

CALIFORNIA COASTAL COMMISSION

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STAFF REPORT AND RECOMMENDATION

ON CONSISTENCY DETERMINATION

Consistency Determination No. **CD-097-98**
Staff: JRR-SF
File Date: 8/7/98
45th Day: 9/21/98
60th Day: 10/6/98
Commission Meeting: 9/10/98

FEDERAL AGENCY: **CORPS OF ENGINEERS**

DEVELOPMENT

LOCATION: Moss Landing Harbor (Exhibit 1)

DEVELOPMENT

DESCRIPTION: Maintenance dredging with upland, beach and ocean disposal (Exhibits 2, 3, and 4)

SUBSTANTIVE FILE DOCUMENTS:

1. Consistency and Negative determinations CD-011-81, CD-013-84, CD-009-87, CD-018-90, ND-003-93, ND-031-93, and ND-042-96 for dredging and disposal of material removed from channels within Moss Landing Harbor.
2. Draft Environmental Assessment for Fiscal Year 1998, operations and maintenance dredging of the Moss Landing Harbor federal channels, Monterey California, Corps of Engineers, August 1998.

EXECUTIVE SUMMARY

The Corps of Engineers proposes the maintenance dredging of 104,820 cubic yards of material at the Moss Landing Harbor Federal channel, with upland, beach and ocean disposal, as follows: (1) 28,778 cu. yds. of clean sandy material from the Entrance Channel will be used for beach nourishment; (2) 10,477 cu. yds. of mostly silty, but uncontaminated, material from the junction of the Lagoon and Entrance Channels will be disposed at SF-12; and (3) 65,564 cubic yards of mostly silty and contaminated material from the Inner Lagoon Channel will be placed at an upland disposal site provided by the Moss Landing Harbor District.

The dredging supports recreational boating, commercial fishing, and other maritime uses and is consistent with the recreational boating, commercial fishing, and the coastal dependent policies of the CCMP. Based on the sediment test results the disposal has been divided into three operations described above. Appropriate clean sandy material is proposed for beach replenishment. Clean silty material will be disposed of at SF-12, an ocean disposal site. The most significant issue is with DDT contamination of sediments in the inner lagoon channel, and this material is proposed for upland disposal. Measures necessary to support threatened and endangered species have been incorporated into the project. The project is consistent with the water quality, marine resources, environmentally sensitive habitat and sand supply policies of the Coastal Act.

STAFF SUMMARY AND RECOMMENDATION:

I. Project Description.

The proposed project is the maintenance dredging of the Moss Landing Harbor Federal channel. Moss Landing Harbor is located in the center of the Monterey Bay shoreline, halfway between the cities of Santa Cruz and Monterey (Exhibit 1). The mouth of the Pajaro River is located three miles north of Moss Landing and the mouth of the Salinas River is four miles to the south. Moss Landing Harbor is located in the old Salinas River channel. Directly behind the sand spits is Elkhorn Slough, which extends 11 miles inland and has over 2,500 acres of open water-ways, mud flats, and salt marshes. Two jetties and related shore protection revetments help maintain a stabilized entrance channel through the sand spits into Moss Landing Harbor. The entrance to the harbor is at the head of the Monterey Submarine Canyon, which acts as a sink for sediments.

The Corps proposes to dredge the following: (1) the 200-foot wide Entrance Channel to 15 feet below mean lower low water (MLLW) with an additional 1 foot overdepth; (2) the 100-foot wide Lagoon Channel to 15 feet below MLLW with a 1 foot overdepth; and (3) the 120 foot wide junction of the Entrance and Lagoon Channels to a similar depth (Exhibit 3). An

estimated 104,820 cubic yards of material will be dredged from the channels during late fall to early winter of 1998. An estimated 28,778 cubic yards of mostly sandy material is scheduled to be removed from the Entrance Channel reach, and used for beach nourishment, just north of Sandholdt Pier. An estimated 10,477 cubic yards of mostly silty material is scheduled to be removed from the junction of the Lagoon and Entrance Channels and disposed at SF-12, a dredge material disposal site designated pursuant to Section 404 of the Clean Water Act, located at the head of the Monterey submarine canyon and at a depth of approximately -48 ft. MLLW. Up to an estimated 65,564 cubic yards of mostly silty dredged material will be removed from the Inner Lagoon Channel, and placed at an upland disposal site provided by the Moss Landing Harbor District. The three disposal sites are shown on Exhibit 2.

II. Project Background.

During both the 1993 and 1996 maintenance dredging projects, the Corps did not conduct some of the scheduled dredging in the Lagoon Channel due to sediment quality concerns (i.e., elevated levels of DDT and butyltins). Approximately 6,000 cubic yards and 31,000 cubic yards of silty material in those projects, respectively, were determined to be unsuitable for both unconfined aquatic disposal and beach nourishment. This material was left undisturbed in the Lagoon Channel due to a lack of a readily available upland disposal site.

For the proposed 1998 maintenance dredging, the Harbor District has only one upland site available for the disposal of dredged material determined to either be unsuitable for unconfined aquatic disposal and/or beach nourishment. Any dredged material that must be disposed of at an upland site would have to initially be deposited at a temporary storage and dewatering site, and then would have to be moved to the Harbor District's *Marina Landfill Site*, which has unlimited handling capacity.

The temporary upland site is known as the *North Harbor Site* (also referred to as the *Western Salt Site*). The Harbor District is presently using the *North Harbor Site* as a sediment mixing and drying site for some of the dredged material it has found unsuitable for unconfined aquatic disposal from its own harbor dredging project.

The *North Harbor Site* is located in the northeastern portion of Moss Landing Harbor and is west of Highway 1. It is an 8-acre parcel, which was formerly owned by the Western Salt Company. Jetty Road extends along the northern edge of the parcel, heads west, and becomes the entrance to Moss Landing State Park. This disposal site is characterized by rolling topography covered by wetland/sand dune vegetation. The North Harbor Site was used for dredged material during the 1950's and 1960's. The area is covered by a dense layer of shells, originating from dredge material deposited during the slough and harbor in the past. Recently, in March/April 1998, the Harbor District relocated approximately 3,000

Monterey spineflower plants to a preserve. Although, the *North Harbor Site* has a design capacity of approximately 36,640 cubic yards, due to the amount of water (approximately 90% of the slurry) mixed in with dredged material, it can only hold 15,000 cubic yards (with water). Only approximately 3,000 to 3,700 cubic yards of dredged material could be disposed and dried at the *North Harbor Site* at any one time. The Corps estimates that it would take approximately 4-5 days for the dredged material to dry before it could be transported to the *Marina Landfill Site*.

Obviously, this limited site capacity (3,000-3,700 cu. yds.) is far less than the 65,564 cu. yds. total volume of material from the proposed project that has been determined unsuitable for unconfined aquatic disposal and beach nourishment. Under normal circumstances, this amount of dredged material could be disposed of in two to three weeks. However, given the scenario of being able to pump out only an hour or two each day, then waiting for 4-5 days for the dredged material to dry, this project would take approximately four months to complete. The Corps believes very few, if any, dredging contractors would be willing to tie up their equipment this long. Therefore, the Corps is concerned that the logistics of this disposal alternative could drive the project costs to prohibitive levels.

Therefore, if a permitted upland site with sufficient capacity is not available to receive the unsuitable dredged material from the maintenance dredging during the scheduled dredging period, then the Corps would be forced to leave any unsuitable dredged material in the Inner Lagoon Channel. However, the Corps plans to let two contracts for Moss Landing. One contract would be for the clean dredged material suitable for either beach disposal or unconfined aquatic disposal at SF-12, and a separate one for the contaminated dredged material in the Inner Lagoon Channel with upland disposal.

III. Status of Local Coastal Program.

The standard of review for federal consistency determinations is the policies of Chapter 3 of the Coastal Act, and not the Local Coastal Program (LCP) of the affected area. If the Commission certified the LCP and incorporated it into the CCMP, the LCP can provide guidance in applying Chapter 3 policies in light of local circumstances. If the Commission has not incorporated the LCP into the CCMP, it cannot guide the Commission's decision, but it can provide background information. The Commission has partially incorporated the Monterey County LCP into the CCMP.

IV. Federal Agency's Consistency Determination.

The Corps of Engineers has determined the project to be consistent to the maximum extent practicable with the California Coastal Management Program.

V. Staff Recommendation:

The staff recommends that the Commission adopt the following motion:

MOTION. I move that the Commission concur with the Corps of Engineers' consistency determination.

The staff recommends a **YES** vote on this motion. A majority vote in the affirmative will result in adoption of the following resolution:

A. Concurrence

The Commission hereby **concurs** with the consistency determination made by the Corps of Engineers for the proposed project, finding that the project is consistent to the maximum extent practicable with the California Coastal Management Program.

VI. Findings and Declarations:

The Commission finds and declares as follows:

A. Boating. Section 30220 of the Coastal Act provides that:

Coastal areas suited for water-oriented recreational activities that cannot readily be provided at inland water areas shall be protected for such uses.

Section 30224 of the Coastal Act provides, in part, that:

Increased recreational boating use of coastal waters shall be encouraged....

Section 30234 of the Coastal Act provides that:

Facilities serving the commercial fishing and recreational boating industries shall be protected and, where feasible, upgraded. Existing commercial fishing and recreational boating harbor space shall not be reduced unless the demand for those facilities no longer exists or adequate substitute space has been provided. Proposed recreational boating facilities shall, where feasible, be designed and located in such a fashion as not to interfere with the needs of the commercial fishing industry.

Section 30255 of the provides that:

Coastal-dependent developments shall have priority over other developments on or near the shoreline. Except as provided elsewhere in this division, coastal-dependent developments shall not be sited in a wetland. When appropriate, coastal-related developments should be accommodated within reasonable proximity to the coastal-dependent uses they support.

Shoaling of Moss Landing Harbor interferes with recreational boating, commercial fishing, and other maritime uses within the harbor. The design depth of the Moss Landing Harbor's channels is 15 feet below mean lower low water (MLLW). In its consistency determination, the Corps describes the current situation as follows:

The proposed maintenance dredging of Moss Landing Harbor will increase the water depths in the Federal navigation channels of the north harbor to the Congressionally authorized depth of -15 feet MLLW; allowing the safe operation of commercial fishing and recreational boats. In addition, due to the strange weather systems attributed to El Niño, Moss Landing Harbor has experienced excessive shoaling in both the Federal channels and in dock and berthing areas maintained by the MLHD. Shallow depths especially in the Inner Lagoon Channel have limited the movement of the MBARI [Monterey Bay Aquarium Research Institute] research vessel to high tide.

Moss Landing Harbor is an important recreational boating and commercial fishing area. In its Environmental Assessment, the Corps describes the boating resources as follows:

Moss Landing Harbor consists of two harbors: the North Harbor, presently utilized by approximately 154 recreational boats; and the South Harbor, utilized by approximately 446 commercial fishing and recreational boats. The Moss Landing Harbor District maintains a total of approximately 600 berths and docking facilities.

In addition, the harbor supports important scientific research activities, including the MBARI site and other scientific ventures. The proposed dredging will improve navigation within the Moss Landing Harbor, and thus supports and protects recreational boating, commercial fishing, and these other maritime uses. Therefore, the Commission finds that the proposed project is consistent with the recreational boating, commercial fishing, and the coastal dependent policies of the CCMP.

B. Water Quality and Biological Resources. Section 30230 of the Coastal Act provides that:

Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.

Section 30231 of the Coastal Act provides that:

The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

Section 30233(a) of the Coastal Act provides, in part, that:

(a) The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:

....

(2) Maintaining existing or restoring previously dredged, depths in existing navigational channels, turning basins, vessel berthing and mooring areas, and boat launching ramps.

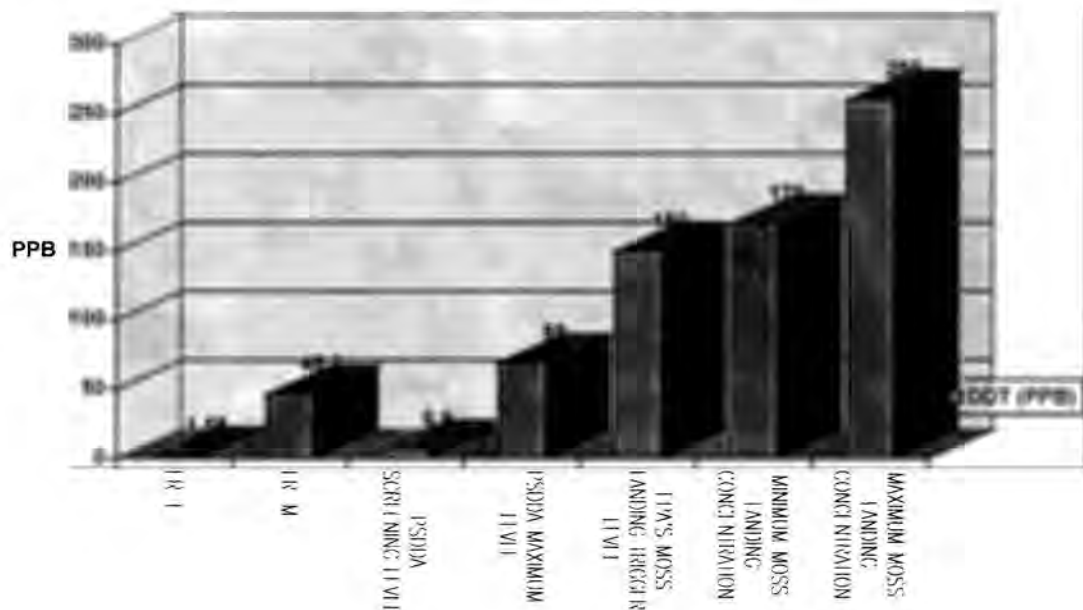
Section 30233(a) of the Coastal Act imposes a three-part test on dredging and filling projects: (1) an allowable use test; (2) an alternatives test; and (3) a mitigation test. The project complies with the first test because maintenance dredging of the existing navigation channels is an allowable use for dredging and filling.

In evaluating the project's consistency with the alternatives and mitigation tests and the other water quality policies of the CCMP, the Commission will evaluate the project in terms of the sediment testing requirements of EPA. The proposed project includes disposal of dredged material at beach, upland, and ocean disposal sites. The ocean site, SF-12, is designated pursuant to Section 404 of the Clean Water Act. The technical guidance for determining the suitability of dredged material involves a tiered-testing procedure, which includes four levels of testing. Tiers I and II apply to existing or easily obtained information and require limited chemical testing to predict effects. If these predictions indicate that the dredged material has any potential for significant adverse effects, EPA will elevate the sediment analysis to a higher tier. Tiers III and IV use water column and benthic bioassay and bioaccumulation tests to determine effects on representative marine organisms. Specifically, EPA requires bioassay tests on suspended particulate and solid phases of the material before allowing the disposal (Tier III testing). These tests allow EPA to evaluate the acute and chronic toxicity of the contaminated material on biological resources. In some cases, EPA also measures bioaccumulation potential of contaminants. With respect to Moss Landing Harbor, where DDT is a known problem, EPA recommends a bioaccumulation trigger level of 150 parts per billion (ppb). This means that where sediment chemistry shows a concentration of total DDT greater than 150 ppb, then EPA will require bioaccumulation tests in order to allow ocean disposal. The intent of that test is to determine if organisms are concentrating chemicals in their tissues to levels that might prove harmful to either themselves or their predators. Both the bioassay and the bioaccumulation tests measure the biological effect of contaminated dredge spoils. Although these tests are not precise predictors of environmental effects, they provide quantitative estimators of impacts. The Commission also uses the results from the EPA process to evaluate ocean disposal activities for consistency with the CCMP. These tests allow the Commission to determine if the ocean disposal activity will adversely affect water quality or biological resources of the coastal zone.

The Corps has conducted sediment testing for all of the material proposed for dredging. The Corps divided the channels into six testing areas. Area 1 consists of the entrance channel. Areas 2 and 3 are the transition between the entrance and lagoon channels, and Areas 4, 5, and 6 are the inner parts of the lagoon channel. Physical data for Area 1, the Entrance Channel, demonstrates that the sediment is 100 percent sand. Since chemical contaminants bind to finer grained sediment, dredge material that is mostly sand is considered to be clean. EPA did not require any additional testing for the entrance channel. The Corps proposes to use the entrance channel material for beach replenishment purposes.

The Corps conducted physical and chemical analysis of material within the junction between the Entrance and Lagoon Channels. The results of those tests indicate that this material is mostly silty sand and unsuitable for beach replenishment purposes. However, chemical tests indicate that the material is relatively free of contaminants. These tests are consistent with past analysis of this area, which has always been clean enough for ocean disposal. Based on the physical and chemical analysis, the Corps proposes to dispose of this material at SF-12.

Finally, bulk chemistry for the Inner Lagoon Channel indicates that the area is contaminated with DDT, which ranges from 170 to 260 ppb. This concentration is greater than EPA's trigger level of 150 ppb for DDT at Moss Land Harbor. As a point of reference, the concentration of DDT is also above National Oceanic and Atmospheric Administration's (NOAA, Long and Morgan) ER-L (effects range low) and ER-M (effects range median) levels for DDT, which are 1.58 ppb and 46.1 ppb respectively. If the levels of contaminants are higher than the ER-L, then it is **possible** that there will be a biological effect from the contaminant. If the level is above the ER-M, then it is **likely** that there will be an adverse effect. Additionally, the Puget Sound Area (PSDDA) developed sediment concentration levels, which are also useful as a point of reference. The PSDDA screening level (if the concentration of the contaminant exceeds this level further sediment testing is required for ocean disposal) for DDT is 6.9 ppb. The PSDDA maximum level (if the concentration of the contaminant exceeds this level, the material is not suitable for ocean disposal) for DDT is 69 ppb.



Therefore, based on the NOAA and PSDDA guidance, it is possible that the material dredged from Moss Landing may have a biological effect. However, the Commission notes that for use in this region, both the NOAA and PSDDA data are intended to be guidance and not a regulatory standard. In other words, they are general benchmarks to indicate possible concerns. In addition to the problems identified by the bulk chemistry, all of the sediment from the Inner Lagoon Channel failed one of the solid phase bioassay tests. This failure is an indication that the material may be toxic to marine organisms.

Based on contamination concerns within the Inner Lagoon Channel, the Corps modified its consistency determination to require upland disposal for all sediments (approximately 65,564 cubic yards) represented by Composites 4, 5, and 6. The Commission agrees that the sediment within the inner channel appears to be too contaminated for ocean disposal. Since the Corps now proposes to remove this sediment and place it in an upland site, the project will not adversely affect marine water quality.

In conclusion, the Commission finds that the material from the Entrance Channel is suitable for beach replenishment, the material from the junction between the Entrance Channel and the Lagoon Channel is suitable for ocean disposal, and the material within the Inner Lagoon Channel appears to be contaminated and not suitable for ocean disposal. The Corps, however, proposed to dispose of this material in an upland site. Therefore, the Commission finds that the proposed Moss Landing dredging is consistent with the water quality policies of the CCMP.

C. Endangered Species. Section 30240 of the Coastal Act provides that:

(a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.

(b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.

The proposed project is located an area that provides habitat for several federally listed species. These species include the California brown pelican (*Pelecanus occidentalis californicus*), western snowy plover (*Charadrius alexandrinus nivosus*), southern sea otter, (*Enhydra lutris*), tidewater goby (*Euclyclogobius newberryi*), winter-run chinook salmon (*Onchorynchus tshawytscha*), coho salmon (*Onchorynchus kisutch*), steelhead trout (*Onchorynchus mykiss*), sand gilia (*Gilia tenuiflora* var. *arenaria*), Monterey spineflower (*Chorizanthe pungens* var. *pungens*), and robust spineflower (*Chorizanthe robusta* var. *robusta*). The tidewater goby, coho salmon, and robust spineflower are not located in or

near any of the areas affected by this project. Therefore, dredging and disposal of sediment from Moss Landing will not affect those species.

At the dredging and ocean disposal sites, the following species are potentially affected: southern sea otter, brown pelican, chinook salmon, and steelhead trout. These species could be potentially affected by increases in turbidity, resuspension of contaminants, and increases in noise. However, these species are all highly mobile and will avoid the dredging and ocean disposal site during the project. Additionally, the impacts are temporary. After the completion of the project, the affected areas will return to their pre-project conditions. Therefore, the proposed project will not adversely affect these sensitive species.

The beach disposal portion of the project potentially affects the snowy plover, sand gilia, and the Monterey spineflower. The proposed beach disposal will occur during the fall of 1998 (September 30 through October 30), which is after the snowy plover nesting season (March 1 through September 15). Although there may be wintering plovers in the area during the project, these birds will likely avoid the disposal site during the project and will not be affected by the operation. Neither the sand gilia nor the Monterey spineflower were identified at the beach disposal site. Therefore, the beach disposal portion of the project will not affect these sensitive plant species.

Finally, the proposed upland disposal site contains habitat for the Monterey spineflower. In its environmental assessment, the Corps describes the sensitive species and already completed mitigation:

In March/April 1998, the Monterey spineflower was found on this upland site and the MLHD's [Moss Landing Harbor District] consultant Harding-Lawson Associates relocated approximately 3,000 spineflower plants to Elkhorn Slough Native Plant Preserve. Overall, no impacts to the Monterey Spineflower are anticipated with disposal of sandy material suitable for beach nourishment at the beach disposal site. In addition, no impacts are expected with any potential disposal of dredged material unsuitable for unconfined aquatic disposal at MLHD's upland Western Salt Site (North Harbor Site).

Since these spineflowers were removed from the project site, the proposed upland disposal will not affect these species.

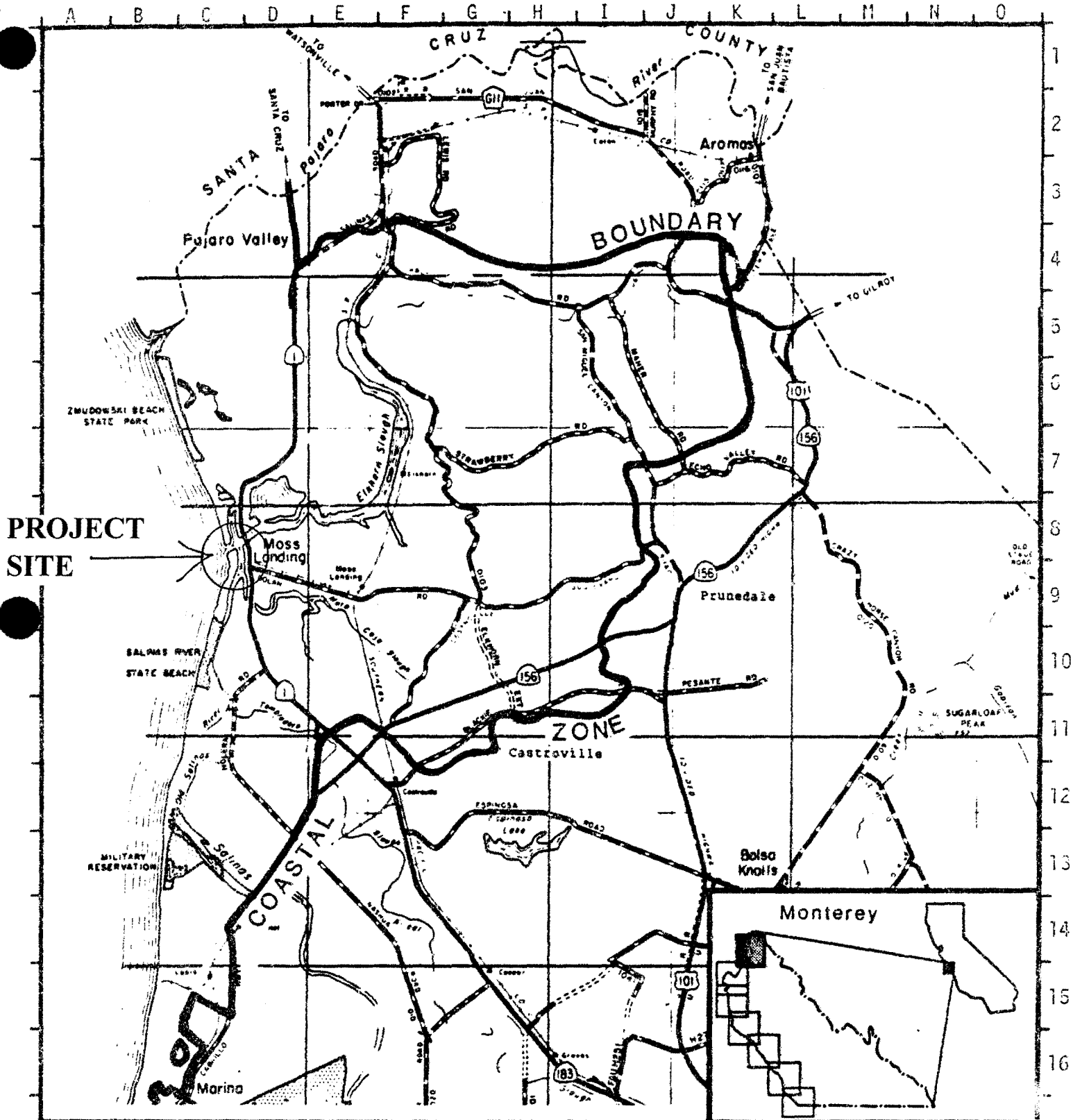
In conclusion, the Commission finds that the proposed dredging and disposal will not affect any of the sensitive species located in the area. Therefore, the Commission finds that the proposed dredging and disposal operations are consistent with the environmentally sensitive habitat policies of the CCMP.

D. Sand Supply. Section 30233(b) of the Coastal Act provides that:

Dredging and spoils disposal shall be planned and carried out to avoid significant disruption to marine and wildlife habitats and water circulation. Dredge spoils suitable for beach replenishment should be transported for such purposes to appropriate beaches or into suitable long shore current systems.

The Corps proposes to dispose of material dredged from Moss Landing Harbor at SF-12, a beach disposal site, and an upland disposal site. The Corps will dispose of material dredged from the entrance channel at the beach disposal site. The Corps physical analysis of this material demonstrated that it consisted of 100 percent sand, and therefore, is suitable and appropriate to use for beach disposal purposes. The Corps proposes to dispose of material dredged from the junction of the entrance and lagoon channels at SF-12, an ocean disposal site. Material disposed of at this site is outside of the littoral system and will not support sand supply. However, the material proposed for disposal at this site consists of approximately 70 percent sand, which is too fine for beach replenishment purposes. The Commission does not usually consider the use of dredge material for beach replenishment unless the material is greater than 80 percent sand and is compatible with the receiver beach. In this case, this sediment is too fine to use for sand supply purposes. Finally, the material proposed for upland disposal (removed from the inner lagoon channel) is between 35 and seven percent sand. Additionally, this material contains elevated levels of DDT. Therefore, this dredge material is not suitable for beach replenishment purposes.

In conclusion, the Commission finds that where the material is suitable, the Corps proposes to use it for beach replenishment purposes. Material proposed for disposal at either the ocean or upland site is not suitable beach sand. Therefore, the Commission finds that the proposed project is consistent with the sand supply policy of the CCMP.



PROJECT SITE

BOUNDARY

ZONE

Monterey

California Coastal Commission

LOCATION MAP

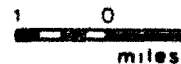
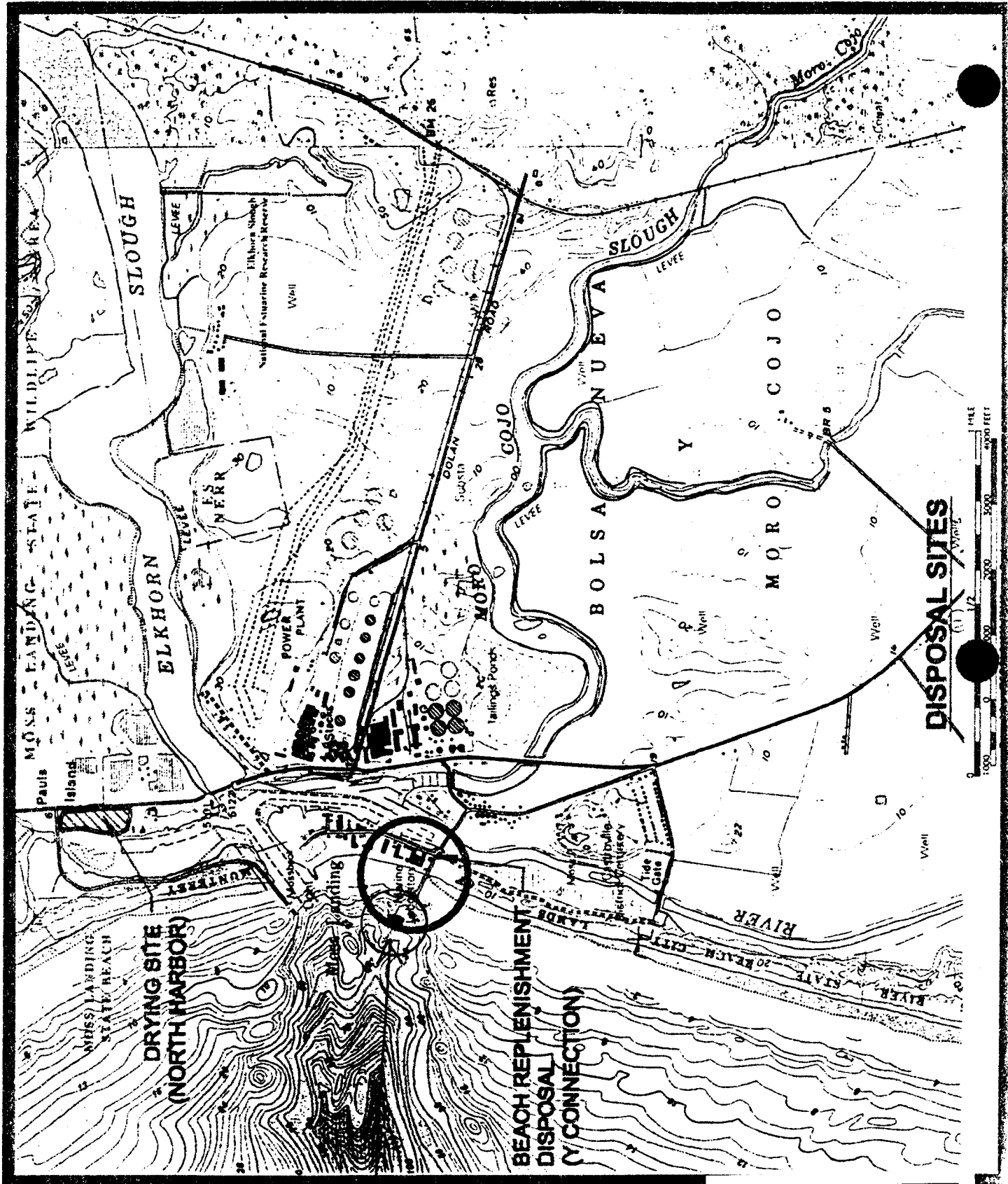


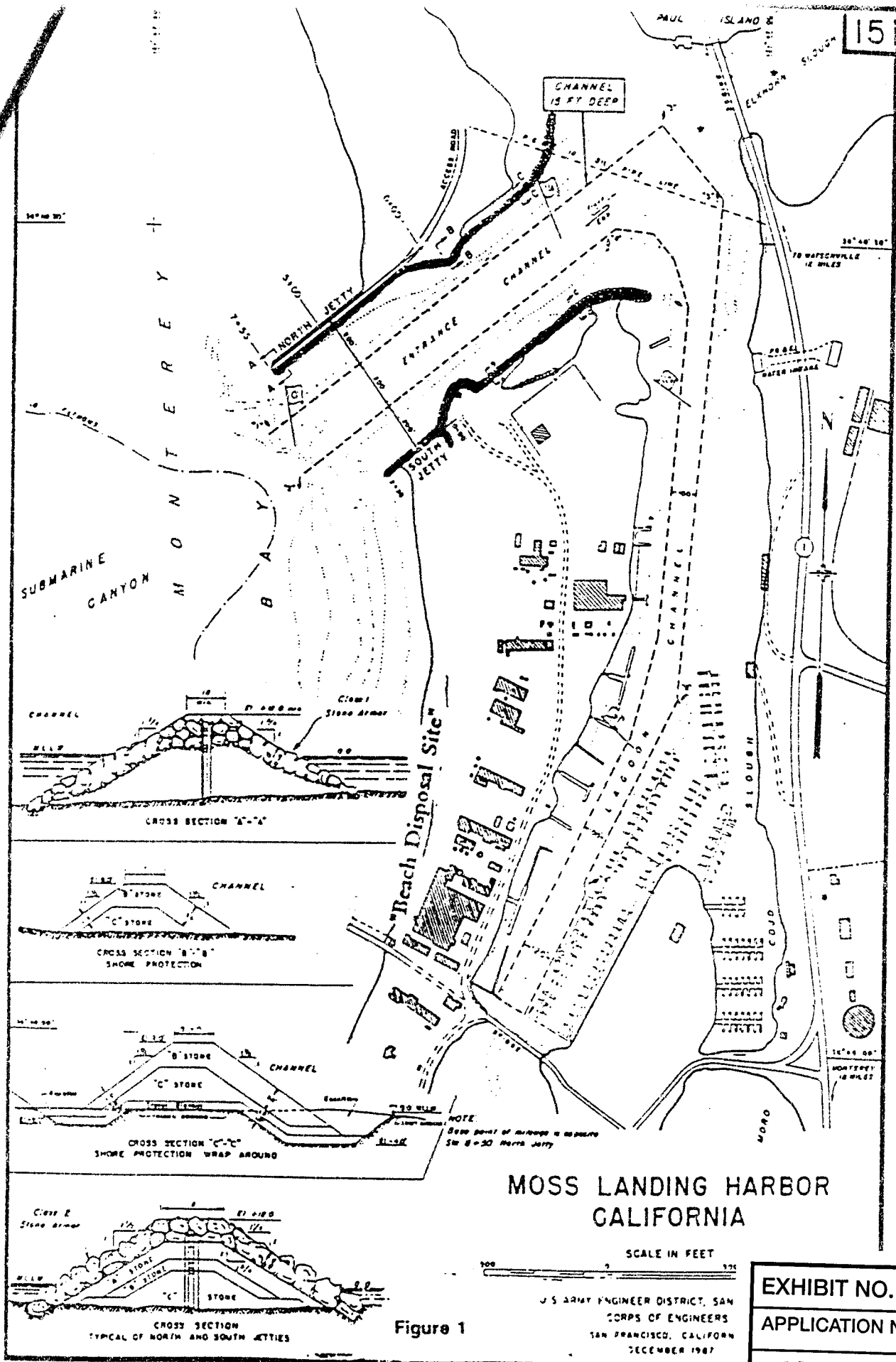
EXHIBIT NO.	1
APPLICATION NO.	CD-97-98
California Coastal Commission	

County of Monterey



SF-12
(approx. location)

EXHIBIT NO. 2
APPLICATION NO.
CD-97-98
California Coastal Commission



**MOSS LANDING HARBOR
CALIFORNIA**

SCALE IN FEET
0 100 200

U.S. ARMY ENGINEER DISTRICT, SAN
CORPS OF ENGINEERS
SAN FRANCISCO, CALIFORNIA
DECEMBER 1967

Figure 1

EXHIBIT NO. 3
APPLICATION NO.
CD-97-98
California Coastal Commission

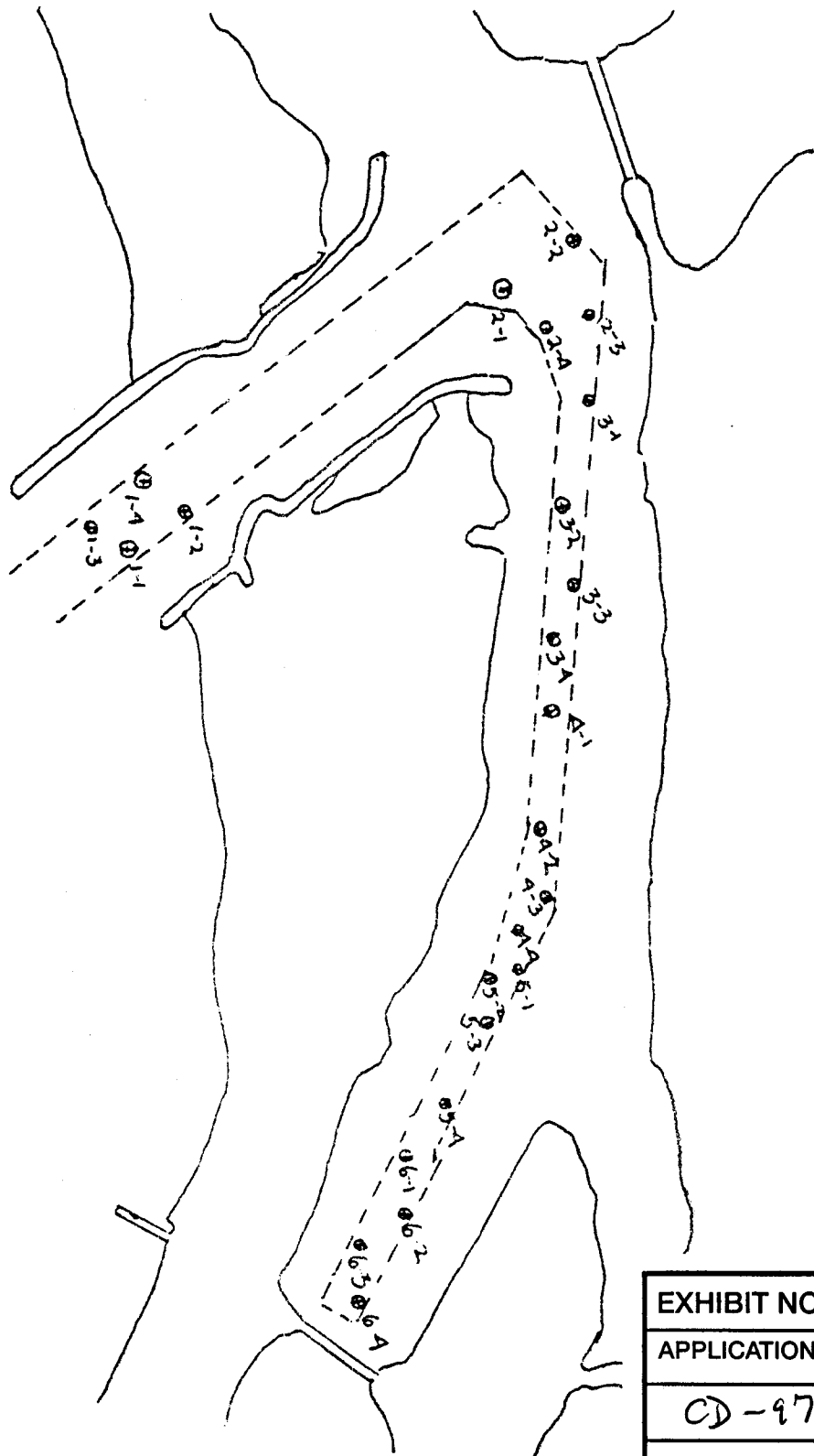



EXHIBIT NO. 4
APPLICATION NO.
CD-97-98
 California Coastal Commission

MOSS LANDING HARBOR

