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# COASTAL DEVELOPMENT PERMIT AMENDMENT

**Application number**……..**3-05-065-A2, Amendments to the Santa Cruz Small Craft Harbor Five-Year Dredging Permit**

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

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

**Amendment Description**…..Amend five-year dredging permit to allow: 1) dredging of inner (north and south) harbor sediments during the months of July, August, September, and October (disposal of dredged sediment during July, August, and September would take place at an upland site or at SF-14); 2) disposal of inner (north and south) harbor sediments into the nearshore environment during the month of October during daylight or evening hours; 3) an increase in the amount of sediment that may be dredged from the inner (north and south) harbor and disposed of at an upland site or SF-14 from 10,000 cubic yards annually to 35,000 cubic yards annually; 4) an increase in the nearshore disposal volume of inner (north and south) harbor sediment from 10,000 cubic yards annually to an unlimited amount annually for sediment that consists of at least 80% sand (retain 3,000 cubic yard annual maximum for nearshore disposal of inner harbor sediment consisting of between 50% and 79% sand), and; 5) modification of the dredge pipeline configuration at Twin Lakes State Beach to allow multiple discharge points approximately 25 yards offshore for entrance channel or inner (north and south) harbor sediment that consists of at least 80% sand, at Santa Cruz Small Craft Harbor & Harbor Beach/Twin Lakes State Beach, Santa Cruz, Santa Cruz County. (SC-SC)

**File Documents**…….CDP 3-05-065; CDP 3-05-026; CDP 3-00-034; CDP 3-00-034-A1; CDP 3-00-034-A2; Sampling and Analysis Plan Results, Proposed 2006-2007 Dredging Plan Summary, North Harbor Areas and T-Dock.

**Staff Recommendation**…… **Approval, with conditions**

## SUMMARY OF STAFF RECOMMENDATION

In 2005, the Commission approved a five-year dredging and disposal permit (CDP 3-05-065) for the Santa Cruz Port District that allowed: 1) the annual disposal of up to 350,000 cubic yards of entrance channel sediment, consisting of greater than 80% sand, through the offshore pipeline into the nearshore environment or through the surf line pipeline onto Harbor Beach/Twin Lakes State Beach; 2) the annual dredging of up to 10,000 cubic yards of clean sediment from the inner harbor with disposal through the offshore pipeline into the nearshore environment. Of this 10,000 cubic yards, a maximum of 3,000 cubic yards could consist of between 50% and 79% sand; 3) the annual dredging of a maximum of 10,000 cubic yards of inner harbor sediment, which could consist of sediment averaging less than 50% sand, with disposal at an upland site or at SF-14, which is a federally approved offshore disposal site located approximately one mile offshore of Moss Landing at the head of the Monterey Bay Canyon.

The Santa Cruz Port District has requested an amendment to make the following changes to CDP 3-05-065: Amend five-year dredging permit to allow: **1)** dredging of inner (north and south) harbor sediments during the months of July, August, September, and October (current permit conditions allow a dredging start date of no earlier than November 1st)(disposal of dredged sediment during July, August, and September would take place at an upland site or at SF-14); **2)** disposal of inner (north and south) harbor sediments into the nearshore environment during the month of October during daylight or evening hours; **3)** an increase in the amount of sediment that may be dredged from the inner (north and south) harbor and disposed of at an upland site or SF-14 from 10,000 cubic yards annually to 35,000 cubic yards annually; **4)** an increase in the nearshore disposal volume of inner (north and south) harbor sediment from 10,000 cubic yards annually to an unlimited amount annually for sediment that consists of at least 80% sand (retain the 3,000 cubic yard annual maximum for nearshore disposal of inner harbor sediment consisting of between 50% and 79% sand), and; **5)** modification of the dredge pipeline configuration at Twin Lakes State Beach to allow multiple discharge points approximately 25 yards offshore for entrance channel or inner (north and south) harbor sediment that consists of at least 80% sand.

The issues raised by the proposed amendment are as follows:

**Beach Replenishment:** Coastal Act Section 30233(b) requires that dredge material suitable for beach replenishment be transported for such purposes to appropriate beaches. The proposed amendment would increase the volume of inner harbor sediment eligible for nearshore disposal from 10,000 cubic yards per year to an unlimited amount annually for clean sediment that consists of at least 80% sand. Special Conditions #4 and #5 (approved under CDP 3-05-065) would continue to require that the sediment be tested for chemical, physical, and biological characteristics according to the requirements of the Army Corps of Engineers (ACOE) and U.S. Environmental Protection Agency (EPA) and that the sediment meet standards for unconfined aquatic disposal. Disposal of sandy, clean sediment into the nearshore environment will allow the sandy sediment to become available to nearby beaches within the Santa Cruz Littoral Cell, consistent with Coastal Act Section 30233(b).

The proposed amendment also includes a new non-anchored pipeline configuration to be used for disposal of inner harbor sandy sediment or entrance channel sandy sediment approximately 25 yards offshore (see Exhibit #4 for proposed configuration). Only one non-anchored pipeline will be in use at a time. The existing anchored offshore disposal pipeline will also continue to be available for use when current and wave conditions are amenable. The proposed non-anchored pipeline configuration will improve the Port District's ability to comply with air quality regulations and will better distribute sandy sediments to nearby beaches, consistent with Coastal Act Section 30233. Also, this approval is conditioned to require submission of an Action Plan concurrently with an application for renewal of the five-year dredging permit in 2010. The Action Plan will need to address all possible alternative methods for addressing harbor sedimentation problems with the goal of minimizing the extent of dredging and disposal operations and limiting the time required to undertake dredging and disposal operations. This evaluation should include an analysis of the potential positive environmental impacts of modernization of dredge equipment. This condition will ensure consistency with Coastal Act Section 30233 regarding requiring alternatives and feasible mitigation measures to limit adverse environmental impacts from dredging.

**Air Quality:** Hydrogen sulfide ($H_2S$) is a colorless, flammable gas, heavier than air, which at low concentrations smells like rotten eggs. Hydrogen sulfide is produced in nature primarily through the decomposition of dead plant and animal matter by anaerobic sulfur bacteria. In entrance channel sediments, hydrogen sulfide is produced by decaying seaweed. The hydrogen sulfide from the decaying seaweed is released into the air when the sandy entrance channel material is placed into the surf line for beach replenishment. The odor of hydrogen sulfide has been a major challenge for the Port District as some surfers and harbor neighbors complain that the odor is overwhelming and in some cases makes people feel sick.

During the last two dredging seasons, technical problems frequently precluded use of the offshore pipeline to dispose of sandy entrance channel sediment containing decaying seaweed. This necessitated frequent disposal of entrance channel sediments onto the beach, with associated $H_2S$ impacts. The proposed amendment includes modifications to the current dredge pipeline configuration at Twin Lakes State Beach to include three non-anchored pipeline configurations spanning from the east harbor jetty to Schwan Lagoon. Only one non-anchored pipeline configuration would be in use at any one time. Each discharge point would be located approximately 25 yards offshore at depths of four to six feet, which should be adequate to control $H_2S$. The purpose of the proposed new pipeline configurations is to provide the Port District with the flexibility to respond quickly to changing oceanographic conditions or other factors and to reduce the amount of beach discharge to a minimal amount in order to comply with the Monterey Bay Unified Air Pollution Control District's (Air District) $H_2S$ protocol. Air District staff expects that the new non-anchored pipeline configuration will significantly reduce $H_2S$ emissions into the air, with the end result being a marked improvement in air quality at the beach. Existing permit conditions that require the Port District to abide by the requirements of the Air District's hydrogen sulfide protocol will be retained by the amendment. As conditioned, the amended project is consistent with Coastal Act Section 30253(3), which requires that the proposed dredging project be consistent with the requirements of the Air District and State Air Resources Board.

**Water Quality:** Aspects of the proposed dredging and disposal amendment project are expected to have short-term adverse impacts on water quality similar to those associated with previously permitted annual or demonstration dredging episodes. These impacts include a temporary increase in turbidity and a decrease in dissolved oxygen levels. The impact to these water quality variables is expected to be adverse but short-term and minor in magnitude and scope. Pre-dredge water conditions should recur shortly after each dredging and disposal episode. The amended permit is conditioned to require specific plans for each dredging episode to be undertaken during the term of this permit. In addition, the project is conditioned to require ACOE, EPA, Central Coast Regional Water Quality Control Board (RWQCB), and Monterey Bay National Marine Sanctuary (Sanctuary) review of all required physical, chemical, and biological test results of the dredge material and approval by these agencies that the material is suitable for unconfined aquatic disposal. For dredge material proposed for upland disposal or requiring dewatering, this approval is conditioned to require authorization from the RWQCB. As conditioned, the proposed project is consistent with Coastal Act Sections 30231 and 30232 regarding the maintenance of marine water quality.

**Biological Resources**
Impacts to biological resources due to the proposed amendment are anticipated to be temporary and similar to those associated with previously permitted annual or demonstration dredging episodes. Currently, dredging operations may not commence until November 1$^{st}$ of each year. The proposed amendment would allow for inner harbor dredging from July through October, when steelhead are not present in the harbor. This amendment permit is conditioned to modify the timing limitations on dredge activities in the inner harbor in a manner to avoid impacts to salmonids, consistent with the requirements of NMFS. Also, the activities permitted under the proposed permit amendment should not create any disturbance that would have an adverse effect on the California brown pelican. Thus, the proposed amendment 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.

**Public Access/Recreation:** The proposed amendment will benefit public access and recreation by improving the Port District's ability to maintain adequate water depths in the Harbor's navigation channels in a manner that will reduce problems with $H_2S$ emissions and facilitate beach replenishment. The amended project, however, has the potential to increase temporary disruptions to coastal access and recreation opportunities by increasing the extent and duration of dredging and disposal activities. These impacts must be avoided and mitigated to address Coastal Act public access and recreation policies, as further discussed below.

The proposed amendment includes an increase from 10,000 cubic yards annually to a maximum of 35,000 cubic yards annually of sediment that may be dredged from the inner harbor and disposed of at an upland site or at SF-14. The Port District proposes to dewater this material prior to transporting the material to either of these sites. The Port District typically uses areas in the upper harbor parking lot for the dewatering process, which could have negative impacts to coastal access in this portion of the Harbor by consuming land that is within or adjacent to public access areas. This permit is conditioned to require submission of a public access management plan that demonstrates how the Port District will minimize impacts to parking and public access in this area of

the Harbor when dewatering is occurring. Removal of the sediment by truck to an upland disposal site will have minimal impacts on surrounding road traffic in the area. The increased amount of dredge material proposed for upland disposal will result in an increase of approximately 12 roundtrip truck per day, which when spread out over a period of a maximum of five to six months is not expected to have an adverse impact on circulation routes that serve coastal access.

The proposed amendment would expand the timeframe for the dredging and disposal of inner harbor sediments into the nearshore environment to include the daylight and evening hours during the month of October. October is typically one of the most beautiful months of the year along the Santa Cruz coast. To minimize public access impacts from disposal operations during the month of October, the permit amendment is conditioned to require that dredging and disposal operations during the month of October occur on weekdays between 5:00 p.m. and 10:00 p.m.

The proposed amendment also includes a new non-anchored pipeline configuration to allow disposal of dredge sediments approximately 25 yards offshore. Adverse impacts to public access from use of the expanded pipeline configuration include an increase in the modest impediment that the dredge pipelines pose to pedestrian travel along Twin Lakes State Beach, as well as an expanded area of aquatic impact, which will result in temporary disturbances to water-oriented recreational activities such as surfing and swimming. This amendment is conditioned to require the Port District to place signage on the beach in the area of the non-anchored pipeline to inform beachgoers and surfers that the pipeline is in the water and is actively discharge dredge material into the nearshore environment. Additionally, when not in use, the non-anchored pipeline will be placed off of the main part of the beach at the base of the small bluff fronting East Cliff Drive. As conditioned, the project is consistent with the public access and recreational policies of the Coastal Act.

## Staff Report Contents

Exhibits



Click on the link at left to go to the exhibits.

# I. STAFF RECOMMENDATION

The staff recommends that the Commission, after public hearing, **approve** the proposed permit 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 Coastal Development Permit Amendment Number 3-05-065-A2 pursuant to the staff recommendation.*

***Staff Recommendation of Approval.*** *Staff recommends a **YES** vote. Passage of this motion will result in approval of the coastal development permit 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 Coastal Development Permit Amendment Number 3-05-065-A2 on the grounds that the amendment, as conditioned, is in conformity with the policies of Chapter 3 of the Coastal Act. Approval of the amended permit 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 development on the environment; or (2) there are no feasible mitigation measures or alternatives that would substantially lessen any significant adverse effects of the development on the environment.*

# II. CONDITIONS OF APPROVAL

## A. Standard Conditions

1. **Notice of Receipt and Acknowledgment.** The permit 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. **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.

## B. Special Conditions

**NOTE: The Special Conditions listed below include all conditions from CDP 3-05-065, as modified by this amendment. Changes to the conditions of CDP 3-05-065 authorized by this amendment are shown using ~~strikethrough~~ and underline.**

1. **Scope of Permit.** This five-year permit (~~commencing with the date of permit issuance~~ which commenced on 10/18/05 and will expire on 10/18/10) authorizes the dredging and disposal of Harbor sediments as follows:

   **a.** Annual disposal of a maximum of 350,000 cubic yards of entrance channel sediment, consisting of greater than 80% sand, through the anchored offshore pipeline into the nearshore environment, or through the non-anchored pipeline configuration as shown in Exhibit #4, or through the surf line pipeline onto Harbor Beach/Twin Lakes State Beach. All disposal of entrance channel sediments into the surf line shall be consistent with the requirements of the Monterey Bay Unified Air Pollution Control District, as noted in Special Condition #3 below and as described in Exhibit #5.

   **b.** Annual dredging of ~~a maximum of 10,000 cubic yards of sediment from the~~ inner harbor sediment consisting of at least 80% sand with disposal through the offshore pipeline, or through the non-anchored pipeline configuration as shown in Exhibit #4, into the nearshore environment (no inner harbor dredge sediment may be disposed of into the surf line). ~~Of this 10,000 cubic yards, 7,000 cubic yards shall consist of at least 80% sand and a maximum of 3,000 cubic yards may consist of between 50% and 79% sand.~~ A maximum of 3,000 cubic yards of inner harbor sediment consisting of between 50% and 79% sand may be dredged and disposed of through the offshore pipeline or through the non-anchored pipeline configuration as shown in Exhibit #4.

~~This portion of the permit may be carried out during the 2005-06 dredging season only if the dredging and disposal project approved by the Commission under CDP 3-05-026 is not carried out in October 2005.~~

**c.** Annual dredging of a maximum of ~~10,000~~ 35,000 cubic yards of inner harbor sediment, which could consist of sediment averaging less than 50% sand, with disposal at an upland site or at SF-14.

**2. Timing of Dredging and Disposal.** All dredging and disposal activities will be conducted during daylight hours, unless otherwise noted. The following date limitations on dredging and disposal operations apply:

**a.** Entrance channel dredging and disposal: November 1st to April 30th of each dredge season.

**b.** ~~Upper (north) harbor dredging and disposal: November 1st to February 28th of each dredge season~~. Upper (north) harbor dredging: July 1st through February 28th. Upper (north) harbor nearshore disposal: October 1st through February 28th. Nearshore disposal done during the month October shall be limited to the hours of between 5:00 p.m. and 10:00 p.m. and may occur on weekdays only.

**c.** ~~Lower (south) harbor dredging and disposal: November 1st to April 30th of each dredge season.~~ Lower (south) harbor dredging: July 1st through February 28th. Lower (south) harbor nearshore disposal: October 1st to April 30th. Nearshore disposal done during the month of October shall be limited to the hours of between 5:00 p.m. and 10:00 p.m. and may occur on weekdays only.

**d.** ~~Installation of offshore pipeline no earlier than October 15th, with removal by May 15th of the following year. For the year 2005 only, if CDP 3-05-026 is implemented in October 2005, the offshore pipeline may be installed no earlier than September 15, 2005.~~ Installation of offshore pipeline no earlier than September15th, with removal by May 15th of the following year.

**3. ~~PRIOR TO COMMENCEMENT OF ENTRANCE CHANNEL DISPOSAL OPERATIONS,~~** ~~the Permittee shall submit to the Executive Director for review a copy of the revised operating permit from the Monterey Bay Unified Air Pollution Control District, as well as the finalized copy of the Air District's revised hydrogen sulfide protocol.~~ **MONTEREY BAY UNIFIED AIR POLLUTION CONTROL DISTRICT (AIR DISTRICT) HYDROGEN SULFIDE PROTOCOL.** The Port District will continued to abide by the requirements of the Air District's hydrogen sulfide protocol, as described in Exhibit #5. If the Air District makes any changes to this protocol over the remaining life of this permit**,** the Port District will submit a copy of the revised protocol to the Executive Director for review.

**4. PRIOR TO COMMENCEMENT OF INDIVIDUAL DREDGING EPISODES,** the

Santa Cruz Port District shall submit to the Executive Director for review and approval:

a. A Sampling Analysis Plan (SAP) describing sediment sampling locations and applicable testing protocols. The SAP must be approved by the Executive Director prior to sediment sampling.

b. Dredge material analysis (chemical, physical, biological) as required by ACOE, EPA, and RWQCB, as well as sampling and testing information.

c. A Dredging Operation Plan that includes plans showing the specific area(s) and volume(s) to be dredged, as well as proposed disposal methods and locations.

**5. Testing Requirements.** All dredge materials shall be tested according to the requirements of the ACOE and EPA using the most current ACOE and EPA testing methods and/or procedures. All dredge materials proposed for unconfined aquatic disposal shall meet the RWQCB and EPA Clean Water Act disposal standards. Dredge material requiring dewatering and/or disposal at an upland disposal site shall be tested and managed according to the methods and/or procedures of the RWQCB.

**6. Other Agency Requirements. PRIOR TO COMMENCEMENT OF DREDGING AND DISPOSAL OPERATIONS**, the permittee shall submit to the Executive Director for review a copy of a valid permit, letter of permission, or evidence that no permit is necessary from the following agencies: Army Corps of Engineers, U.S. Environmental Protection Agency, Monterey Bay National Marine Sanctuary, Central Coast Regional Water Quality Control Board.

**7. Disposal Pipelines.** When not in use during the dredging season, the flexible above-ground surf line pipeline and the non-anchored nearshore pipeline shall be ~~pulled away from the surf line and~~ placed at the base of the small bluff fronting East Cliff Drive in a manner most protective of public access on the beach. Regarding the permanent portion of the offshore pipeline, this pipeline shall be buried to a depth of at least 2 to 3 feet until approximately the mean high water line during the dredging season. This pipeline shall be buried completely to a depth of at least 2 to 3 feet during the non-dredging season. This permit does not authorize any riprap or other protective devices or measures to protect the permanent or temporary portions of any disposal pipeline.

**8. Public Access. PRIOR TO COMMENCEMENT OF ANY DREDGING OPERATIONS THAT WOULD REQUIRE DEWATERING AND SEPARATION OF SEDIMENT,** the Permittee shall submit to the Executive Director for review and approval a dewatering plan. This plan shall include the time period during which the dewatering process is expected to take place, and shall describe the area of the Harbor proposed to be used to dewater and separate sediment into sandy and non-sandy components. The plan will include protections for public access and parking in the Harbor during the dewatering and sediment separation procedures, among other ways by locating and designing dewatering facilities in a manner that avoids the loss of public parking areas and does not impact trails

or public walkways in the Harbor.

9. **Beach Signage for Non-Anchored Pipeline Use.** Whenever the non-anchored pipeline is in use, the Port District will place at least two signs along the beach in the vicinity of the non-anchored pipeline to inform beachgoers and surfers that there is a non-anchored pipeline extended into the water and the dredge disposal operations are taking place through this pipeline.

10. **Action Plan. CONCURRENT WITH AN APPLICATION FOR RENEWAL OF THE PORT DISTRICT'S FIVE-YEAR DREDGING PERMIT IN 2010,** the Port District shall submit an Action Plan that evaluates alternative methods and equipment available to meet the anticipated long-term dredging and disposal needs of the Santa Cruz Small Craft Harbor, and includes a plan for implementing feasible alternatives that would avoid or minimize the environmental impacts of current dredging procedures. This Action Plan shall include, but not be limited to, an evaluation of the alternatives detailed in the draft Scope of Work (Exhibit #9) being prepared for the Monterey Bay National Marine Sanctuary, as well as an analysis of the potential reduction in environmental impacts that could be realized through modernization of dredging equipment.

## III. RECOMMENDED FINDINGS AND DECLARATIONS

The Commission finds and declares as follows:

### A. Project Location & Background

The Santa Cruz Small Craft Harbor (Harbor) is located in the City of Santa Cruz, at the northern tip of Monterey Bay, between Harbor Beach and Twin Lakes and Seabright State Beaches, and approximately 3,000 feet east of the San Lorenzo River mouth (Exhibit #1). The Harbor is a commercial fishing/small craft harbor with berthing facilities for approximately 920 boats. The proposed dredging sites include: 1) the harbor's entrance channel, which extends from the jetties to the fuel dock; 2) the inner harbor, which consists of all portions of the harbor located north of the fuel dock. The inner harbor consists of two subareas: 1) the upper (or north) harbor, which includes all harbor facilities located north of the Murray Street Bridge, and the lower (or south) harbor, which includes harbor facilities located between the fuel dock and the Murray Street Bridge (see Exhibit #2 for location maps).

The Santa Cruz Small Craft Harbor fronts the Monterey Bay National Marine Sanctuary (Sanctuary) which extends south from a point in Marin County to Cambria Rock in San Luis Obispo County, and extends from high tide seaward typically about 35 miles offshore. The Sanctuary is the nation's eleventh largest marine sanctuary, protecting marine resources that include the nation's most expansive kelp forests, one North America's largest underwater canyons, and the closest deep ocean environment to the continental United States.

The Harbor was initially constructed from April 1962 through January 1964, and was subsequently expanded into the upper portion of the former Woods Lagoon in 1972. Permanent jetties placed along the east and west sides of the Harbor's entrance channel provide year-round access to the

Pacific Ocean. However, winter storms occasionally render the harbor entrance impassable because of the Harbor's entrance configuration. In total, the area of the Harbor encompasses approximately 38 acres of land and 52 acres of water. Within these areas one can find a variety of public amenities including approximately 920 berths and dory ties for commercial and recreational boats, 3.3. acres of sandy beach area on both sides of the jetties fronting the harbor mouth, and over 1,000 parking spaces that support marine related uses.

Overall, the Harbor facilitates ocean-related functions such as boat-launching, berthing for commercial vessels and recreational boats, boat repair areas, marine-related retail/commercial businesses, restaurants, sailing programs, a yacht club and boat sales. The vast majority of boat use at the Harbor is for recreational purposes, as opposed to commercial fishing.

The entrance channel receives sediment primarily from littoral drift at the harbor mouth. Shoaling of the harbor mouth entrance can occur due to unavoidable natural littoral drift processes, which can only be corrected by regular maintenance dredging.

## B. Arana Gulch Watershed

The upper (north) portion of the inner harbor 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 upper harbor waters. Sediments originating from the Arana Gulch watershed have proved to be the most problematic for the Harbor in recent times. On average, the Harbor receives approximately 1,000 to 15,000 cubic yards of sediment per year from the Arana Gulch watershed. During the 2005-06 winter season, which was a period of exceptionally high rainfall, the north harbor received over 40,000 cubic yards of sediment from Arana Gulch (see Exhibit #6). Much of this sediment has collected in the upper harbor and has rendered portions of the north area impassable to boats. Currently, 46 berths in the north harbor are damaged or are located in a shallow area due to this sediment input from Arana Gulch and are thus unusable (as shown in Exhibit #3). The upper (north) harbor receives sediment primarily from the Arana Gulch watershed, while the lower (south) harbor receives a combination of sediment from the entrance channel and the Arana Gulch watershed.

The Arana Gulch watershed drains a 3.5 square mile area between the City and County of Santa Cruz. Arana Gulch has historically sustained steelhead spawning and rearing. Currently, available salmonid habitat in the watershed is poor in quality due to a number of limiting factors, including sedimentation. The Santa Cruz County Resource Conservation District (SCRCD) prepared an *Arana Gulch Watershed Enchancement Plan* (Plan) in 2002. The Plan includes an assessment of current sediment and salmonid fisheries conditions and recommends a series of restoration projects to repair individual sites or constraints in the Arana Gulch watershed. A total of 18 restoration projects are proposed, which are rated from high priority to low priority, and miscellaneous projects. The Plan's objectives are to improve, protect, and increase accessibility to and use of steelhead habitat throughout the Arana Gulch watershed and to reduce erosion and sedimentation throughout the watershed. Currently, the engineering designs for two of the high priority projects are complete. The purpose of one of these high priority projects, i.e. the Blue Trail Gullies project, is to repair an eroded area and re-stabilize a hillside to reduce sediment input into the watershed, which will

ultimately reduce the amount of sediment that makes its way into the inner harbor. In addition, the Steelhead Fish Barrier #6 project will include removal of a culvert to allow for fish passage to upstream reaches of the central branch of Arana Gulch. This project also will include the stabilization of stream banks, which will reduce the amount of erosion into the inner harbor. Both the Blue Trail Gullies project and the Steelhead Fish Barrier project will likely be implemented in 2007 (pers. comm. Bobbie Haver, Arana Gulch Watershed Alliance). An additional high priority project in the Plan involves reduction of concentrated runoff and downstream erosion and gullying at the City's disc golf course. The California Coastal Conservancy has funded the engineering design for this project. Additionally, the city of Santa Cruz has funding available for engineering design for an area within the City's greenbelt property that is eroding into the Arana Gulch watershed and ultimately into the north harbor area.

In addition to the above projects, which are part of the *Arana Gulch Watershed Enhancment Plan*, the California Department of Fish & Game has previously granted a 5-year permit to the Santa Cruz Port District for regular clearance of a sediment basin at Harbor High School. The Port District is applying to extend this permit for another five years. Regular clearance of this sediment basin reduces sediment inputs into the inner harbor. Approximately 190 cubic yards of sediment was removed from this basin at the end of August 2006.

## C. Sediment Transport in Northern Monterey Bay

The Santa Cruz Small Craft Harbor lies within the Santa Cruz Littoral Cell, which extends from the Golden Gate Bridge in San Francisco, south to the Monterey Bay submarine canyon. The majority of sediment enters the littoral cell during winter rainstorms from November to March. The San Lorenzo River is a major contributor of sediment to northern Monterey Bay. The River, which is located approximately half a mile west of the Santa Cruz Harbor, discharges an average of 278,000 CY of sediment per year to the Santa Cruz Bight. Exhibit #4 shows the sediment plume that enters the ocean from the San Lorenzo River during periods of high rainfall. Approximately 73% (203,000 CY) of the River's annual discharge is estimated to be silt and clay sediment.

Sediments entering the ocean are sorted by the forces of waves and currents based on differences in grain-size, density, and shape. Sediment in the Santa Cruz Littoral Cell is sorted into two basic categories at a cut-off grain diameter of 180 microns. Sediments larger than 180 microns consist of fine-sand and larger-grained sand; sediments smaller than 180 microns are categorized as fine sediment (silt and clay). The larger, sandy sediments travel in the littoral drift or are deposited on beaches in the Santa Cruz area. Fine clay and silt sediments are transported offshore to the continental shelf, where they are deposited in abundance along a midshelf mudbelt. The mudbelt extends from south of Santa Cruz to north of Half Moon Bay and is up to 30 meters thick on the continental shelf offshore of the San Lorenzo River.[1]

[1] Sea Engineering, Inc., 2005. *2005 Santa Cruz Harbor Dredge Disposal Monitoring Results.* Santa Cruz, CA. 16 pp. plus Appendix.

## D. Permit History

The U.S. Army Corps of Engineers (ACOE), in accordance with its mandate for maintaining navigable harbors and inland waterways, as defined in Section 10 of the Rivers and Harbors Act, has authority over and responsibility for maintaining the federal channel at the Santa Cruz Harbor. Beginning in 1965, the ACOE was the first agency to conduct dredge operations at Santa Cruz Harbor. However, the ACOE handed over its responsibilities to maintain the federal channel to the Port District in 1988. Thus, the Port District is now responsible for dredging both entrance channel and inner harbor areas until the year 2013, under an agreement between the Port District and ACOE.

Dredge operations at the Harbor have previously been authorized by a series of Coastal Permits and Consistency Determinations. Some of these include 3-81-140 for dredging between 1981 and 1983, 3-84-13 for dredging between 1984 and 1986, and CD-12-81, CD-46-83, CD-59-84, and CD-31-85 for individual dredging episodes corresponding to the year of issuance. In order to better facilitate individual dredging episodes, the Commission authorized Coastal Development Permit (CDP) 3-86-175 for the installation of a permanent onshore dredge disposal pipeline in 1986. The onshore disposal pipeline connects to the floating dredge barge and is located just under the sandy surface of Santa Cruz Port District Beach between 5th and 6th Avenues. From here, the Port temporarily connects additional piping to route dredge materials to the surf line. In addition, Coastal Permit 3-86-175 required the Port to submit, for review and approval by the Executive Director, a dredge operation and maintenance manual. The Port fulfilled this condition and has subsequently submitted modifications which have been approved by the Executive Director. The Commission authorized a five-year maintenance dredge operation under CDP 3-95-067.

In October 2000, the Commission granted a five-year permit (CDP 3-00-034) to the Santa Cruz Port District, which authorized the dredging of 10,000 CY of sediment per year from the inner harbor and 350,000 CY of sediment per year from the Harbor's entrance channel (see Exhibit #2 for location map). CDP 3-00-034 authorized disposal of these sediments into the surfline at Harbor Beach/Twin Lakes State Beach, or through the offshore pipeline (approximately 70 yards offshore) when hydrogen sulfide from decaying seaweed was present in entrance channel sediments in quantities that would affect beachgoers or adjacent residents if the sediments were placed into the surfline. CDP 3-00-034 required that all dredged and disposed sediments consist of at least 80% sand, consistent with Army Corps of Engineers (ACOE) and U.S. Environmental Protection Agency (EPA) guidelines regarding dredging and beach replenishment.

In February 2001, the Commission approved an amendment (CDP 3-00-034-A1) to the Santa Cruz Port District's five-year dredging and disposal permit. CDP 3-00-034-A1 allowed for the one-time dredging of 3,000 CY of sediment from the inner harbor, with disposal by means of the offshore pipeline during February and/or March 2001. This sediment averaged 42% sand and 58% silt/clay and, after chemical and biological testing, was determined by the ACOE and EPA to be suitable for unconfined aquatic disposal. The Port District had requested the amendment because it contended that the 80% sand determination was too restrictive and precluded the beneficial use of otherwise clean sediments, of which a high percentage constitute sandy material. The Santa Cruz Port District had proposed the amendment as a "demonstration" project to determine if clean, fine-grain harbor sediments could be disposed of into the nearshore area in a manner beneficial to downcoast beaches

and without harm to coastal resources.

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." Regarding the 2001 demonstration project, 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 Act 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 felt that the proposed demonstration project could provide the kind of site-specific information necessary for further evaluation. Therefore, the EPA did not object to the proposed demonstration project, provided that the provisions of the monitoring program were enforced and that the results of the monitoring program were made available to the ACOE, the EPA, and other relevant agencies.

The 2001 demonstration project included a monitoring component to determine the effects, if any, of the disposal of fine-grain dredge material into the nearshore environment. At the February 2001 Commission hearing, California Department of Fish & Game personnel strongly suggested that a neutral, nontoxic fluorescent dye be added to the dredge material, prior to disposal, for monitoring purposes. The Commission added this requirement to its approval of CDP 3-00-034-A1. The 3,000 CY of sediment was dredged and disposed of into the nearshore environment in the early evening hours over a three-day period in late March 2001.

The 2001 monitoring program was designed and implemented by scientists from Moss Landing Marine Laboratories to determine if sedimentary changes occurred on the beaches and nearshore benthic habitats in the vicinity of the Santa Cruz Harbor due to the retention of fine-grain dredged sediment. In addition to a comprehensive scientific literature review, a variety of data were collected from February 18, 2001 to April 14, 2001 to monitor the experimental dredging event and the natural processes occurring in the study area. Stream flow data were used to calculate sediment discharge estimates. Oceanographic swell information was downloaded to monitor wave conditions and to calculate littoral drift estimates. Over 300 sediment samples were collected and grain size analyses performed. Over 300 water samples were collected to observe changes in turbidity over time. Two separate geophysical surveys were executed to describe and quantify benthic habitats and sedimentary changes that may have occurred during the monitoring period. The scientists concluded, after complete integration and analyses of all the data types collected during the monitoring period, that the fine-grain material released into the nearshore environment did not significantly change, alter, or impact the beaches or nearshore marine benthic habitats in the study area.

The results of the dye tracking study in 2001 showed that dye was detected at most nearshore and beach stations at most time intervals. The overall dilution factor of the dye was very high at all stations, indicating that the high wave energy at the dredge material discharge point resulted in a

rapid dilution of the discharge plume. This study also noted that dye is a tracer for the movement of water *and not sediment*, and cautioned that the results of the dye study should not be used to determine the movement and persistence of fine-grain dredge particles. In addition, Professor Gary Greene from Moss Landing Marine Laboratories found that the use of fluorescent dye as a tool to determine if fine-grain sediment settles in the nearshore sandy areas is fundamentally flawed, and that the only way to determine if this occurs is to sample bottom sediments. In addition, the Commission's staff biologist agreed with these criticisms regarding use of dye as a sediment tracer and also stated that sediment sampling is the only analysis that will determine if fine-grain dredge sediments adversely impact the beaches or the nearshore subtidal benthic environment.

In August 2003 the Commission approved a second amendment (CDP 3-00-034-A2) to the base dredging permit. CDP 3-00-034-A2 allowed for the yearly nearshore disposal of up to 3,000 CY of inner harbor sediment, consisting of between 50% and 80% sand, for the remaining two years of CDP 3-00-034. Requirements for lab testing of the fine-grain dredge material, according to all criteria prescribed by ACOE and EPA regulations, remained in place. These criteria included 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. As with the original demonstration project, only "clean" dredge material, i.e., material deemed suitable for unconfined aquatic disposal by the ACOE and the EPA, could be disposed of into the nearshore environment. Unlike CDP 3-00-034-A1, the EPA determined that the dredge material must consist of at least 50% sand to achieve the basic project purpose of beach nourishment.

The Commission conditioned its approval of CDP 3-00-034-A2 to require the submission of a monitoring program to determine if sedimentary changes occurred along the beaches and nearshore benthic habitats in the vicinity of the Santa Cruz Harbor due to retention of fine-grain material. In 2004, all dredged and disposed inner harbor sediments consisted of at least 80% sand and thus were allowed under the base permit (CDP 3-00-034) and were not subject to monitoring requirements. In February and April 2005, 7,050 CY of material was dredged from the inner harbor and disposed of into the nearshore environment. Of this amount, 4,300 CY consisted of an average of 85% sand and 15% silt/clay, disposal of which was allowed under the base permit. A total of 2,750 CY of this inner harbor material consisted of an average of 71% sand and 29% silt/clay and was subject to a monitoring program required under CDP 3-00-034-A2. Results of the monitoring program (which was undertaken from February 10$^{th}$ to April 22$^{nd}$) demonstrated that the discharge of fine-grain material did not cause any detectable changes in mean grain-size or silt and clay percentages beyond the range of normal winter background conditions. For the reasons discussed above, the Commission did not require use of fluorescent dye as part of the monitoring program required for this amendment.

In September 2005, the Commission approved CDP 3-05-026, which allowed for the dredging of approximately 10,000 CY of sediment from the inner harbor, consisting of 50.8% sand and 49.2% silt/clay, with disposal through the offshore pipeline into the nearshore environment during October 2005 only. This approval also included an extensive monitoring program to evaluate the impacts to the beach or local benthic environment due to fine-grain sediment disposal into the nearshore

environment. Dredging of the inner harbor took place between October 12th and October 31, 2005 between the hours of 6 p.m. and 10 p.m. An estimated 6,596 cubic yards of sediment composed of approximately 31% sand and 69% silt and clay was disposed of into the nearshore environment approximately 50 yards offshore of Twin Lakes Beach (the percentage of sand in this sediment was not equivalent to that described in the application for CDP 3-05-0626 and did not meet the EPA's nor the Commission's requirement of at least 50% sand composition for sediment disposed of into the nearshore environment). The monitoring program included beach and offshore sediment sampling, water quality measurements, beach monitoring observations, SCUBA diver observations, evaluation of nearshore waves and currents, multibeam bathymetry surveys (including GIS based benthic habitat maps), and numerical modeling. The monitoring study results determined that there was no significant change in sediment sample mean grain-size or silt and clay percentage beyond the range of normal background conditions. The report further concluded that "strong evidence collected in three monitoring programs over the past 4.5 years indicates that the Santa Cruz Bight is a high-energy coastline that does not support the deposition of silt and clay sized particles… The results indicate that local wave and current energy are more than capable of efficiently transporting not only silt and clay sediment away from the SCH [Santa Cruz Harbor], but sand-sized material as well. This implies that the Santa Cruz Bight could accommodate a larger volume of inner SCH dredge sediment than is currently permitted."[2]

In October 2005 the Commission approved CDP 3-05-065, which represented a renewal of the five-year dredging permit to allow dredging and disposal of up to 350,000 cubic yards of entrance channel sediment (>80% sand) into the nearshore environment or into the surf line at Harbor Beach/Twin Lakes State Beach, dredging and nearshore disposal of up to 10,000 cubic yards of inner harbor sediment, of which 3,000 cubic yards could consist of between 50% and 79% sand, and dredging of up to 10,000 cubic yards of inner harbor sediment (which could consist of <50% sand) with disposal at an upland site or at a federally approved offshore disposal site, such as SF-14. The proposed amendment would alter this five-year permit.

On March 1, 2006, the Port District was granted an emergency permit (CDP 3-06-012-G), which allowed for the dredging and disposal of a maximum of 3,500 cubic yards of north (inner) harbor sediment between March 1, 2006 and March 23, 2006 only (23 days past the February 28th time limit in CDP 3-05-065). Disposal of the dredged material took place through the offshore pipeline only. Material was dredged from areas previously tested in 2005 and consisted of at least 80% sand.

On May 1, 2006, the Port District was granted an emergency permit (CDP 3-06-025-G) to allow dredging of the harbor's entrance channel through May 31, 2006 only (CDP 3-05-065 required entrance channel dredging to cease on April 30th of each year). The time extension for dredging was necessary due to unrelenting storms that took place during March and the first half of April 2006. The combination of massive sand transport into the entrance channel, mechanical difficulties in using the offshore pipeline, and restrictions on beach disposal due to hydrogen sulfide restrictions left the harbor with a backlog of greater than 100,000 cubic yards of sand in the entrance channel.

In September 2006, an immaterial amendment (CDP 3-05-065-A1) was presented to the

[2] Sea Engineering, Inc. *Fall 2005 Inner Santa Cruz Harbor Dredge Disposal Monitoring Program,* May 12, 2006.

Commissioners. This amendment would have allowed dredging and disposal of inner (north and south) harbor sediments during the month of October, including during October evenings (CDP 3-05-065 restricted dredging and disposal activities to a start date of November 1st and required all dredging and disposal activities to take place during daylight hours). The proposed immaterial amendment would also have removed the 10,000 cubic yard limit on the dredging of sediment from the inner harbor with disposal at an upland site or SF-14. Objections to the immaterial amendment were received (see Exhibits #7 and #7A for these objections and for all correspondence relevant to the currently proposed amendment) and the immaterial amendment therefore did not become effective. The changes proposed by the immaterial amendment have been incorporated into the current amendment request that is the subject of this staff report, i.e. CDP 3-05-065-A2.

## E. Amendment Description & Recent History

The Santa Cruz Port District has requested an amendment to its five-year dredging permit (CDP 3-05-065) to: 1) allow dredging of inner (north and south) harbor sediments during the months of July, August, September, and October (disposal of dredged sediment during July, August, and September would take place at an upland site or at SF-14); 2) allow disposal of inner (north and south) harbor sediments into the nearshore environment during the month of October during daylight or evening hours; 3) increase the amount of sediment that may be dredged from the inner (north and south) harbor and disposed of at an upland site or SF-14 from 10,000 cubic yards annually to 35,000 cubic yards annually; 4) increase the nearshore disposal volume of inner (north and south) harbor sediment from 10,000 cubic yards annually to an unlimited amount annually for sediment that consists of at least 80% sand (the amendment would retain the 3,000 cubic yard annual maximum for nearshore disposal of inner harbor sediment consisting of between 50% and 79% sand), and; 5) modify the dredge pipeline configuration at Twin Lakes State Beach to allow multiple discharge points (only one discharge point would be used at a time) approximately 25 yards offshore for entrance channel or inner (north and south) harbor sediment that consists of at least 80% sand (see Exhibit #4 for proposed pipeline configuration)**.**

The Port District is requesting the amendment for several reasons. First, runoff from the 2005-06 winter season deposited a record amount of sediment (more than 40,000 cubic yards) into the north harbor from the Arana Gulch watershed (Exhibit #6). Also, over the past several dredging seasons, the use of a single offshore discharge point has been problematic for several reasons. The offshore pipeline disposal point became perennially shallow and the resultant shoaling encroached into the federal navigation channel, causing dredge material to reenter the entrance channel after it was disposed of through the offshore pipeline. During the 2005-06 dredging season, the Port District had to cease using the offshore pipe because of unsafe surf and depth limitations in the entrance channel. Furthermore, during the last two dredging seasons, the offshore pipeline has regularly become plugged with heavy sand effluent, which makes the offshore pipeline unusable. Retrieving the pipeline to correct this situation involves a crew of four people entering the breaking surf on a work boat, which is a potentially dangerous condition. Because of the limitations of the offshore pipeline during the past two dredging seasons, the entrance channel sandy material was frequently deposited onto the beach through the surf line pipeline. Entrance channel dredge material deposited on the

beach can result in high levels of hydrogen sulfide being released into the atmosphere due to decomposing seaweed present in the dredge material. During the 2005-06 dredge season, the Port District needed to shut down entrance channel disposal operations on 34 days to prevent exceeding allowable hydrogen sulfide levels set by the Monterey Bay Unified Air Pollution Control District. This the major reason why the Port District was issued an emergency permit (CDP 3-06-025-G) to allow dredging of the harbor's entrance channel through May 31, 2006 (one month past the April 30th required deadline for cessation of entrance channel dredging and disposal operations).

On January 9, 2006, the Port District violated an Air District Hearing Board order, which had been issued to allow the Port District to continue dredging because of severe beach erosion from the storms at that time (this temporary Hearing Board order required the Port District to shut down beach disposal operations if an $H_2S$ reading of 1 part per million or greater was reached; under ordinary protocol requirements the Port District is required to shut down beach disposal operations after four successive $H_2S$ readings of 15 parts per billion (ppb) or greater, or for any single reading of 60 ppb or greater). The Port District continued to dredge and discharge entrance channel sediment onto the beach after air quality monitor readings that required shutdown of the dredging operation were exceeded. This was the only air quality violation during the 2005-06 dredge season. According to Air District staff, the ensuing enforcement action is nearly settled and instead of paying a fine, the Port District will fund a supplemental environmental project action (which under normal circumstances, the Air District would not have the authority to require) to improve the air quality aspects of the dredging and disposal operation.

# 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:

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

**Coastal Act Section 30001.5** states, in relevant part:

> ***30001.5:*** *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.

Proposed dredging areas in the Harbor include areas where deposition routinely reduces depths in and around navigational channels and berthing areas. During extreme depositional events, vessels must time their maneuvers in and out of the Harbor with the tides. Maneuvering within the Harbor has also at times proved difficult during low tides when many vessels rest on the muddy bottom sediments. Continued sediment inflows can be anticipated. This can, at times, result in severe impairment of Harbor capacity and risk to vessels if no action is taken. No feasible alternatives to the proposed dredging have been identified.

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 cannot 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. Likewise, the temporary installation of an offshore dredge disposal pipeline and the proposed non-anchored pipeline configuration will serve to implement the maintenance of berthing and navigational depth, and, as such, are also considered high priorities

under the Coastal Act.

The proposed amendment includes dredging and disposal activities that not only support coastal-dependent uses, but are integral to such uses and therefore have a priority under the Coastal Act. Accordingly, the Commission finds that the proposed amendment supports high priority coastal uses that are consistent with the land use priorities of the Coastal Act Section.

## B. Air Quality

Section 30253(3) of the Coastal Act states:

> ***30253.*** *New development shall:*
>
> *(3) Be consistent with requirements imposed by an air pollution control district or the State Air Resources Control Board as to each particular development.*

Hydrogen sulfide ($H_2S$) is a colorless, flammable gas, heavier than air, which at low concentrations smells like rotten eggs. Hydrogen sulfide is produced in nature primarily through the decomposition of dead plant and animal matter by anaerobic sulfur bacteria. Because it is heavier than air, hydrogen sulfide can accumulate in low-lying areas and in enclosed spaces. In entrance channel sediments, hydrogen sulfide is produced by decaying seaweed. The hydrogen sulfide from the decaying seaweed is released into the air when the sandy entrance channel material is placed into the surf line for beach replenishment. Some entrance channel sediments contain a low concentration of seaweeds and thus produce little or no hydrogen sulfide odor when placed into the surf line; other entrance channel sediments may contain a high concentration of seaweeds, resulting in higher amounts of hydrogen sulfide being released into the air when these sediments are deposited into the surf line. The odor of hydrogen sulfide has been a major challenge for the Harbor as some surfers and harbor neighbors complain that the odor is overwhelming and in some cases makes people feel sick. Typical complaints include respiratory symptoms of nose and throat irritation, cough, and signs of inflammation. Nausea is also a typical complaint.

In October 2003, the Air District issued the final hydrogen sulfide protocol, which was appended to the Harbor's dredge operating permits. The protocol included installation of a hydrogen sulfide monitor to operate when the wind direction was onshore, and a wind instrument to provide an indication of wind direction. During the 2003-04 dredging season, the Port District used the offshore pipeline to dispose approximately 90% of the entrance channel sediments approximately 70 yards offshore; thus, during the 2003-04 dredging season, the surf line pipeline was used only approximately 10% of the time. The result of this was dramatically reduced hydrogen sulfide emissions, no interference with the obligations of the Harbor in maintaining its entrance channel, and very few, if any, complaints from neighbors or surfers about hydrogen sulfide odors during the 2003-04 dredging season.

The 2004-05 dredging season, however, was a markedly different experience. According to the Port District, there were unusual currents and wave conditions that forced the Port District to use the offshore pipeline only approximately 58% of the time; 42% of the time the dredge material was placed into the surf line. The Harbor's dredge operation repeatedly encountered pockets of

hydrogen sulfide-producing materials that resulted in odorous emissions at levels never before measured or believed possible. In some instances, single readings of hydrogen sulfide recorded by the air monitor exceeded 3,000 ppb (normal background hydrogen sulfide levels in the Harbor area when dredging is *not* taking place have been measured at 3-5 ppb). Numerous complaints regarding hydrogen sulfide were received by the Port District, Commission staff, and the Air District during the 2004-05 dredging season.

Due to the unacceptable results of the 2004-05 dredging season regarding hydrogen sulfide emissions, the Air District found that the protocol needed to be amended to protect against the unpredictable conditions encountered during that dredge season (see Exhibit #5 for current $H_2S$ protocol). Specifically, the Air District is requiring the following to be implemented when onshore winds exist and disposal of entrance channel sediments is taking place in the surf line:

- Reduction of the air sampling interval from two minutes to one minute;
- Cessation of dredging when the air monitor records 15 ppb of hydrogen sulfide for four successive readings, or any single reading of 60 ppb or more;
- No restart after cessation until the following day;
- Adding a new "not to exceed" limit of 30 ppb for a one-hour average (State Air Board's existing standard for hydrogen sulfide). Violation of this limit would be enforced through the imposition of civil penalties.

As discussed above in Section E, there have been problems during the past two dredging seasons with use of the offshore pipeline that led to increased beach disposal of entrance channel sediments and challenges regarding management of $H_2S$ emissions. During the 2005-06 dredge season, the Port District was required to shut down beach disposal operations on 34 days to prevent exceeding allowable hydrogen sulfide levels set by the Air District.

The principal tool for suppressing $H_2S$ from entrance channel sediments has been the use of the offshore disposal pipe. However, over the past several seasons of offshore disposal, a number of adverse impacts have been experienced when using the offshore pipeline, as discussed in Section E above. The proposed amendment includes modifications to the current dredge pipeline configuration at Twin Lakes State Beach to include three pipeline configurations spanning from the east harbor jetty to Schwan Lagoon (as shown in Exhibit #4). Only one pipeline configuration would be in use at any one time. Each of the three configurations would have several different discharge points based on the flexibility and mobility of the pipelines (but again, only one discharge point would be in use at a time). Each discharge point would be located approximately 25 yards offshore at depths of four to six feet, which should be adequate to control $H_2S$ within the limitations established by the Air District. The pipelines would not be anchored to the seafloor. Rather, they will be installed on a daily basis and the discharge point will be monitored and adjusted throughout each day of operation to ensure adequate water depth. The purpose of the proposed new pipeline configurations is to provide the harbor with the flexibility to respond quickly to changing oceanographic conditions or other factors and to reduce the amount of beach discharge to a minimal amount in order to comply with the Air Board's $H_2S$ protocol. In addition, these non-anchored pipelines will be able to place sediment where it will not reenter the harbor mouth, which has been a

problem periodically with the anchored offshore disposal pipeline. Sandy sediment disposed of at depths of four to six feet will continue to be available for beach replenishment. Finer grain sediments should disperse toward the ocean mudbelt and will not end up on the beach, as was shown in the results of the demonstration #2 study (Exhibit #8). The anchored offshore pipeline will remain available for use when conditions to do so are favorable, e.g., for when ocean currents will not push sediment discharged through the offshore pipeline back into the harbor mouth.

As described above, this component of the proposed amendment is intended to reduce $H_2S$ emissions by minimizing the need for beach discharge. Last year saw a large number of days of forced beach discharge because of the incapacitation of the existing offshore pipeline. That pipeline's limited capacity also resulted in several other days of discretionary beach discharge simply to preserve the offshore capacity for when emergency loomed. The purpose of the proposed new offshore discharge configuration is to increase offshore capacity and thereby reduce, or eliminate altogether, emergency beach discharge, which will reduce or eliminate hydrogen sulfide impacts from entrance channel sediments. The new unanchored pipeline configuration will not replace the existing anchored offshore discharge pipeline. The new pipeline configuration, however, will largely replace the beach discharge that has taken place so frequently in the past two dredging seasons. Air District staff expects that the new non-anchored pipeline configuration will reduce $H_2S$ emissions sufficiently, with the end result being a marked improvement in air quality at the beach (pers. comm. Ed Kendig). This should greatly reduce the need for the Port District to shut down disposal operations to conform to the Air District's $H_2S$ protocol. Special Condition #3 of this permit requires the Port District to continue to abide by the requirements of the Air District's hydrogen sulfide protocol. With this condition, the proposed project is consistent with Coastal Act Section 30253(3), which requires that the proposed dredging project be consistent with the requirements of the Air District and State Air Resources Board.

## C. 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. [emphasis added.]***

*(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 l9 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.*

Section 30233 of the Coastal Act allows for the dredging of harbor waters in order to maintain depths necessary for navigation where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects. It also specifies that dredge spoils suitable for beach replenishment should be transported for such purposes to appropriate beaches or into suitable long shore current systems.

The proposed amendment would increase the volume of inner harbor sediment eligible for nearshore disposal from 10,000 cubic yards per year to an unlimited amount annually for clean sediment that consists of at least 80% sand. On average, the Harbor receives approximately 1,000 to 15,000 cubic yards of sediment per year from the Arana Gulch watershed. During the 2005-06 winter season, the north harbor received over 40,000 cubic yards of sediment from Arana Gulch (see Exhibit #6). The proposed amendment would allow the Port District greater flexibility in removing larger amounts of clean, sandy sediment from the inner harbor area with disposal into the nearshore environment in years when greater than average rainfall leads to greater than average sediment deposition in the north harbor. Special Conditions #4 and #5 would continue to require that the sediment be tested for chemical, physical, and biological characteristics according to the requirements of the ACOE and EPA and that the sediment meet standards for unconfined aquatic disposal. In addition, the timeframe for nearshore disposal of inner harbor sediment will continue to be limited. Currently, the

existing permit establishes a November 1st start date for nearshore disposal. As amended, the timeframe for nearshore disposal will be expanded by one month to include October. Thus, the amendment does not change the type of material that can be discharged into the nearshore environment, nor does the amendment substantially change the timeframe in which activities must be conducted. It simply expands the timeframe for nearshore disposal to include the weekday evenings of October, and increases the amount of clean sandy material that can be dredged and disposed of during the dredge season. Since the dredged material must be tested and shown to be clean and appropriate for unconfined aquatic disposal, the increase in permissible dredge disposal quantities, and slight expansion in the nearshore disposal timeframe, will not have adverse impacts on marine resources or aquatic habitats. Disposal of this sandy, clean sediment into the nearshore environment will allow this sandy sediment to become available to nearby beaches within the Santa Cruz Littoral Cell (Exhibit #8).

The proposed amendment does not increase the amount of clean inner harbor sediment consisting of between 50% and 79% sand that may be disposed of into the nearshore environment; this amount will remain at 3,000 cubic yards per year maximum per Special Condition #1b. This condition also prohibits deposition of any inner harbor sediments into the surf line.

The proposed amendment also includes a new non-anchored pipeline configuration (Exhibit #4) to be used for disposal of clean, inner harbor sandy sediment or entrance channel sandy sediment approximately 25 yards offshore. Only one pipeline will be in use at a time. The anchored offshore disposal pipeline will also continue to be available for use when current and wave conditions are amenable. The proposed pipeline configuration will allow sandy sediments to become available to nearby beaches within the Santa Cruz Littoral Cell (Exhibit #8).

As discussed in Section D above (Permit History), the Port District has an extensive permit history with respect to dredging and disposal of harbor sediments. A five-year permit (CDP 3-05-065) to address all dredging and disposal issues was approved by the Commission in October 2005. Commission staff was hopeful at that time that the five-year permit would be adequate to serve the Port District's needs for the entire life of the permit, without the need for emergency permits or amendments to the permit. Within less than a year, however, the Port District applied for and received two emergency permits (CDP 3-06-012-G and 3-06-025-G) to extend the inner harbor dredging and disposal 23 days past the required February 28th cessation date and to extend entrance channel dredging and disposal cessation deadline by one month to May 31, 2006. The Port District then applied for the current amendment to the five-year permit, which requests fairly substantial changes to the approved permit. The continuing need for modifications to approved permits indicates that a longer, broader range view of dredging and disposal issues needs to be taken by the Port District to comprehensively address the Port District's needs regarding dredging and disposal of sediments, and to reduce or eliminate the need for emergency permits and modifications to existing permits.

Pursuant to recommendations from the Monterey Bay National Marine Sanctuary, the Port District has prepared a draft scope of work to assess the environmental issues, studies, potential impacts, and potential alternatives related to current and anticipated long-term dredging project needs (see Exhibit

#9). Special Condition #10 requires that an Action Plan, based on the draft scope of work, needs to accompany renewal of the five-year dredging permit in 2010. The Action Plan needs to address all possible alternative methods for addressing harbor sedimentation problems with the goal of minimizing the extent of dredging and disposal operations and limiting the time required to undertake dredging and disposal operations. This evaluation should include an analysis of the potential positive impacts of modernization of dredge equipment. This condition will ensure consistency with Coastal Act Section 30233 regarding requiring alternatives and feasible mitigation measures to limit adverse environmental impacts from dredging.

The proposed amendment includes additional alternatives to maintain adequate depths within the Harbor. Additionally, the proposed amendment will ensure that a large volume of sandy sediments will become available for beach replenishment. Thus, the Commission finds that the proposed amendment is consistent with Section 30230 of the Coastal Act.

## 2. 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.*

The proposed amendment would modify the five-year permit (CDP 3-05-065) in a number of ways that could impact water quality. For example, the proposed amendment increases the amount of inner harbor sediment that may be dredged from the inner harbor and disposed of at an upland site or at SF-14 from 10,000 cubic yards per year to 35,000 cubic yards per year. This would involve additional dewatering of sediment, which could impact water quality. Other components of the amendment that could affect water quality include the removal of a limitation on nearshore disposal for inner harbor sediments consisting of at least 80% sand and modification of the dredge pipeline configuration at Twin Lakes State Beach to allow multiple discharge points approximately 25 yards offshore through use of a non-anchored pipeline.

The base five-year permit (CDP 3-05-065) included requirements that, prior to each dredge episode, the suitability of the proposed dredge material for disposal in any of the proposed aquatic locations has been evaluated by an interagency group consisting of representatives from the Army Corps of Engineers (ACOE), the U.S. Environmental Protection Agency (EPA), The Central Coast Regional Water Quality Control Board (RWQCB), the Commission, and the Monterey Bay National Marine Sanctuary (Sanctuary). Advisory to this interagency group are the U.S. Fish & Wildlife Service, the National Marine Fisheries Service, and the California Department of Fish & Game. The group will

continue to consider chemical and biological testing results, as well as physical grain size analyses, submitted by the Port District. After considering test results, the group then tries to reach a consensus opinion as to whether or not the proposed dredge material is suitable for aquatic disposal. This process would continue under this Coastal Development Permit amendment, as required under Special Conditions #4 through #6.

For entrance channel sediments, which have consistently been composed of approximately 90% sand, the required testing would be done on a rotational basis, i.e., periodic physical (grain size) and chemical testing would alternate on an every-other-year basis, with occasional years of no testing if the previous two years of testing have shown adequate grain size and no chemical contamination (chemical testing is not as critical for sandy sediments because chemical contaminants are much more likely to adhere to fine-grain sediments than sandy sediments).

All inner harbor sediments proposed for unconfined aquatic disposal (either through the offshore pipeline, the proposed non-anchored pipeline configuration, or at the SF-14 federal offshore disposal site) would continue to require yearly physical and chemical testing, as well as occasional biological testing. Inner harbor sediment that is determined to be less than 50% sand would continue not to be eligible for unconfined aquatic disposal through the offshore pipeline, the proposed non-anchored pipeline configuration, or at SF-14; this material would require upland disposal. The EPA and ACOE would not require chemical and biological testing for fine-grain material proposed for disposal at an upland site. For material proposed for disposal at an upland site or at SF-14, the Port District proposes to dewater the material prior to transport. The proposed amendment would increase the amount of sediment that may be dredged from the inner harbor and disposed at an upland site or at SF-14 from 10,000 cubic yards annually to 35,000 cubic yards annually. This increase would require additional dewatering to take place. The RWQCB, however, would continue to impose permitting requirements regarding the dewatering and would also require these sediments to be tested to ensure that they meet standards for solid waste disposal. Special Condition #5 continues to require evidence that these approvals from the RWQCB have been received prior to any dewatering activities or removal of dredge material to an upland disposal site. Special Condition #8 requires the Executive Director to review and approve a dewatering plan prior to commencement of any dredging operations that would require dewatering of sediment.

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 offshore of the proposed disposal area. Although increased turbidity and decreased dissolved oxygen levels are expected to occur as a result of dredge disposal through the proposed non-anchored pipeline configuration or through additional sandy inner harbor sediment being disposed of into the nearshore environment, the pre-dredge-operation ambient water quality condition should return shortly after each dredging episode. This is supported by the findings of the Moss Landing Marine Laboratories study on the impacts of the demonstration-dredging project in 2001 (CDP 3-00-034-A1), which included nearshore disposal of fine-grain sediments. A strong

turbidity signature was not identified in the water samples taken during the demonstration dredging event, nor was any odor or discoloration observed. In fact, the level of turbidity was found to be higher in water samples collected the day before the demonstration-dredging event began, due to intense rainstorms and flooding at that time. The highest turbidity values were located near the areas where runoff continued to occur by the mouths of the San Lorenzo River and Schwann Lagoon.

In summary, the proposed amendments to the five-year dredging and disposal permit may cause some short-term adverse impacts on water quality, including a temporary increase in turbidity and a decrease in dissolved oxygen levels. The impact to these water quality variables is expected to be adverse but short-term and minor in magnitude and scope. Pre-dredge water conditions should recur shortly after each dredging and disposal episode. In addition, the conditions of this permit require evidence of approval from the California Regional Water Quality Control Board prior to dredge operations authorized under this permit.

To ensure that the proposed methods and content of dredge spoil disposal proposed under the amendment are consistent with Federal, State, and local regulations regarding the protection of water quality, Special Conditions #4 and #6 will continue to require that the submission of specific dredge plans, for each dredging episode to be undertaken during the term of this permit, be accomplished with written evidence that the ACOE, RWQCB, EPA, and the Sanctuary have reviewed and approved the dredging operations or that no such approval is required. In addition, Special Condition #5 will continue to require that testing of dredge material be done per the requirements of the EPA, ACOE, and RWQCB. Therefore, as conditioned, the proposed amendment will include measures and monitoring protocols to ensure protection of water quality and marine resources in the Santa Cruz Small Craft Harbor and thus the proposed amendment will be in conformance with Sections 30231 and 30232 of the Coastal Act.

## 3. Biological Resources

Sections 30230 and 30231 of the Coastal Act protect biological resources and state:

> ***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 (Sanctuary). The Sanctuary 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 world's most diverse invertebrate populations.

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 inner harbor area and also the sandy subtidal and intertidal areas off Harbor Beach/Twin Lakes State Beach. Under the proposed amendment, dredge material would be disposed of approximately 25 yards off of Twin Lakes State Beach through a non-anchored new pipeline configuration (as shown in Exhibit #4). Only one pipeline would be in use at a time. Also, the proposed amendment would allow an increase in the amount of clean, sandy inner harbor sediment disposed into the nearshore environment from a maximum 10,000 cubic yards per year to an unlimited amount annually. The substrate of the nearshore benthic environment in these locations consists of sandy beach and/or a sandy ocean bottom. These environments are dynamic and contain ever-changing habitats for a variety of benthic species.

Impacts to biological resources due to the proposed amendment are anticipated to be similar to those associated with previously permitted annual dredge episodes. The primary impact to biological resources resulting from dredging occurs through the disturbance, transport, and destruction of benthic organisms on and in the material to be dredged. However, re-colonization 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, under the proposed amendment, dredging will continue to 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 previous correspondence received 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 in the area of the proposed non-anchored pipeline configuration 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 Port District previously completed an informal consultation with the National Marine Fisheries Service (NMFS), which imposed certain timing

restrictions for dredging of the inner harbor areas to protect salmonids. Specifically, Special Condition #2 of the five-year permit (CDP 3-05-065) included a February 28th deadline for cessation of upper (north) harbor dredging and disposal to protect steelhead smolts, which transit the Arana Gulch area and north harbor area during the spring months of March, April, and May. This condition also required limiting all inner harbor dredging to the daytime hours during the periods when adult steelhead are present in the harbor to limit impacts to steelhead, which migrate at night.

Regarding the proposed amendment, steelhead smolts migrate out of the inner harbor by the end of June each year (pers. comm. Jonathan Ambrose, National Marine Fisheries Service). The proposed amendment would allow dredging of inner harbor sediments during the months of July, August, September, and October, when steelhead are not present in the harbor. Therefore, the proposed amendment to allow dredging of inner harbor sediment during the months of July, August, September, and October will not present a threat to steelhead. Special Condition #2 of this amended permit contains appropriate timing restrictions on dredging and disposal operations to protect steelhead.

In summary, impacts to biological resources due to the proposed amendment are anticipated to be temporary and similar to those associated with previously permitted annual or demonstration dredging episodes. Special Condition #2 modifies the timing limitations on dredge activities in the inner harbor to avoid impacts to salmonids, consistent with the requirements of NMFS. Also, the activities permitted under the proposed permit should not create any disturbance that would have an adverse effect on the California brown pelican. 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.

## 4. Public Access/Recreation

**Coastal Act Section 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, as well as Sections 30221 and 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 Section 30240 (b)** requires that development not interfere with recreational areas:

> ***30240(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 maintaining adequate water depths in the harbor's navigation channels. In addition, the vast majority of the dredge material will be composed of sand, which will become available for beach replenishment.

The proposed amendment includes an increase in the amount of sediment that may be dredged from the inner harbor and disposed of at an upland site or at SF-14 from a maximum of 10,000 cubic yards annually to a maximum of 35,000 cubic yards annually. The Port district proposes to dewater this material prior to transporting the material to one of these sites. The Port District typically uses areas in the upper harbor parking lot for the dewatering process, which could have negative impacts to coastal access in this portion of the Harbor. Special Condition #8 requires submission of a public access management plan that demonstrates how the Port District will minimize impacts to parking and public access in this area of the Harbor when dewatering is occurring.

The north harbor area received over 40,000 cubic yards of sediment during the winter of 2005-06 (Exhibit #6). The Port District has qualified for FEMA funds to remove over 34,000 cubic yards of this sediment for upland disposal. The material proposed for upland disposal consists of sediment that does not qualify for nearshore disposal due to its high silt and clay content. Upland disposal sites could consist of a landfill or a restoration site (e.g., Port District personnel are in discussions with Elkhorn Slough Foundation personnel about using clean, non-contaminated inner harbor silt and clay sediments to restore an area of the slough that is losing sediment due to tidal scour; such a project would require a separate coastal development permit). Contaminated inner harbor sediment would not be suitable for disposal at SF-14 or at a restoration site and would require disposal at a landfill site only. Disposal of clean, silt and clay inner harbor sediments at SF-14 is not highly likely to take place given that the Port District has not previously used SF-14 due to limitations on getting a barge into the inner harbor and limited weather windows for taking a fully laden barge onto the open ocean.

Upland disposal at a landfill or a restoration site would only take place for inner harbor sediments that do not qualify for nearshore disposal for one of two reasons: 1) the sediments consist of less than 50% sand; 2) the sediments average 50-79% sand but the amount of this sediment exceeds the 3,000 cubic yard maximum nearshore disposal limitation pursuant to Special Condition #1b of CDP 3-05-065 (the Port District is not requesting to amend this restriction as part of this amendment).

The Port District plans to use a drying plant, such as a slurry separation system (also known as a hydrocyclone), to dewater inner harbor sediment proposed for upland disposal. Dredge material requiring dewatering and disposal at an upland disposal site would continue to need to be tested and managed according to the methods and procedures of the Regional Water Quality Control Board, pursuant to Special Condition #5 of CDP 3-05-065 (this condition remains unchanged under this amendment). This type of separator system also separates the silt and clay soils from the sandy soils. The sandy soils can then be stockpiled and disposed of into the nearshore environment for beach replenishment purposes consistent with the date restrictions of Special Condition #2, as long as these sandy soils meet the testing requirements of the ACOE and EPA pursuant to Special Condition #5. The remaining silt/clay soils will require disposal at an upland site. To protect public access and public parking in the north harbor area while dewatering and stockpiling of sandy sediment is taking place, Special Condition #8 requires submission to the Executive Director of a dewatering plan for review and approval.

The proposed amendment would allow for a 25,000 cubic yard increase in sediment proposed for upland disposal (from a 10,000 cubic yard maximum under CDP 3-05-065 to a 35,000 cubic yard maximum under the proposed amendment). In most years, the Port District will likely not need to approach the 35,000 cubic yard maximum, but the amendment will allow for flexibility in those years that bring large amounts of sediment into the north harbor from Arana Gulch, such as the 2005-06 winter season.

It is important to ensure that the upland removal of a maximum of 35,000 cubic yards of sediment does not impede public access to this area of the coast due to a significant increase in truck traffic that impacts the surrounding roads. According to Brian Foss, Port District Director, the proposed

hydrocyclone system will dewater and separate approximately 30 cubic yards of sediment per hour. Even in the highly unlikely event that 100% of the maximum 35,000 cubic yards of sediment was made up entirely of silt and clay (which would not be eligible for nearshore disposal), the number of truck loads per day (given an eight-hour working day and a truck capacity of 20 cubic yards) would add 12 roundtrip truck trips a day to the roads adjacent to the Harbor.[3] This impact is miniscule given the fact that the average daily traffic on nearby Murray Street east of Seabright Avenue was 21,862 in August of 2001 and on nearby Eaton Street west of 7th Avenue was 17,814 in August 2004.[4] The traffic on Highway One (which would likely be used to transport the sediment to a landfill or a restoration site) approaches 100,000 trips per day in certain segments. The addition of up to 12 roundtrip truck trips per day on these roads will not have a significant impact on public access in the area.

The proposed amendment would allow dredging and disposal of inner harbor sediments into the nearshore environment during daylight and evening hours during the month of October. The purpose of this amendment request is to provide a longer window of dredging opportunities for the north harbor (currently north harbor dredging and nearshore disposal must take place between November 1st and February 28th of each year to protect steelhead) that will not conflict with entrance channel dredging that needs to take place during the winter months. October is typically one of the most beautiful months of the year along the Santa Cruz coast. To minimize public access impacts from disposal operations during the month of October, Special Condition #2 requires that dredging and disposal operations occur between 5:00 p.m. and 10:00 p.m. on October weekdays only. With this condition, the disposal will occur primarily during evening hours and, because of the quick dispersal rates expected, should not affect daytime recreational use at Twin Lakes State Beach.

Finally, the proposed amendment includes a new non-anchored pipeline configuration that would dispose of dredge sediments approximately 25 yards offshore (see Exhibit #4). Only one pipeline will be in use at a time. Adverse impacts to public access from use of the pipeline include a modest impediment to pedestrian travel along Twin Lakes State Beach, as well as potential impacts to surfers and swimmers. Special Condition #9 requires the Port District to place signage on the beach in the area of the non-anchored pipeline to inform beachgoers and surfers that the pipeline is in the water and is actively discharge dredge material into the nearshore environment. Special Condition #7 requires that, when not in use, the non-anchored pipeline will be placed at the base of the small bluff fronting East Cliff Drive. With these conditions, and Special Condition #2 (which restricts nearshore disposal operations to the evening hours during the month of October), the proposed amendment is consistent with the public access policies of the Coastal Act.

[3] 30 cubic yards dewatered and separated per hour/20 cubic yards per truck load = 1.5 truck loads per hour; 1.5 truck loads per hour **x** an 8-hour working day = 12 roundtrip truck trips per day; 12 roundtrip truck trips per day **x** 20 cubic yards per truck load = 240 cubic yards removed to an upland site per day; 35,000 cubic yards maximum to be removed/240 cubic yards per day = approximately 145 work days to remove all the material to an upland site.

[4] Santa Cruz County Regional Transportation Commission *2004 Transportation Monitoring Report.*

## V. 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. This staff report has analyzed the environmental impacts posed by the proposed amendment and identified changes to the project that are necessary to reduce such impacts to an insignificant level. Comments received regarding the proposed amendment have been considered and addressed. Based on these findings, which are incorporated by reference as if set forth herein in full, the Commission finds that only as modified and conditioned by this permit will the proposed amendment avoid significant adverse impacts on the environment within the meaning of CEQA.