

CALIFORNIA COASTAL COMMISSION

45 FREMONT STREET, SUITE 2000
SAN FRANCISCO, CA 94105-2219
VOICE AND TDD (415) 904-5200

RECORD PACKET COPY**Th 10a****STAFF REPORT AND RECOMMENDATION****ON CONSISTENCY DETERMINATION**Consistency Determination No. **CD-074-00**

Staff: JRR-SF

File Date: 07/10/2000

45th Day: 08/24/2000

60th Day extended to: 09/18/2000

Commission Meeting: 09/14/2000

FEDERAL AGENCY: CORPS OF ENGINEERS**DEVELOPMENT****LOCATION:**

Offshore of Portuguese Bend cove, Palos Verdes
Peninsula, City of Rancho Palos Verdes (Exhibit 1)

DEVELOPMENT**DESCRIPTION:**

Construction of dike to contain sediment generated by
landslide (Exhibits 2 and 3)

EXECUTIVE SUMMARY

The Corps consistency determination allows for the construction of a dike offshore of Portuguese Bend cove, City of Rancho Palos Verdes. The Corps would construct the 2,500 foot-long dike, 400 feet offshore. The dike would have a maximum crest elevation of 24 feet above MLLW and would be in water depth 16 feet below MLLW.

Although the proposed dike is a shoreline structure, as described by Section 30235 of the Coastal Act, the Commission is not required to approve it. Section 30235 of the Coastal Act requires the Commission to permit shoreline structures if they are necessary to protect existing structures, coastal dependent uses, or public beaches. The proposed dike does not protect any of these uses, and therefore, under Section 30235 the Commission is not required to approve it.

The construction of the dike requires the placement of fill into open coastal waters and the project must be consistent with Section 30233 of the Coastal Act. The Corps characterizes the dike as a restoration project, making it an allowable fill under the Coastal Act. However, the Commission concludes that the project would not restore the habitat values in the Portuguese Bend Cove and the consistency determination lacks sufficient information to determine if the dike would enhance resource values down coast. After the dike is installed, the area would take between nine and 87 years to re-expose hard rock habitat. Over that period of time, any number of factors could affect kelp habitat and prevent its restoration. Additionally, because sediment is accumulating in these areas, the Commission believes that they are depositional and would not be exposed by natural processes. Therefore, this aspect of the project is not an allowable use pursuant to Section 30233(a) of the Coastal Act.

A second restoration purpose of the proposed dike is to improve existing kelp habitat downcoast. According to the Corps, the existing kelp forests south of Portuguese Bend are severely degraded by landslide generated turbidity. However, the Corps' data used to characterize the value of the site are not sufficient to support such a conclusion and the Corps did not investigate the cause of any degradation, should it exist. In its Feasibility Study, the Corps simply assumes that turbidity is adversely affecting downcoast kelp habitat. Therefore, the consistency determination does not provide enough information to document that this benefit would occur.

The Corps' consistency determination did not adequately consider alternatives. First, the Corps did not consider landslide stabilization as a feasible method to reduce sedimentation. Second, the Corps did not consider alternative methods for enhancing marine resources that may have less of an adverse effect on marine resources. Third, and finally, the Commission believes that the "no-project" alternative may be a less damaging feasible alternative for the following reasons: 1) the Corps over estimated the amount of sediment produced by the landslide; and 2) there is some evidence that kelp habitat in Portuguese Bend may be restored naturally. Therefore, the Corps' alternative analysis is insufficient for the Commission to conclude that the proposed project is the least damaging feasible alternative as required by Section 30233(a) of the Coastal Act.

The proposed project would significantly affect marine resources. The dike would cover approximately 420,000 square feet (9.64 acres) of subtidal and intertidal soft bottom habitat. Additionally, the dike would contain sediment from the landslide in the area between the dike and the shoreline. After construction of the dike, the area inland of the dike would have very little, if any habitat value. The Corps believes that this biological impact is justified by the degraded nature of the area (degraded by turbidity and sedimentation from the landslide) and the biological benefits from the proposed project. However, as discussed above, the Corps has not presented

enough information for the Commission to conclude that the project would restore marine resources. Therefore, the project adversely affects coastal resources in a manner inconsistent with Section 30230 of the Coastal Act and does not provide for adequate mitigation pursuant to Section 30233(a) of the Coastal Act.

The Corps proposes to place the dike 400 feet offshore in order to place the structure in a geologically stable area. However, the Corps has not gathered enough geotechnical information to accurately make such a conclusion. The dike may be constructed landward of the toe of the slide or it may activate another slide. The Corps rejects additional geotechnical studies, because of the cost of studies. Without such information, the Commission cannot concur with the Corps' conclusion that the dike would be located in a geologically stable area, and thus, it cannot determine if the proposed dike is consistent with Section 30253 of the Coastal Act.

The proposed project would be located in a highly scenic area and would alter the visual character of the area, because it would not be subordinate to the natural setting. Therefore, the project is inconsistent with the Visual Policy (Section 30251) of the Coastal Act.

The proposed project includes the construction and utilization of a road through Environmentally Sensitive Habitat Area (ESHA). This ESHA supports the California gnatcatcher, a federally listed threatened species, and possibly may support the Palos Verdes and El Segundo blue butterflies, federally listed endangered species. The construction and utilization of the road would significantly disrupt the habitat use of the ESHA and is not a resource dependent use. Therefore, the project is not consistent with Section 30240 of the Coastal Act.

There are several recreational beaches located downcoast of the proposed project. The dike would capture sediment from the landslide. Some of that sediment is beach compatible material that supplies sand for those beaches. Since the public uses these areas for recreational purposes, the loss of sand would adversely affect that use. Therefore, the project is inconsistent with Sections 30210 and 30221 of the Coastal Act.

The proposed project includes maintenance dredging of material accumulated behind the dike. Such maintenance activity is not consistent with the allowable use policy of the Coastal Act because it is not required to support existing navigation or boat berthing. Additionally, the dredged material would be disposed of at LA-2, an EPA designated ocean disposal site. However, the consistency determination lacks sufficient information to determine if such disposal is consistent with the water quality and sand supply policies of the Coastal Act.

SUBSTANTIVE FILE DOCUMENTS:

1. Rancho Palos Verdes, Draft Feasibility Report, June 2000.
2. U.S. Fish and Wildlife Service draft Coordination Act Report, April 1999

STAFF SUMMARY AND RECOMMENDATION:

I. Project Description.

The project involves the construction of a 2,520 foot-long dike located 400 feet seaward of the existing bluff toe at Portuguese Bend. The maximum crest elevation is +24 feet MLLW. The dike is designed with a core elevation of +6 feet MLLW to retain sediment to the Mean Higher High Water tide level. This alternative would rely on natural scouring for removal of sediment deposits to restore rocky habitat.

Rock for the dike would be delivered to the site by either a barge from Catalina Island or trucked from an upland source. If an upland source were used, the Corps would construct a road to the project site. Armor stone would be keyed into position such that the long axis of the stone is perpendicular to the face and centerline of the dike.

The project includes the removal of seven million cubic yards of sediment every 50 years. The Corps would remove the material with loaders, truck-mounted crawler cranes and dozers and the Corps would dispose of the material at LA-2, an EPA designated ocean dredged material disposal site.

II. 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 fully incorporated the Rancho Palos Verdes LCP into the CCMP.

III. 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.

IV. Staff Recommendation.

A. Motion.

I move that the Commission agree with consistency determination CD-074-00 that the project described therein is consistent to the maximum extent practicable with the enforceable policies of the California Coastal Management Program (CCMP).

B. Recommendation.

Staff recommends a **NO** vote on the motion. Failure of this motion will result in a disagreement with the determination and adoption of the following resolution and findings. An affirmative vote of a majority of the Commissioners present is required to pass the motion.

C. Resolution.

The Commission hereby disagrees with the consistency determination by Corps of Engineers, on the following grounds: 1) that the project described therein is not consistent to the maximum extent practicable with the enforceable policies of the CCMP; and 2) that the consistency determination does not contain enough information to evaluate the project's consistency with the CCMP.

V. Maximum Extent Practicable.

Section 930.32 of the federal consistency regulations provide that:

The term "consistent to the maximum extent practicable" describes the requirement for Federal activities including development projects directly affecting the coastal zone of States with approved management programs to be fully consistent with such programs unless compliance is prohibited based upon the requirements of existing law applicable to the Federal agency's operations. If a Federal agency asserts that compliance with the management program is prohibited, it must clearly describe to the State agency the statutory provisions, legislative history, or other legal authority which limits the Federal agency's discretion to comply with the provisions of the management program.

The Commission recognizes that the standard for approval of Federal projects is that the activity must be "consistent to the maximum extent practicable" (Coastal Zone Management Act Section 307(c)(1)). This standard allows a federal activity that is not fully consistent with the CCMP to proceed, if compliance with the CCMP is

"prohibited [by] existing Federal law applicable to the Federal agency's operations" (15 C.F.R. § 930.32). The Corps has not demonstrated that this project is consistent to the maximum extent practicable with the CCMP by citing and "statutory provision, legislative history, or other legal authority which limits its ... discretion to comply with the provisions of the" CCMP (15 C.F.R. § 930.32(a)). Therefore, there is no basis for the Commission to conclude that although the proposed project is inconsistent with the CCMP, it is consistent to maximum extent practicable.

VI. Necessary Information:

Section 930.42(b) of the federal consistency regulations (15 CFR Section 930.42(b)) requires that, if the Commission's objection is based on a lack of information, the Commission must identify the information necessary for it to assess the project's consistency with the CCMP. That section states that:

If the State agency's disagreement is based upon a finding that the Federal agency has failed to supply sufficient information (see Section 930.39(a)), the State agency's response must describe the nature of the information requested and the necessity of having such information to determine the consistency of the Federal activity with the management program.

As described fully in the Marine Resource, Geologic Stability, and Dredging sections below, the Commission has found this consistency determination lacks the necessary information to determine if the proposed project is consistent with Sections 30230, 30233, and 30253 of the Coastal Act. In order to evaluate the project's consistency with the CCMP, the Commission needs the following information:

A. Documentation that demonstrates that the kelp beds south of Portuguese Bend are degraded. The Documentation requires on site monitoring of at least two years that represent relatively "normal" years. By "normal" the Commission means average conditions for the area in terms of water temperature and quality, and storm conditions. For example, data from an El Niño condition would not provide adequate information to document the degraded nature of the kelp habitat.

B. Documentation that demonstrates that turbidity is the predominate cause for degradation of the kelp habitat, if monitoring documents that the habitat is degraded. The monitoring should also consider other possible factors affecting the quality of the habitat such as water pollution, sediment contamination, predation, and climatic conditions. This data also requires two years of monitoring and shall be done concurrent with the monitoring for the condition of the kelp habitat.

C. A Further evaluation of the no-project alternative to determine if kelp habitat at Portuguese Bend Cove would naturally be restored.

D. Provide additional geologic data to demonstrate the following:

1. The proposed dike is located seaward of the toe of the landslide.
2. The proposed dike would not reactivate another landslide seaward of the Portuguese Bend landslide.

E. If maintenance dredging of the area remains part of the project, the Corps should provide physical and chemical test results as required by the *Evaluation of Dredged Material Proposed For Ocean Disposal* (the Green Book).

VII. Project modifications.

Section 930.42(a) of the federal consistency regulations (15 CFR § 930.42(a)) requires that, if the Commission's objection is based on a finding that the proposed activity is inconsistent with the CCMP, the Commission must identify measures, if they exist, that would bring the project into conformance with the CCMP. That section states that:

In the event the State agency disagrees with the Federal agency's consistency determination, the State agency shall accompany its response to the Federal agency with its reasons for the disagreement and supporting information. The State agency response must describe (1) how the proposed activity will be inconsistent with specific elements of the management program, and (2) alternative measures (if they exist) which, if adopted by the Federal agency, would allow the activity to proceed in a manner consistent to the maximum extent practicable with the management program.

As described in the findings below, the proposed project is inconsistent with the Visual, ESHA, and Recreation Policies of the CCMP. Pursuant to this federal regulation, the Commission is responsible for identifying measures, if they exist, that would bring the project into compliance with the CCMP. The Commission believes that it is not possible to bring this project into compliance with the Visual Policy of the CCMP. As described below, the proposed project would degrade the visual resources of the area and the Corps cannot avoid or mitigate this impact if it constructs the dike.

The following measures could bring the project into compliance with the Recreation and ESHA Policies of the CCMP.

A. The Corps should add a beach replenishment component to the project that would supply the recreational beaches with an equivalent amount of sand to that which is trapped by the dike.

B. The removal of material in order to maintain the area behind the dike is not allowable under the Coastal Act. The Corps could avoid the project's impacts on ESHA resources by deleting the proposed access road from the project description. An ocean going barge should provide all access to the site for construction equipment and supplies, personnel, and maintenance activities.

VIII. Conflict Resolution.

Section 30007.5 of the Coastal Act provides the Commission with an opportunity to consider competing Coastal Act policies should there be a conflict between any Chapter 3 policies. Specifically, that section provides that:

The Legislature further finds and recognizes that conflicts may occur between one or more policies of the division. The Legislature therefore declares that in carrying out the provisions of this division such conflicts be resolved in a manner which on balance is the most protective of significant coastal resources. In this context, the Legislature declares that broader policies which, for example, serve to concentrate development in close proximity to urban and employment centers may be more protective, overall, than specific wildlife habitat and other similar resource policies.

Since the stated purpose of this project is to restore marine resources, the Commission must consider whether the project creates a conflict between those policies that encourage restoration of marine resources and those policies that protect other coastal resources. In this case, however, the project does not create a conflict. As described below, the project would not necessarily restore habitat within the Portuguese Bend Cove area. Additionally, the Corps consistency determination does not contain enough information for the Commission to conclude that the project would enhance downcoast kelp habitat. Finally, the manipulation of a natural phenomenon to promote a certain kind of habitat is not a restoration project. Therefore, the project is not a restoration project and it does not create a conflict among Coastal Act policies.

IX. Findings and Declarations.

The Commission finds and declares as follows:

A. Marine Habitat. 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 30233 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:

...

(5) Incidental public service purposes, including but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines.

...

(7) Restoration purposes.

Section 30235 of the Coastal Act provides that:

Revetments, breakwaters, groins, harbor channels, seawalls, cliff retaining walls, and other such construction that alters natural shoreline processes shall be permitted when required to serve coastal-dependent uses or to protect existing structures or public beaches in danger from erosion, and when designed to eliminate or mitigate adverse impacts on local shoreline sand supply. Existing marine structures causing water stagnation contributing to pollution problems and fish kills should be phased out or upgraded where feasible.

1. Shoreline Structure. Pursuant to the requirements of Section 30235 of the Coastal Act, the Commission must permit shoreline structures when required to serve coastal-dependent use or protect existing structures or public beaches in danger of erosion. There are no existing structures or uses (coastal dependent or otherwise) protected by the proposed dike. In addition, the dike would not protect any public beaches. Therefore, the Commission finds that it is not required to permit this structure.

2. Allowable Use. The dike would result in the placement of approximately 420,000 square feet (9.64 acres) of fill. Section 30233(a) of the Coastal Act identifies eight allowable uses for placement of fill into the marine environment. Section 30233(a) does not authorize open coastal water fill unless it meets the "allowable-use" test. To meet this test, the activity must fit into one of eight categories of uses permitted for open coastal water fill enumerated in Sections 30233(a)(1-8). Fill for the proposed project could possibly fall within two of the eight categories: 1) incidental public service purpose; and 2) restoration purposes.

a. Incidental Public Services Purposes. Because the proposed project is constructed by a public agency, the Commission must consider whether the fill falls within section 30233(a)(5). This section authorizes fill for "*Incidental public service purposes, including but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines.*"

In order to determine if the fill is for an incidental public service purpose, the Commission must determine that purpose is both incidental and a public service. Since the dike will be constructed by a public agency the fill is for a public-service purpose. However, it is not clear that the fill is "incidental" within the meaning of that term as it is used in Section 30233(a)(5). The Commission has previously found the word "incidental" to mean not the primary development. The courts have defined the term incidental as "depending upon or appertaining to something else as primary" (*Davis v. Pine Mountain Lumber Co.* (1969) 273 Cal.App.2d 218, 222-223 [77 CR 825].) In this case, the primary activity is the construction of a dike, which results in the placement of fill into open coastal waters. Since the dike is the primary development, the fill is not incidental to the project. Therefore, the Commission finds that the fill is not an incidental public service purpose.

b. Restoration Purposes. The Corps describes the purpose of the project as restoring marine resources. However, the Commission is reluctant to find that a 2,500-foot long, 24-foot high rock dike is a restoration project. In order for the Commission to accept such a conclusion, the Corps must conclusively demonstrate that the project would result in the restoration of marine resources. The Commission does not believe that the Corps has demonstrated such a conclusion. In fact, the Corps basis its conclusion on several unproven assumptions, and thus, its conclusions are questionable.

The Corps believes that the project would restore marine resources in two ways: 1) reduction of sedimentation in the Portuguese Bend area seaward of the dike and allowing natural littoral processes to remove unconsolidated sediment and re-expose hard-rock habitat; and 2) reduction of turbidity that may be adversely affecting downcoast kelp habitat. The Commission, however, believes that the Corps consistency determination and supporting documentation does not provide enough information to conclude that the proposed project would provide these restoration benefits.

Portuguese Bend. In its feasibility study, the Corps states that the proposed project would capture most of the sediment from the Portuguese Bend landslide (Exhibit 4) and trap it on the inland side of the dike. The Corps assumes that if it constructs this dike, new sedimentation would be stopped and existing soft-bottom areas would erode back to hard-rock habitat. In its feasibility study, the Corps states that:

The Portuguese Bend landslide and adjacent landslides became active in the 1956 time frame. Since 1956, it is estimated that over 6,000,000 cubic yards of material has been eroded from the landslide bluff by wave action. This sediment budget indicates on an average annual basis that about 89,000 cubic yards is deposited in the Portuguese Bend marine area, and 79,000 cubic yards is moved downcoast and offshore. The deposition of landslide material has impacted about 71 acres of rocky habitat in the Portuguese Bend area, and has increased turbidity causing impacts to existing reefs and kelp along about 163 acres at Bunker Point and 230 acres from Bunker Point to Whites Point.¹

The Corps concludes that the Portuguese Bend landslide is the most significant source of sediment affecting this area and, by capturing this sediment, natural littoral processes would erode existing sediment from covered hard rock areas and allow kelp communities to be established in this area. These hard rock areas would provide habitat for giant kelp, which would be re-established in the area. However, most of the area seaward of the dike is too shallow to support a giant kelp forest. Giant kelp generally grows at a depth below 20 feet mean lower low water. According to the Corps' feasibility study, the area below 20 feet MLLW would take over 80 years before the hard rock habitat is re-exposed. Over that period of time, any number of factors could affect kelp habitat and prevent its restoration.

In addition, the Corps has not established that sedimentation from the landslide is the only factor that prevents kelp from growing in this area. In its draft Fish and

¹ Draft Feasibility Report, Rancho Palos Verdes, June 2000.

Wildlife Coordination Act report, the U.S. Fish and Wildlife Service (Service) presented convincing information that the kelp beds in the Palos Verdes Peninsula area had disappeared before re-activation of the landslide at Portuguese Bend (Exhibit 5). By 1956, when the landslide was re-activated there was almost no kelp in this area. The Service suggests that water pollution may have been the primary factor in the degradation of kelp habitat in this area. Thus, isolating sediment from the landslide may not remove the only factor that prevents the re-establishment of kelp in this area.

Finally, the Corps describes the sediment covering the hard rock areas in the Portuguese Bend cove as suspended material that has been deposited. There is little doubt that the source of most the material is from the landslide. However, the covering of the hard rock habitat is not solely related to the volume or source of the material. Rather, the deposition of suspended sediments dependent on wave energy. Sediment is deposited on the ocean floor when the wave energy is no longer sufficient to "hold" or move sediment. Therefore, the sediment is covering areas because there is insufficient wave energy to keep the material suspended. If the Corps constructs the proposed dike, it would not affect the offshore wave energy and the area would likely continue to be depositional. Sediment from sources other than the landslide would continue to be deposited in these areas even if the Corps constructs the dike. Additionally, wave energy is not likely to be sufficient enough to resuspend sediment that has already been deposited in this area. Therefore, the Commission finds that the proposed dike would not result in the restoration of hard rock habitat.

i. **Turbidity Control.** The Corps states that one of the primary purposes of the proposed dike is to improve existing kelp habitat downcoast of the proposed dike. According to the Corps, the existing kelp forests south of Portuguese Bend are severely degraded by landslide generated turbidity. However, the Corps did not provide sufficient information to document the degraded state of the kelp beds and provided no data to support the conclusion that turbidity is the cause of this degradation, if it exists. Therefore, the Commission finds that the Corps' consistency determination lacks sufficient information to determine if the project is consistent with the CCMP.

In its feasibility study, the Corps states that the kelp beds south of the landslide, in the area of White's Point, are degraded. It bases its conclusion on one sample of the fish use and benthic organisms within the habitat. This one sample is not sufficient to determine if the kelp ecosystem is degraded. In fact, the kelp plants are growing successfully in this area. The Corps survey of these kelp beds shows that the habitat was not utilized at that point in time. The Corps does not provide a long-term study documenting its conclusion that the kelp habitat in this area is not sufficiently utilized by marine organisms. The Corps' test results may be inaccurate because of collection methods or timing of the collection. Other factors, such as El

Niño, water pollution, or storm events could have affected the Corps data collection. Therefore, the Commission believes that there is not sufficient data to determine if the area is degraded. It is inappropriate to build a massive dike to restore the habitat value of the down coast kelp beds without sufficient data to demonstrate that the habitat value of that area is degraded and in need of protection.

Even if the Corps could provide adequate information to demonstrate that the kelp habitat in the White's Point area is degraded, it does not provide any evidence to support the conclusion that turbidity from the Portuguese landslide is the cause of the problem. In fact, the Corps states in its feasibility study that it "assumes" that the turbidity is affecting this area. Considering the fact that these kelp ecosystems are located adjacent to a sewage plant outfall and Superfund site, it is very possible that there are other factors affecting the habitat value of the area. Therefore, the Commission finds that the Corps' consistency determination lacks sufficient information to determine that the dike is a restoration project that is necessary to protect down coast kelp habitat.

ii. Landslide Stabilization. Finally, the Commission does not believe that the purpose of the proposed project is to restore kelp habitat. In fact, the Corps proposed a similar project several years ago, which had a purpose of stabilizing the landslide. The Corps' Headquarters Office in Washington, D.C., rejected the plan because the Corps is not in the business of stabilizing landslides. The proposed project appears to be similar to the previously investigated project. However, it has been re-characterized as a restoration project.

c. Conclusion. In conclusion, the Commission finds that the proposed containment dike would not restore kelp habitat in the Portuguese Bend area, and therefore, this aspect of the project is not a restoration project. The Commission also finds that the Corps' consistency determination lacks sufficient information to determine if the dike would improve downcoast kelp habitat. The Corps has not documented that that habitat is degraded and that sedimentation from the landslide is the cause of that degradation. Therefore, the Commission concludes that the consistency determination for the proposed project does not contain enough information to determine if the dike is an allowable use pursuant to the requirements of Section 30233(a) of the Coastal Act.

3. Alternatives. In addition to the allowable use requirements of Section 30233(a), that section of the Coastal Act requires the Commission to approve only the least environmentally damaging feasible alternative. In its EIS, the Corps evaluates three alternatives to the proposed project: the "no-project" alternative, a containment dike 50 feet offshore, and a containment dike 200 feet offshore. The proposed project, which is a containment dike 400 feet offshore, was selected as the preferred alternative because the Corps believes that that alternative is most likely to be seaward of the toe of the landslide. The Corps rejected from further

consideration all other alternatives to manage sediment from the landslide, including stabilizing the landslide. Additionally, the Corps did not consider other ways to enhance marine resources, such as construction of an artificial reef or placement of boulders that would increase the amount of hard rock habitat. In other words, the Corps' alternative analysis is limited to no project or construction of a containment dike.

Additionally, the Commission believes that the "no-project" alternative may be a less damaging feasible alternative. The Corps estimates that the landslide produces 89,000 cubic yards of sediment per year that is deposited in Portuguese Bend cove. This estimate is based on the annual average of sedimentation in the cove since the landslide reactivated. However, the Corps estimates are based on three data points. In 1933 and 1976, the National Ocean Services gathered data on the subsurface conditions in the area. The Corps conducted a hydrographic survey in 1995. From these three surveys, the Corps has estimated the annual deposition in the area and has concluded that most of it landslide sediment. However, three hydrographic surveys are not enough data to make these conclusions. There could be many factors affecting deposition of sediment in this area that could or could not be related to the landslide. The only conclusion that Corps can make from the data is that the ocean floor has changed over time.

Even if the data are sufficient to allow the Corps to make its conclusions, the Commission believes that current deposition rate is significantly less than the Corps estimates. As shown in the table below,² the deposition of sediment between 1976 and 1995 is significantly less than the deposition between 1933 and 1976. Based on the total changes of bathymetry between hydrographic surveys, the Corps estimates that the annual deposition of sediment between 1933 and 1976 was 162,600 cubic yards per year (which assumes without any evidence that there was no deposition between 1933 and 1956, when the landslide were reactivated). However, between 1976 and 1995, the Corps estimates that only 11,600 cubic

Table 2-10. Control Volume Change		
Surveys Compared	Net Volume Change (cubic yards)	Annual Accumulation (cubic yards/year)
1933 to 1976	+3,252,000	+162,600 ¹
1976 to 1995	+220,600	+11,600
1933 to 1995	+3,472,600	+89,041 ¹
¹ Assumes accumulation occurred between 1956 and 1976		

² Feasibility Study, p. 2-29.

yards of sediment per year was deposited in this area.

Therefore, based on the limited data supplied by the Corps, one can conclude that in the last 20 years, the deposition of sediment in the area is significantly less, by an order of magnitude, than it was in the previous 20-year period. The limited amount of evidence suggests that the deposition of sediment is declining over time. If the amount of deposition continues to decline and there is sufficient wave energy to remove existing sediment (which the Corps has not demonstrated), one can conclude that the area would be restored naturally. In other words, one could conclude that the "no-project" alternative would result in the restoration of hard rock habitat. The Commission, however, is reluctant to make this conclusion. The data presented by the Corps is insufficient to make any conclusions. However, there is enough information to at least question the conclusion that if nothing is done, the area would continue to degrade.

In summary, the Corps alternative analysis is insufficient for the Commission to conclude that the proposed project is the least damaging feasible alternative. The Corps has not considered any alternative mechanisms to managing sedimentation other than the construction of a dike. Additionally, the data the Corps uses to reject the "no-project" alternative are insufficient to determine if it would result in restoration of marine resources. Therefore, the Commission concludes that the Corps' consistency determination does not contain enough information for it to find that the proposed project is the least environmentally damaging alternative.

4. Biological Productivity and Mitigation. The proposed project would significantly affect marine resources. The dike would cover approximately 420,000 square feet (9.64 acres) of subtidal and intertidal soft bottom habitat. Additionally, the dike would contain sediment from the landslide in the area between the dike and the shoreline. This area would be subject to significant habitat impacts from the contained turbidity. In addition, the reduction in water circulation, which could result in decreased dissolved oxygen and water quality and an increase in water temperature, would further reduce its habitat values. After construction of the dike, the area inland of the dike would have very little, if any, habitat values.

As such, the project is inconsistent with Section 30230 of the Coastal Act. The Corps believes that this biological impact is justified by the degraded nature of the area (degraded by turbidity and sedimentation from the landslide) and the biological benefits from the proposed project. However, as discussed above, the Corps has not presented enough information for the Commission to conclude that the project would restore marine resources. Therefore, there is no basis for the Commission to find that the project would enhance biological productivity seaward of the dike and would be on balance a beneficial project. In other words, the project clearly has an adverse impact to marine habitat below and inland of the dike but there is insufficient evidence to demonstrate that the project would enhance resources

seaward of the dike. Without this benefit, the project's impacts would not be mitigated. Since the project does not contain enough information to determine if the dike would result in the restoration of marine resources, the Commission cannot determine if consistency determination provides for adequate mitigation. Therefore, the Commission finds that the Corps' consistency determination does not contain enough information to determine if the project is consistent with the mitigation requirement of Section 30233(a) of the Coastal Act.

B. Geologic Stability. Section 30253 of the Coastal Act provides, in part, that:

New development shall:

...

(2) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.

...

The Corps proposes to place the dike 400 feet offshore in order to place the structure in a geologically stable area. However, the Corps has not gathered enough geotechnical information to accurately make such a conclusion. In its geotechnical appendix, the Corps states that:

[T]he available information does not confirm that the near shore area is stable. Any structure proposed within 400 feet of the existing shoreline (out to a water depth of -10 to -20 feet MLLW) could be subject to displacement, either along an active slide, the reactivation of inactive slide planes, development of new sliding surfaces within the south dipping bedrock, or seaward movement of the landslide mass over the existing sea floor.³

Despite the strong possibility that even the proposed location 400 feet offshore might be susceptible to geologic instability, the Corp concludes that:

It can be reasonably assumed...that stable foundation conditions exist 400 feet from the existing shoreline along the Portuguese Bend

³ EIS, geologic appendix.

Landslide and that a structure built at that distance would not be adversely impacted during its 50-year design life.⁴

The Corps rejects additional geotechnical studies, because the cost of the studies necessary to gain additional information to assess the area's instability is prohibitively expensive. Without such information, the Commission cannot concur with the Corps' conclusion that the dike would be located in a geologically stable area. The Corps has provided no data that would allow a finding that the structure can be built so as to assure stability and structural integrity and not contribute significantly geologic instability (Exhibit 6). Even though the Corps admits that the position of the toe of the landslide cannot be accurately assessed, it concludes that active slide planes are not likely to be present 400 feet offshore. In other words, the proposed structure could be located on the existing slide and may not be structurally secure because of the movement of that slide. In addition, the Corps does not address the question of whether additional loading of the seaward-dipping beds by a massive revetment could instigate movement on new slide planes. In both of these cases, the dike would possibly be unstable, and the Commission cannot determine if the proposed dike would contribute significantly to geologic instability. Therefore, the Commission finds that Corps' consistency determination lacks sufficient information to determine if the project is consistent with Geologic Stability policy of the CCMP.

C. Visual Resources. Section 30251 of the Coastal Act provides, in part, that:

The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, ... to be visually compatible with the character of surrounding areas.... New development in highly scenic areas such as those designated in the California Coastline Preservation and Recreation Plan prepared by the Department of Parks and Recreation and by local government shall be subordinate to the character of its setting.

The shoreline around the Palos Verdes Peninsula is a highly scenic area. It consists of rolling hills with dramatic cliffs and bluffs at the shoreline. The visual character of the area is appreciated from both public areas on land and boats viewing the area from offshore. The proposed project would add a major human development in the offshore area. The proposed dike would be approximately a half-mile long and 24 feet above mean lower low water and very visible from upland and offshore areas. Since the bluffs and beaches in this area are relatively

⁴ EIS, geologic appendix.

undeveloped, this massive dike would not be subordinate to the natural coastal character of the area.

In its EIS, the Corps concludes that the project's visual impacts are not significant because of the offshore turbidity and scarred nature of the bluffs caused by the landslide. The Commission disagrees with this conclusion. The turbidity and bluff face are natural phenomenon that add to the dramatic nature of the area and do not necessarily distract from the visual resources. However, the proposed dike would be very different from the natural character of the area and would severely degrade the visual resource. Therefore, the Commission finds that the proposed project is inconsistent with the visual resource policies of the CCMP.

D. Environmentally Sensitive Habitat Areas. Section 30240(a) 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.

The U.S. Fish and Wildlife Service has identified the upland areas above the Portuguese Bend as habitat for the California gnatcatcher, a federally listed threatened species. The gnatcatcher is a small songbird that is obligate to coastal sage habitat, including the upland areas of the Corps' study area. The area may also support habitat for the Palos Verdes and El Segundo blue butterflies, federally listed endangered species.

Both of the larval host plants for the PVBB [Palos Verdes Blue Butterfly] occur within the CSS [coastal sage scrub] vegetative communities in the study area. Service personnel conducted a brief survey for the PVBB near the Abalone Cove portion of the study area on March 20, 1994 (Nelson 1994). This survey was cursory in nature, and was conducted late in the flight season thereby reducing the potential for detecting small populations. No thorough survey has been conducted for this species in the study area at the appropriate time of year.

...

The current distribution of the ESBB [El Segundo Blue Butterfly] includes portions of the Palos Verdes Peninsula. A taxonomic variant of the ESBB, a square spotted blue butterfly, also occurs within the Portuguese Bend landslide area. Because the taxonomy of these two closely related butterflies is in question, the Service suggests that for now both be considered as ESBB. If biochemical tests suggest that the

square spotted blue butterfly is distinct from the ESBB, then because of its limited distribution, the square spotted blue butterfly may warrant listing as endangered as well. The host larval food plant for the ESBB and the square spotted blue butterfly is the seacliff buckwheat (Eriogonum parvifolium). This plant occurs along the coastal bluffs in the study area. However, no thorough survey has been conducted for the ESBB or the square spotted blue butterfly in the study area.⁵

Since the area upland of the cove contains at least one endangered species, the area meets the Coastal Act definition of an Environmentally Sensitive Habitat Area (ESHA). Section 30240(a) of the Coastal Act limits the type of development in ESHAs to that which is dependent on the resources and does not result in significant disruptions of the habitat value. Although the proposed project would be constructed offshore, one of the construction alternatives allows for grading of a road through this area and transporting rock from an upland quarry down the bluff to the project site. In addition, maintenance activities may require the transportation of heavy equipment over this road and down to the project site. In a letter dated August 18, 2000 (Exhibit 7), the California Department of Fish and Game describes this impact as follows:

Alternative 2 or 2a would require 22,390 one-way truck trips to deliver approximately 343,850 tons of quarry rock. Thus, if quarry rock came solely from mainland sources, the number of total truck trips trucks traveling across the terrestrial portion of the study area could range from 26,510 to 44,780 truck trips, which averages 103 to 116 truck trips per day assuming a 5 day work week. Truck trips would be on an existing undeveloped road which would be extended 1500 feet and widened from 12 to 14 feet, impacting approximately 0.6 to 0.7 acres of terrestrial habitat. These trips do not include additional vehicles associated with construction of the dike. The DEIS/DEIR fails to include the expected impacts such as; driving off road (either on purpose or accidentally), dust, noise, oil and other contaminants from leaky trucks, littering, breakdowns, spills, and air pollution. The DEIS/DEIR also fails to mention staging or stockpile areas, nor does it account for the number of truck trips associated with dike maintenance, estimated in the DCAR [Draft Coordination Act Report] at 200 trips per day. In addition, there is no discussion about the impacts of heavy traffic on the landslide and the likelihood of increased landslide movement.⁶

⁵ USFWS draft Coordination Act Report, April 1999, p. 48

⁶ Letter dated August 18, 2000.

Both the construction of the road and truck transportation of quarry material would adversely affect the ESHA. The construction of a road would entail to grading and possibly paving over coastal sage scrub habitat. This activity would result in a direct loss of ESHA. In addition, the transportation of rock to the site would require up to 116 truck trips per day. This level of traffic would create physical, noise, and air and water quality impacts that may affect sensitive species using the coastal sage scrub habitat. The disturbances may interfere with nesting, feeding, rearing, and resting activities of the wildlife located in the vicinity of the road. These project impacts have the potential to significantly affect these sensitive species.

Additionally, the proposed road is not dependent on sensitive resources to function. In this case the activity is to transport construction material and project equipment to the construction site. Access to the site can also be provided by ocean going barge. The barge could be used to transport construction, material, personnel, and equipment to the site. Since access can occur without utilizing the sensitive habitat resource, the Commission concludes that the access is not dependent on the sensitive upland resources. Therefore, the Commission finds that the project is not a resource dependent activity.

In conclusion, the Commission finds that the construction and utilization of a road through ESHA for the development of this proposed dike would significantly disrupt the habitat values of the area. Additionally, the Commission finds that the proposed road is not a resource dependent activity. Therefore, the Commission finds that the proposed project is not consistent with the Sensitive Habitat policy of the CCMP.

E. Recreation and Sand Supply. Section 30210 of the Coastal Act provides that:

In carrying out the requirement of Section 4 of Article X of the California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse.

In addition, Section 30221 of the Coastal Act provides that:

Oceanfront land suitable for recreational use shall be protected for recreational use and development unless present and foreseeable future demand for public or commercial recreational activities that could be accommodated on the property is already adequately provided for in the area.

Royal Palms State Beach is located down coast of the proposed project. This beach is located just north of White Point and the proposed dike would not be visible from the State Beach. Additionally, there are several pocket beaches between the project site and the state beach. According to the Corps, the proposed project would contain sediment from the landslide. The landslide generates approximately 146,000 cubic yards per year of material into the littoral system. Although the Corps states that considerable amount of this material is composed of fines (clays and silts), a significant portion of the sediment is sand. According to the Corps, approximately 50% of the sediment is composed of fines. The remainder must be made of sand and rocks, which means that the landslide represents a significant source of sediment that supports beach replenishment. The proposed project, however, would trap this sediment and may deprive the beach of some of its sand. Since these beaches are used for recreational purposes, the sand supplied by the landslide supports recreational resources. Therefore, the capturing of this sand would adversely affect recreational resources. In conclusion, the Commission finds that the proposed dike is inconsistent with the recreation policies of the CCMP.

F. Maintenance Dredging. 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 30233(a) of the Coastal Act provides, in part, that:

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(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 proposed project includes dredging of seven million cubic yards of material every 50 years. The Corps proposes to dispose of this material at LA-2, an EPA approved ocean disposal site located offshore of the Palos Verdes Peninsula. The proposed dredging is not consistent with Section 30233(a) of the Coastal Act. The Coastal Act allows for dredging in marine environment for the maintenance of **"existing navigational channels, turning basins, vessel berthing and mooring areas, and boat launching ramps."** Since the proposed dredging is not for any of these uses, it is not consistent with Section 30233(a)(2).

Even if the dredging was an allowable use, the ocean disposal of this material raises other Coastal Act issues. Disposal of material at LA-2 requires physical and chemical testing to determine if it is suitable for ocean disposal. Obviously, since the Corps does not intend to dredge this material for 50 years, it has not been tested. The material may be predominantly sand and suitable for beach replenishment. In that case, disposal of this material at LA-2, which is outside of the littoral system, would be inconsistent with Section 30233(b) of the Coastal Act. Additionally, the material may contain contaminants making it unsuitable for ocean disposal. At this point in time, it is that it is premature to determine if the disposal of maintenance material is consistent with the CCMP. The Commission does not have the physical or chemical test results to determine if the disposal is suitable for placement at LA-2. Therefore, the Commission finds that the Corps' consistency determination lacks sufficient information to determine if the disposal activities are consistent with Sections 30230 and 30233(b).

Figure 2-1. Rancho Palos Verdes Feasibility Study Area

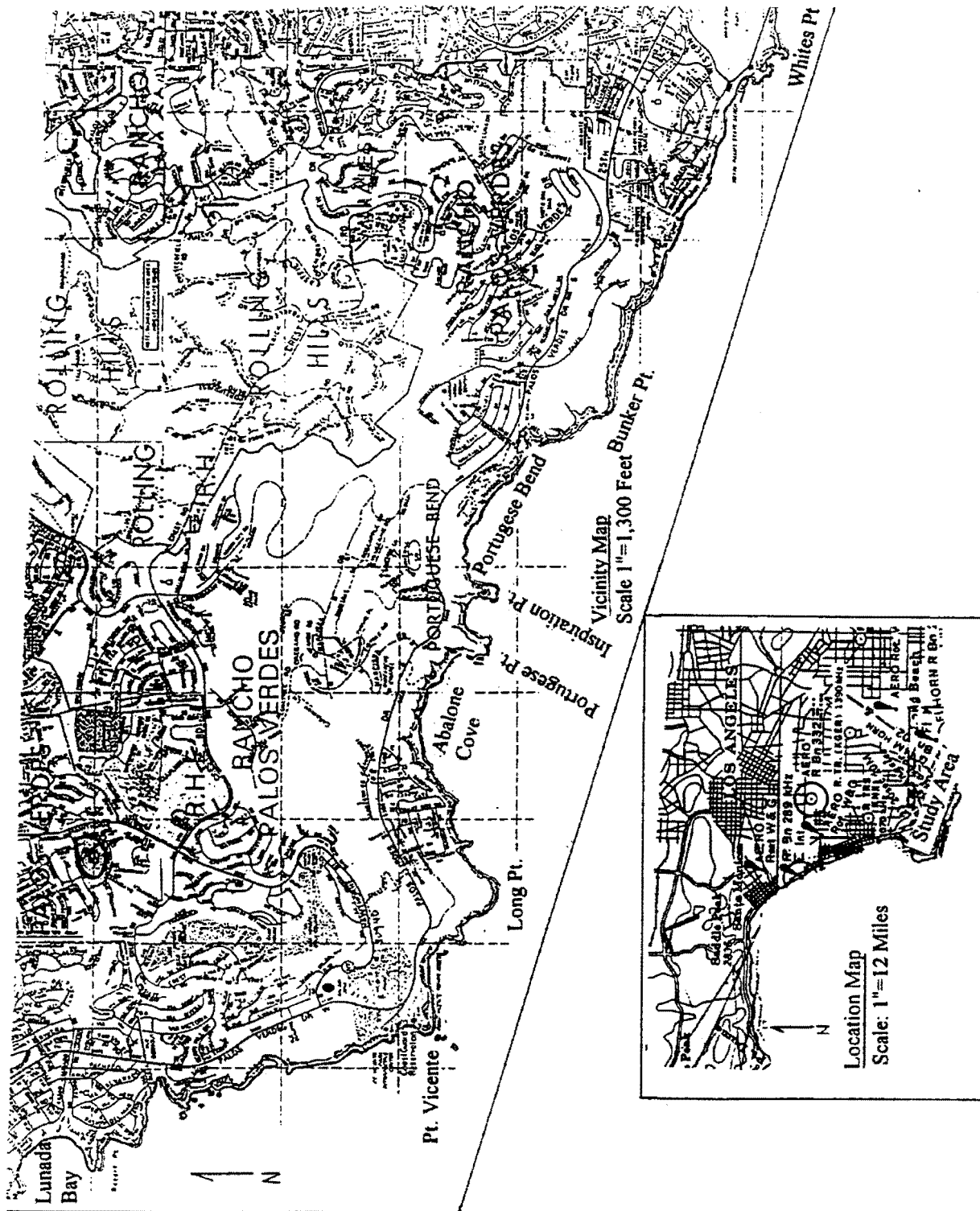


EXHIBIT NO. 1

APPLICATION NO. CD-074-00

Figure 4-4. Alternative 2 – Containment Dike - 400 Feet Offshore

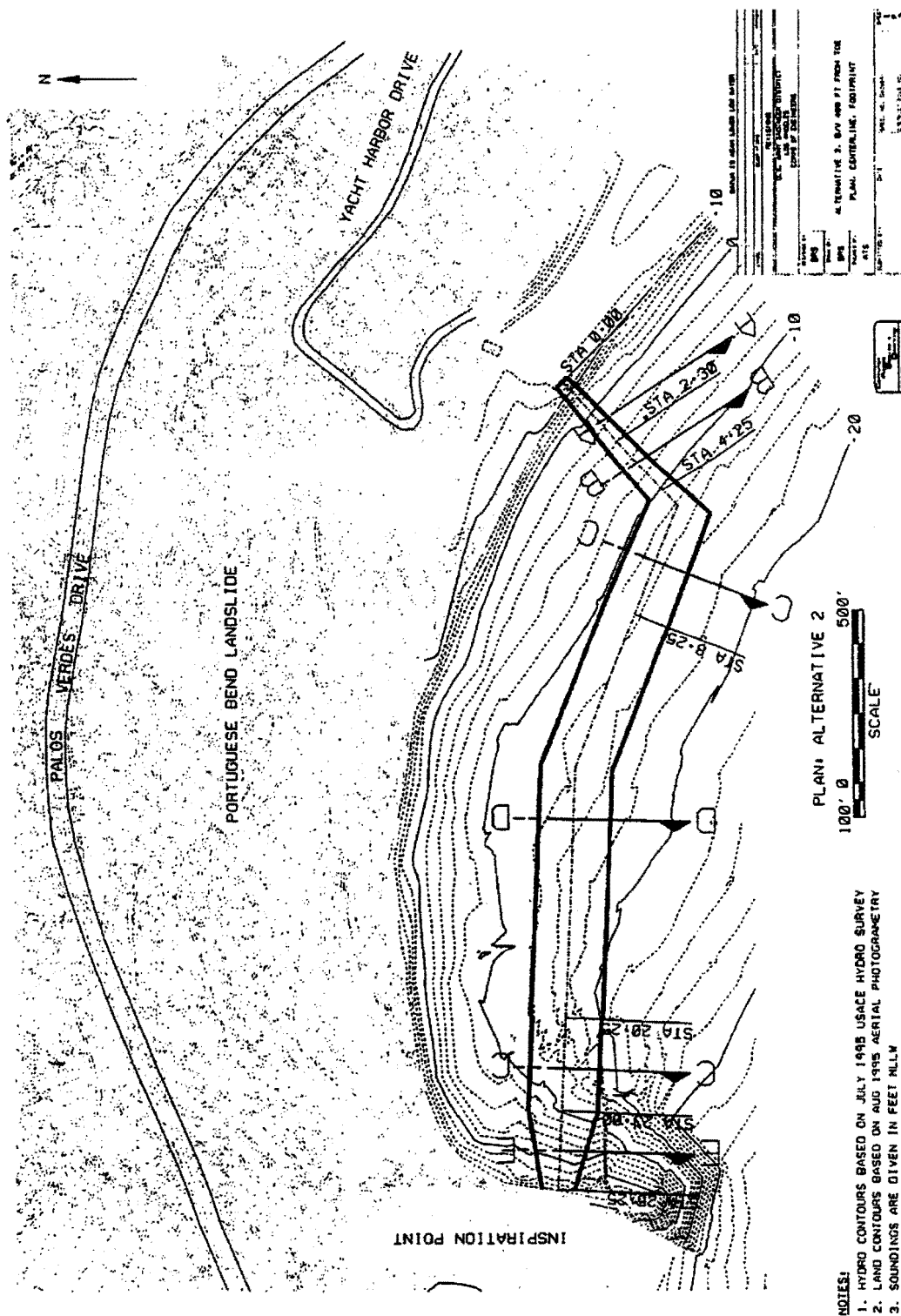


EXHIBIT NO. 2
APPLICATION NO. CD-074-00

Figure 4-5. Alternative 2 Cross-Sections

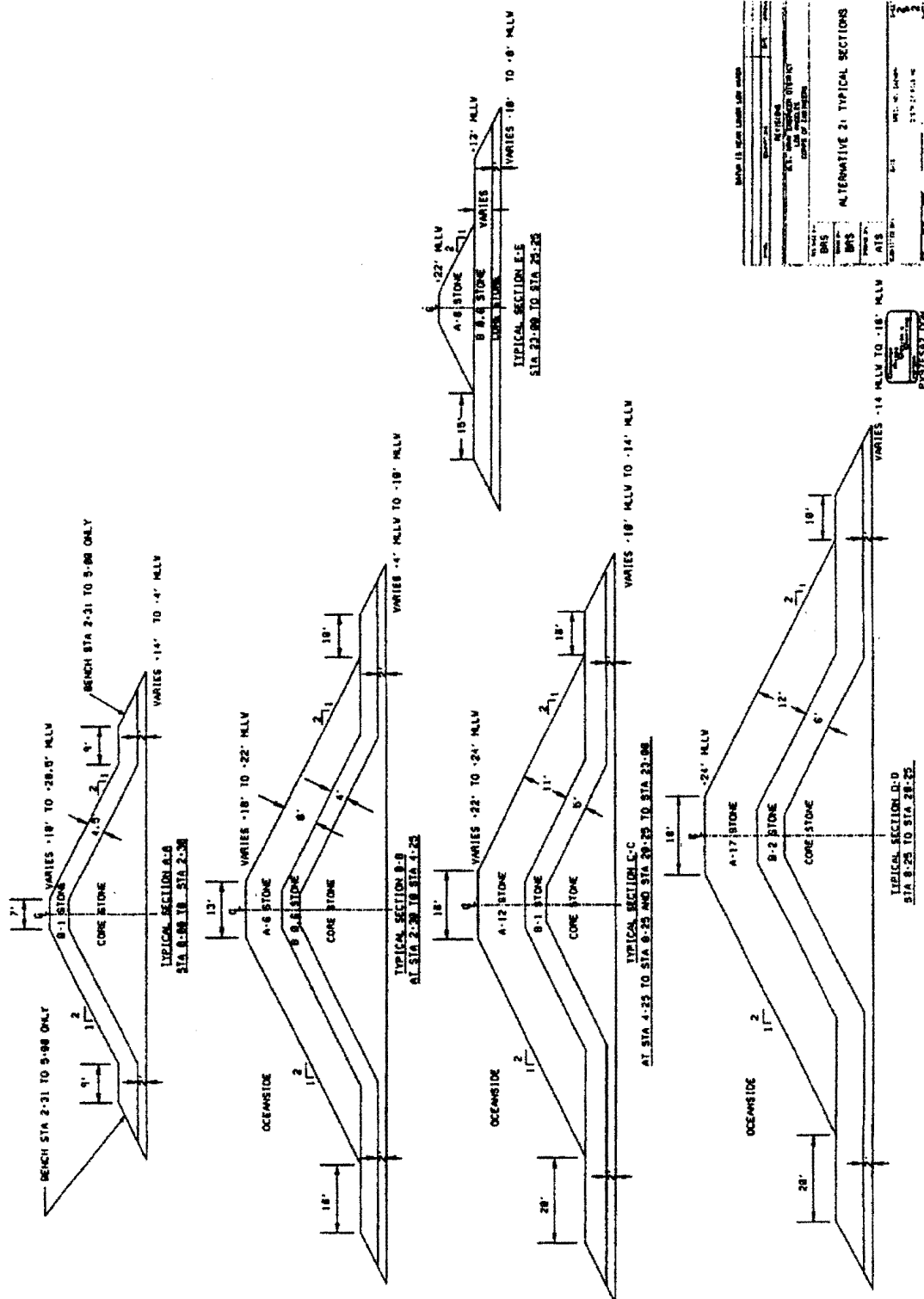


EXHIBIT NO. 3

APPLICATION NO. CD-074-00

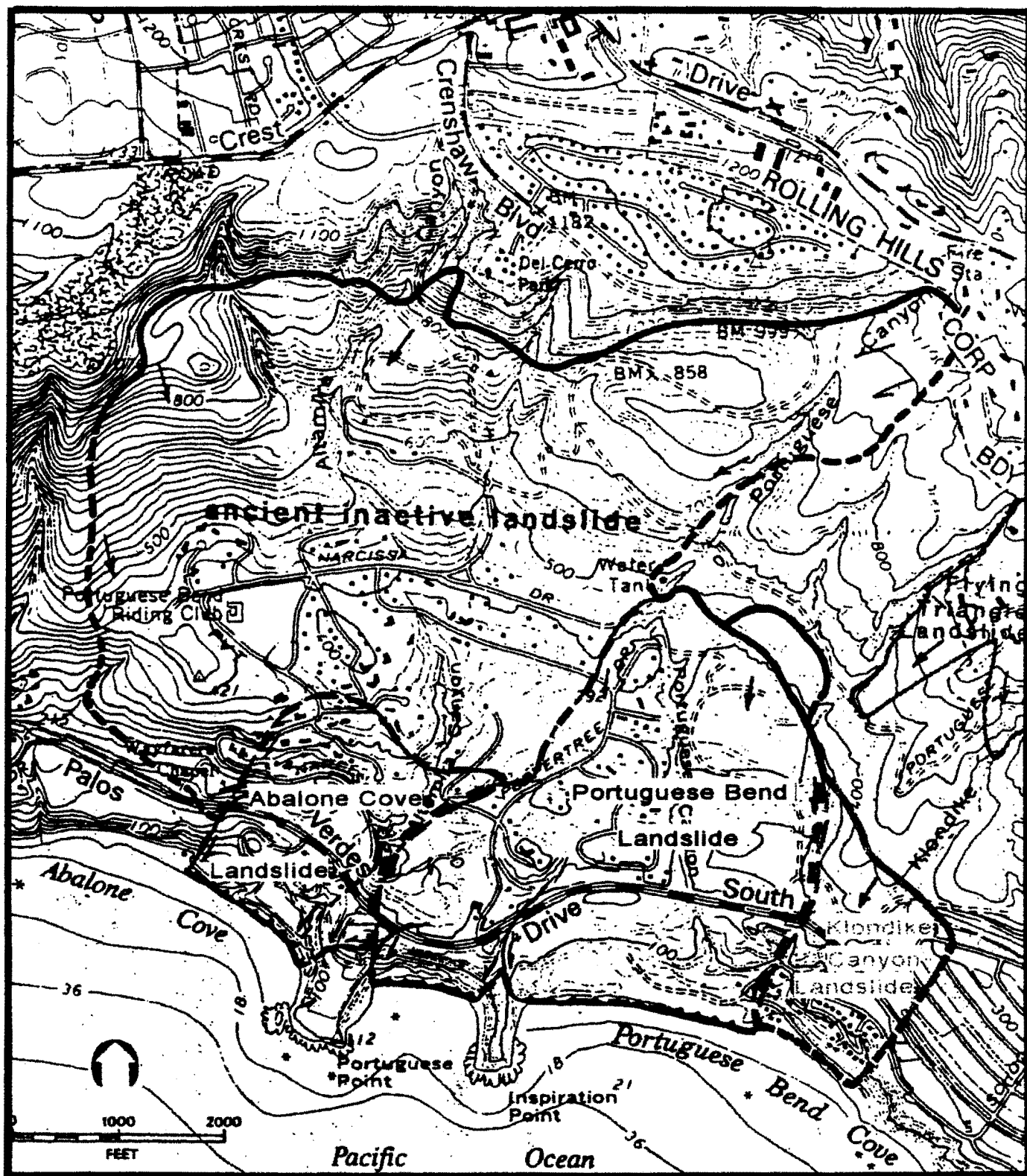


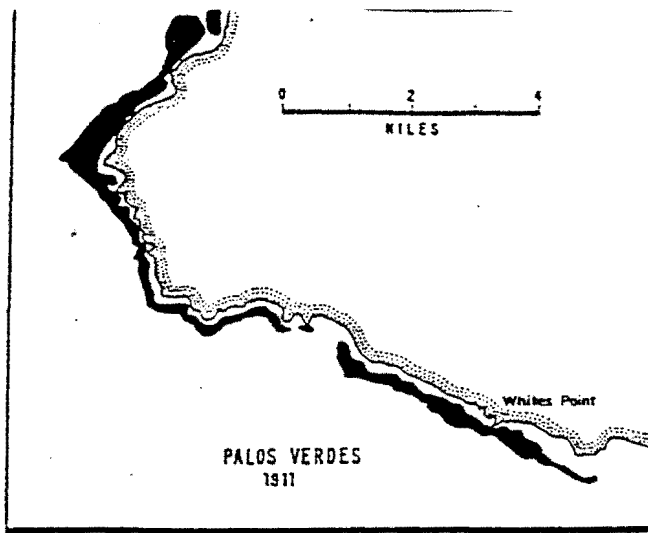
Figure 9. Boundaries of the three recent landslides that have contributed sediment to the nearshore waters off the coast of the Palos Verdes Peninsula. Adapted from ACOE 1996.

EXHIBIT NO. 4

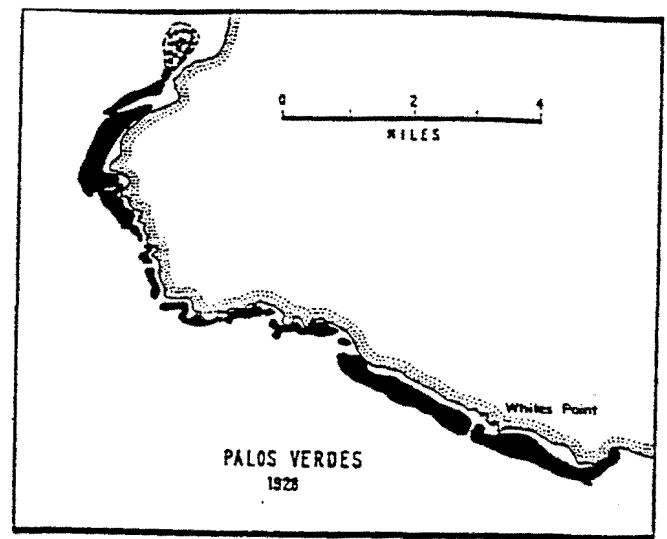
APPLICATION NO. CD-074-00



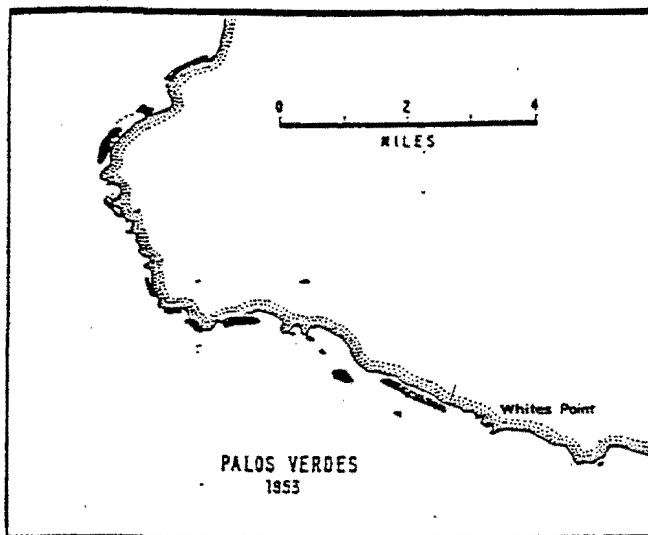
California Coastal Commission



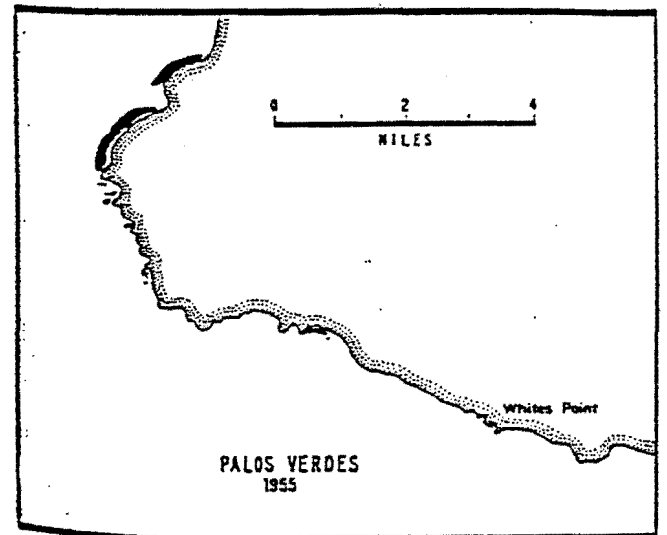
A. Chart of the Palos Verdes Peninsula coastline in 1911. The area of kelp beds shown was estimated as 6.27 square kilometers. Adapted from University of California, 1964.



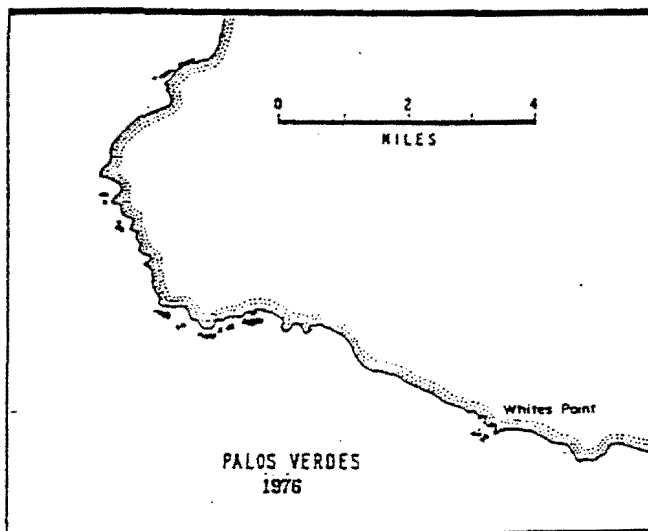
B. Chart of the Palos Verdes Peninsula coastline in 1928. The area of kelp beds shown was estimated as 7.49 square kilometers. Adapted from University of California, 1964.



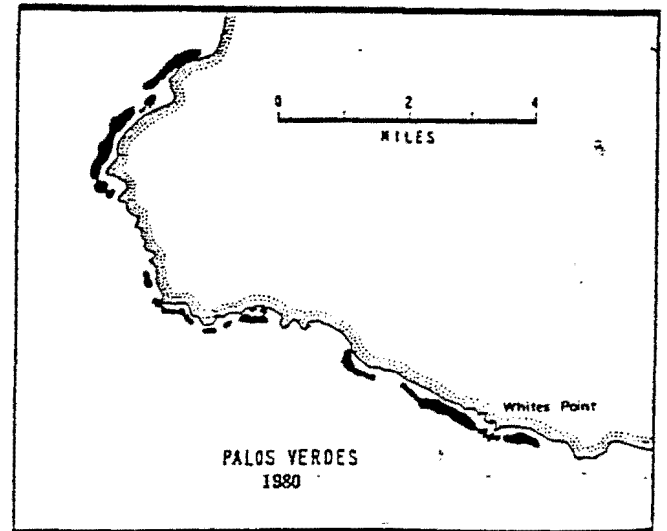
E. Chart of the Palos Verdes Peninsula coastline in 1953. The area of kelp beds shown was estimated as 1.14 square kilometers. Adapted from University of California, 1964.



F. Chart of the Palos Verdes Peninsula coastline in 1955. The area of kelp beds shown was estimated as 0.62 square kilometers. Adapted from University of California, 1964.



I. Chart of the Palos Verdes Peninsula coastline in 1976. The area of kelp beds shown was estimated as 0.26 square kilometers. Data from California Department of Fish and Game.

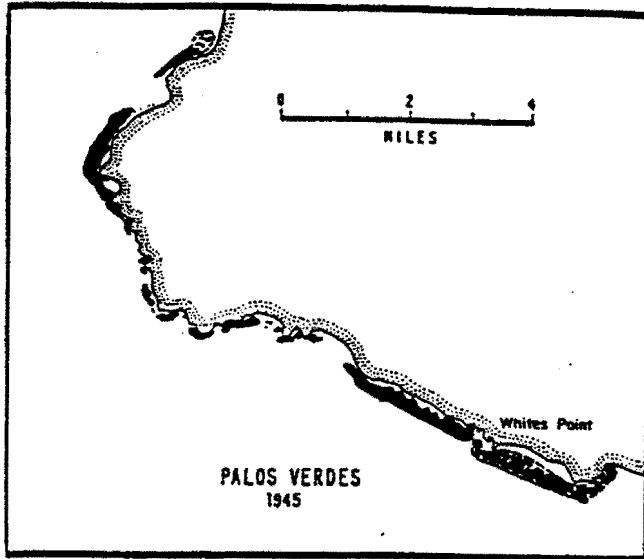


J. Chart of the Palos Verdes Peninsula coastline in 1980. The area of kelp beds shown was estimated as 2.40 square kilometers. Adapted from Wilson et al., 1980.

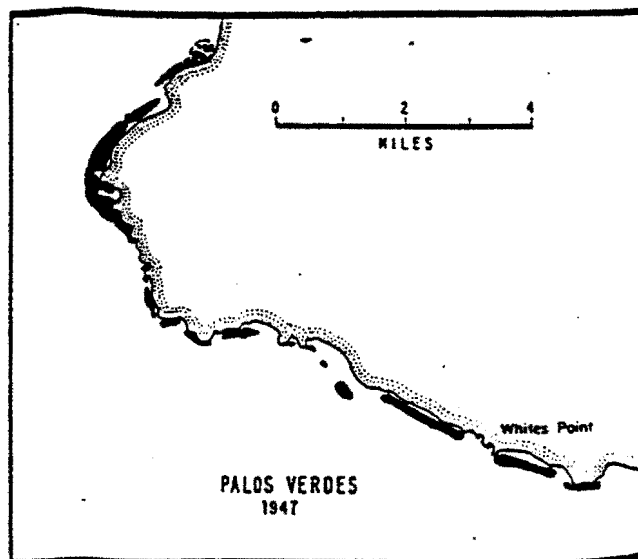
EXHIBIT NO. 5

APPLICATION NO. CD-074-00

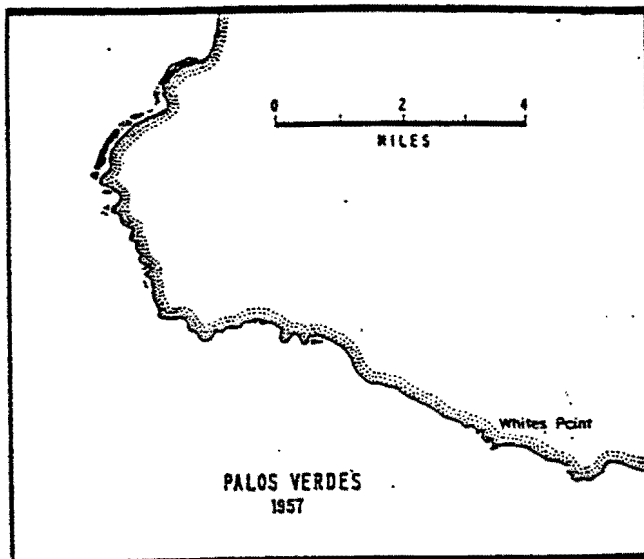
Changes in kelp bed canopy and distribution along the Palos V



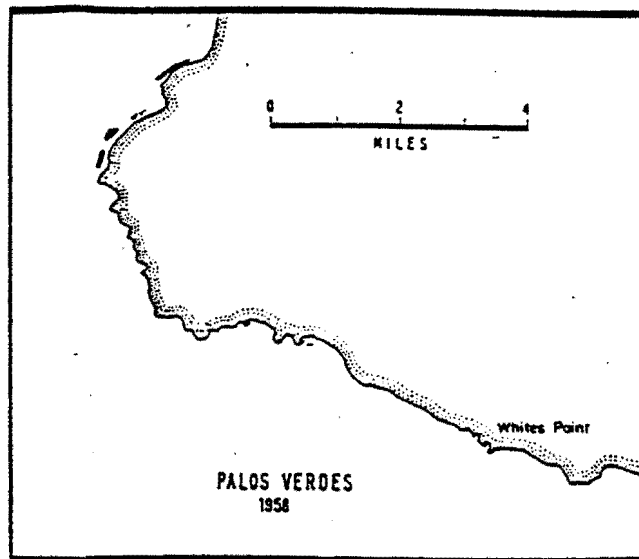
C. Chart of the Palos Verdes Peninsula coastline in 1945. The area of kelp beds shown was estimated as 4.22 square kilometers. Adapted from University of California, 1964.



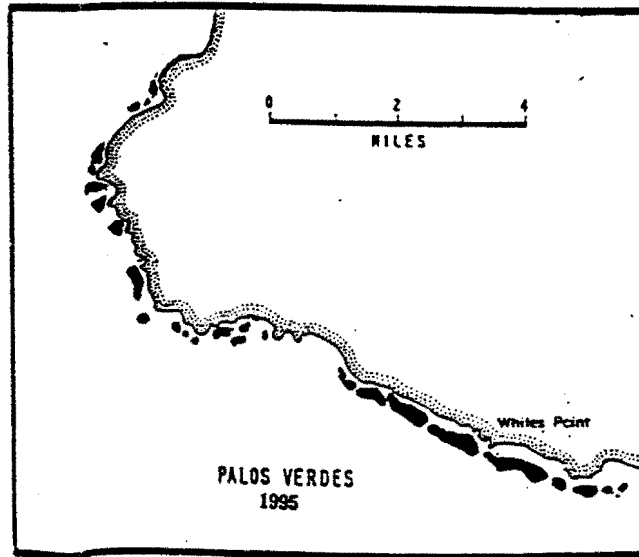
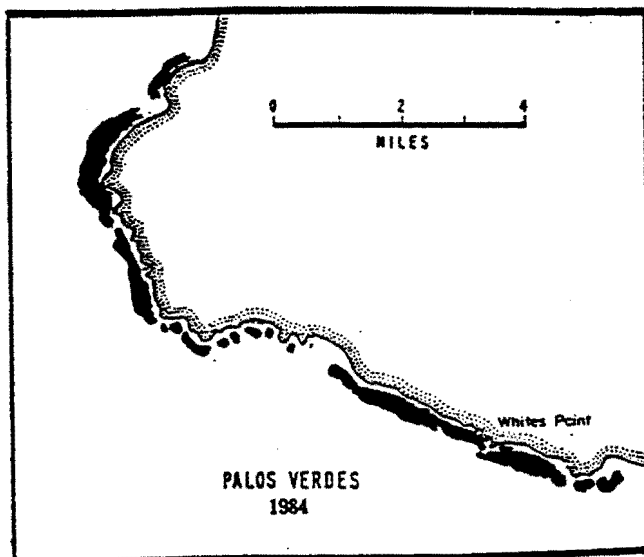
D. Chart of the Palos Verdes Peninsula coastline in 1947. The area of kelp beds shown was estimated as 2.72 square kilometers. Adapted from University of California, 1964.



G. Chart of the Palos Verdes Peninsula coastline in 1957. The area of kelp beds shown was estimated as 0.34 square kilometers. Adapted from University of California, 1964.



H. Chart of the Palos Verdes Peninsula coastline in 1958. The area of kelp beds shown was estimated as 0.13 square kilometers. Adapted from University of California, 1964.



L. Chart of the Palos Verdes Peninsula coastline in 1995. The area of kelp beds shown was estimated as 1.49 square kilometers. Data from California Department of Fish and Game.

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area of kelp beds
california

s 1911 and 1995.

es

CALIFORNIA COASTAL COMMISSION

45 FREMONT, SUITE 2000
SAN FRANCISCO, CA 94105-2219
VOICE AND TDD (415) 904-5200
FAX (415) 904-5400



7 August 2000

MEMORANDUM

To: James Raives, Coastal Program Analyst
From: Mark Johnsson, Senior Geologist
Re: USACE Rancho Palos Verdes Feasibility Study, Preliminary analysis of geotechnical aspects

I have reviewed the geotechnical appendix of the Rancho Palos Verdes Feasibility Study prepared by the Corps of Engineers, and offer the following brief synopsis of issues relevant to your analysis for a potential Federal Consistency Determination. The appendix consists of a report prepared by Leighton and Associates entitled "Geotechnical appendix for the stabilization of the Portuguese Bend Landslide, City of Rancho Palos Verdes, California," dated 22 April 1997, and an evaluation of both that report and the overall geotechnical environment of the offshore region in the area of the Portuguese Bend Landslide.

The Portuguese Bend Landslide is one of many large ancient landslides on the Palos Verdes Peninsula, several of which have been reactivated in recent times. The Portuguese Bend Landslide was reactivated in 1956. The cause of the reactivation has not been definitively determined, although it has been the subject of several lawsuits; in any case, renewed movement was inevitable due to the precarious geometry of the slide. The slide is essentially a natural feature, and periodic or episodic movement is to be expected. Since 1956, movement on the landslide has been irregular and variable in both time and space. Despite many attempts to halt its seaward progression, movement on the landslide continues.

The Portuguese Bend landslide is a translational slide, in which a large block, some 260 acres in extent, is slipping along a slide plane under the force of gravity. The slide plane is located along weak bedding planes in the Altamira Shale (lower member of the Monterey Formation), mostly along a thick bentonite unit (a layer of altered volcanic ash composed of the swelling clay mineral *smeectite*) known as the Portuguese Tuff. The rock layers, including the Portuguese Tuff, are gently inclined southward, toward the sea, because the Palos Verde Peninsula has been warped upward as a result of tectonic forces.

In the geotechnical appendix of the Feasibility Study, the Corp and its consultant speculate as to the geometry of the slide plane at the seaward terminus of the landslide. The Leighton and Associates report concludes that the slide plane for the Portuguese

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Bend Landslide dips onshore and terminates within 100 feet of the present shoreline. The Corp's Geotechnical Branch, however, concludes that the slide plane cannot be defined with any great accuracy due to inherent drilling and sampling problems. They adopt the conservative position that, in the absence of such information, it is equally likely that the slide plane dips offshore, inferring possible instability or even movement as much as several hundred feet offshore. The Geotechnical Branch concludes from this that:

"the available information does not confirm that the near shore area is stable. Any structure proposed within 400 feet of the existing shoreline (out to a water depth of -10 to -20 feet MLLW) could be subject to displacement, either along an active slide the reactivation of inactive slide planes, development of new sliding surfaces within the south dipping bedrock, or seaward movement of the landslide mass over the existing sea floor."

This conservative position seems reasonable and I concur with this interpretation.

The Geotechnical Branch opines that the data rule out consideration of shore protection that would require foundation on presently unstable or potentially unstable surfaces. They indicate, however, that "analyses regarding the stability of the slide are outside the scope of the Rancho Palos Verdes Feasibility Study."

Nevertheless, the Geotechnical Branch does state that "of the shore protection concepts identified in the Initial Project Management Plan...the breakwater constructed in water depths of approximately -10 to -20 feet MLLW is the geotechnically preferred option." This places the structure 400-600 feet offshore. Regardless of the fact that "there is no analytical technical basis for the location siting" the Corp concludes that active or inactive slide planes are not likely to be present this far from the existing toe, even though they admit that the position of the toe of the landslide cannot be accurately assessed. They also conclude that "it is reasonable to assume that encroachment of a moving slide mass would not overtake the structures, at least for several decades." They leave unaddressed the question of whether additional loading of the seaward-dipping beds by a massive revetment could instigate movement on new slide planes.

Some information regarding the likelihood of failure along new slide planes could be gleaned from additional drilling to define potential failure surfaces and the estimation of forces driving, and the forces resisting, movement. The Corp concludes, however, that "offshore drilling...cannot now be recommended due to the extremely high cost and very questionable return of useful geotechnical information."

Despite the strong possibility that even the proposed location 400-600 feet offshore might be susceptible to geologic instability, and despite the judgement that gaining

EXHIBIT NO. 6 page 2

APPLICATION NO. CD-074-00

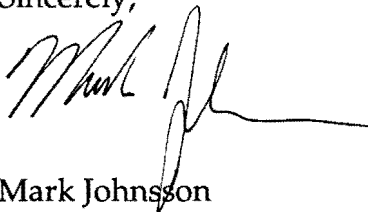
additional information to assess instability is prohibitively expensive, the Corp nonetheless concludes that:

"It can be reasonably assumed...that stable foundation conditions exist 400 feet from the existing shoreline along the Portuguese Bend Landslide and that a structure built at that distance would not be adversely impacted during its 50-year design life."

I cannot concur with that assessment. The Corp has provided no data that allow a finding that the structure can be built so as to assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area, as required under section 30253 of the California Coastal Act. It is my professional opinion that, due to the weight of the proposed structure and its location on dipping beds of questionable stability, the structure could cause a new slide that could damage the structure and lead to further landsliding offshore. Accordingly, the proposal is inconsistent with the Coastal Act and a negative Federal Consistency Determination is recommended.

I hope that this summary is useful, if you have any further questions please do not hesitate to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'Mark Johnson', with a long horizontal flourish extending to the right.

Mark Johnson
Senior Geologist

STATE OF CALIFORNIA—THE RESOURCES AGENCY

DEPARTMENT OF FISH AND GAME

MARINE REGION

20 LOWER RAGSDALE DRIVE, SUITE 100

MONTEREY, CA 93940

(831) 649-2870

Post-It® Fax Note 7671

Date	8/21	# of pages	6
To	James Raives		
From	M Fluharty		
Co./Dept.	Co.		
Phone #	Phone #		
Fax #	415 904 5400		

Governor



August 18, 2000

Rey Farve
U.S. Army Corps of Engineers
911 Wilshire Blvd.
Los Angeles, California 90018

RECEIVED
AUG 22 2000
CALIFORNIA
COASTAL COMMISSION

Dear Mr. Farve:

Department of Fish and Game (Department) personnel have reviewed the Draft Environmental Impact Statement/Draft Environmental Impact Report (DEIS/DEIR) for the Rancho Palos Verdes, Los Angeles County, Draft Feasibility Report (SCH# 2000061024). The project is proposed by the U.S. Army Corps of Engineers (Corps) in conjunction with the City of Rancho Palos Verdes as the non-federal sponsor. The purpose of the proposed action is to restore rocky reef habitat in the nearshore marine waters, where nearshore is defined as -10 to -30 feet Mean Lower Low Water (MLLW), of Portuguese Bend Cove and adjacent areas, and improve conditions for existing nearshore kelp beds. Prior to the Portuguese Bend landslide, which initiated in the 1950's, Portuguese Bend Cove supported healthy subtidal and intertidal marine communities. Presently, the area is degraded due to landslide generated sediment deposition and associated high turbidity. The proposed action will involve construction of a 2,800 foot-long offshore dike, seaward from the landslide area, to reduce wave energy and contain eroding bluff sediment. It is anticipated that once the sediment has been contained, wave action and currents will remove accumulated sediment and restore approximately 90 acres of hard rock reef habitat in the nearshore zone. Additionally, it is expected that 400 acres of existing nearshore kelp beds would benefit from decreased turbidity. There are four project alternatives under consideration.

Alternative 1 involves construction of a 2,520 foot-long quarry rock dike 200 feet seaward of the existing bluff at the -10 feet MLLW contour. Alternative 1a proposes to dredge 462,000 cubic yards (cy) of sediment from 62 acres of nearshore rocks (to expedite reef recovery) in addition to building the dike as detailed in Alternative 1. With Alternative 1, the Corps estimates it will take 8 to 14 years, for depths less than -20 MLLW, and from 53 to 87 years, for sediment in waters -20 to -30 feet MLLW, to naturally uncover hard rock reef from waves and current action. Approximately 9 acres of "poor quality" intertidal/subtidal marine habitat would be lost behind the dike plus acreage associated with the footprint of the dike. Maintenance would require removal of approximately 3 million cy of sediment from behind the dike every 20 years. Alternative 2 involves construction of a 2,800 foot-long dike located 400 feet seaward of the bluff

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at approximately the -16 feet MLLW contour line. Alternative 2a proposes to dredge 422,000 cy of sediment from 52 acres of nearshore rocks in addition to the dike as detailed in Alternative 2. With Alternative 2, recovery time for waves and currents to expose the hard rock reef areas would be similar to Alternative 1 except there would be fewer acres of shallow water habitat to uncover since the dike would extend farther out from shore at Portugese Bend. Approximately 17 acres of intertidal/subtidal habitat would be lost behind the dike plus the acreage associated with the footprint of the dike. Maintenance would require removal of approximately 7 million cy of sediment from behind the dike every 50 years.

The Corps have been unable to assure the stability of a shoreline structure because there is uncertainty about location of the landslide's toe. However, the Corps has determined that any structure within 200 feet of the shore could be displaced by the landslide, but "a structure between 200 and 400 feet is believed to have an acceptable degree of risk of maintaining its integrity provided encroaching sediment is removed from behind the dike," (Executive Summary page vi). Currently, the seaward side of the landslide is moving at 7.6 feet per year, and, in wet years, the movement could be greater. Thus, in 50 years, if there are no major wet events, seismic activities, and the landslide is not stabilized by other means, the landslide will be 380 feet further seaward. The Corps' preferred alternative is a structure 400 feet from the shoreline, with a 50-year maintenance schedule. Based on structural failures of past projects in the Portugese Bend area, the Department concurs with the Corps selection of a structure located 400 feet from the shoreline.

The Department has coordinated with the Corps and other resource agencies during the planning phases of this project. We agree that hard rock reef habitat is ecologically important and that restoration of hard substrate and improved water quality would benefit marine resources in the project area. However, we have several concerns and comments about the proposed action which are listed below:

Marine Environment

- The purpose of the proposed action is to restore the marine environment of Portugese Bend Cove and adjacent areas. But project success is based on the assumption that deposited sediments will be transported out of the project area. The DEIS/EIR, however, provides little assurance that the sediment will be transported away by natural processes. We also question how the project area under restoration would be impacted if another landside, similar to the one in June 1999 at the Ocean Trails Golf Course, occurs. If a portion of the dike were to be destroyed and sediments are released, we are uncertain as to how the additional sediment in the littoral cell would affect projected sediment transport. We are also concerned that the time involved for the sediment removal appears to be excessively long, 8 to 14 years for depths less than -20 feet MLLW (depending on which alternative is selected), and 53 to 87 years for depths of -20 to -30 feet MLLW (depending on project area). Sediment removal estimates are based on a representative grain size and assume sediment material is mostly sand as opposed to clay. Thus, it is conceivable that sediment transport could take longer than is currently predicted. We recommend the Corps provide a range of removal times based on differing grain sizes and

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sand/silt content as well as a discussion of worst case scenarios in the final EIS/EIR. Given these concerns, the Department recommends the Corps adopt Alternative 2a, which would include the dredging of 422,000 cy of sediment from 52 acres of nearshore hard substrate, in addition to dike construction, as the preferred project action.

- The Department agrees that exposure of hard substrate and resultant establishment of kelp beds and associated communities is considered an enhancement over existing conditions. But the loss of 17 acres (assuming Alternative 2) of intertidal/subtidal habitat, plus the footprint of the dike, without some measure of a "guarantee" of success or contingency plan in case of failure is not acceptable. In the event that sediment does not naturally erode, the Monitoring and Adaptive Management Plan (Appendix I page I-5) states "mechanical removal may be an adaptive management option which could be considered," and "re-planting kelp might be considered if natural colonization does not occur." We consider these statements as passive and unlikely to become a reality should the need arise. Thus, the Department recommends that these concepts be included as part of the project description with a more active role. Accordingly, they should be written as "mechanical removal will take place," and "kelp will be re-planted," if project objectives are not achieved.
- We are concerned with the limited time commitments proposed in the Monitoring and Adaptive Management Plan. Nearshore monitoring is planned every other year to document sediment erosion rate. After 5 years the City of RPV will be responsible for monitoring up to 11 years after construction. Existing kelp forests will be monitored two times per year for the first 5 years after construction to document the quality of the beds. Given the time estimates for sediment removal, 8 to 14 years for depths less than -20 feet MLLW and 53 to 87 years for depths of -20 to -30 feet MLLW, we will not know the fate of 45 acres of nearshore hard rock reef habitat. This represents one half of the total area expected to be uncovered and restored by the proposed action. Project success cannot be determined when only one half of the expected area to be restored is not monitored. The Monitoring and Adaptive Management Plan needs to be extended well beyond 11 years.
- We are also concerned with the definition of "Success Criteria" as described in the Monitoring and Adaptive Management Plan (Appendix I page I-4). According to the DEIS/DEIR, success or failure of the proposed action will be measured against whether or not sediment is contained so that hard substrate will be uncovered, and whether turbidity has been eliminated and existing kelp beds have improved. There is no mention of establishment of kelp and algal communities on newly exposed hard substrate as a measure of project success. Since the project action is to restore the marine environment of Portuguese Bend Cove and adjacent areas, we feel this should be part of the success criteria definition.
- The Monitoring and Adaptive Management Plan (Appendix I, page I-5) states that marine biological monitoring will include measurements of sediment. We assume the protocol will include monitoring the establishment of kelp and algal communities on newly exposed hard substrate in addition to measuring sediment depths.

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- The Executive Summary and sections 3.3 should cite the acreage loss behind the dike associated with Alternatives 2 and 2a. Additionally, the area lost from the footprint of the dikes should be provided for all alternatives under consideration.
- There is some discrepancy on the total amount of hard substrate habitat expected to be uncovered by the proposed project. Page 5-13 states that 50 to 60 acres of reef habitat would be exposed, while page vii of the Executive Summary and Table 7 provide estimates of approximately 90 acres. This issue needs to be clearly stated in the final EIS/EIR.

Terrestrial Environment

- Section 4.3.3 states that the discussion on biological resources will only focus on those species listed or proposed under the federal Endangered Species Act. The U.S. Fish and Wildlife Service's Draft Coordination Act Report (DCAR) provides lists of terrestrial invertebrate, plant, amphibian, reptile, bird, and mammal species that are known or reasonably expected to occur in the study/project area. On these lists are 10 species of terrestrial plants, 3 species of reptiles, and 11 species of mammals which are designated as California State Species of Special Concern. As a functional California Environmental Quality Act (CEQA) document, the final EIR discussion will need to include Species of Special Concern per CEQA guidelines 15380.
- Page 5-16 states "The grassland area that will be used for hauling rock material to the construction site is not known to have any threatened or endangered species." Additionally, page 3 of the Executive Summary states that no sensitive terrestrial resources will be impacted. We question how the Corps knows this when there has been no site characterization of the area.
- Alternative 1 or 1a would require 13,255 one-way truck trips to deliver 264,500 tons of quarry rock from a mainland site. Alternative 2 or 2a would require 22,390 one-way truck trips to deliver approximately 343,850 tons of quarry rock. Thus, if quarry rock came solely from mainland sources, the number of total truck trips trucks traveling across the terrestrial portion of the study area could range from 26,510 to 44,780, which averages 103 to 116 truck trips per day assuming a 5-day work week. Truck trips would be on an existing undeveloped road which would be extended 1,500 feet and widened from 12 to 14 feet, impacting approximately 0.6 to 0.7 acres of terrestrial habitat. These trips do not include additional vehicles associated with construction of the dike. The DEIS/DEIR fails to include the expected impacts such as; driving off road (either on purpose or accidentally), dust, noise, oil and other contaminants from leaky trucks, littering, breakdowns, spills, and air pollution. The DEIS/DEIR also fails to mention staging or stockpile areas, nor does it account for the number of truck trips associated with dike maintenance, estimated in the DCAR at 200 trips per day. In addition, there is no discussion about the impacts of heavy traffic on the landslide and the likelihood of

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increased landslide movement. Accordingly, the Corps should investigate these issues further for inclusion in the final EIS/EIR.

The DEIS/DEIR states (page 5-21) that the proposed project is not expected to have any cumulative effects with future or proposed activities. As mentioned on page 65 of the DCAR, an absence of erosion at the toe of the slide could result in stabilization of the Palos Verdes landslide. Once the landslide is stabilized, the current construction moratorium would be lifted and subsequent development of homes, recreational facilities, and additional golf courses would commence. These activities would have significant impacts on the terrestrial environment and should be included in the final EIS/EIR.

Thank you for the opportunity to comment on your DEIS/DEIR and we look forward to reviewing the final EIS/EIR. As always, Department personnel are available to discuss our comments, concerns, and recommendations in greater detail. To discuss issues concerning the marine environment, please contact Ms. Marilyn Fluharty, Environmental Specialist, California Department of Fish and Game, 4949 Viewridge Avenue, San Diego, CA 92123, telephone (858) 467-4231.

Sincerely,

COPY ORIGINAL SIGNED BY
ROBERT N. TASTO

Robert N. Tasto, Supervisor
Project Review and Water Quality Program
Marine Region

cc: Mr. Scott Morgan
State Clearinghouse
Sacramento, California

Ms. Marilyn Fluharty
Department of Fish and Game, Marine Region
San Diego, California

Mr. William Tippets
Department of Fish and Game
South Coast Region
San Diego, California

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UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

Southwest Region
501 West Ocean Boulevard, Suite 4200
Long Beach, California 90802-4213

JUL 27 2000

July 26, 2000

Robert E. Koplin
U.S. Army Corps of Engineers
Chief, Planning Division
P.O. Box 532711
Los Angeles, California 90053-2325

ATTN: CESPL-PD-RQ (R. Farve)

Dear Mr. Koplin:

Thank you for the opportunity to review the Draft Rancho Palos Verdes Environmental Impact Statement/Environmental Impact Report (DEIS/EIR) and Draft Feasibility Study, Los Angeles County, California. The goal of this project is to restore the natural rocky reef habitat in nearshore areas and improve existing kelp beds by containing landslide-generated sediment and eliminating turbidity caused by the Portuguese Bend landslide. The proposed action is to build a containment dike 400 feet from shore to contain landslide sediment and eliminate the adverse effects of turbidity plumes on downcoast kelp beds. We offer the following comments and recommendations on this project pursuant to the Magnuson-Stevens Fishery Conservation and Management Act and the Fish and Wildlife Coordination Act.

The proposed containment dike will cause the area behind the dike to be gradually filled with landslide material. This will inevitably cause all existing marine life to become smothered by the increasing sediment load contained within the dike. Beach seine surveys within the proposed dike area indicate the presence of adult Northern anchovy (*Engraulis mordax*) and Pacific sardine (*Sardinops sagax*), which are both listed within the Coastal Pelagics Fishery Management Plan (FMP) for the Pacific region. Thus, this action would adversely affect essential fish habitat (EFH) for at least two species from the fishery management plan by possibly removing foraging habitat.

However, the dike is also expected to have beneficial effects on EFH. Assuming the dike is effective in retaining landslide-generated sediment, 173 acres of existing kelp forests at Bunker Point and 230 nearshore acres from Bunker Point to Whites Point are expected to benefit from the elimination of the chronic impacts of turbidity to marine vegetation. The dike itself will also serve as new intertidal and subtidal rock habitat. Lastly, areas currently covered in sediment outside the dike are expected to be uncovered, either by dredging or natural processes (i.e. wave action, tidal influence, and currents), leaving a rocky reef habitat. Once uncovered, this rocky habitat may be re-colonized by marine

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vegetation creating a healthy kelp bed community, which may support many *Sebastes* spp. managed in the Pacific Groundfish FMP.

EFH Conservation Recommendations

Overall, this project has the potential to create a net beneficial effect for EFH within the Portuguese Bend area. However, the project adversely affects existing EFH and the positive effects may never be fully realized. Therefore, NMFS recommends pursuant to Section 305(b)(4)(A) of the Magnuson-Stevens Act that the Corps of Engineers adopt the following EFH Conservation Recommendations for any permit issued for this project:

- 1) The Corps of Engineers and the Non-Federal Sponsor should follow Alternative 2 (the Recommended Plan) rather than Alternative 1. Building the dike 400 feet from shore, as proposed in Alternative 2, will decrease the likelihood of damage to the dike infrastructure from either excessive landslide sediment or wave action compared to a dike built 200 feet from shore, as proposed in Alternative 1.
- 2) The Corps of Engineers and the Non-Federal Sponsor should allow natural oceanic processes, such as wave action, tidal forces, and currents, rather than dredging to remove landslide sediment from the rocky reef habitat. Dredging may disrupt any existing essential fish habitat, would temporarily increase turbidity, and would raise disposal issues. Dredging should only be a consideration if natural processes are not effective in removing sediment within the expected 8-11 year period.
- 3) The Corps of Engineers and the Non-Federal Sponsor should implement a monitoring program for both the rocky reef habitat and the existing kelp forest in order to evaluate the effectiveness of the containment dike. Specifically, the sediment-covered rocky reef habitat should be monitored for rates of erosion and kelp re-colonization annually for the expected 11 year period. The existing kelp beds should be monitored biannually for the first five years and then once every five years to evaluate the expected improvement in the quality of the existing kelp beds. This intensive monitoring effort is essential for evaluating whether the restoration efforts are effective.
- 4) The Corps of Engineers and the Non-Federal Sponsor should develop an adaptive management plan in case the expected habitat benefits of an improved existing kelp forest and an increase in rocky reef habitat are not realized. Specifically, a plan should be developed which will mitigate for the area damaged by the accumulation of landslide sediment behind the dike. Possible suggestions include mechanical removal of sediment, creation of an artificial reef, and/or re-planting kelp. Sites outside the project area should be considered if the containment dike is not effective in containing landslide sediment and reducing turbidity.

NMFS would not object to the proposed activities if the above EFH Conservation Recommendations are included as special conditions of the permit.

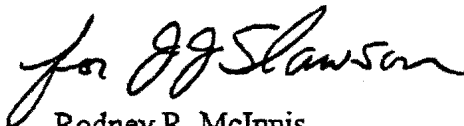
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Section 305(b)(4)(B) of the Magnuson-Stevens Act requires the Corps of Engineers to provide NMFS with a detailed written response to these EFH Conservation Recommendations, including a description of measures adopted by the Corps for avoiding, mitigating, or offsetting the impact of the project on EFH. In the case of a response that is inconsistent with NMFS' recommendations, the Corps must explain its reasons for not following the recommendations, including the scientific justification for any disagreements with NMFS over the anticipated effects of the proposed action and the measures needed to avoid, minimize, mitigate, or offset such effects (50 CFR 600.920(j)).

Thank you for your consideration of our recommendations. Should you have any questions, please contact Bryant Chesney at (562) 980-4037.

Sincerely,



Rodney R. McInnis
Acting Regional Administrator

