed to minimize and, if feasible, avoid any harmful effects."

The consistency determination states that the Corps thoroughly evaluates each dredging project for the above listed potential impacts through its 1975 Environmental Impact Statement and the individual Environmental Assessments. The reports, studies and initiatives that the Corps has undertaken provide evidence of the District's commitment to thoroughly evaluating the local and Bay-wide effects of maintaining the depth and configuration of navigational channels. The consistency determination further states, "The District believes that only short-term impacts result from our maintenance dredging and disposal actions." In addition, there is no feasible alternative to maintaining the federal channels through dredging and disposal. The maintenance of these channels is essential to providing safe navigation and access to the ports and recreational marinas in the Bay Area.

Consistent with Subtidal Areas Policy 1, the Corps has monitored the potential indirect impacts from dredging projects on eelgrass and will continue to work towards alleviating agency concerns. The consistency determination states, "While eelgrass does exist near the Richmond Inner Harbor Channel, there is no known eelgrass that occurs within any of the channel boundaries. If future surveys indicate direct impacts to eelgrass from the dredging program, the Corps will consult with the appropriate resource agencies."

Bay Plan Subtidal Areas Policy No. 2 states that "[s]ubtidal areas that are scarce in the Bay or have an abundance and diversity of fish, other aquatic organisms and wildlife (e.g. eelgrass beds, sandy deep water or underwater pinnacles) should be conserved."

Consistent with Subtidal Areas Policy 2, the Corps states that the federal channels are not considered a scarce or unique habitat in the Bay, although they do provide deep-water habitat in an otherwise shallow bay. Further, as stated above, there is no feasible alternative for maintaining them and the federal channels provide substantial public benefit and are vital to the economic sustainability of the Bay Area ports and water-related industries.

The Commission must determine whether the proposed project is consistent with the Commission's policies regarding subtidal areas.

7. **Disposal of Dredged Material.** Bay Plan Dredging Policy No. 3 states, in part, that "[d]redged material should, if feasible be reused or disposed outside the Commission's Bay and certain waterways jurisdiction" and that "the disposal would be at a site designated by the Commission...." During the period from 2010 to 2012, the Corps proposes to dispose of an estimated total of 1,800,000 cy of dredged sediment at three state- and federally-designated in-Bay disposal sites, an estimated total of 400,000 cy of material at the deep ocean disposal site, and an estimated total of 4,300,000 cy at beneficial reuse and upland sites.

However, if beneficial reuse, ocean or upland disposal facilities are not available or feasible to use during this period, some or all of the sediment proposed for beneficial reuse may be disposed of in the Bay. According to the Corps' consistency determination, the Corps will "support the LTMS objective as long as alternatives to in-Bay placement are available and economically feasible."

The Corps has completed an integrated alternative disposal site analysis to implement the LTMS transition in which they determined which of their projects provided the most volume of sediment to be beneficially reused in the most economically and logistically feasible manner. Through this analysis the Corps has determined which projects will go to beneficial reuse sites, primarily the Oakland Inner and Outer Channel and the Richmond Inner Channel each year. Hamilton is the primary beneficial reuse site for the Corps' program because it is a federally sponsored and authorized site. In the event that Hamilton is not available, the Corps would take these projects to the "legacy" disposal site, SFDODS. Sediment from other projects, such as the Redwood City Channel would be beneficially reused at sites such as Bair Island, but in the event that Bair Island is not available, the Corps proposes to dispose of such material in Bay at the Alcatraz Disposal site. In the event that the Corps' annual update of their alternatives analysis, the LTMS partners would work with the Corps to maximize beneficial reuse through the remainder of their three-year program. The Corps operations and maintenance dredging program varies from year to year depending on Congressional funding.

The Commission's regulations and the LTMS plan establish target disposal volumes limits for the in-Bay disposal sites. There are both annual target limits and monthly target limits. In 2010, the Corps' projects would dispose 350,000 cy of sediment at the Alcatraz site, 175,000 cy of sediment at the San Pablo Bay site and 175,000 cy of sediment at the Suisun Bay site. In 2011, the Corps' projects would dispose 200,000 cy of sediment at the Alcatraz site, 175,000 cy of sediment at the San Pablo Bay site and 175,000 cy of sediment at the Suisun Bay site. In 2012, the Corps' projects would dispose 200,000 cy of sediment at the Alcatraz site, 175,000 cy of sediment at the San Pablo Bay site and 175,000 cy of sediment at the Suisun Bay site.

In the event that the Hamilton site is not available at any time during the period 2010 to 2012, an estimated 900,000 cy per year (for a total of 2.7 million cy) would be placed at the deep ocean disposal site. These volumes do not include the possible additional 90,000 cy of emergency dredging each year.

Currently, there is approximately 1.5 mcy of available space at the Hamilton Wetlands Project. It is possible that the project would be filled to capacity in 2010 or 2011. Once this project is complete, the Bel Marin Keys V Expansion of Hamilton (Expansion) would need to be both permitted and available for the Corps projects. It is possible that the Expansion may not be available in time for the Corps projects, which would then be likely disposed of at the deep ocean disposal site as described in the project description section. The Corps is working diligently with its state sponsor, the California Coastal Conservancy (Conservancy) to move the Expansion forward. The Expansion is key to providing a centrally located beneficial reuse site not only for Corps projects, but the entire dredging community, including refineries, ports and other projects.

Scientists have recently determined that sediment inputs from the Delta to San Francisco Bay are decreasing. Potential reasons include clearing of the sediment load from historic hydraulic gold mining from through the system, capture of sediment behind dams, and/or the results of water diversions. This reduction in sediment supply in combination with the predicted increase the rate of sea level rise heightens the need for more beneficial reuse of sediment in subsided restoration projects to give them a "jump start" to keep up with sea level rise.

The Corps has provided both estimated volumes and maximum volumes for each of the projects. This is because project volumes may increase in any given year due to an increased sediment deposition in the project footprint or re-suspension of existing sediments. The estimated and maximum numbers have increased since the last consistency determination. The Corps states that the increase in volume is due to a lack of funding and the subsequent backlog of dredging in some of the smaller channels and the addition of over-dredged volume to the total estimated and maximum volumes (over-dredge is additional volume beneath project depth, due to imprecision of dredging equipment).

The Corps has committed to providing a pre-dredge survey for each project to the Commission prior to commencing the project, which would provide a more accurate project volume. Post-dredge surveys will also be provided to confirm the total amount dredged. The Corps anticipates that the actual project volumes will be similar to the estimated volumes in the Consistency Determination. It is also likely that some of the actual project volumes would be less than what is estimated and that some would be slightly higher than the estimated volumes, but the cumulative volumes would fall within the annual and monthly targets set forth by the Commission's regulations and the LTMS plan.

The expected volumes for in-Bay disposal for 2010 through 2012 are within the annual target limits of the Commission's regulations and the LTMS Plan as long as beneficial reuse sites and the deep ocean disposal site remain available. The Corps states in the Consistency Determination that "the Corps is committed to manage dredged material in an environmentally and economically sound manner in accordance with the LTMS goals" and that "[t]he volumes proposed for placement are within placement site target values...and the dredging of sediments will be completed within the LTMS Environmental Work Windows." Because in-Bay disposal continues for some projects, site-management strategies and monitoring activities have been designed to lessen the cumulative impacts on the Bay's aquatic habitats and ensure disposal site capacity. In addition the Corps also states "[p]er [Dredging] Policy 4 of the Bay Plan, the Corps plans the total volume of all of these dredging projects to fall within the LTMS target limits for in-Bay sites. Therefore, no justification will be necessary to exceed these targets."

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**Table 2. Dredged Material Placement Scenarios, With and Without the Hamilton Site**

Channel	Estimated Volume (cy)	Proposed Placement Site	Beneficial Use/ Upland	In-Bay Disposal	Ocean Disposal	Placement Site w/o Hamilton	Beneficial Use/ Upland	In-Bay Disposal	Ocean Disposal
<b>2010</b>									
Oakland Harbor	500,000	HWRP	500,000	0	0	SF-DODS	0	0	500,000
Richmond Inner Harbor	400,000	SF-DODS	0	0	400,000	SF-DODS	0	0	400,000
Richmond Outer Harbor	200,000	SF-11	0	200,000	0	SF-11	0	200,000	0
Suisun Bay and NY Slough	175,000	SF-16	0	175,000	0	SF-16	0	175,000	0
Pinole Shoal (San Pablo Bay)	175,000	SF-10	0	175,000	0	SF-10	0	175,000	0
San Rafael	150,000	SF-11	0	150,000	0	SF-11	0	150,000	0
<b>Total Dredging Volume</b>	<b>1,600,000</b>		<b>500,000</b>	<b>700,000</b>	<b>400,000</b>		<b>0</b>	<b>700,000</b>	<b>900,000</b>
<b>w/o SF Main Ship Channel</b>		<b>Percentages</b>	<b>31%</b>	<b>44%</b>	<b>25%</b>		<b>0%</b>	<b>44%</b>	<b>56%</b>
<b>2011</b>									
Oakland Harbor	500,000	HWRP	500,000	0	0	SF-DODS	0	0	500,000
Richmond Inner Harbor	400,000	HWRP	400,000	0	0	SF-DODS	0	0	400,000
Richmond Outer Harbor	200,000	SF-11	0	200,000	0	SF-11	0	200,000	0
Suisun Bay and NY Slough	175,000	SF-16	0	175,000	0	SF-16	0	175,000	0
Pinole Shoal (San Pablo Bay)	175,000	SF-10	0	175,000	0	SF-10	0	175,000	0
Redwood City	350,000	HWRP	350,000	0	0	SF-11	0	350,000	0
<b>Total Dredging Volume</b>	<b>1,800,000</b>		<b>1,250,000</b>	<b>550,000</b>	<b>0</b>		<b>0</b>	<b>900,000</b>	<b>900,000</b>
<b>w/o SF Main Ship Channel</b>		<b>Percentages</b>	<b>69%</b>	<b>31%</b>	<b>0%</b>		<b>0%</b>	<b>50%</b>	<b>50%</b>
<b>2012</b>									
Oakland Harbor	500,000	HWRP	500,000	0	0	SF-DODS	0	0	500,000
Richmond Inner Harbor	400,000	HWRP	400,000	0	0	SF-DODS	0	0	400,000
Richmond Outer Harbor	200,000	SF-11	0	200,000	0	SF-11	0	200,000	0
Suisun Bay and NY Slough	175,000	SF-16	0	175,000	0	SF-16	0	175,000	0
Pinole Shoal (San Pablo Bay)	175,000	SF-10	0	175,000	0	SF-10	0	175,000	0
<b>Total Dredging Volume</b>	<b>1,450,000</b>		<b>900,000</b>	<b>550,000</b>	<b>0</b>		<b>0</b>	<b>550,000</b>	<b>900,000</b>
<b>w/o SF Main Ship Channel</b>		<b>Percentages</b>	<b>62%</b>	<b>38%</b>	<b>0%</b>		<b>0%</b>	<b>38%</b>	<b>62%</b>
<b>2010 - 2012 Potential Projects</b>									
Brooklyn Basin South Channel	450,000	HWRP	450,000	0	0	SF-DODS	0	0	450,000
Petaluma ATF	500,000	HWRP	500,000	0	0	SF-10	0	500,000	0
Petaluma Upper	200,000	Upland	200,000	0	0	Upland	200,000	0	0
Napa River	500,000	Upland	500,000	0	0	Upland	500,000	0	0
<b>Total Dredging Volume</b>	<b>1,650,000</b>		<b>1,650,000</b>	<b>0</b>	<b>0</b>		<b>700,000</b>	<b>500,000</b>	<b>450,000</b>
<b>for Potential Projects</b>		<b>Percentages</b>	<b>100%</b>	<b>0%</b>	<b>0%</b>		<b>42%</b>	<b>30%</b>	<b>27%</b>
<b>2010 - 2012 Summary</b>									
<b>Without Potential Projects</b>									
Total Dredging Volume	4,850,000		2,650,000	1,800,000	400,000		0	2,150,000	2,700,000
<b>w/o SF Main Ship Channel</b>		<b>Percentages</b>	<b>55%</b>	<b>37%</b>	<b>8%</b>		<b>0%</b>	<b>44%</b>	<b>56%</b>
<b>With Potential Projects</b>									
Total Dredging Volume	6,500,000		4,300,000	1,800,000	400,000		700,000	2,650,000	3,150,000
<b>w/o SF Main Ship Channel</b>		<b>Percentages</b>	<b>66%</b>	<b>28%</b>	<b>6%</b>		<b>11%</b>	<b>41%</b>	<b>48%</b>

HWRP – Hamilton Wetland Restoration Project  
MWP – Montezuma Wetland Restoration Project

- In-Bay Disposal.** Over the next three years, the Corps proposes to dispose of a total of 1,800,000 cy of dredged sediment at four state-and federally-designated, in-Bay disposal sites, located at Suisun Bay (SF-16), (San Pablo Bay (SF-10), and Alcatraz Island (SF-11). The Carquinez Strait (SF-9) site is an in-Bay alternative, in case capacity at the Suisun Bay disposal site is reached. In addition, if emergency dredging becomes necessary, the Corps proposes to dispose of up to 90,000 cy of material at

various in-Bay disposal sites in not more than three 30,000 cy episodes each year, over the period from 2010 to 2012. The Corps states “[w]e will inform the appropriate agencies as soon as possible” should emergency dredging become necessary.

In 2010, the Corps proposes to place a total of 700,000 cy of sediment dredged from the following projects in the Bay: an estimated 200,000 cy from Richmond Outer Harbor placed at the Alcatraz disposal site; an estimated 175,000 cy from Suisun Bay Channel placed at the Suisun Bay disposal site; an estimated 175,000 cy from Pinole Shoal placed at the San Pablo Bay disposal site; and an estimated 150,000 cy from San Rafael Canal placed at the Alcatraz disposal site.

In 2011, the Corps proposes to place a total of 550,000 cy of sediment dredged from the following projects in the Bay: an estimated 200,000 cy from Richmond Outer Harbor placed at the Alcatraz disposal site; an estimated 175,000 cy from Suisun Bay Channel placed at the Suisun Bay disposal site; and an estimated 175,000 cy from Pinole Shoal Channel placed at the San Pablo Bay disposal site.

In 2012, the Corps proposes to place a total of 550,000 cy of sediment dredged from the following projects in the Bay: an estimated 200,000 cy from Richmond Outer Harbor placed at the Alcatraz disposal site; an estimated 175,000 cy from Suisun Bay Channel placed at the Suisun Bay disposal site; and an estimated 175,000 cy from Pinole Shoal Channel placed at the San Pablo Bay disposal site.

In addition, during the period from 2010 to 2012, an estimated 950,000 cy from the Brooklyn Basin South Channel and the Petaluma Across-the-Flats Channel may be placed in the Bay if upland and ocean disposal options are infeasible.

Prior to changing disposal sites from the preferred option to the alternate option, the Corps states that upon determining that the preferred disposal site is infeasible, the Corps would immediately: (1) notify the Commission and appropriate agencies of the change in disposal site prior to the commencement of the project; (2) provide to the Commission information as to why the preferred disposal site is not feasible; and (3) if the alternate disposal site is an in-Bay site, provide to the Commission an update of the monthly and annual capacity available for the proposed disposal site. This information will also be included in the Corps’ Environmental Assessments, provided to the Commission at least 30 days prior to initiating the dredging project.

- **San Francisco Deep Ocean Disposal Site.** If all beneficial reuse and upland sites are available, 400,000 cy of sediment is proposed to be disposed of at the deep ocean disposal site (SF-DODS), located approximately 50 miles west of the Golden Gate Bridge and outside the Commission’s jurisdiction, during the period 2010 to 2012. However, if placement at the Hamilton site or other upland sites are infeasible, the Corps proposes to dispose of an estimated total of 2,700,000 cy of dredged sediment from the Oakland Inner and Outer Harbors, and the Richmond Inner Harbor at SF-DODS over the next three years.

In the event of an emergency situation and if it is not feasible to dispose of the sediment at SF-DODS, the Corps proposes to dispose of this material in-Bay at the Alcatraz disposal site. The San Pablo Bay disposal site is a second alternative, in the event that capacity at the Alcatraz disposal site is reached.

- **Beneficial Reuse and Upland Placement.** In accordance with Dredging Policy No. 5, the Corps is maximizing to the extent feasible, the use of dredged sediment as a resource. As mentioned above, the Corps has provided an integrated alternative disposal site analysis for the 2010 through 2012 maintenance dredging program that describes how it will achieve the goal of no more than 40 percent of dredged sediment disposed of in-Bay. The Corps will provide an updated analysis if there is a

significant change in the percentage of material to be placed in-Bay, i.e., the percentage increases above 40 percent. By examining the funding, equipment, available disposal and reuse sites for the entire three-year program rather than for each project each year, the Corps is able to be more flexible in meeting the beneficial reuse goals of the LTMS Management Plan.

From 2010 to 2012, the Corps proposes to place an estimated 2,650,000 cy of sediment from regularly dredged projects at beneficial reuse or upland sites. If the four additional projects dependent on annual Congressional funding are included in the total, the Corps proposes to place an estimated 4,300,000 cy at beneficial reuse or upland sites. The sediment will be placed primarily at the Hamilton Wetland Restoration Project, but also at the Bair Island and potentially at the Montezuma Wetland Restoration Projects and sponsor-provided upland sites. As discussed previously, the Corps proposes to use SF-DODS or an in-Bay disposal site if the proposed beneficial use site is not available.

The Corps has designated the Ocean Beach nourishment site (SF-17) for sediment dredged from the Main Ship Channel to be placed just offshore of Ocean Beach to prevent further erosion and nourish the littoral cell that feeds Ocean Beach. Both the dredging and placement site are outside the Commission's jurisdiction.

During the period from 2010 to 2012, a total estimated volume of 700,000 cy is proposed to be placed at upland sites. An estimated 200,000 cy of material dredged from the Petaluma River Channel and an estimated 500,000 cy of material dredged from the Napa River would be placed at sponsor-provided upland sites.

- **Knockdown Events.** As stated earlier, "knockdowns" involve dragging a metal I-beam across the bottom of a channel to move high spots into lower areas. The Corps' consistency determination states that there are essentially three types of knockdown events that would be employed in their maintenance operations. The first is "barring at the end of a routine dredging episode [which] is implemented to smooth out high spots left by the irregularity of dredging operations." The second is "performed in lieu of conducting a dredging episode" and is used to reduce isolated shoals to project depth. The third is "a combination of dredging operations, including knock-down dredging,...used to attain project depth within a channel and project footprint." In other words, the channel may be maintained at project depth in part with a dredge, and in part with an I-beam. In all three cases, the knockdown would be performed within the project footprint to move sediment that is higher than project depth into an area lower than the project depth within the footprint. Use of each knockdown method would receive the review and approval from the DMMO prior to implementation. The sediment that is knocked down in all three methods would likely remain in the channel until dredged at a later date.

Knockdown events are assumed to have less environmental impacts than full dredging episodes and may be more economical when small shoals are present. The Commission staff has requested data on the suspended sediment from knockdown events, and the Corps has provided a study from an event at the Redwood City Channel in 2005. In this study, shoals as large as 3,000 cy were knocked down. Currently the Corps has committed to providing a knockdown study when individual shoals are larger than 3,000 cy, unless or until information is provided that sufficiently defines the potential environmental impacts of large knockdown events.

The Corps is currently proposing to knock down each year a total of 15,000 cy or up to five percent of the total estimated dredging volume of any one channel (whichever is greater), if necessary. For the shallow water channels, the maximum knock

down would be 15,000 cy. It is anticipated that these knockdowns would be a series of much smaller volumes within a lengthy channel, and therefore, the Corps does not believe this activity would have a larger impact than dredging within the same area.

The Commission must determine whether the proposed project is consistent with the Commission's policies regarding dredging, beneficial reuse of dredged sediment, and in-Bay disposal volume targets.

8. **Management of In-Bay Disposal Sites.** Bay Plan Dredging Policy No. 6 states, in part, that "[d]redged materials disposed in the Bay and certain waterways should be carefully managed...." The consistency determination states that all in-Bay disposal sites are carefully managed (by performing regular bathymetric surveys) to ensure that the amount and timing of disposal does not create navigational hazards, adversely affect Bay currents or natural resources of the Bay, or foreclose the use of the sites by projects critical to the economy of the Bay Area. In addition, the Corps states that it will provide to the Commission an update of the monthly and annual capacity available and provide quarterly reports of all in-Bay disposal volumes.

Prior to implementation of each dredging project, the Corps would provide project specifics, including a pre-dredge survey, proposed dredged volumes, and sediment test results, to the DMMO for review and a determination of the suitability of the sediment for disposal. This information would also be provided to the Commission staff. In addition to the management of the disposal sites, the Corps has committed to provide an Environmental Assessment for each project to the Commission and, as stated previously, is currently preparing a Dredged Material Management Plan, which would provide additional information regarding the overall Corps maintenance dredging program.

The Commission should determine if the Corps' proposed disposal is consistent with Commission's dredging policies.

9. **Navigational Safety.** The Bay Plan Navigational Safety policies Nos. 1 and 3 state respectively "[p]hysical obstructions to safe navigation...should be removed..." and that "[t]o ensure navigational safety and help prevent accidents that could spill hazardous materials, such as oil, the Commission should encourage major marine facility owners and operators, the U. S. Army Corps of Engineers and the National Oceanic and Atmospheric Administration to conduct frequent, up-to-date surveys of major shipping channels, turning basins and berths used by deep draft vessels and oil barges...."

The consistency determination states that the purpose of the Corps' maintenance dredging program is to remove obstructions to safe navigation, thereby ensuring the safe movement of maritime vessels, the protection of the surrounding habitat, and the continuation of the economic well-being and national defense of the nation. In addition, as part of the operations and maintenance program, the Corps performs pre-dredging and post-dredging surveys of all maintenance dredging project areas. These surveys are made available on the District's Hydrographic Survey Section webpage and are accessible at the District's office.

## B. Review Boards

1. **Engineering Criteria Review Board.** The Engineering Criteria Review Board does not evaluate dredging projects.
2. **Design Review Board.** Because there is no public access associated with this project, the Design Review Board did not review this project.

- C. **Environmental Review.** In *The Final Composite Environmental Statement for Maintenance Dredging, Existing Navigation Projects, San Francisco Bay Region, California 1975*, evaluated each of the original projects covered under the subject consistency determination. According to the Corps, “[s]ince 1975, the Corps has conducted an environmental review of each recurring dredging episode and has prepared an environmental assessment (EA), as appropriate for each project.” All such environmental documentation has been provided to the regulatory agencies. This practice will continue to be followed. The consistency determination states, “The Corps continues to believe that only short-term impacts occur at the dredging and placement sites and that there are no significant impacts to the Bay’s environment and biological resources from the proposed dredging and disposal operations...”

In addition, as described above, the Corps is currently developing a 20-year Dredged Material Management Plan for the San Francisco Region, which will be consistent with the LTMS Management Plan and will involve preparation of an environmental impact statement (EIS) under the National Environmental Policy Act. Once this process is complete, it is expected that the Dredged Material Management Plan EIS will supersede the 1975 Final Composite Environmental Statement.

D. **Relevant Portions of the McAteer-Petris Act**

1. Section 66604 (page I-3)
2. Section 66605 (page I-3)
3. Section 66632 (page I-13)
4. Section 66663 (page I-34)

E. **Relevant Portions of the San Francisco Bay Plan**

1. Bay Plan Policies on Fish, Other Aquatic Organisms and Wildlife (page 16)
2. Bay Plan Policies on Water Quality (page 19)
3. Bay Plan Policies on Tidal Marshes and Tidal Flats (page 23)
4. Bay Plan Policies on Subtidal Areas (pages 27 and 28)
5. Bay Plan Policies on Dredging (pages 38 to 40)
6. Bay Plan Policies on Ports (pages 43 and 44)
7. Bay Plan Policies on Recreation (pages 53 to 56)
8. Bay Plan Policies on Navigational Safety and Oil Spill Prevention (page 81)
9. Bay Plan Map 1 (Policies on Hamilton Field, Bay Plan Map 1, Policy 6)

F. **Relevant Portions of the Suisun Marsh Preservation Act**

1. Section 29002 (page II-1)
2. Section 29003 (page II-1)
3. Section 29008 (page II-3)
4. Section 29114 (page II-8)
5. Section 29500 (page II-25)

**G. Relevant Portions of the Suisun Marsh Protection Plan**

1. Findings and Policies on the Environment (pages 11-13)
2. Findings and Policies on Water Supply and Quality (pages 14-18)
3. Findings and Policies on Utilities, Facilities, and Transportation (pages 22-27)

**H. Relevant Portions of the Solano County Policies on Regulations Governing the Suisun Marsh (The Local Protection Program)**

1. Policies on Water Quality (page 18)
2. Policies on Utilities, Facilities and Transportation (page 22 - 29)

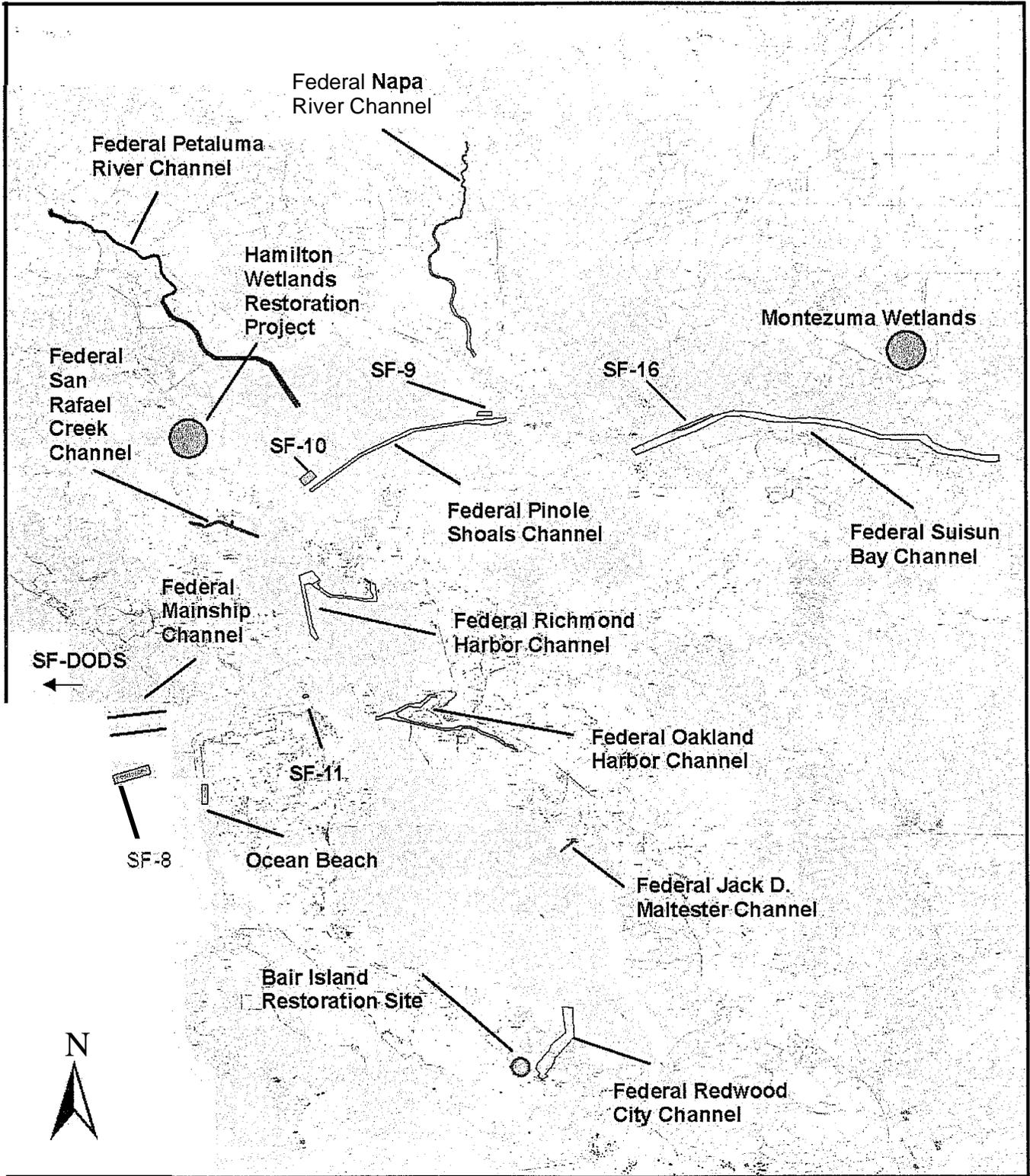
**I. Relevant Portions of Federal Laws and Regulations****1. Relevant Portions of the Coastal Zone Management Act**

- a. Section 304(1)
- b. Section 307(c)(1)

**2. Relevant Portions of the Department of Commerce, National Oceanographic, and Atmospheric Administration Regulations**

- a. Section 923.33, comment (c)
- b. Section 930.32(a)
- c. Section 930.34(b)
- d. Section 930.39(a)

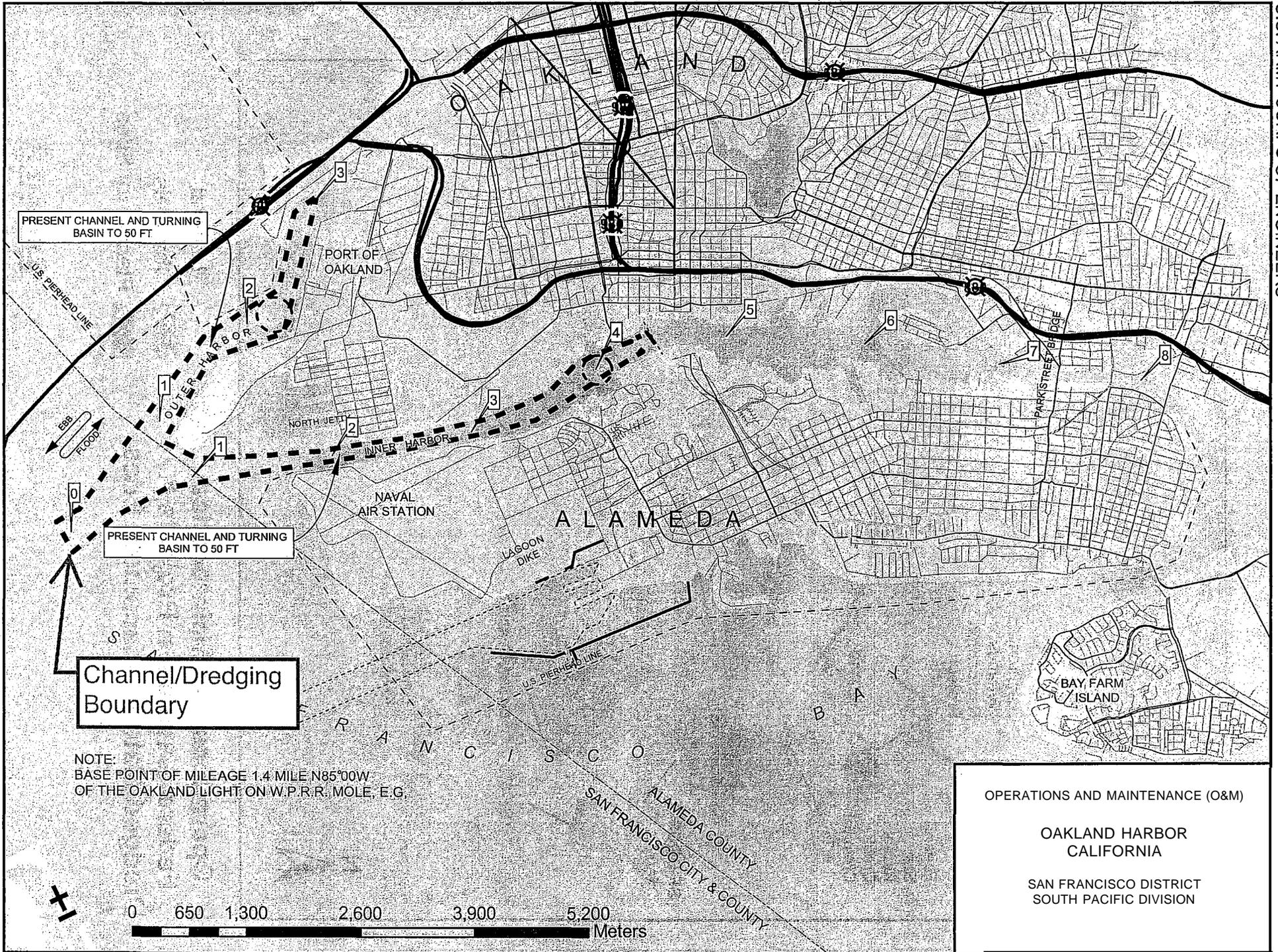
**Exhibits****A. Vicinity Map, Exhibit A****B. Site and Project Plan(s), Exhibits B-K****C. Dredged Material Disposal/Beneficial Reuse Sites, Exhibits L - R**



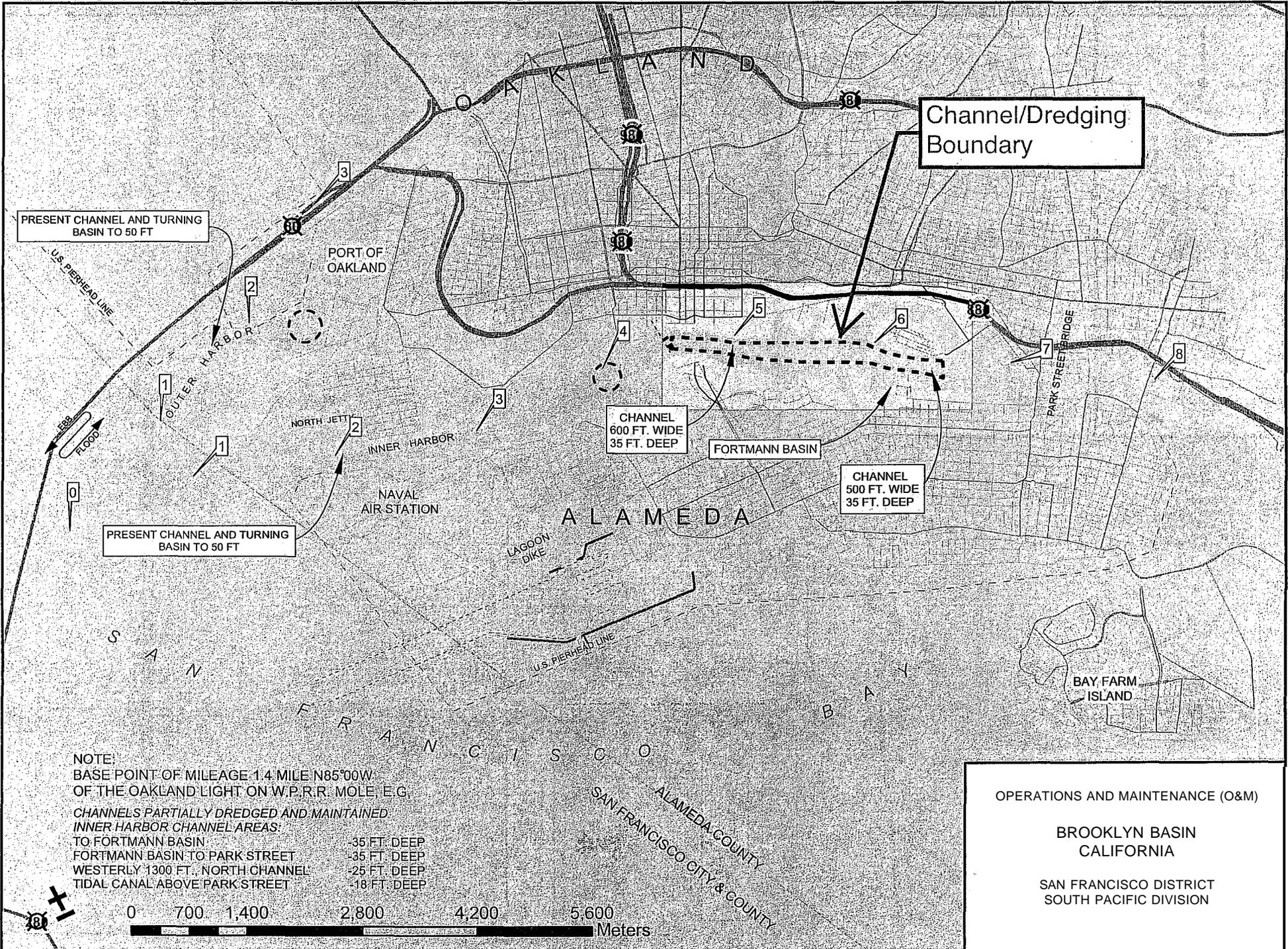
**Operations and Maintenance  
Federal Navigation Projects &  
Dredged Material, Placement Sites**

- Legend**
- Channels
  - ▭ Placement Sites

**Exhibit A**



**Exhibit B**

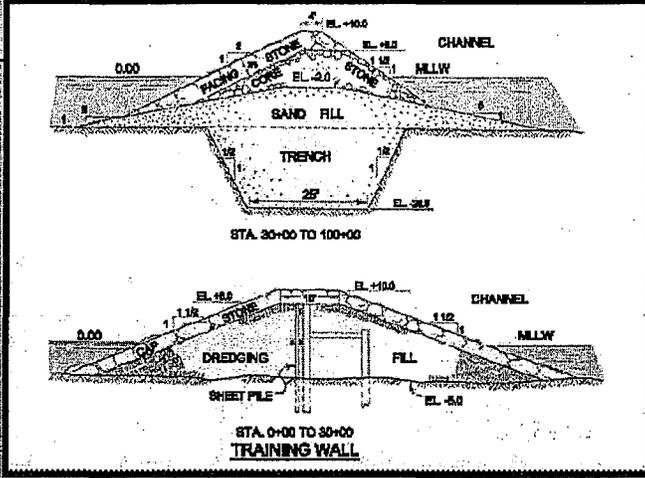
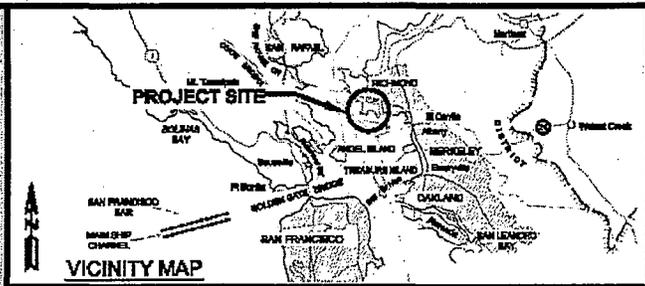
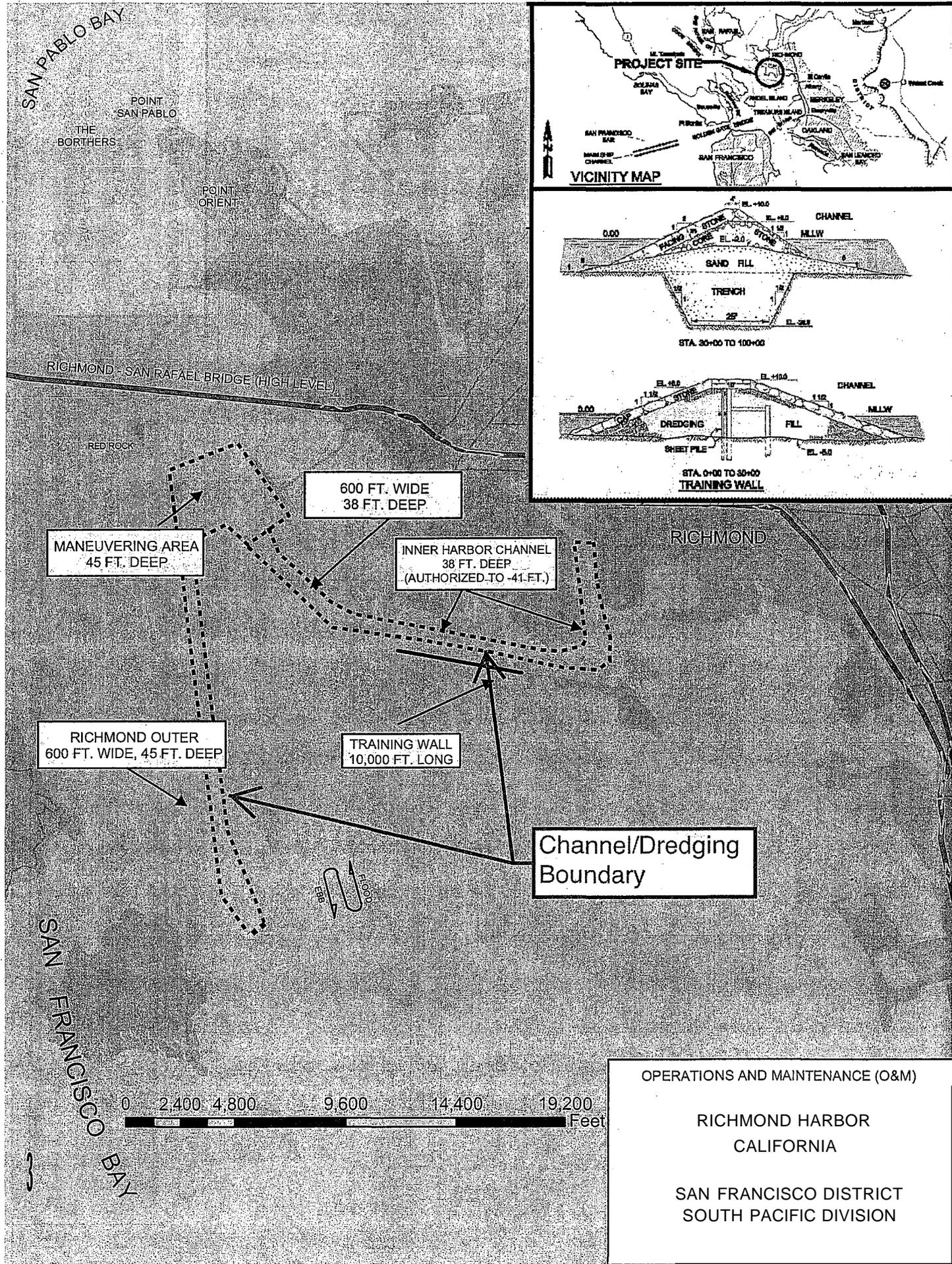


NOTE:  
 BASE POINT OF MILEAGE 1.4 MILE N85°00W  
 OF THE OAKLAND LIGHT ON W.P.R.R. MOLE E.G.  
 CHANNELS PARTIALLY DREDGED AND MAINTAINED  
 INNER HARBOR CHANNEL AREAS  
 TO FORTMANN BASIN -35 FT. DEEP  
 FORTMANN BASIN TO PARK STREET -35 FT. DEEP  
 WESTERLY 1300 FT. NORTH CHANNEL -25 FT. DEEP  
 TIDAL CANAL ABOVE PARK STREET -18 FT. DEEP



OPERATIONS AND MAINTENANCE (O&M)  
 BROOKLYN BASIN  
 CALIFORNIA  
 SAN FRANCISCO DISTRICT  
 SOUTH PACIFIC DIVISION

**Exhibit C**

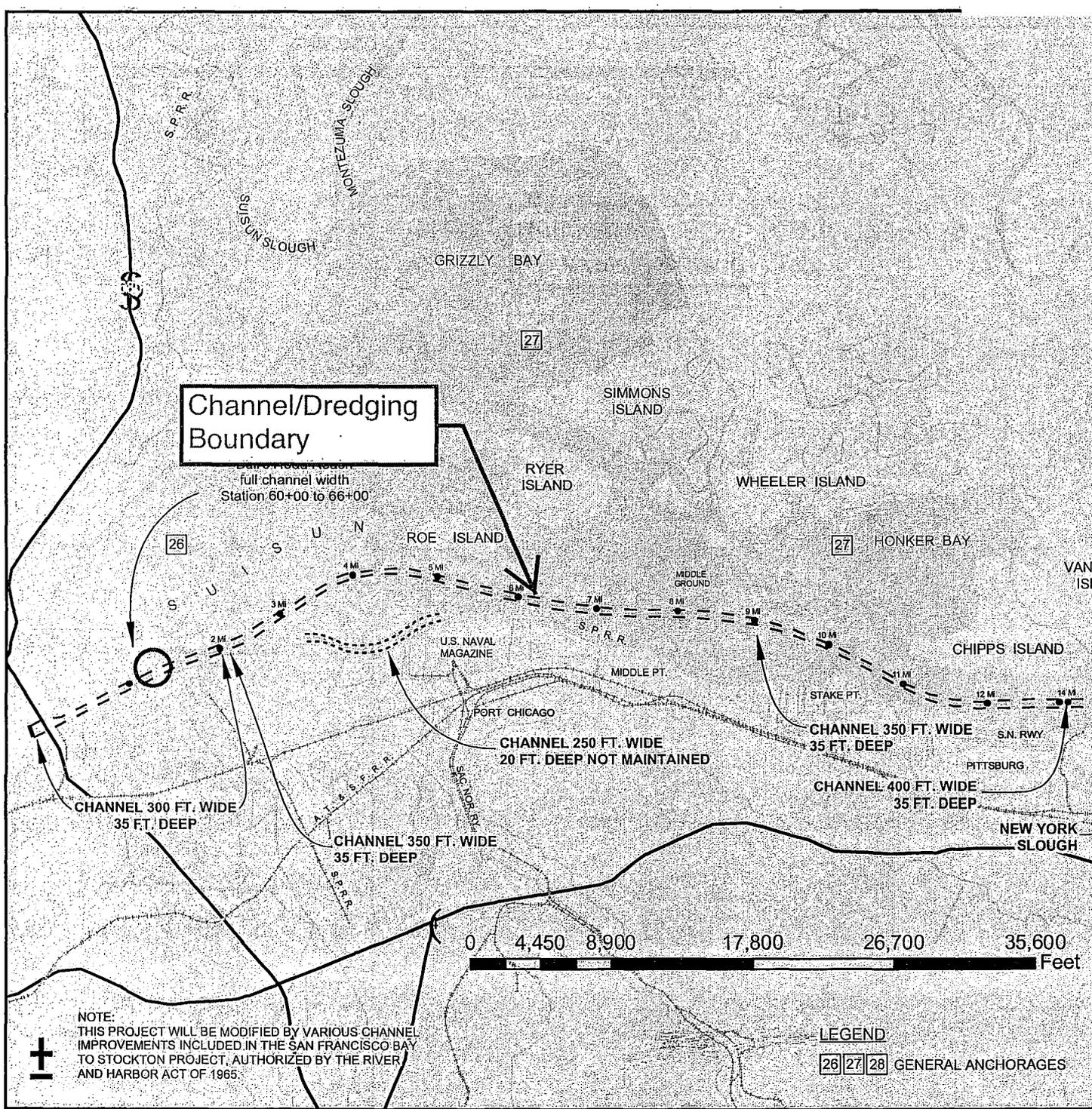
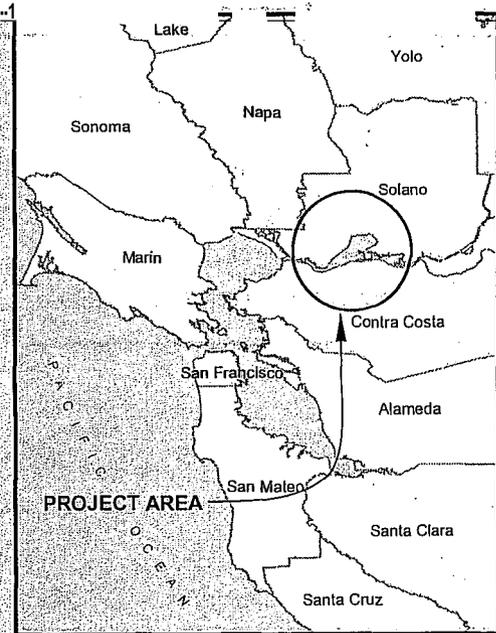


OPERATIONS AND MAINTENANCE (O&M)

RICHMOND HARBOR  
CALIFORNIA

SAN FRANCISCO DISTRICT  
SOUTH PACIFIC DIVISION

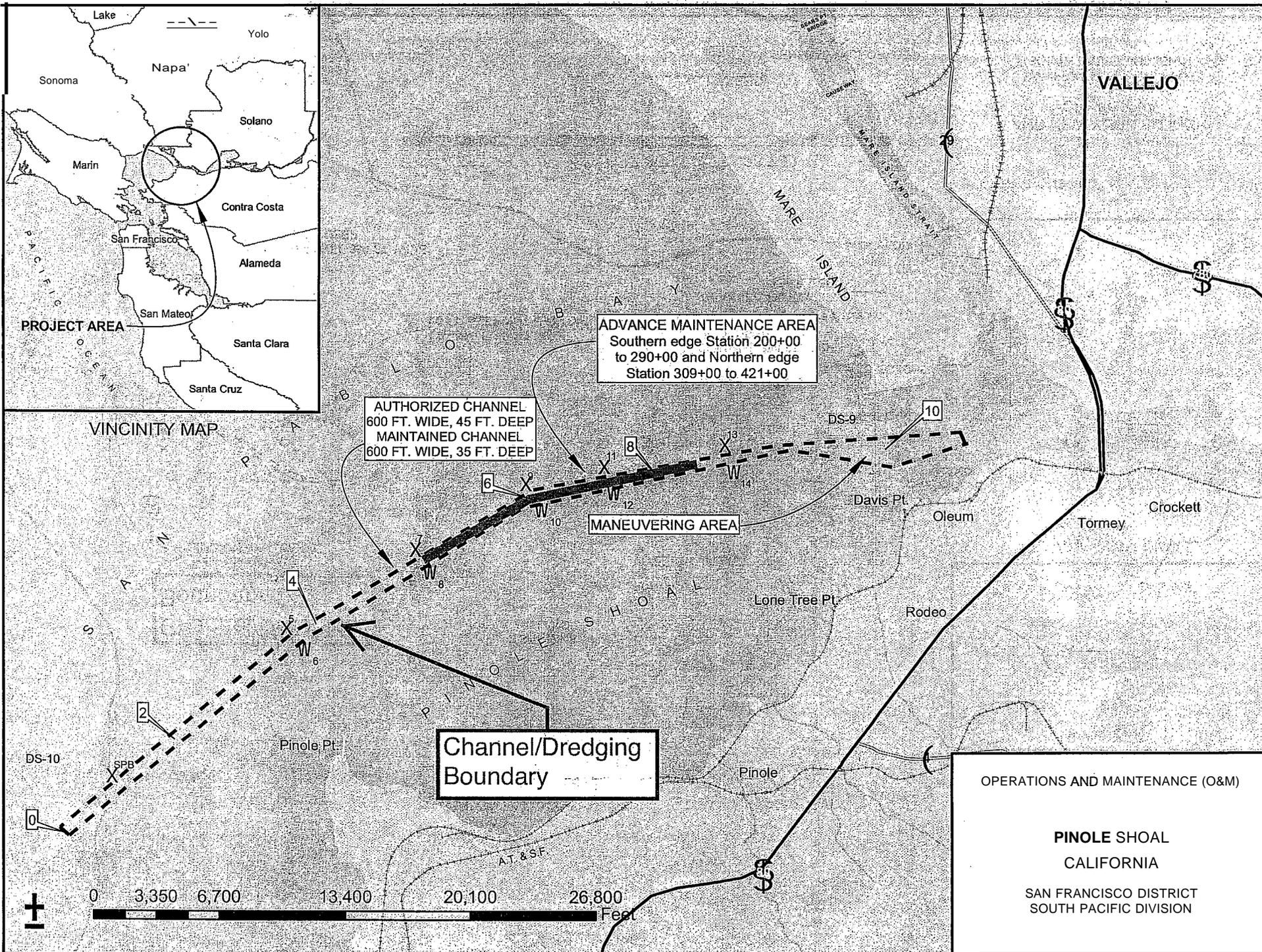
**Exhibit D**



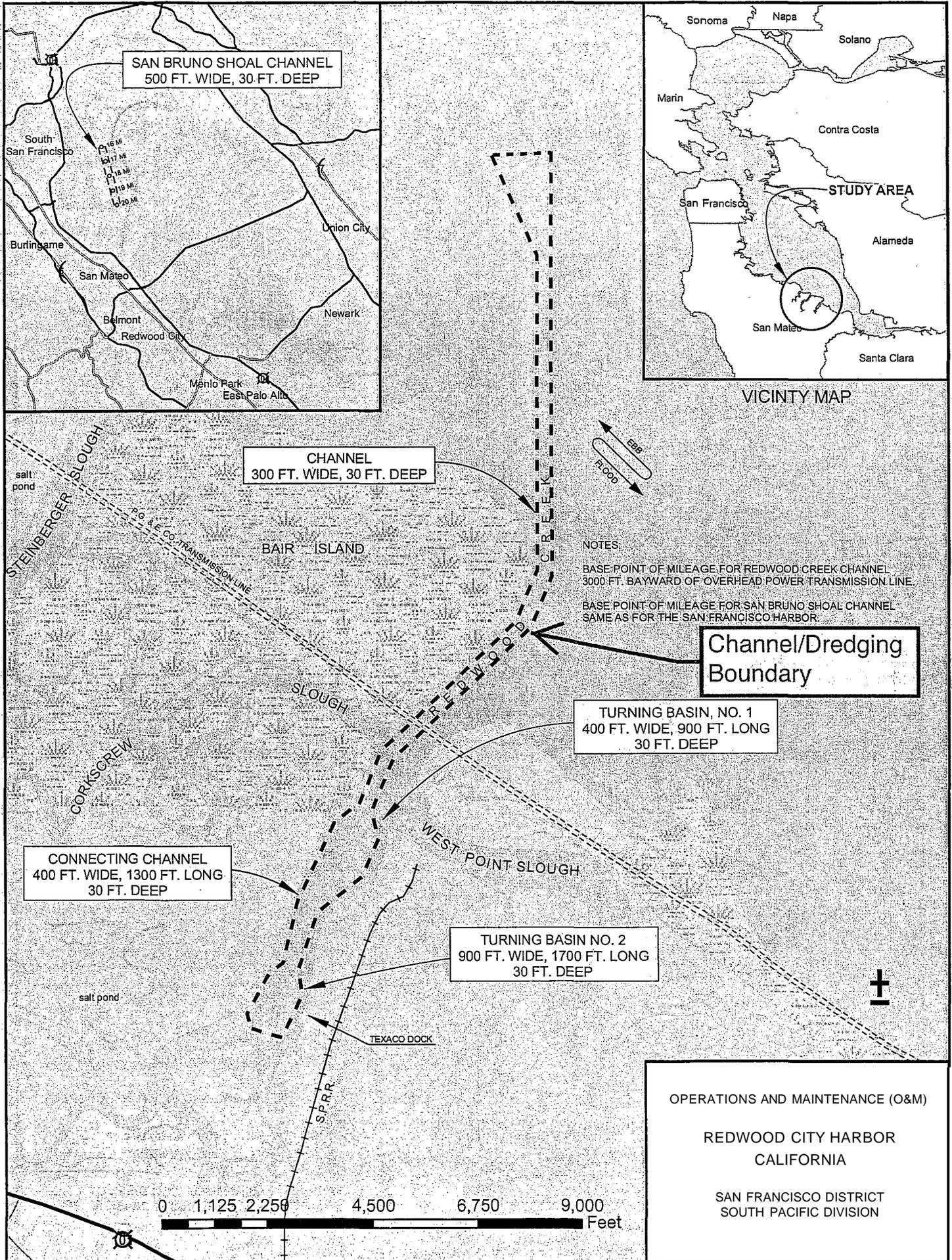
NOTE:  
THIS PROJECT WILL BE MODIFIED BY VARIOUS CHANNEL IMPROVEMENTS INCLUDED IN THE SAN FRANCISCO BAY TO STOCKTON PROJECT, AUTHORIZED BY THE RIVER AND HARBOR ACT OF 1965.

LEGEND  
[26] [27] [28] GENERAL ANCHORAGES

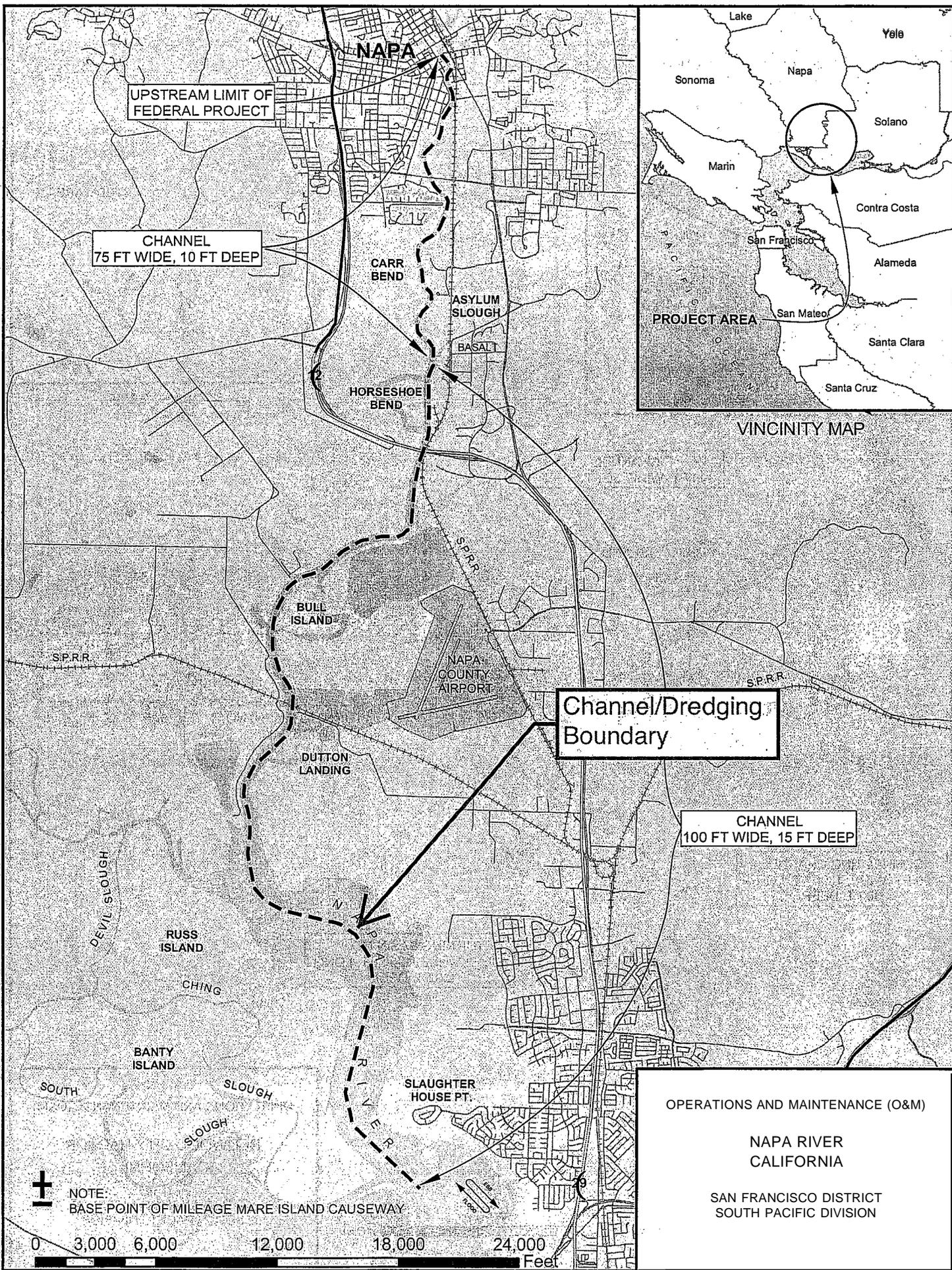
OPERATIONS AND MAINTENANCE (O&M)  
SUISUNBAY CHANNEL AND NEW YORK SLOUGH CALIFORNIA  
SAN FRANCISCO DISTRICT  
SOUTH PACIFIC DIVISION



**Exhibit F**



**Exhibit G**



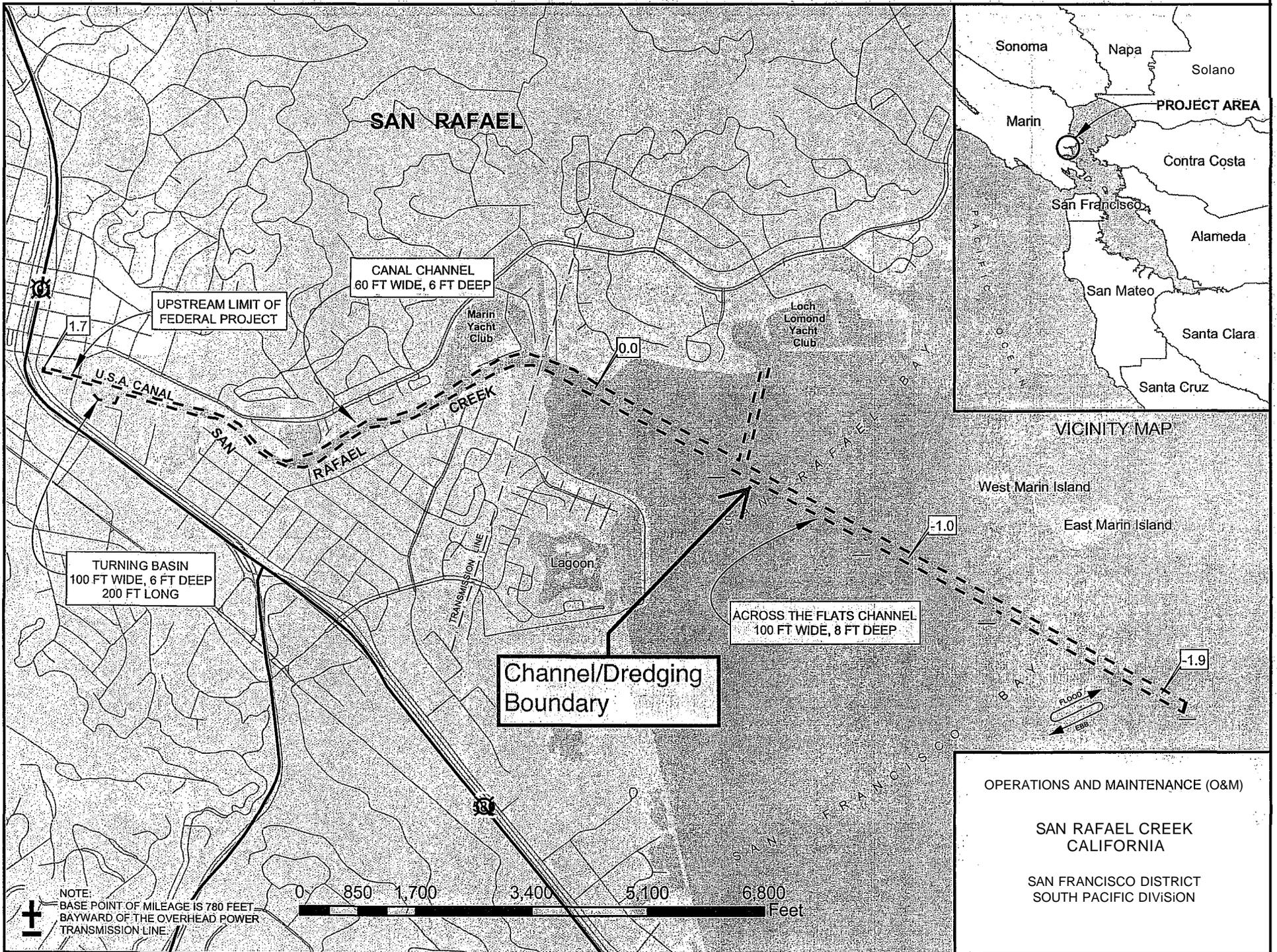
OPERATIONS AND MAINTENANCE (O&M)

NAPA RIVER  
CALIFORNIA

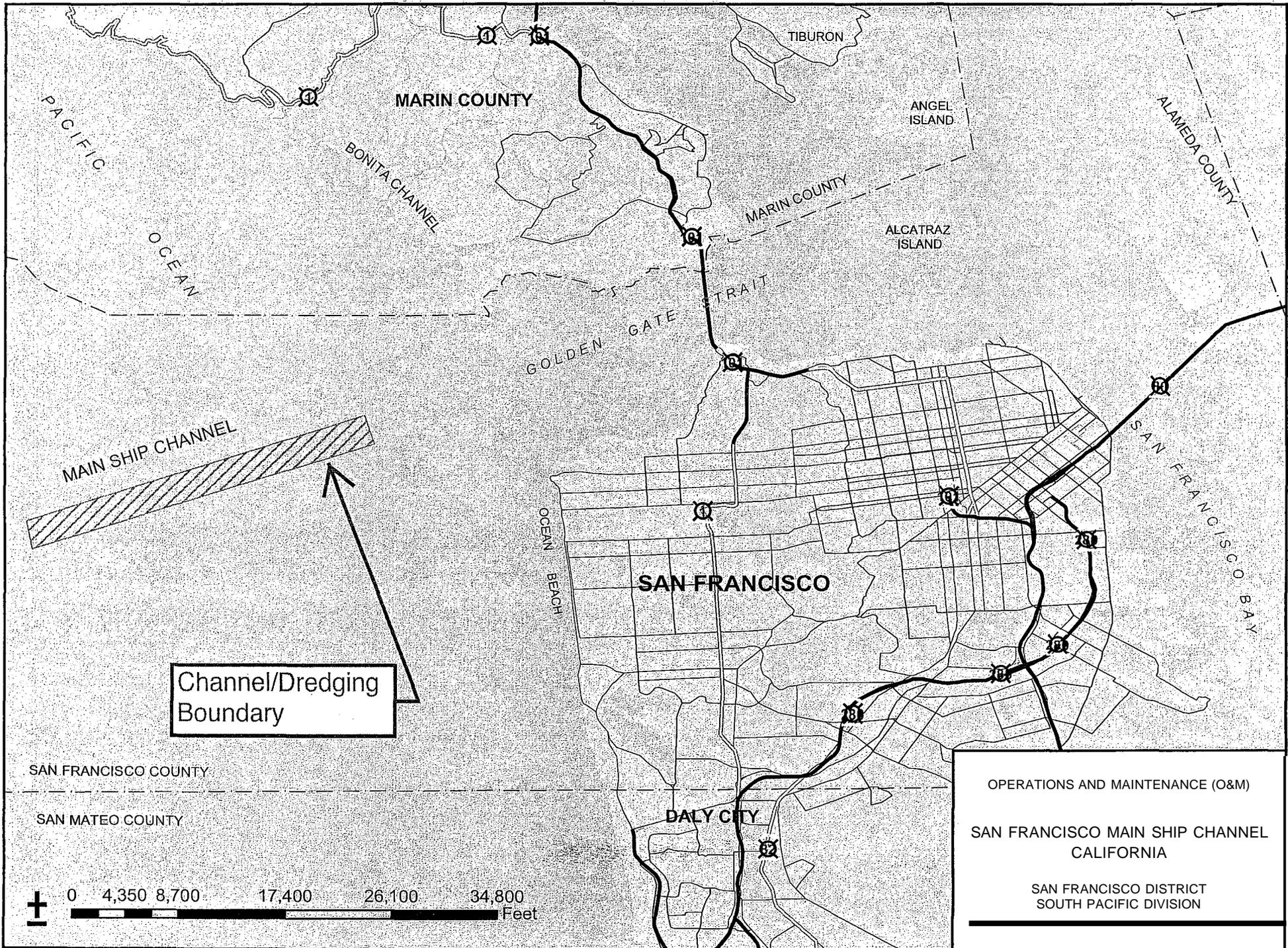
SAN FRANCISCO DISTRICT  
SOUTH PACIFIC DIVISION

Exhibit H





**Exhibit J**



PACIFIC OCEAN

MARIN COUNTY

TIBURON

ANGEL ISLAND

ALAMEDA COUNTY

BONITA CHANNEL

MARIN COUNTY

ALCATRAZ ISLAND

GOLDEN GATE STRAIT

MAIN SHIP CHANNEL

OCEAN BEACH

SAN FRANCISCO

SAN FRANCISCO BAY

SAN FRANCISCO COUNTY

SAN MATEO COUNTY

DALY CITY

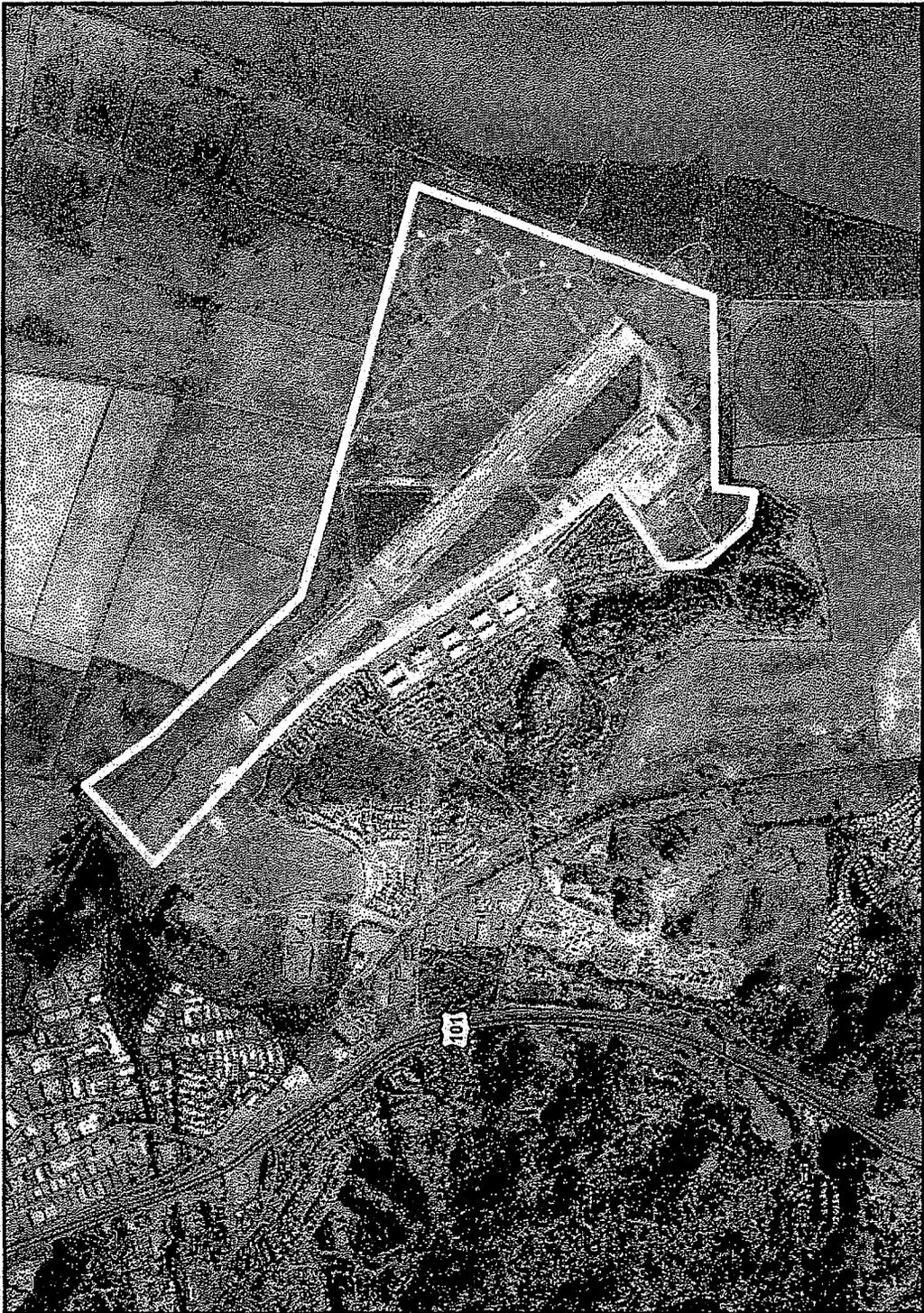
OPERATIONS AND MAINTENANCE (O&M)

SAN FRANCISCO MAIN SHIP CHANNEL CALIFORNIA

SAN FRANCISCO DISTRICT SOUTH PACIFIC DIVISION



**Exhibit K**



Hamilton Wetland Restoration Project  
(HWRP) - Novato



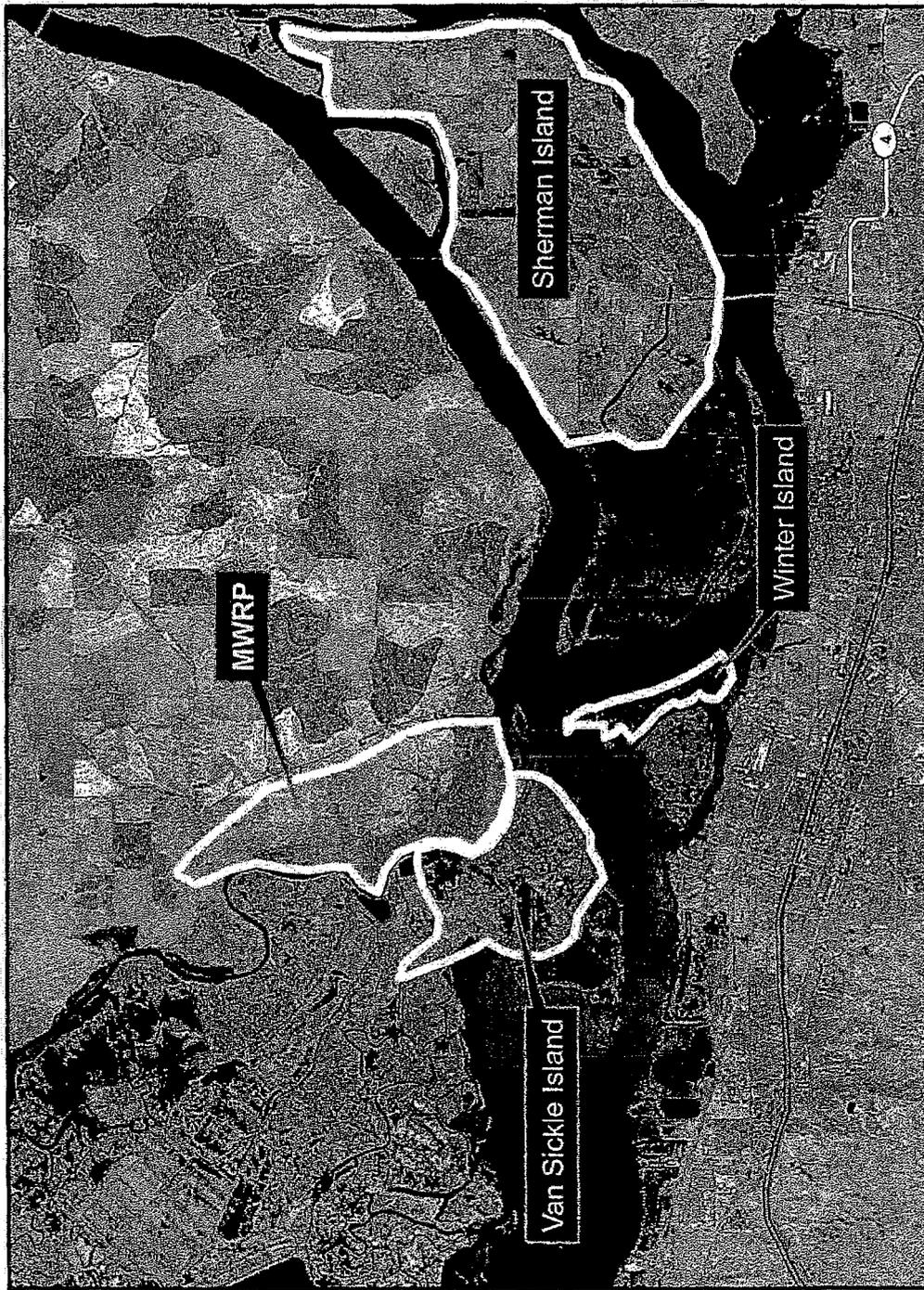


Bair Island - Redwood City.



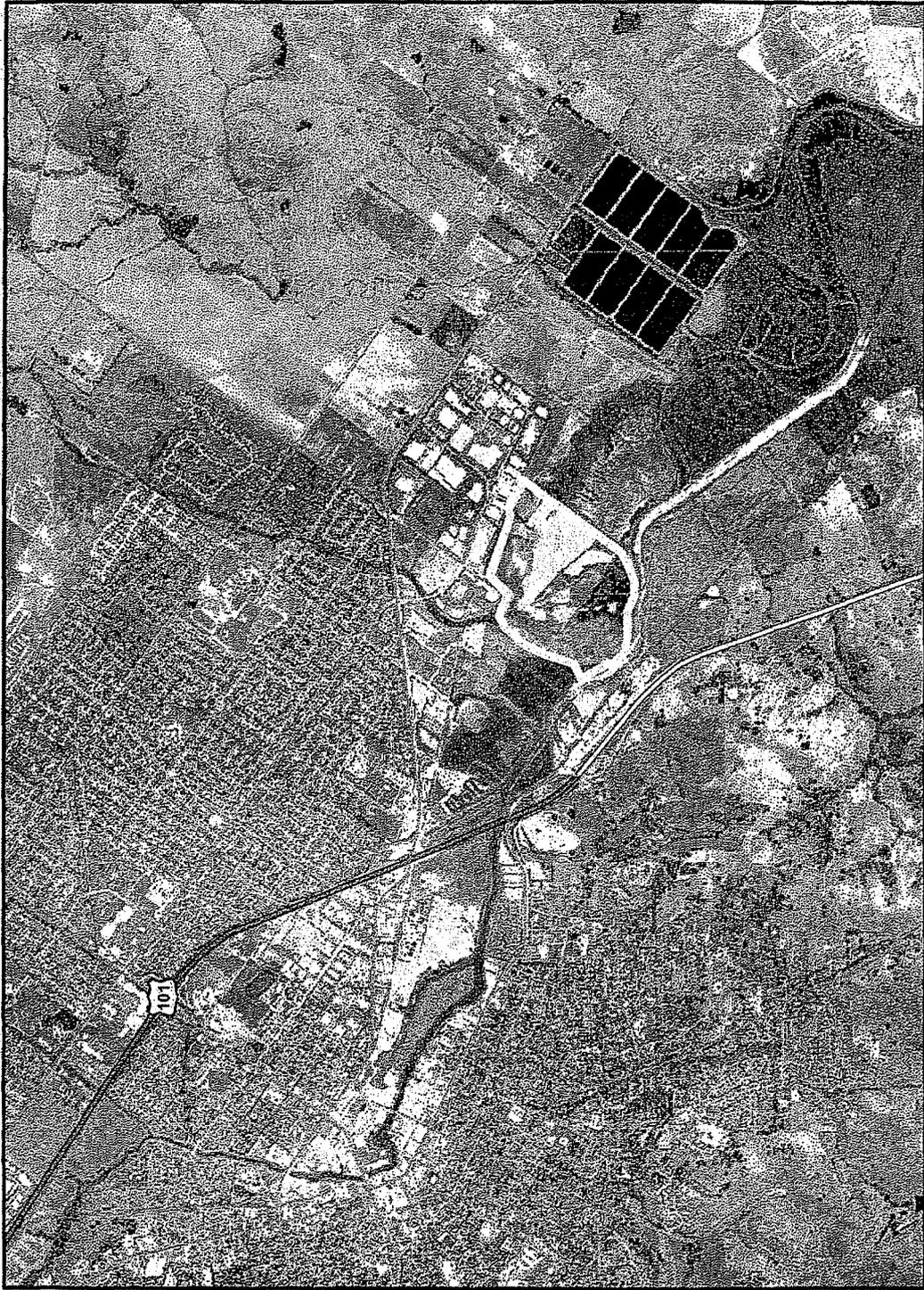
USAED-SAN FRANCISCO

Exhibit M



▲ Montezuma Wetland Restoration Project (MWRP), Van Sickle Island & Winter Island.

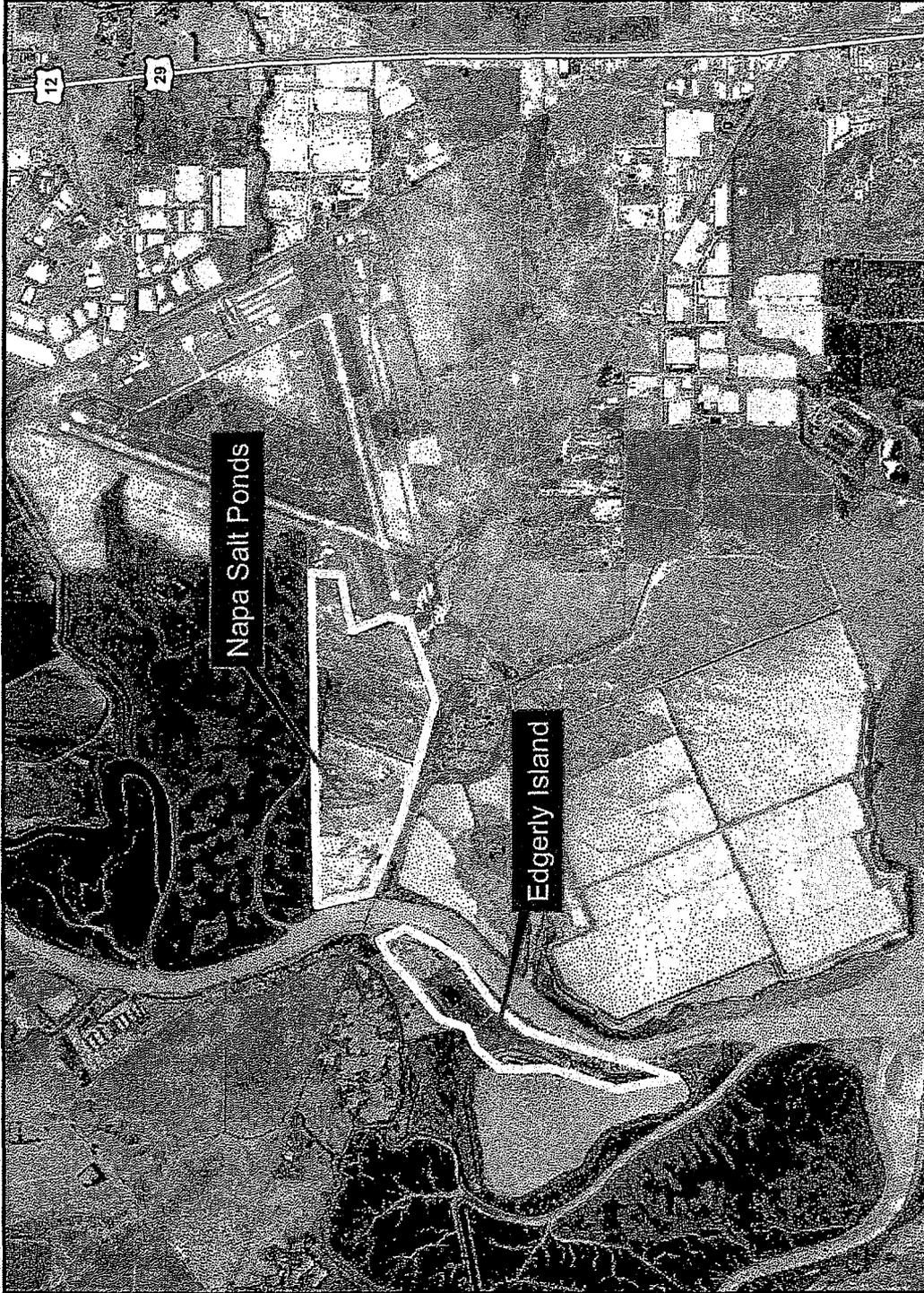
USAID-SAN FRANCISCO



Shollenberger Park - Petaluma River



USAED-SAN FRANCISCO



# Edgerly Island & Napa Salt Ponds

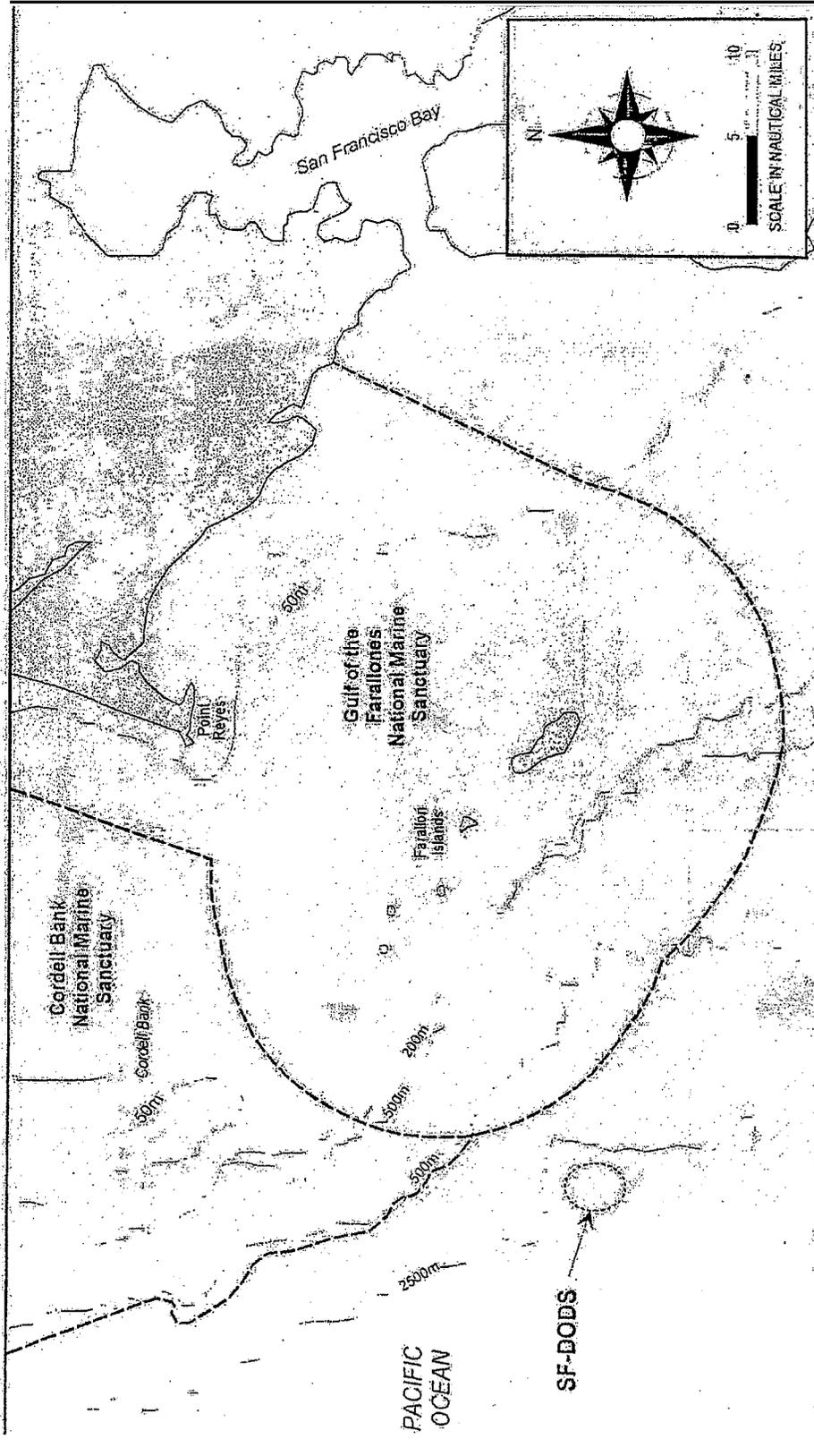
USAE D-SAN FRANCISCO




Irnola Sanitation - Napa River

USAED-SAN FRANCISCO

,Exhibit Q



Location of the San Francisco deep ocean dredged material disposal site (SF-DODS)