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PERMIT AMENDMENT

Application number.....**3-00-034-A1, Santa Cruz Small Craft Harbor Demonstration Dredging Project**

Applicant.....Santa Cruz Port District (Contact: Brian Foss, Port Director)

Project Location..... Santa Cruz Small Craft Harbor and Twin Lakes State Beach, City of Santa Cruz (Santa Cruz County)

Project Description..... Modify original permit to allow for dredging and disposal of 3,000 cubic yards of fine grained sediment (less than 80% sand) to occur into the nearshore environment of Twin Lakes State Beach.

File Documents..... *A Sediment Trend Analysis (STA) of Santa Cruz Harbor and its Vicinity: Implications to Dredge Disposal Operations*, dated February 2000; CDP 3-00-034.

Agency Approvals..... Monterey Bay National Marine Sanctuary (MBNMS) approval letter dated December 13, 2000; U.S. Army Corps of Engineers permit 2439S (pending); California Regional Water Quality Control Board 401 certification dated December 13, 2000.

Staff Recommendation..... **Approval, with conditions**

Procedural Note

Coastal Development Permit Amendments

The Commission's regulations provide for referral of permit amendment requests to the Commission if:

1. The Executive Director determines that the proposed amendment is a material change,
2. Objection is made to the Executive Director's determination of immateriality, or
3. The proposed amendment affects conditions required for the purpose of protecting a coastal resource or coastal access.

If the applicant or objector so requests, the Commission shall make an independent determination as to whether the proposed amendment is material (14 California Administrative Code Section 13166).

The subject application is being forwarded to the Commission because the Executive Director has determined that the proposed amendment is a material change and affects conditions required for the purposes of protecting coastal resources or coastal access.

EXECUTIVE SUMMARY

The applicant is requesting an amendment to coastal permit 3-00-034, which covers a five-year period and allows for the dredging of 10,000 cubic yards of sediment per year from the inner harbor and 350,000 cubic yards of sediment per year from the entrance channel. CDP 3-00-034 requires that dredge materials being placed into the surfline consist of over 80% sand. The priority disposal site for dredge material is the nearshore surfline at Harbor Beach and Twin Lakes State Beach, as this material is a source of beach replenishment. Use of the offshore pipeline is permitted only when hydrogen sulfide odor is present in quantities that would affect beach users or adjacent residents, when onshore winds exist, or when weather conditions conflict with beach users.

The Santa Cruz Port District wishes to amend CDP 3-00-034 to allow for the one-time dredging of 3,000 cubic yards of sediment from the North Harbor, with disposal by means of the offshore pipeline during February and/or March 2001. This sediment, however, averages 42% sand. The Santa Cruz Port District is proposing this as a demonstration project is to determine if clean, fine-grained harbor sediments can be disposed into the nearshore area in a manner beneficial to downcoast beaches and without harm to coastal resources.

The main issues regarding this project are as follows:

Beach Replenishment: The sediments proposed for dredging average 42% sand. Typically beach nourishment material is at least 80% sand. The Port District contends that the 80% sand guideline is too restrictive. According to the applicant, the benefits of this demonstration project include beach replenishment, and transport of silt and clay to the ocean during high-wave energy periods of February and March. The Environmental Protection Agency (EPA) states that there is flexibility within the Clean Water Guidelines that allows for discharge of finer material for beach nourishment purposes, provided that site-specific information is available to determine any beach nourishment benefits or significant adverse impacts. The EPA feels that the proposed demonstration project can provide the kind of site-specific information necessary for further evaluation. Commenting scientists agree that silts and clays will not remain in the nearshore area when disposed of during winter months. They also recommend a monitoring program to learn the fate of the material during and following the discharges. The project proposal includes a monitoring program to be performed by scientists from Moss Landing Marine Laboratories.

Biological Resources

Sediment deposition can smother invertebrates and prevent algal spore settlement. However, oceanographic information about currents in the proposed disposal area indicates that fine-grained sediment will not settle out in the nearshore areas. Dredging causes the disturbance, transport, and destruction of benthic organisms, but the disturbance caused by the amended project would be limited and temporary. Also, the use of a hydraulic dredge will minimize disturbance and re-

suspension of sediments at the dredge site. Several endangered or threatened species are found in the Harbor area or just offshore. The underwater disposal of dredge material is not expected to affect the state and federally listed California brown pelican. The planned dredging will occur outside the upstream and downstream migration seasons of the threatened steelhead trout. The endangered tidewater goby no longer inhabits the watershed area adjacent to the Harbor.

Water Quality: Dredging and disposal activities increase turbidity in the water column. Dissolved oxygen levels in the water column decrease due to increased turbidity. However, water quality conditions should return to baseline conditions shortly after each dredging and disposal episode. In addition, the dredge material was subjected to physical, chemical, and biological testing. The dredge material passed all tests and has been qualified for unconfined aquatic disposal. All reviewing and permitted agencies have copies of the completed test results. Furthermore, marine scientists from Moss Landing Marine Laboratories will perform onshore and offshore water sampling prior to, during, and after the proposed dredging and disposal activities.

Public Access/Recreation: The proposed dredging project will strongly benefit public access and recreation by restoring and maintaining adequate water depths in the Harbor's navigation channels and berthing areas. In addition, 1,200 cubic yards of the dredge material is composed of sand, which will be available for beach replenishment. The dredging and disposal activities will occur during 6-to-8-midweek days during February and/or March 2001. The disposal will occur during evening and nighttime hours and therefore will not affect daytime recreational use at Twin Lakes State Beach.

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I. STAFF RECOMMENDATION ON AMENDMENT

The staff recommends that the Commission, after public hearing, **approve** the proposed amendment subject to the standard and special conditions below. Staff recommends a **YES** vote on the following motion:

Motion. *I move that the Commission approve the proposed amendment to Coastal Development Permit Number 3-00-034-A1 pursuant to the staff recommendation.*

Staff Recommendation of Approval. *Staff recommends a **YES** vote. Passage of this motion will result in approval of the amendment as conditioned and adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of the Commissioners present.*

Resolution to Approve a Coastal Development Permit Amendment. *The Commission hereby approves the coastal development permit amendment on the ground that the development as amended and subject to conditions, will be in conformity with the policies of Chapter 3 of the Coastal Act. Approval of the permit amendment complies with the California Environmental Quality Act because either: (1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the amended development on the environment; or (2) there are no feasible mitigation measures or alternatives that would substantially lessen any significant adverse effects of the amended development on the environment.*

II. CONDITIONS OF APPROVAL

A. Standard Conditions

1. **Notice of Receipt and Acknowledgment.** The permit amendment is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.

2. **Interpretation.** Any questions of intent or interpretation of any condition will be resolved by the Executive Director or the Commission.

3. **Assignment.** The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.

4. **Terms and Conditions Run with the Land.** These terms and conditions shall be perpetual, and it is the intention of the Commission and the permittee to bind all future owners and possessors of the subject property to the terms and conditions.

B. Special Conditions

All conditions of coastal development permit 3-00-034 (attached as Exhibit 1) remain in full force and effect, except for Special Conditions B(1)(b) and B(1)(e), which are revised as follows:

B(1)(b). Dredge materials shall be over 80% sand and disposed of through the permanent pipeline approved by Coastal Permit 3-86-175 or the temporary offshore disposal pipeline approved by this permit (3-00-034). A maximum of 3,000 cubic yards of dredge material with a minimum of 42% sand content can be disposed of via the offshore disposal pipeline.

B(1)(e). The priority site for dredge material disposal location is into the surfline at Harbor Beach and Twin Lakes State Beach. Use of the offshore disposal pipeline shall only occur when hydrogen sulfide odor is present in quantities that would affect beach users or adjacent residents, when onshore winds exist, when beach or weather conditions conflict with beach users, or for the 3,000 cubic yards of dredge material in the demonstration project.

13. Additional Demonstration Project Conditions

The following conditions apply only to the demonstration project, which consists of the dredging of 3,000 cubic yards of predominantly fine-grained material (42% sand) with disposal via the offshore pipeline:

a. **PRIOR TO ISSUANCE OF THE AMENDED COASTAL DEVELOPMENT PERMIT**, the permittee shall submit to the Executive Director for review and approval a revised monitoring program as follows: additional water and sediment sampling once per week for three weeks prior to, and three weeks following, dredging and disposal.

b. **WITHIN 30 DAYS AFTER RECEIPT OF THE FINAL MONITORING PROGRAM REPORT**, the permittee shall submit to the Executive Director for review a copy of the final monitoring report.

III. RECOMMENDED FINDINGS AND DECLARATIONS

The Commission finds and declares as follows:

A. Project Background

1. Permit History

In October 2000, the Coastal Commission approved, with conditions, Coastal Development Permit 3-00-034, which authorized the dredging and disposal of harbor sediments from the Santa Cruz Small Craft Harbor for five years. CDP 3-00-034 allows for the dredging of 10,000 cubic yards of sediment per year from the inner harbor and 350,000 cubic yards of sediment per year from the entrance channel, in coordination with Army Corps of Engineers (ACOE) permit 25179S. Any dredge materials disposed of through the nearshore pipeline approved by Coastal Permit 3-86-175 or the offshore pipeline approved by permit 3-00-034 must consist of over 80% sand. The permit requires that dredge materials be tested using the most current ACOE and Environmental Protection Agency (EPA) testing methods and/or procedures, with all dredge materials meeting Regional Water

Quality Control Board and EPA Clean Water Act beach disposal standards. The priority site for disposal of dredge material is into the nearshore surfline at Harbor Beach and Twin Lakes State Beach, as this material is a source of beach replenishment. Use of the offshore pipeline is permitted only when hydrogen sulfide odor is present in quantities that would affect beach users or adjacent residents, when onshore winds exist, or when weather conditions conflict with beach users.

The Santa Cruz Port District now wishes to amend CDP 3-00-034 to allow for the dredging of 3,000 cubic yards of sediment from the North Harbor, with disposal by means of the offshore pipeline. This sediment, however, averages 42% sand and 58% silts and clays. The Santa Cruz Port District is proposing this as a demonstration project is to determine if clean, fine-grained harbor sediments can be disposed into the nearshore area in a manner beneficial to downcoast beaches and without harm to coastal resources.

2. Site Description

The Santa Cruz Small Craft Harbor is located in the City of Santa Cruz, at the northern tip of Monterey Bay, and between Twin Lakes and Seabright State Beaches (Exhibit 2). The Harbor is a commercial fishing/small craft harbor with berthing facilities for approximately 920 boats. The proposed dredging site is located in the North Harbor, which is located north of the Murray Street Bridge (Exhibit 3). This site is situated at the lower reaches of the Arana Gulch watershed. Arana Creek flows through a culvert at the northern end of the Harbor and is discharged into the North Harbor waters. The North Harbor receives sediment primarily from the Arana Gulch watershed, while the entrance channel and South Harbor receive sediment primarily from littoral drift at the Harbor mouth. On average, the Harbor receives approximately 1,000 to 15,000 cubic yards of sediment per year from the Arana Gulch watershed. Much of this sediment collects at the North Harbor and at times has rendered this area impassable to boats.

The proposed disposal site for the dredge materials is located approximately 70 yards offshore of Twin Lakes State Beach, which is located east of the South Harbor (Exhibit 3). Disposal of dredge material has historically occurred offshore of Twin Lakes State Beach and has contributed to a beach replenishment program for downcoast beaches.

3. Project Description

The Santa Cruz Port District is proposing to dredge 3,000 cubic yards of sediment from its North Harbor, with discharge of this material approximately 70 yards offshore, between 5th Avenue and 7th Avenue. The material was deposited into the North Harbor during the El Niño storms of January 1998. The material was sampled in February and March 1999 and was lab tested in April 1999 according to all criteria prescribed by U.S. Army Corps of Engineers (ACOE) and Environmental Protection Agency (EPA) regulations. These criteria include testing for 1) metals; 2) pesticides and PCBs; 3) butylins; 4) organotins; 5) total and water soluble sulfides; 6) total solids/water content; 7) total volatile solids; 8) total organic carbon; and 9) grain size distribution. The material is clean and has been deemed suitable for "unconfined aquatic disposal" by the ACOE and the EPA. The material averages 42% sand and 58% silts and clays.

Dredging and disposal would take place over six to eight days, assuming no breakdowns and no unseasonable weather that would prevent an environmentally safe program. Dredging and disposal would occur Mondays through Thursdays, 5:00 pm to 10:00 p.m., so as to reduce conflicts with recreational activities. At the earliest, dredging and disposal would begin on Monday, February 19, 2001 and run through no later than March 30, 2001. Dredging and disposal must be done during these months because February and March are a time of high-energy waves that should transport fine material away from shore and out to the open ocean. The removed sediment would be deposited in one of the Port District's historical disposal areas, approximately 70 yards offshore of Twin Lakes State Beach (Exhibit 3).

Originally, the Port District proposed this demonstration project to cover the removal of approximately 12,000 cubic yards of fine-grained sediment from the North Harbor area, with disposal in the nearshore area just east of the Harbor jetty. The Monterey Bay National Marine Sanctuary (MBNMS) and others voiced concerns regarding this original proposal. After several discussions, MBNMS indicated that it would be prepared to authorize disposal of only 3,000 cubic yards of fine sediments into the offshore surf zone (Exhibit 5). MBNMS is not allowing this activity as a demonstration project, but rather is willing to allow this consistent with an activity that was permitted prior to Sanctuary designation in 1992. Any fine-grained dredge material from the North Harbor greater than 3,000 cubic yards may be discharged at SF-14 in Monterey Bay (a federally approved offshore disposal site) or hauled to an onshore disposal site, but may not be disposed of through the nearshore or offshore pipelines. According to the Port District, the remaining 9,000 cubic yards of material will be disposed of by barge at site SF-14 in June 2001, as allowed in coastal permit 3-00-034.

The Monterey Bay National Marine Sanctuary is willing to allow the proposed dredging and disposal project, but is requiring the following before authorizing this activity (Exhibit): recent (within one year of the proposed disposal date) sediment and grain-size test results from core samples taken of the proposed dredge sites; review of proposed monitoring and reporting protocols for the offshore disposal; a disposal schedule and; a plan describing where the remaining 9,000 cubic yards of upper harbor dredged material will be disposed. Evidence that these requirements have been complied with will be needed prior to commencement of the dredging and disposal episodes (see Exhibit 1, #8e).

The proposed dredging demonstration project is permitted under California Regional Water Quality Control Board's 401 Certification of December 13, 2000, which authorized the dredging and disposal of up to 10,000 cubic yards of inner harbor material with a grain size less than 80% sand. ACOE permit 2439S is pending and awaiting approval of the proposed demonstration project by the California Coastal Commission. The Santa Cruz Port District filed a "Notice of Exemption" (NOE) under the California Environmental Quality Act (CEQA) for proposed dredging of the North Harbor and disposal of dredged materials. The was filed on August 11, 2000 pursuant to section Categorical Exemption Article 8, Section D, Class IV.7, which permits an exemption for maintenance dredging.

As proposed by the Port District, dredging would be conducted using a hydraulic suction dredge,

which removes and transports dredged material in a liquid slurry through an 8-inch polyethylene pipeline, thereby minimizing disturbance and re-suspension of sediments at the dredge site. The dredged slurry would then be pumped to the offshore disposal pipe approximately 70 yards off of Twin Lakes State Beach (Exhibit 3).

As stated above, the sediments have been tested by an interagency group (ACOE and EPA) and found suitable for unconfined aquatic disposal. A grain-size analysis of the sediments indicates that the composition is 58.2% fines (29.5% clay and 28.7% silt) and 41.8% sand. This material would not normally qualify as beach nourishment because it is less than 80% sand. The Commission's practice has been to follow the policy of the ACOE and the EPA regarding beach disposal, that being: lacking sound information regarding the impacts of fine-grained material on the aquatic environment, beach replenishment material should be approximately 80% sand or compatible with the receiving beach. The receiving beach at Santa Cruz is over 90% sand.

The Port District contends that the 80% sand determination is too restrictive and precludes the beneficial use of otherwise clean sediments. In September 1999, the Port District and the State of California Department of Boating and Waterways sponsored a sediment transport analysis study of the 25 square mile area adjacent to the Santa Cruz Small Craft Harbor, performed by GeoSea Consulting. This report concluded that fine-grained sediments (silts and clays) do not and will not remain in the nearshore area. The Port District believes the proposed demonstration project will advance the science of sediment transport and management.

4. Monitoring Program

Moss Landing Marine Laboratories will monitor the effects of the dredging demonstration project. The monitoring program shall consist of three phases: pre-demonstration, demonstration, and post-demonstration (Exhibit 4). Data collected in the pre-demonstration phase will provide a baseline of the conditions onshore and offshore prior to input of the dredge material. This baseline information will be used in comparison to data collected in the other two phases of the project to determine any changes in the sediment due to input of this fine-grained material. High resolution side-scan sonar and multibeam bathymetry data will be collected during the pre- and post-demonstration phases, as well as comprehensive onshore and offshore sediment and water sampling from Point Santa Cruz to Soquel Point. The demonstration phase will consist of daily sediment and water sampling onshore and offshore at locations determined by the proximity of the demonstration outfall. Sediment samples will be analyzed for grain size characteristics. Water samples will be tested for levels of turbidity. Oceanographic and weather data will be recorded through all phases of the project.

IV. Coastal Act Issues

A. Land Use Priorities

Coastal-dependent and coastal-related development are among the highest priority Coastal Act uses.

The Coastal Act defines coastal-dependent and coastal-related as follows:

§ 30101: *"Coastal-dependent development or use" means any development or use which requires a site on, or adjacent to, the sea to be able to function at all.*

§ 30101.3: *"Coastal-related development" means any use that is dependent on a coastal-dependent development or use.*

Coastal Act § 30001.5 states in part:

The Legislature further finds and declares that the basic goals of the state for the coastal zone are to:

(a) Protect, maintain, and where feasible, enhance and restore the overall quality of the coastal zone environment and its natural and artificial resources....

(c) Maximize public access to and along the coast and maximize public recreational opportunities in the coastal zone consistent with sound resources conservation principles and constitutionally protected rights of private property owners.

(d) Assure priority for coastal-dependent and coastal-related development over other development on the coast...

Coastal Act Sections 30234, 30234.5 and 30255 also provide:

§ 30234: 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.

§ 30234.5: The economic, commercial, and recreational importance of fishing activities shall be recognized and protected.

§ 30255: 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.

The Santa Cruz Small Craft Harbor is one of only six harbors located along the Central Coast, and is the primary recreational port in Monterey Bay. The Santa Cruz Port District maintains approximately 920 berths and dory ties within the Harbor, which are used by a variety of recreational and commercial boats.

Section 30234 of the Coastal Act provides that facilities serving the commercial fishing and recreational boating industries shall be protected and, where feasible, upgraded. Section 30234.5

states that the economic, commercial, and recreational importance of fishing activities shall be recognized and protected. Commercial and recreational boating and fishing are coastal-dependent priority uses that can not function without sufficient harbor depths. Hence, the maintenance of adequate berthing and navigational depths in the Harbor is essential and must be considered a high priority under the Coastal Act. The proposed dredging demonstration project not only supports coastal-dependent uses but also is essential to such uses and therefore has a priority under the Coastal Act. Accordingly, the Commission finds that the proposed dredging demonstration project supports high-priority coastal uses that are consistent with the land use priorities of Coastal Act Sections 30001.5, 30234, 30234.5, and 30255.

B. Marine Resources & Environmentally Sensitive Habitats

1. Beach Replenishment

Coastal Act Section 30233 details the conditions under which dredging may be permitted and states:

> **§ 30233:** *(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: (l) New or expanded port, energy, and coastal-dependent industrial facilities, including commercial fishing facilities. (2) Maintaining existing, or restoring previously dredged, depths in existing navigational channels, turning basins, vessel berthing and mooring areas, and boat launching ramps. (3) In wetland areas only, entrance channels for new or expanded boating facilities; and in a degraded wetland, identified by the Department of Fish and Game pursuant to subdivision (b) of Section 30411, for boating facilities if, in conjunction with such boating facilities, a substantial portion of the degraded wetland is restored and maintained as a biologically productive wetland. The size of the wetland area used for boating facilities, including berthing space, turning basins, necessary navigation channels, and any necessary support service facilities, shall not exceed 25 percent of the degraded wetland. (4) In open coastal waters, other than wetlands, including streams, estuaries, and lakes, new or expanded boating facilities and the placement of structural pilings for public recreational piers that provide public access and recreational opportunities. (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. (6) Mineral extraction, including sand for restoring beaches, except in environmentally sensitive areas. (7) Restoration purposes. (8) Nature study, aquaculture, or similar resource dependent activities.*
>
> *(b) 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.*

(c) In addition to the other provisions of this section, diking, filling, or dredging in existing estuaries and wetlands shall maintain or enhance the functional capacity of the wetland or estuary. Any alteration of coastal wetlands identified by the Department of Fish and Game, including, but not limited to, the 19 coastal wetlands identified in its report entitled, "Acquisition Priorities for the Coastal Wetlands of California", shall be limited to very minor incidental public facilities, restorative measures, nature study, commercial fishing facilities in Bodega Bay, and development in already developed parts of south San Diego Bay, if otherwise in accordance with this division.

The sediments proposed for dredging average 42% sand and 58% fine silt and clays. This material would not normally qualify as beach nourishment material because it is less than 80% sand. As noted previously, the policy of the ACOE and the EPA is that lacking sound information regarding the impacts of fine-grained material on the aquatic environment, beach replenishment material should be approximately 80% sand or compatible with the receiving beach. The receiving beach at Santa Cruz is over 90% sand.

The Port District contends that the 80% sand guideline is too restrictive and precludes the beneficial use of otherwise clean sediments. According to the applicant, the benefits of this demonstration project include beach replenishment, and transport of silt and clay to the ocean. The applicant contends that dredging during high-wave energy periods of February and March will mimic the high flows from nearby watersheds that occur during these months, and that the proposed project will advance the science of sediment transport and management. The Port District would like a chance to demonstrate that this material is suitable for nearshore disposal without causing harm to coastal resources or downcoast beaches. The Port District, in fact, feels this disposal may be beneficial to beaches due to the density and fraction of sand that would be available for beach replenishment. Approximately 1,200 cubic yards of this dredge material is composed of sand.

According to letters from the EPA dated April 26, 2000 and December 15, 2000, the 80% sand standard is a "rule of thumb" guideline to be applied in situations where more detailed information is lacking. However, "it is not the only appropriate ratio." The April 26, 2000 EPA letter states that the "EPA is pleased that the Harbor's evaluation efforts will provide information that could be used as a basis for documenting that a higher percent of fine grain materials may be discharged for beach nourishment in a manner consistent with the Guidelines." The December 15, 2000 EPA letter states that there is flexibility within the Clean Water Guidelines that allows for discharge of finer material for beach nourishment purposes, provided that site-specific information is available to determine any beach nourishment benefits or significant adverse impacts. The EPA feels that the proposed demonstration project can provide the kind of site-specific information necessary for further evaluation. Therefore, the EPA does not object to the proposed demonstration project, provided that the provisions of the monitoring program are enforced and that the results of the monitoring program are made available to the ACOE, the EPA, and other relevant agencies.

A concern regarding the disposal of predominantly fine-grained sediment into the surfline is that it may take residence in the nearshore area. However, a sediment trend analysis prepared for the Port

District by GeoSea Consulting concluded "... anything finer than 0.18 mm (fine sand) cannot remain within the active zone of littoral transport. Such material will be lost permanently to the offshore." There have been criticisms of the methodologies of this study, including that the assumptions made were too simplistic for reliable application to the complicated problem of sediment transport in the Monterey Bay National Marine Sanctuary. However, the various commentators have agreed that the silts and clays will not remain in the nearshore area when disposed of during winter months, during which time the *natural* contribution of fine-grain material to the nearshore environment from local rivers and runoff will greatly exceed the amount from the proposed demonstration project. In addition, correspondence from Gary Griggs, Director of the UCSC Institute of Marine Sciences, states that "it is clear that neither silt nor clay will remain in the nearshore zone (depths less than 25 feet or so) because of the high wave energy," and as a result of disposal during winter months, fines (silt or clay) "will be rapidly winnowed out and moved offshore in suspension." Furthermore, a review by the Monterey Bay National Marine Sanctuary Research Advisory Panel (MBNMS RAP) states that the release of a "relatively small amount ... of muddy sediment into the coastal offshore waters should have little or no discernible or lasting influence on bottom or beach sediment texture... as the discharge would be distributed over a winter-long series of large-wave and runoff events, in which case the natural contribution of fine-grain material to the nearshore environment will greatly exceed the amount from the harbor discharge." The MBNMS RAP subcommittee accordingly recommended that a sound monitoring program be established to learn the fate of the material during and following the discharges, as this information will be critical for future management decisions.

The project proposal includes a monitoring program to be performed by scientists from Moss Landing Marine Laboratories (Exhibit 4). This monitoring program will include comprehensive onshore and offshore sediment sampling and grain size analysis. However, onshore and offshore sediment sampling will only be done on one day prior to dredging and disposal and on one day post dredging and disposal (Exhibit 4). Sampling over a longer period of time would likely provide a better understanding of sediment conditions that exist pre- and post dredging and disposal.

The Port District is anticipating that the results of this monitoring program will demonstrate that this predominantly fine-grain dredge material is suitable for nearshore disposal and will not cause harm to coastal resources. It must be noted, however, that any findings of the proposed monitoring program are relevant to the specific amount and composition of dredge material of this demonstration project and are not necessarily applicable to the dredging and disposal of sediment of differing volumes and compositions.

In conclusion, the dredging and disposal of 3,000 cubic yards of predominantly fine sediment into the offshore pipeline during February or March 2001 should not have a negative impact on sand composition at Twin Lakes State Beach, given the natural oceanographic conditions during these winter months. Also, approximately 1,200 cubic yards of sand may become available for beach replenishment. In addition, sediment sampling and analysis of grain size will be performed before, during, and after the proposed dredging demonstration project, yielding important information regarding the sediment dynamics at this particular location. To ensure that adequate sampling takes

place, Special Condition 13a requires that sediment sampling be performed once a week for three weeks prior to dredging and disposal and once a week for three weeks post dredging and disposal. Special condition 13b requires that the final monitoring report be submitted to the Commission for review. As conditioned, the proposed demonstration project is consistent with the dredging and beach replenishment priorities of Coastal Act Section 30233.

2. Biological Resources

§ 30230: *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.*

§ 30231: *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.*

The Santa Cruz Small Craft Harbor is connected to the Monterey Bay National Marine Sanctuary (MBNMS). The MBNMS includes many of the most valuable marine resources within the Central Coast area and encompasses over 5,300 square miles of protected marine waters and includes a diverse complex of marine habitats including deep sea, open ocean, kelp forests, sandy beaches, rocky seashore, estuaries and sloughs. These habitats support a variety of marine life including more than 345 species of fish, 94 species of seabirds, 26 species of marine mammals, 450 species of algae and one of the worlds most diverse invertebrate populations.

Beginning in 1962, the Santa Cruz Small Craft Harbor was developed in a coastal estuary known formerly as Woods Lagoon that formed at the base of the Arana Gulch watershed. Water originating from the Arana Gulch watershed drains into the Harbor through four 72-inch culverts that extend beneath the North Harbor parking area. Except for the coastal salt marsh and brackish marsh habitat areas of Arana Gulch to the north, the Harbor is now essentially a manmade environment that is devoid of the natural estuarine habitat that once prevailed. Open waters of the Harbor are surrounded, from the east and west jetties at the Harbor mouth to the North Harbor dry boat storage yard, entirely by urban development. Thus, for the most part, the tidal waters of the Harbor are an enclave that is surrounded by urban harbor development consisting of floating docks, rip-rap, roads and parking lots, boats, and various buildings. Nonetheless, some marine mammals, fish and seabirds make use of the urban aquatic and terrestrial environments provided in the Harbor.

Generally, the greatest potential for adverse environmental effects from dredged material discharge

lies in the benthic environment. In this case, the subject benthic environment includes ocean bottom flora and fauna of the North Harbor area and also the sandy subtidal and intertidal areas off Twin Lakes State Beach. Under the proposed project, dredge material would be pumped into the offshore approximately 70 yards offshore at Twin Lakes State Beach (Exhibit 3).

Sediment deposition can smother invertebrates and prevent algal spore settlement. In January 2001, scientists from Moss Landing Marine Laboratories (MLML) conducted a review of the benthic habitat in the vicinity of the proposed dredge disposal. This review included four research dives to examine habitat, substrate conditions, and species present. The results of this review indicate that during the fall and winter when natural sand deposition is greatest, algae were less present. Fine-grained materials could have impacts on certain benthic communities. However, as stated above, oceanographic information about the currents in the proposed disposal area indicates that fine-grained silts and clays will not settle out in the nearshore areas of concern. The GeoSea study was specifically undertaken to study this potential and confirmed this indication. Subsequent reviews of the GeoSea study by MBNMS RAP also concluded that fine-grained material in small amounts will have little or no discernible or lasting influence on the benthos or beach sediment texture. This conclusion was reached when the proposed amount of disposal was 12,000 cubic yards. This amount has now been reduced to 3,000 cubic yards.

Impacts to biological resources are anticipated to be the same as those associated with previously permitted annual dredge episodes. The primary impact to biologic resources resulting from dredging occurs through the disturbance, transport, and destruction of benthic organisms on and in the material to be dredged. However, recolonization by these organisms would occur over time. While, dredge material disposal may induce turbidity and cause stress on planktonic larvae and filter feeder organisms (e.g., worms and shellfish), such stress would be temporary.

The removal of sediment from dredge areas could have short-term, adverse impacts on fish and fish habitats by temporarily increasing the total suspended sediments in the water column and possibly decreasing dissolved oxygen levels during dredge operations. However, as proposed, dredging will be conducted using a hydraulic dredge, which removes and transports dredged material as liquid slurry, thereby minimizing disturbance and re-suspension of sediments at the dredge site. This will minimize adverse environmental impacts to marine and wildlife habitats and water circulation during dredging, consistent with Coastal Act requirements.

Several endangered or threatened species are found in the Harbor area or just offshore. According to correspondence from the California Department of Fish and Game, the state and federally listed California brown pelican has been documented at the offshore disposal site. The underwater disposal of dredge material is not expected to create excessive vibration, noise, or surface turbulence that would affect birds in the area.

Steelhead trout (*Oncorhynchus mykiss)* is a federally and state listed threatened species. Arana Gulch has supported steelhead passage. The Arana Gulch Watershed Alliance (a coordinated resource management project) is actively seeking to restore the gulch for steelhead habitat. The planned dredging of the North Harbor in February-March 2001 will occur outside the upstream

migration season (generally October-December) and outside the downstream migration season (generally April-May).

The tidewater goby (*Eucyclogobius newberryi*) is a federally listed endangered species and is state listed as a species of special concern. Tidewater gobies were known to occur in Woods Lagoon in 1984, but there have been no recent sightings. Past sampling and existing conditions in Arana Gulch indicate that the tidewater goby no longer inhabits Arana Gulch and that habitat for the species is lacking. The North Harbor salinity level is in excess of what could support the tidewater goby.

In summary, the disposal of a relatively small amount (3,000 cubic yards) of fine-grained material into the surfline over a 6-to-8 day period during the winter months of February and/or March should have little or no discernible effect on benthic organisms, fish, planktonic larvae, or filter-feeding organisms. In addition, the proposed project should not create any disturbance that would have an adverse effect on the California brown pelican. Also, steelhead trout are not present in the Harbor area during February and March, and the tidewater goby appears to no longer inhabit the Arana Gulch area. Thus, the proposed project is consistent with Sections 30230 and 30231 of the Coastal Act regarding protection of species of special importance and maintenance of the biological productivity of coastal waters.

3. Water Quality

Coastal Act Sections 30231 and 30232 state:

> **§ 30231:** *The biological productivity and the quality of coastal waters, [..] 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,...*
>
> **§ 30232:** *Protection against the spillage of crude oil, gas, petroleum products, or hazardous substances shall be provided in relation to any development or transportation of such materials. Effective containment and cleanup facilities and procedures shall be provided for accidental spills that do occur.*

Anticipated water quality impacts of dredging and disposal occur through variables such as dissolved oxygen (DO), pH, salinity, total suspended solids (TSS), and turbidity. Turbidity near the dredging and disposal sites would increase because of additional TSS in the water column. DO levels in the water column would decrease during disposal events due to increased turbidity. Long-term changes in turbidity and dissolved oxygen can have an adverse effect on kelp beds. Kelp beds are found in the offshore disposal area (Exhibit 4, pg. 5). Although increased turbidity and decreased dissolved oxygen levels are expected to occur as a result of dredge disposal, the pre-dredge-operation ambient water quality condition should return shortly after each dredging episode. The impact to these water quality variables is expected to be adverse but short-term and minor in magnitude and scope. Therefore, the proposed dredge disposal should not be of significant magnitude or length to cause any adverse effects to local kelp beds. In addition, water and sediment sampling stations are

appropriately sited in and adjacent to the kelp beds.

The originally proposed 12,000 cubic yards of dredge material was subjected to physical, chemical, and biological testing under an approved Sampling and Analysis Plan in spring 1999. The entire 12,000 cubic yards passed all tests and has been qualified for unconfined aquatic disposal. The currently proposed 3,000 cubic yards is a portion of the 12,000 cubic yard volume. All reviewing and permitted agencies have copies of the completed test results.

As stated above, marine scientists from Moss Landing Marine Laboratories will perform onshore and offshore water sampling prior to, during, and after the proposed dredging and disposal activities. Water samples will be tested for level of turbidity. However, water sampling will only be done on one day prior to dredging and disposal and on one day post dredging and disposal (Exhibit 4). Sampling over a longer period of time would likely provide a better understanding of water conditions that exist pre- and post dredging and disposal.

In summary, the proposed dredging and disposal demonstration project is expected to have short-term adverse impacts on water quality, including a temporary increase in turbidity and a decrease in dissolved oxygen levels. However, these impacts should be minor in magnitude and scope. Pre-dredge water conditions should recur shortly after each dredging and disposal episode. Also, all conditions of coastal development permit 3-00-034 regarding water quality remain in force. In addition, to ensure that adequate sampling takes place, special condition 13a requires that water sampling be performed once a week for three weeks prior to dredging and disposal and once a week for three weeks post dredging and disposal. Special condition 13b requires that the final monitoring report be submitted to the Commission for review. As conditioned, the proposed demonstration project is consistent with Coastal Act Sections 30231 and 30232 regarding the maintenance of marine water quality.

4. Public Access/Recreation

Coastal Act § 30604(c) requires that every coastal development permit issued for new development between the nearest public road and the sea "shall include a specific finding that the development is in conformity with the public access and recreation policies of [Coastal Act] Chapter 3." The proposed project is located seaward of the first through public road.

Coastal Act Sections 30210 through 30214 and 30220 through 30224 specifically protect public access and recreation. In particular:

> *§ 30210: 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.*
>
> *§ 30211: Development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of*

dry sand and rocky coastal beaches to the first line of terrestrial vegetation.

§ 30212 (a): Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects....

§ 30213: Lower cost visitor and recreational facilities shall be protected, encouraged, and, where feasible, provided. Developments providing public recreational opportunities are preferred.

§ 30214 (a): The public access policies of this article shall be implemented in a manner that takes into account the need to regulate the time, place, and manner of public access depending on the facts and circumstances in each case....

§ 30221: 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.

§ 30224: Increased recreational boating use of coastal waters shall be encouraged, in accordance with this division, [..] providing harbors of refuge, and by providing for new boating facilities in natural harbors, new protected water areas, and in areas dredged from dry land.

In addition, **Coastal Act § 30240 (b)** requires that development not interfere with recreational 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 Santa Cruz Small Craft Harbor provides public access and recreational opportunities of regional and statewide significance. These include boat launching, berthing for commercial vessels and recreational boats, boat repair areas, marine-related retail/commercial businesses, sailing programs, yacht club and boat sales. The proposed dredging project will strongly benefit public access and recreation by restoring and maintaining adequate water depths in the Harbor's navigation channels and berthing areas. In addition, 1,200 cubic yards of the dredge material is composed of sand, which may become available for beach replenishment.

The dredging and disposal activities will occur over a limited short-term period of 6-to-8-midweek days during February and/or March 2001. The disposal will occur during evening and nighttime hours and, because of the quick dispersal rates expected, should not affect daytime recreational use at Twin Lakes State Beach.

The project will protect boating and beach recreational opportunities, consistent with Coastal Act Sections 30210, 30213, 30220, 30224, 30234 and 30234.5. Also, all conditions of coastal

development permit 3-00-034 that mitigate potential beach access impacts due to dredging and disposal remain in force. Thus, the proposed demonstration project will preserve public access and recreational opportunities and is therefore consistent with the above-cited public access and recreational policies of the Coastal Act.

5. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

Section 13096 of the California Code of Regulations requires that a specific finding be made in conjunction with coastal development permit applications showing the application to be consistent with any applicable requirements of CEQA. Section 21080.5(d)(2)(A) of CEQA prohibits a proposed development from being approved if there are feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse effect which the activity may have on the environment. The Coastal Commission's review and analysis of land use proposals has been certified by the Secretary for Resources as being the functional equivalent of environmental review under CEQA. Accordingly, the Commission finds that as conditioned the proposed project will not have significant adverse effects on the environment within the meaning of CEQA; that there are no feasible alternatives which would significantly reduce any potential adverse effects; and, accordingly, the proposal, as conditioned, is in conformance with CEQA requirements.

conditions, is returned to the Commission office.

2. **Expiration.** If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.

3. **Interpretation.** Any questions of intent or interpretation of any condition will be resolved by the Executive Director or the Commission.

4. **Assignment.** The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.

5. **Terms and Conditions Run with the Land.** These terms and conditions shall be perpetual, and it is the intention of the Commission and the permittee to bind all future owners and possessors of the subject property to the terms and conditions.

Special Conditions

All conditions of coastal development permit 3-86-175 (Permanent On-shore Disposal Pipeline), attached as Exhibit D, except as modified by this permit or other permits approved by the Commission or by actions of the Executive Director remain in full force and effect.

A. OffShore Disposal Pipeline

1. The permittee shall ensure that, at the sandy beach area of Harbor Beach, the near shore pipeline is at all times buried to a depth of at least 2 to 3 three feet below the sand. This permit does not authorize any rip-rap or other protective devices or measures to protect the offshore disposal pipeline.

2. This permit authorizes the installation of an offshore pipeline no earlier than November 1 and requires that it be removed by May 15 of the next year.

B. Maintenance Dredge Operations

1. **Scope of Permit.** This permit authorizes dredging and disposal of harbor sediments at a rate of 10,000 cubic yards per year (cy/yr) for the inner harbor and 350,000 cy/yr for entrance channel sediments, in coordination with pending ACOE Permit 25179S. If the ACOE permit is amended to allow for more dredging and disposal of up to 400,000 cy/yr, a corresponding increase is allowed under this permit, consistent with ACOE requirements. Any proposed disposal amount over this figure shall require an amendment to this permit. All dredge operations shall be consistent with the Santa Cruz District Dredge Operation Manual revised March 6, 2000, except as modified by Special Condition 7 below.

   a) This permit authorizes a normal Santa Cruz Harbor dredge disposal operation between November 1 and April 30, for a period of five years commencing with the date of permit issuance. Prior to the expiration of this permit, the permittee may submit an amendment request to the Commission to extend the permit for five additional years.

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b) Dredge materials shall be over 80% sand and disposed of through the permanent pipeline approved by Coastal Permit 3-86-175 or the temporary offshore disposal pipeline approved by this permit (3-00-034).

c) All dredge materials shall be tested according to the most current ACOE and USEPA testing methods and/or procedures.

d) All dredge materials shall meet Regional Water Quality Control Board (RWQCB) and U.S.E.P.A. Clean Water Act Beach disposal standards.

e) The priority site for dredge material disposal location is into the surfline at Harbor Beach and Twin Lakes State Beach. Use of the offshore disposal pipeline shall only occur when hydrogen sulfide odor is present in quantities that would affect beach users or adjacent residents, when onshore winds exist, or when beach or weather conditions conflict with beach users.

2. **Conformance with ACOE Requirements.** PRIOR TO COMMENCEMENT OF OPERATIONS AUTHORIZED UNDER THIS PERMIT, the permittee shall submit to the Executive Director for review a copy of the ACOE permit (No. 25179S), letter of permission, or evidence that no ACOE permit is necessary, and concurrence by the U.S. Environmental Protection Agency for disposal of dredge spoils.

3. **Conformance with Department of Parks and Recreation Requirements.** PRIOR TO COMMENCEMENT OF OPERATIONS AUTHORIZED UNDER THIS PERMIT, the permittee shall submit to the Executive Director for review a copy of the California Department of Parks and Recreation (DPR) permit, letter of permission, or evidence that no DPR permit is necessary.

4. **Conformance with National Marine Fisheries Service (NMFS) Requirements.** PRIOR TO COMMENCEMENT OF OPERATIONS AUTHORIZED UNDER THIS PERMIT, the permittee shall submit to the Executive Director for review evidence of consultation with the NMFS as to the presence or absence of Steelhead Trout and Tidewater Goby in harbor areas subject to dredge operations. If the NMFS determines that either of these species are present, then the Port District shall consult with the Executive Director as to whether a permit amendment is necessary to prevent impacts to the Steelhead trout or Tidewater goby.

5. **Conformance with U.S. Fish & Wildlife Service Requirements.** PRIOR TO COMMENCEMENT OF OPERATIONS AUTHORIZED UNDER THIS PERMIT, the permittee shall submit to the Executive Director for review evidence of consultation with the USFWS as to the presence or absence of Steelhead Trout and Tidewater Goby in harbor areas subject to dredge operations. If the NMFS determines that either of these species are present, then the Port District shall consult with the Executive Director as to whether a permit amendment is necessary to prevent impacts to the Steelhead trout or Tidewater goby.

6. **Conformance with Regional Water Quality Control Board Requirements.** PRIOR TO COMMENCEMENT OF OPERATIONS AUTHORIZED UNDER THIS PERMIT, permittee shall submit to the Executive Director for review a copy of a valid Regional Water Qualitv Control Board

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(RWQCB) permit, letter of permission, or evidence that no RWQCB permit is necessary.

7. **Conformance with Dredge Operation Manual.** PRIOR TO COMMENCEMENT OF OPERATIONS AUTHORIZED UNDER THIS PERMIT. The Santa Cruz Port District shall submit to the Executive Director for review and approval a revised dredge operation manual which includes:

   a) Rewording of Section III.A (Hours of Operation) which states that only by approval of the Executive Director can the dredge operation schedule include additional days per week.

   b) Rewording of Section V, Item B.5 (Dredge Material) which states that dredging equipment shall only be allowed on the beach during the dredge operation season between November 1 to May 15.

   c) Add provision to Section VII (Reports) which requires the submission of a copy of the post-dredge report to the Executive Director for review.

   d) Add provision to Section VIII (Water Pollution) which requires the Port District notify the Executive Director in the event that a foreign substance spill occurs as a result of dredge operations.

   e) Delete sentence 5 of Section V.C.1 (Dredge Material).

   f) Add provision to Section VI (Sediment Sampling) stating that sediment sampling and testing shall also be accomplished under the most current ACOE and USEPA methods, procedures, and protocols.

   g) Add Coastal Permit 3-00-034 to the list of effective Coastal Permits.

   Once approved by the Executive Director, the Port District shall continue to follow the Dredge Operation Manual and improve upon operations and take corrective measures as problems arise. Any change in operation shall be done in consultation and with the review and approval of the Executive Director or Commission as appropriate. All personnel involved in the dredging and disposal operation shall follow the manual. Failure to comply with its provisions will be considered a violation of this permit subject to penalties specified in the Coastal Act.

8. PRIOR TO COMMENCEMENT OF INDIVIDUAL DREDGING EPISODES, the Santa Cruz Port District shall submit to the Executive Director for review and approval,

   a) Sampling Analysis Plan (SAP), describing sediment sampling locations and testing protocols. The SAP must be approved by the Executive Director prior to sediment sampling. The SAP must include a pre-dredge bathymetric survey.

   b) Dredge material Analysis (Chemical and Physical), sampling and testing information, and Regional Water Quality Control Board water quality certification or waiver for disposal of materials.

   c) Dredged materials shall be segregated according to suitability, as determined by the U.S.

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Army Corps of Engineers (ACOE), Regional Water Quality Control Board (RWQCB), and U.S. Environmental Protection Agency (USEPA) review of sediment sampling test results, and disposed of accordingly. Uncontaminated dredged materials suitable for beach replenishment will be disposed of at the surfline of Harbor Beach and Twin Lakes State Beach or through the off shore disposal pipeline. **Dredging and disposal from areas where samples do not meet the standards for beach or offshore disposal will require alternative disposal methods that are not approved by this permit. A separate Coastal Development Permit or Amendment to this Permit is required if dredge materials do not meet standards for beach or offshore disposal.**

d) Dredging Operation Plan that includes plans showing specific area(s) and volume(s) to be dredged.

e) Monterey Bay National Marine Sanctuary: Evidence of approval from the Monterey Bay National Marine Sanctuary for disposal of dredge materials or tailing water to Sanctuary receiving waters.

f) Department of Parks & Recreation: A current lease and/or approval as required by the Department of Parks and Recreation for deposition of dredged sand material from the harbor entrance and inner harbor and temporary placement of dredge equipment on portions of Twin Lake State Beach between 6th and 7th Avenues.

9. Dredging equipment, including pipelines and booster pumps, shall be maintained and inspected by Port District staff on a regular schedule to ensure proper operation and to eliminate any potential waterway or beach access conflicts.

10. SUBSEQUENT TO COMPLETION OF INDIVIDUAL DREDGING EPISODES, the Santa Cruz Port District shall submit to the Executive Director for review and approval,

a) Post-Dredge Bathymetric Survey

11. Monitoring Report Submittal. The Santa Cruz Port District shall continue to submit for Executive Director review and approval at least once every three years a report outlining compliance with the operation manual provisions, success of beach nourishment, and any necessary corrective measures. The next report is due July 2001 and a following report in July 2004.

12. Public Access. Permittee shall ensure that dredge operations are conducted as to minimize, to the greatest extent possible, any interference with public access to and along the Santa Cruz Port District Beach and Twin Lakes State Beach. In particular, the permittee shall work with the dredge operator to implement the following measures for those pipeline segments occupying the beach but not in active use. Short-term measures may include, but are not limited to, uncoupling segments to allow unimpaired pedestrian movement, or building small-scale sand ramps over the pipeline. When not in use during the dredge season, the permanent surfline disposal pipeline shall be pulled away from the surfline and buried under 2 to 3 feet of sand and the base of small bluff fronting East Cliff Drive.

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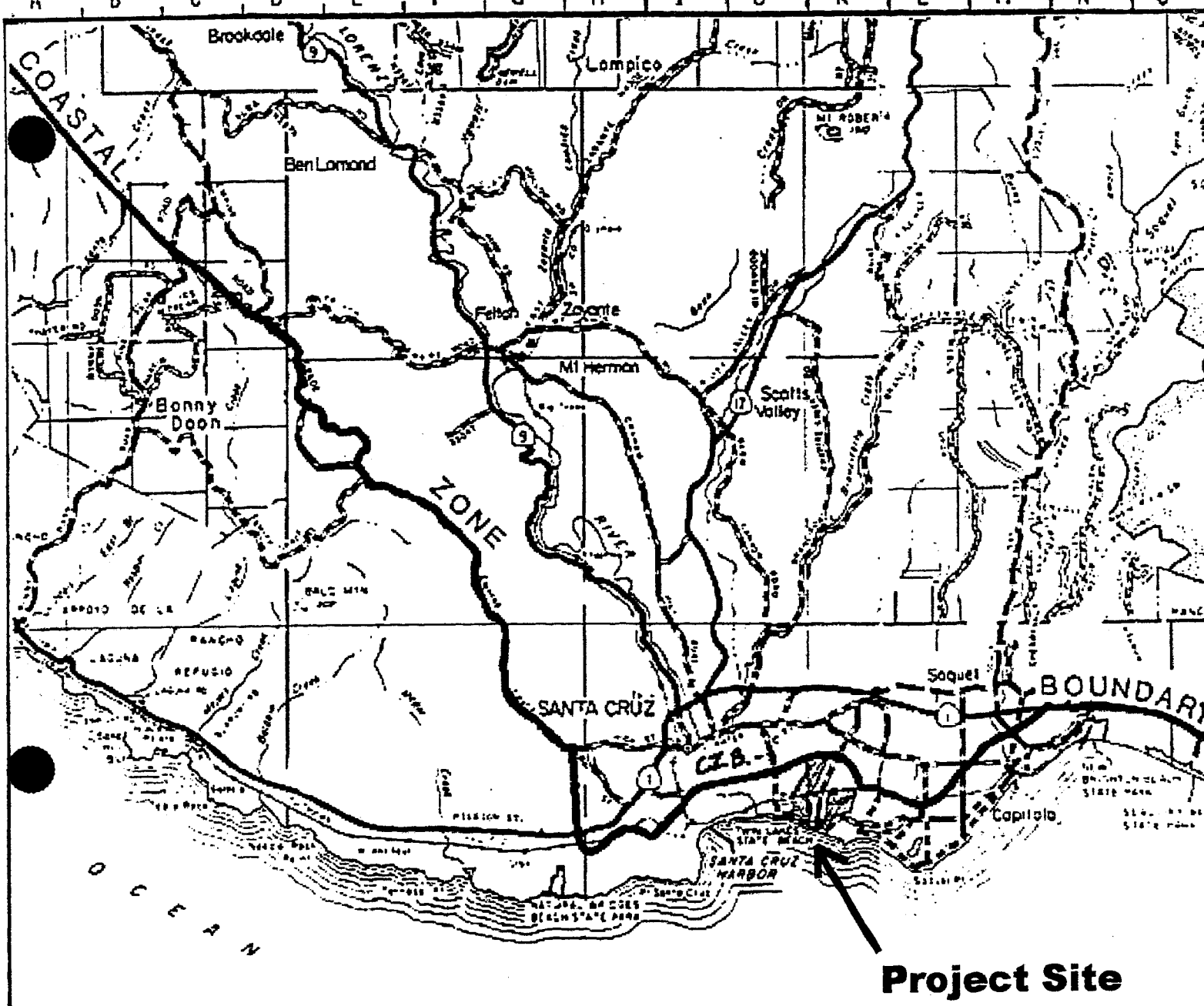

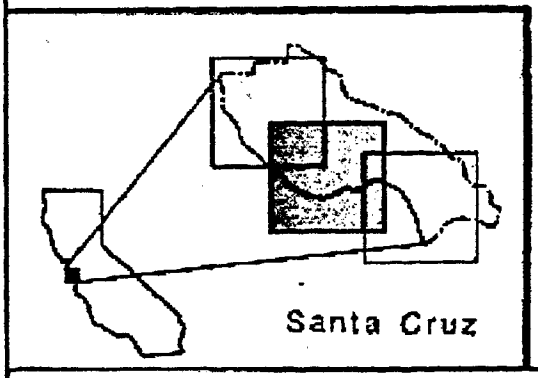

California Coastal Commission

LOCATION MAP

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County of Santa Cruz

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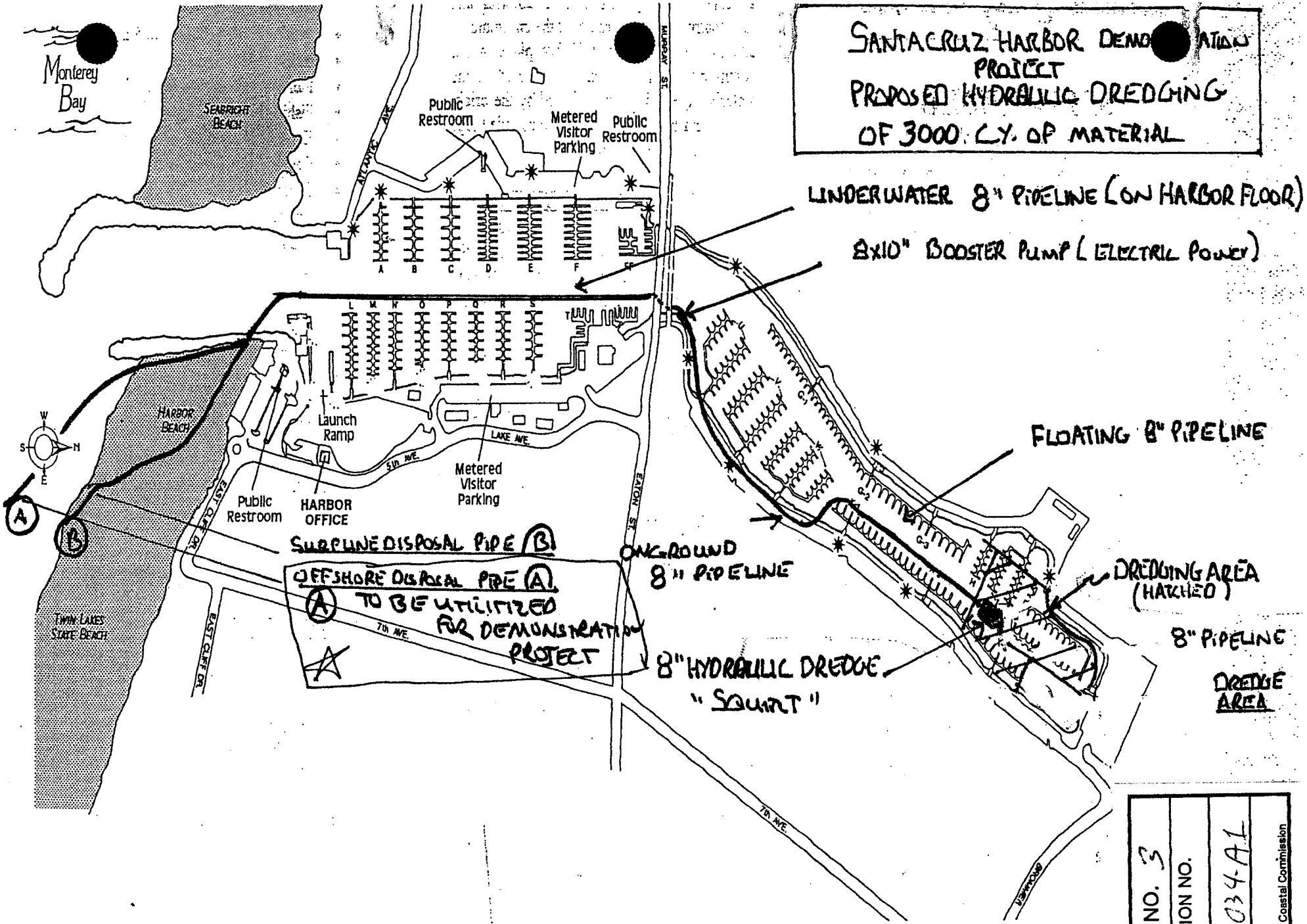

EXHIBIT NO. 3
APPLICATION NO. 3-00-034-A1
California Coastal Commission

Dr H. Gary Greene
Steve Watt, M.Sc Candidate
Moss Landing Marine Laboratories

Santa Cruz Small Craft Harbor
Demonstration Dredging Event Monitoring Program

Details and timeline of side-scan sonar/multibeam surveys,
sediment sampling and sample locations

The Santa Cruz Harbor Port District wishes to remove 12,000 yd^3 (9,182 m^3) of fine-grained material deposited in the North (upper) Harbor. Material is derived from erosion of the Arana Gulch immediately north of the harbor and transported by rainfall run off. The Port District would like a chance to demonstrate that this material is suitable for near-shore disposal without causing harm to coastal resources or downcoast beaches and it may in fact be beneficial to beaches due to the density and fraction of sand that would allow beach agradation. It is proposed that the 12,000 yd^3 (9,182 m^3) of material be released in 500-700 yd^3 (approximately 380-540m^3) intervals into the surf zone approximately 70 yards (64 meters) from the shore of Twin Lakes State Beach, just east of the harbor. The demonstration materials will be dispersed over the course of four evenings, Monday to Thursday from 4:00-10:00 pm, for four to six weeks, on dates yet to be determined within the months of December-March 2000. The demonstration will take place during times of high surf to ensure a high degree of sediment mixing and transport.

Moss Landing Marine Laboratories, under the guidance of Dr. H. Gary Greene and Masters of Science candidate Steve Watt, will monitor the dredging demonstration event. The monitoring program consists of three phases: Pre-demonstration, Demonstration, and Post-demonstration. A variety of scientific tools and methods will be used to study sedimentary changes that may or may not occur during the demonstration. High-resolution side-scan sonar and multibeam bathymetry data will be collected during the Pre- and Post-demonstration phases as well as comprehensive onshore and offshore sediment and water sampling from Point Santa Cruz to Soquel Point (Figure1). The Demonstration phase will consist of daily sediment and water sampling events on and offshore at designated high priority locations due to the proximity of the demonstration

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outfall (Figure 2). Sediment samples will be analyzed for grain size characteristics and water samples will be tested for level of turbidity. Oceanographic data of tide, swell direction, height, and period. Wind speed, direction and rain data (if applicable) will be recorded through all phases of the project.

Pre-demonstration

To properly design the monitoring program, extensive amounts of literature regarding the sediment transport, coastal geology, oceanography, and habitat of the Monterey Bay was reviewed. A pilot study was conducted using sediment samples collected at beaches from Cowells Cove to Moran Lake. Offshore grain size data was used from the Sediment Trend Analysis of the Santa Cruz Harbor by Dr. Patrick McClaren of GeoSea for the Port District in 1999. Side-scan sonar maps of Northern Monterey Bay produced by the USGS (available on the web) in 1993 were also interpreted and incorporated into the pilot study to gain an understanding of the offshore sedimentary regime near the Santa Cruz Small Craft Harbor and to help design the monitoring program.

Data collected in the Pre-demonstration phase will provide a clear baseline of the "natural" conditions onshore and offshore in the harbor vicinity before the input of material from the North Harbor. Baseline information will be used in comparison to data collected in the other two phases of the project to resolve any changes that may appear in the sedimentary regime.

The side-scan sonar/multibeam survey will cover approximately 10km^2 from Point Santa Cruz to Soquel Point and will take approximately 1-3 full days, depending on the oceanographic conditions at the time (Figure 1, Table 1). The Seafloor Mapping Lab at CSUMB, headed by Dr. Rikk Kvitek, will assist in collection of sonar data. The survey will take place as close before the demonstration event as is physically possible. Depending on weather forecasts, Friday, Saturday, Sunday, and possibly Monday mornings prior to the demonstration event are scheduled for survey days.

Nineteen onshore sediment samples (plus several replicates) and 4 surf zone water samples will be collected Sunday evening or Monday morning at pre-determined locations from Point Santa Cruz to Moran Lake (Figure 1, Table 1), including those samples labeled as High Priority on Figures 1 and 2. Sediment samples will be collected

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just above the interface of the waterline and beach because this area has the highest probability of receiving demonstration material at these times. Twin Lakes State Beach will receive a greater focus of samples, including four back beach samples (not shown in Figures), due to proximity to the demonstration outfall.

Twenty offshore sediment samples (plus several replicates) and four water samples will be collected from pre-determined locations between Point Santa Cruz and Soquel Point by Moss Landings RV Ed Ricketts on Sunday or Monday mornings, including those samples labeled as High Priority in Figures 1 and 2. Differential GPS will used to find designated sediment and water sample locations and a grab sampler will be deployed to obtain sediment samples. The sediment data will help to "ground truth" the side-scan sonar/multibeam survey and provide information to resolve changes in the sea floor sedimentary distribution.

Demonstration Event

The Demonstration event will be conducted over a four to six week period. Dredging will take place each week from Monday to Thursday. Twelve pre-determined, high priority onshore and offshore sediment samples (plus several replicates) and four water samples will be collected Monday morning before dredging and again Friday morning following that weeks demonstration. A total of two sampling events will occur for each week of the 4-6 weeks during the demonstration (Figure 2, Table 1). Visual observations (if possible in the evening) and Differential GPS positions will be recorded to track the plume as it progresses over time each evening.

Post-demonstration

A survey identical to the Pre-demonstration side-scan sonar/multibeam survey will resume as soon as possible following Thursday's final dredging event. If conditions are agreeable, the survey will be conducted Friday, Saturday, Sunday, and Monday if necessary.

Sediment and water sample locations onshore and offshore will be the same as described in the Pre-demonstration phase and will be collected Friday following the final dredging event on Thursday evening.

Table 1. Santa Cruz Small Craft Harbor Demonstration Event Survey and Sampling Timeline

Event	Data Collection	Area/# samples	Time	Days
Pre-demonstration	Side-scan sonar/ multibeam bathymetry	10 km^2	1-3 days**	Friday, Saturday, Sunday (prior to Demonstration event)
	Sediment Sampling	39 total		
	onshore	19	1 day	Sunday or Monday Morning (Prior to Demonstration event)
	offshore	20	1 day	Sunday or Monday Morning (Prior to Demonstration event)
	Water Sampling			
	onshore	4		To be taken congruently with onshore samples
	offshore	4		To be taken congruently with offshore samples
Demonstration Event				
	Sediment Sampling			
	High priority area	12 total/evening	2 days/week	Monday Morning, Friday morning
	onshore	6		12 samples (6 onshore, 6 offshore) for each evening
	offshore	6		(Based on a 6 week sampling sechedule)
		24 total/week		144 total samples for a 6 week demonstration
	Water Sampling			
	onshore	2		To be taken congruently with onshore samples.
	offshore	2		To be taken congruently with offshore samples.
		8 total/week		48 total samples for a 6 week demonstration
Post-demonstration	Side-scan sonar/ multibeam bathymetry	10 km^2	1-3 days**	Friday, Saturday, Sunday (Following Demonstration event)
	Sediment Sampling	39 total		
	onshore	19	1 day	Friday (Folowing Demonstration event)
	offshore	20	1 day	Friday (Folowing Demonstration event)
	Water Sampling			
	onshore	4		To be taken congruently with onshore samples
	offshore	4		To be taken congruently with offshore samples

* Based on the Port Districts desire to conduct the Demonstration event Monday through Thursday

** Survey days and time are highly dependent on oceanographic conditions. Relatively calm conditions are required for quality data.

*** Replicate samples will be taken intermittently, and are not included in this total

Figure 1. Survey and Sample Locations

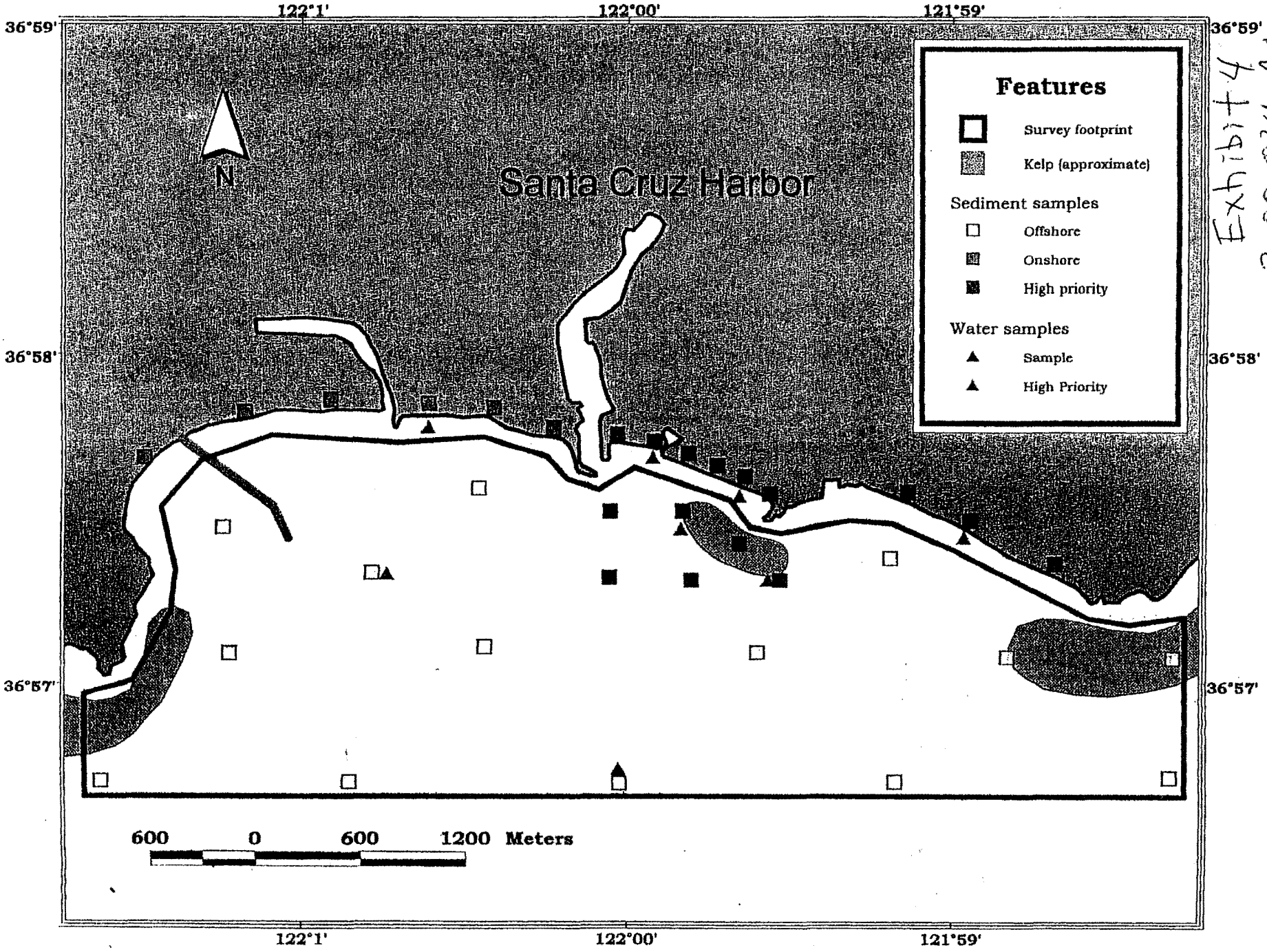

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Figure 2. Demostration Even[illegible]igh Priority Samples

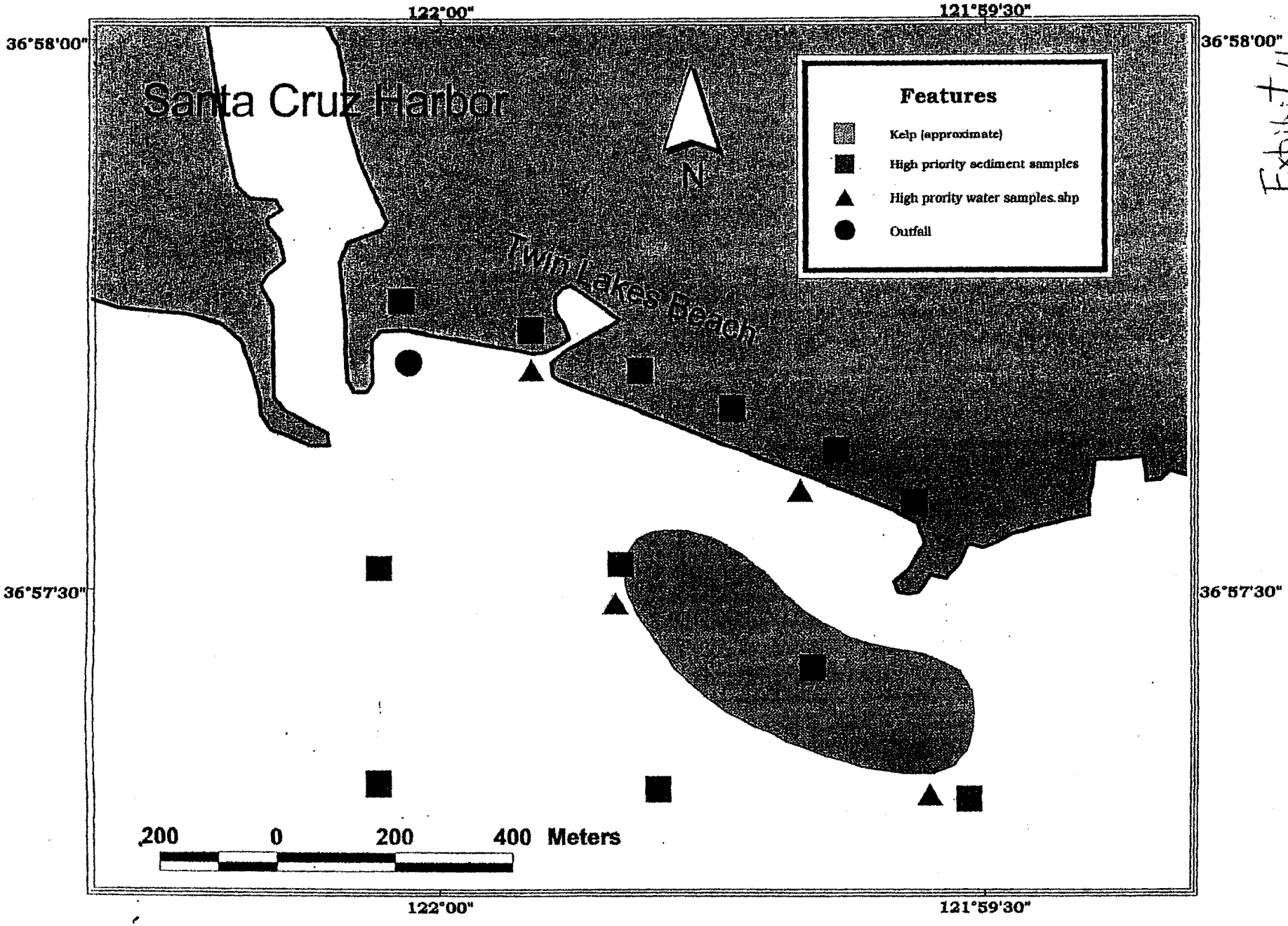

Exhibit 4
3-00-034-A1
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UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE

Monterey Bay National Marine Sanctuary
299 Foam Street
Monterey, California 93940

December 13, 2000

Lieutenant Colonel Peter Grass
District Engineer
U.S. Army Corps of Engineers
San Francisco District
333 Market Street
San Francisco, California 94105

SUBJECT: Monterey Bay National Marine Sanctuary Comments on Army Corps Public Notice No. 24392S -- Santa Cruz Harbor Dredging

Dear Lieutenant Colonel Grass:

The Monterey Bay National Marine Sanctuary (MBNMS or Sanctuary) has reviewed Public Notice No. 24392S that describes the permit application submitted by the Santa Cruz Port District (Port District) to conduct a dredged material disposal demonstration project at the Harbor in Santa Cruz, CA. We understand the Port District proposes to dispose of 12,000 cubic yards of fine-grained harbor sediment dredged from the north harbor into the near-shore area just east of the harbor jetty. A grain-size analysis indicated that the north harbor sediment was composed of 29.5% clay, 28.7% silt and 41.8% sand, and the proposed receiving beach is composed of over 90% sand. By this letter and consistent with Sanctuary regulations (15 CFR Chapter IX, Part 922.132(e) & (f)), we are alerting the Army Corps of Engineers that the Sanctuary does not concur with Notice No. 24392S and if issued will not authorize the offshore/nearshore disposal activities proposed by the Port District. Below, we indicate a more limited nearshore disposal alternative the Sanctuary would accept for this same activity.

We appreciate that, in addition to disposal of harbor maintenance dredged material, the Port District intends to conduct a demonstration project to determine the degree of beach nourishment that occurs from offshore disposal of predominantly fine-grained dredged material. The MBNMS has reviewed the sediment transport analysis study conducted by Dr. McLaren of GeoSea Consulting that concluded that the fine-grained sediments will not remain in the near-shore environment. Although we are interested in the principles described in Dr. McLaren's report, the Sanctuary does have reservations regarding the scientific design of the project, as was reflected in a detailed review of the report conducted by the Sanctuary's Research Activity Panel.

To a large extent however, the conclusions reached by Dr. McLaren, whether or not supported by the experimental design, cannot alter some basic resource protection principles accepted with the designation of the Monterey Bay National Marine Sanctuary in 1992. After extensive environmental review and public comment on the designation of the Sanctuary, a number of

measures to protect the marine environment were adopted. Relevant to harbor dredging, while the Sanctuary would not terminate maintenance dredging at local harbors, offshore disposal of dredged material was to occur only at the pre-existing (to 1992) dredge disposal sites, and the Sanctuary would have the ability to control and if necessary prohibit offshore disposal within the Sanctuary.

The Final Environmental Impact Study (FEIS) that was required prior to final designation of the MBNMS noted that such regulation would have a positive effect on the marine environment by limiting activities that would threaten the resources and qualities of the Sanctuary, yet allow and control proper, pre-existing human activities such as harbor dredging. The FEIS recognized other federal agencies made regulatory decisions pertaining to dredge disposal activities but found that there was no guarantee those agencies would prohibit the disposal of waste in the area that might threaten Sanctuary resources and qualities. The FEIS also notes that "Monterey Bay water quality has been a topic of much concern as a result of domestic waste water and industrial discharges into the Bay." The concern was directed at benthic communities and described a continual threat to benthic habitat by increased use of ocean disposal dumpsites in the Sanctuary. Among other objectives, the intent of Sanctuary regulations (15 CFR Chapter IX, Part 922.132) pertaining to discharge or deposit of material within the boundary of the Sanctuary was to protect benthic biota from smothering and harmful turbidity increases from the dumping of dredge disposal material.

At the time of Sanctuary designation in 1992, the surf zone disposal site off of Twin Lakes Beach in Santa Cruz, CA had not been analyzed and was not a disposal site authorized by MBNMS. After a review of previous permits and consultation with federal agencies and the Port District, the Sanctuary recognized the surf zone dredge disposal site as a pre-existing site on September 30, 1997. Our authorization of that site was limited to disposal of sandy material (>80% sand) dredged from the harbor's entrance channel, along with several other restrictions.

Appreciating the efforts of the Port District over the past few years to provide sediment transport data for fine sediment disposal, Sanctuary staff reviewed the historical documentation describing use of the site prior to Sanctuary designation. Army Corps, San Francisco District, Permit No. 15300S64 from 1984 authorized a ten year permit allowing annual maintenance dredging within the upper and lower harbor and disposal of dredged material pumped through a pipeline into the surf zone on the east beach, offshore of Twin Lakes Beach, between January 1 and March 15 only. Quantities were limited to a one-time disposal of 8,000 cubic yards from upper harbor and 1,000 cubic yards from the lower harbor (9,000 cubic yards total), with subsequent limitations of 3,000 cubic yards per year for the following nine years, extending until 1994.

Recognizing the historical use, the MBNMS is prepared to authorize disposal of up to 3,000 cubic yards of fine sediments dredged from the upper Santa Cruz harbor into the surf zone

adjacent to Twin Lakes Beach between January 1 and March 15 only. The Sanctuary is expressly not allowing this activity as a demonstration project; rather, we are willing to allow it consistent with an activity that was permitted and allowed prior to Sanctuary designation in 1992. Any dredged material from the upper harbor greater than 3,000 cubic yards in volume may be discharged at SF-14 in Monterey Bay, or hauled to an onshore disposal site. However, alternative disposal options do not include use of the beach; we are not prepared to authorize disposal of excess material above the mean high tide line. In order to provide final concurrence on and authorization of this activity, Sanctuary staff require the following:

- Recent (within one year of proposed disposal date) test results from core samples taken of the proposed dredge sites supporting compliance with U.S. EPA's Clean Water Act Section 404(b)(1) Guidelines.
- Recent (within one year of proposed disposal date) grain-size analysis of proposed dredge sites.
- Proposed monitoring and reporting protocols for the offshore disposal, including procedure for peer review of all data and reports.
- A schedule showing how offshore disposal off Twin Lakes Beach will be accomplished between January 1 and March 15, 2001.
- A plan describing where the remaining 9,000 cubic yards of upper harbor dredged material will be disposed.

Please ensure that any Army Corps action to allow nearshore disposal of upper harbor dredged material into the Sanctuary complies with these requirements.

Thank you for your continued support of the Monterey Bay National Marine Sanctuary and protection of its resources. If you have any questions, please call LCDR Michele Finn, Assistant Superintendent, at (831) 647-4201.

Sincerely,

William J. Douros

WILLIAM J. DOUROS
Superintendent

cc: Brian Foss, Santa Cruz Port District
Brian Ross, US EPA
Roger Briggs, RWQCB
Charles Lester, California Coastal Commission
Deborah Johnston, Department of Fish and Game
Daniel Basta, ONMS
Kaitilin Gaffney, Center for Marine Conservation