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Hearing Date: August 12, 2005  
Commission Action:

**STAFF REPORT: REGULAR CALENDAR**

APPLICATION NO.: 1-04-061

APPLICANT: **Humboldt Bay Harbor, Recreation, and Conservation District**

AGENT: Pacific Affiliates

PROJECT LOCATION: At the Woodley Island Marina within Humboldt Bay and along the ocean side of the Samoa Peninsula, Humboldt County.

PROJECT DESCRIPTION: 1) Maintenance dredging of approximately 120,000 cubic yards of material and dispose of the dredged material via slurry pipeline at a beach disposal site in the tidal zone along the ocean shoreline of the Samoa Peninsula; and 2) Repair of shoreline protective rock slope armament by replacing armor rock that has become dislodged into the berthing and docking areas to be dredged.

LOCAL APPROVALS RECEIVED: 1) Humboldt County Coastal Development Permit No. CDP-04-38, approved January 23, 1997 and Conditional Use Permit No. CUP-04-14 approved January 20, 2005; and 2) Humboldt Bay Harbor, Recreation, and

Conservation District Permit for District's dredging approved October 14, 2004 and CEQA Negative Declaration approved October 14, 2004.

**OTHER APPROVALS OBTAINED  
OR REQUIRED:**

1) State Lands Commission Approval; (2) Regional Water Quality Control Board FCWA Section 401 Water Quality Certification or Waiver; (3) U.S. Army Corps of Engineers FCWA Section 404 Individual Permit No. 22216N, issued December 10, 1997, expires March 15, 2008.

**SUBSTANTIVE FILE DOCUMENTS:**

1) County of Humboldt Local Coastal Program; 2) Coastal Development Permit Application No. 1-87-172, issued March 2, 1988; and 3) Coastal Development Permit Application No. 1-96-060, issued November 25, 1997.

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**SUMMARY OF STAFF RECOMMENDATION:**

Staff recommends that the Commission approve with conditions the coastal development permit application submitted by the Humboldt Bay Harbor, Recreation, and Conservation District (HBHRCD) for maintenance dredging at vessel berthing sites within the Woodley Island Marina with disposal of dredged material at a surf zone disposal site on the ocean side of the Samoa Peninsula. The proposed project is similar to a previous maintenance dredging projects approved by the Commission in 1988 and 1998 involving suction dredging and surf zone spoils disposal. Based on: (1) biological assessments of the areas proposed for dredging; (2) the results of a monitoring study conducted of the surf zone disposal site used in 1988 and 1998; (3) data within the environmental review documentation prepared for the project; and (4) information generated by the applicants' consultants in response to letters commenting on the project by interested state and federal agencies, the staff has concluded that the proposed project will not have a significant impact on the environment and is consistent with the Coastal Act.

The proposed maintenance dredging would be undertaken along and within the 335 individual berthing areas and docking slips of the Woodley Island Marina. The accumulated sediment would be dredged by use of a suction-cutter dredge and conveyed through a flexible plastic pipeline, assisted by in-line pumps, to a nearshore spoils

disposal area in the ocean waters off of the North Spit of the Samoa Peninsula, one of two sea strand landforms that impounds the waters of Humboldt Bay.

Neither the proposed dredging areas or the surf zone disposal site comprise sensitive habitat areas, although some benthic organisms located on the bay bottom of the marina would like become entrained in the dredge works and intertidal organisms would be temporarily affected by the disposal. The 1998 monitoring report indicated that species abundance and composition recovered to near pre-project levels within four months of deposition of material at the site. The proposed project is consistent with the use limitations of Sections 30233 and 30231 of the Coastal Act for dredging and fill projects. Use of the principal alternative disposal site for the dredged material, the offshore Humboldt Open Ocean Disposal Site (HOODS) disposal site, would not result in an environmentally less damaging alternative as use of the HOODS site would require the transfer of dredged sediment to vessels, which in turn would increase turbidity at the transfer site within Humboldt Bay near habitat areas more sensitive than at the proposed surf zone disposal site.

To ensure that the project is fully consistent with the Coastal Act and that Commission has sufficient information to evaluate future maintenance dredging projects within Humboldt Bay, staff recommends that the Commission attach six special conditions to the approval of the permit. Special Condition No. 1 requires the applicant, prior to issuance of the permit, to prepare, submit for the review and approval by the Executive Director, and implement a five-year monitoring program at the surf zone disposal site. Special Condition No. 2 requires the applicant, prior to issuance of the permit, to similarly prepare, submit for the review and approval by the Executive Director, and implement a dredge spoils and hazardous materials spill contingency plan for responding to any accidental releases of dredge spoils and related pumping fuels and lubricants. Special Condition No 3 requires the applicant to conduct maintenance flushing of the dredge suction-cutting head and spoils transmission pipeline, and replace dislodged rock slope protection materials, subject to specified performance standards to minimize the entrainment of juvenile salmonids and other environmentally sensitive estuarine organisms, and impacting eelgrass, respectively. Special Condition No. 4 requires the applicant, prior to commencement of the dredging activities, to provide a copy of any Letter of Modification to Federal Clean Water Act Section 404 Individual Permit No. 22216N as may be issued by the U.S. Army Corps of Engineers, for the Executive Director's review and determination as to whether a coastal development permit amendment would be required. The condition further requires that the dredging not be commenced until any required permit amendment is obtained from the Commission. Special Condition No. 5 requires the applicant, prior to issuance of the permit, to submit a copy of the final biological opinion issued for the National Marine Fisheries Service (NOAA Fisheries) for this proposed round of maintenance dredging, and to not initiate the dredging if the opinion results in changes to the Corps' permit until a coastal development permit amendment has been obtained from the Commission or the Executive Director determines that no amendment is necessary.

As conditioned, staff believes that the project is fully consistent with the Coastal Act.

**The Motion to adopt the Staff Recommendation of Approval with Conditions is found on page 5.**

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**STAFF NOTES:**

**1. Standard of Review**

The portions of the proposed project being considered in Application No. 1-04-061 are located in tidelands, submerged areas, and lands subject to the public trust within the Commission's retained jurisdictional area. Therefore, the standard of review that the Commission must apply to the project is the Coastal Act.

**2. Other Required Permits and Authorizations.**

As stated above, the actual dredging activity is primarily regulated by the U.S. Army Corps of Engineers. In addition, the California Regional Water Quality Control Board regulates the discharges of materials into waters subject to the federal and state Clean Water Acts. The North Coast Regional Water Quality Control Board has issued an Order No. R-1-2000-59 setting waste discharge requirements for both the dredging and dredge spoils disposal portions of the project.

The Corps is currently consulting with the National Marine Fisheries Service (NOAA Fisheries) for an interim review of the potential effects that the current round of maintenance dredging might have on salmonid fish species pursuant to Section 7 of the Federal Endangered Species Act and the Magnuson-Stevens Fishery Conservation and Management Act. Release of a final biological opinion from NOAA Fisheries is pending. Depending upon the conclusions and recommendations contained in the final opinion, changes to the Corps permit may result and would be implemented through a "Letter of Modification" issued by the Corps.

The project is also subject to the permit jurisdiction of two local agencies: (1) the Humboldt Bay Harbor, Recreation, and Conservation District (HBHRCD or "District") for the portions of the project situated at and below the Mean Higher High Water (MHHW) level (+6.52 feet NAVD<sub>1988</sub>) within the waters of Humboldt Bay and the Mean High Water (MHW) elevation (+5.81 feet NAVD<sub>1988</sub>) on Woodley Island; and (2) the County of Humboldt for the portions of the dredge spoils pipeline located outside of the incorporated boundaries of the City of Eureka.

On October 14, 2004, the HBHRCD adopted a mitigated negative declaration environmental review document and approved Permit No. 04-02 for the District to

conduct maintenance dredging and nearshore disposal of materials from ten sites of the eleven proposed sites along the City's waterfront over a ten-year period.

On December 12, 2004, the State Lands Commission (SLC) issued a lease dredge spoils disposal into sovereign state waters from ten of eleven of the dredging sites.

Finally, on January 20, 2005, the County of Humboldt Planning Commission conditionally approved Coastal Development Permit No. CDP-04-38 and Conditional Use Permit No. CUP-04-14 for the City's dredging and spoils disposal project.

**3. Relation to Application No. 1-04-62**

Application No. 1-04-062 (City of Eureka) and Application No. 1-04-061 (Humboldt Bay Harbor, Recreation, and Conservation District) are both scheduled for consideration at the August 12, 2005 Commission meeting. The two applications are related in that the applications: (1) are for development that would be performed as one project by the same contractor; and (2) would share the same disposal site and disposal pipeline. Two separate applications were submitted because the areas to be dredged are administered by the two different public entities pursuant to two separate legislative grants of tidelands.

**4. Commission Action Necessary**

The Commission must act on the application at the August 12, 2005 meeting to meet the requirements of the Permit Streamlining Act.

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**I. MOTION, STAFF RECOMMENDATION AND RESOLUTION:**

The staff recommends that the Commission adopt the following resolution:

**Motion:**

I move that the Commission approve Coastal Development Permit No. 1-04-061 pursuant to the staff recommendation.

**Staff Recommendation of Approval:**

Staff recommends a YES vote. Passage of this motion will result in approval of the permit 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 the Permit:**

The Commission hereby approves a coastal development permit for the proposed development and adopts the findings set forth below on grounds that the development as conditioned will be in conformity with the policies of Chapter 3 of the Coastal Act. Approval of the 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 further feasible mitigation measures or alternatives that would substantially lessen any significant adverse impacts of the development on the environment.

II. **STANDARD CONDITIONS:** See Attachment A.

III. **SPECIAL CONDITIONS:**

1. **Monitoring Report**

A. **PRIOR TO ISSUANCE OF COASTAL DEVELOPMENT PERMIT NO. 1-04-061**, the applicant shall submit for the review and approval of the Executive Director a surf zone disposal monitoring plan that provides for monitoring over a five year period of: (1) the pattern and rate of dispersal of material deposited at the site; (2) sediment characteristics at the disposal site and at the control site; (3) the species composition and abundance of intertidal invertebrates in areas directly affected by the disposal of dredge spoils and at a control site near the disposal area over a three year period; and (4) the effects of the surf zone disposal on fisheries. The plan shall provide for submittal of reports providing the required monitoring information before, during, and within four months after conclusion of the disposal operation, and yearly reports thereafter to be submitted by July 1 of each year.

B. The permittee shall undertake the dredging spoils transmission and nearshore disposal activities in accordance with the approved final plan. Any proposed changes to the approved final plans shall be reported to the Executive Director. No changes to the approved final plan shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is required.

2. **Dredge Spoils Slurry /Hazardous Materials Spill Contingency Plan**

A. **PRIOR TO ISSUANCE OF COASTAL DEVELOPMENT PERMIT NO. 1-04-061**, the applicant shall submit for Executive Director approval a project-specific dredge spoils slurry monitoring and spill contingency plan that includes: (1) an estimate of a reasonable worst case release of dredge spoils, and pumping-

related fuels and lubricants into coastal waters or wetlands that could result from project operations; (2) a clear protocol for monitoring and minimizing the risks of the transmission of dredge spoils through environmentally sensitive areas during maintenance dredging operations, including criteria for identifying an unanticipated slurry release and proposed transmission pipeline sealants or other repair materials; (3) a response and clean-up plan in the event of a spill or accidental discharge of dredge spoils and/or pump fuels and lubricants; (4) a list of all clean-up equipment that will be maintained on-site; (5) the designation of the onsite person who will have responsibility for implementing the plan; (6) a telephone contact list of all regulatory and public trustee agencies having authority over the development and/or the project site and its resources to be notified in the event of a spill or material release; and (7) a list of all conduit and pumping materials, fluids, additives, and sealants that will be used or might be used in the transmission and pumping of the dredge spoils, together with Material Safety Data Sheets for each of these materials.

- B. The permittee shall undertake the dredge spoils disposal activities in accordance with the approved final plan. Any proposed changes to the approved final plans shall be reported to the Executive Director. No changes to the approved final plan shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is required.
- C. In the event that a spill or accidental discharge of dredge spoils or other fuel or lubricant fluids occurs during spoils disposal operations, all maintenance dredging and disposal activities shall cease and shall not recommence except as provided in subsection (D) hereof:
- D. Following discovery of the spill or accidental discharge of dredge spoils or other fuel or lubricant fluids, the permittee shall submit to the Executive Director a revised project and restoration plan prepared by qualified professional(s) that provides for: (1) necessary revisions to the proposed project to avoid further spill or accidental discharge of spoils and/or fluids; and (2) restoration of the area(s) affected by the spill or accidental discharge to pre-project conditions. The revised project and restoration plan shall be consistent with any applicable requirements of the State and/or Regional Water Resources Control Board(s). The revised project and restoration plan shall be processed as an amendment to the coastal development permit. Maintenance dredging and disposal may not recommence until after an amendment to this permit is approved by the Commission.

3. **Maintenance Dredging Line Flushing and Shoreline Protective Works Repair Responsibilities**

- A. The permittee shall comply with the following marina dredging maintenance program-related requirements:

- (1) Periodic flushing of the pipeline shall be undertaken at a depth of three (3) feet above the bay bottom;
- (2) Water intake from the middle or surface of the water column is prohibited; and
- (3) Care shall be taken to avoid trampling, uprooting, or otherwise impacting areas of eelgrass (*Zostera marina*) during the extrication from the dredging areas and repositioning of dislodged rock slope protection materials back onto the marina shoreline revetment structures. Training as to the location and identification of eelgrass beds in the vicinity of the shoreline protective repair work shall be provided to the revetment repair contractors.

B. The permittee shall perform the proposed development consistent with these maintenance responsibilities. Copies of these mitigation measures shall be incorporated into all contractual documents for the development and a copy of the mitigation measures kept at the development site and made available to workers.

4. **Conformance with USACOE Requirements**

**PRIOR TO COMMENCEMENT OF OPERATIONS AUTHORIZED UNDER THIS PERMIT**, the permittee shall submit to the Executive Director for review, a copy of the Letter of Modification to U.S. Army Corps of Engineers Permit No. 22215N, or evidence that no other USACOE permit or authorization is necessary for aquatic nearshore disposal of dredge spoils from the Woodley Island Marina. The applicant shall inform the Executive Director of any changes to the project required by the U.S. Army Corps of Engineers or the U.S. Environmental Protection Agency. Such changes shall not be incorporated into the project until the applicant obtains a Commission amendment to this coastal development permit, unless the Executive Director determines that no amendment is required.

5. **Final Biological Opinion**

**PRIOR TO ISSUANCE OF COASTAL DEVELOPMENT PERMIT NO. 1-04-061**, the applicant shall submit, for the review and approval of the Executive Director, a copy of the Final Biological Opinion in support of the maintenance dredging spoils disposal authorized by this permit as issued by the National Marine Fisheries Service. The permittees shall inform the Executive Director of any changes to the project required by the U.S. Army Corps of Engineers as set forth in the biological opinion. Such changes shall not be incorporated into the project until the permittees obtain a Commission amendment to this coastal development permit, unless the Executive Director determines that no amendment is legally required.



**IV. FINDINGS AND DECLARATIONS:**

The Commission hereby finds and declares:

**A. Project and Site Description.**

The Humboldt Bay Harbor, Recreation, and Conservation District (HBHRCD) was created in 1970 by the California Legislature to serve the natural resource, recreational, shipping, and economic development management needs of Humboldt Bay and the smaller fishing ports to the north and south (i.e., Trinidad, Shelter Cove). The District functions as the Port Authority for the Port of Humboldt Bay and operates Humboldt County's largest marina, Woodley Island Marina.

The applicant proposes to maintenance dredge a total of approximately 120,000 cubic yards of material from the Woodley Island Marina boat basin in Humboldt Bay (see Exhibit Nos. 1-3). The dredging would be performed as a slurry via a pipeline to a beach disposal site on the ocean side of the Samoa Peninsula, the landmass that forms the western boundary of Humboldt Bay. The dredging would be performed at the same time as a maintenance dredging project along the Eureka waterfront by the City of Eureka (being considered concurrently under Coastal Development Permit Application No. 1-04-062). The two projects would be performed by the same contractor and would share the same disposal pipeline and disposal site.

1. Proposed Dredging Site

The proposed 120,000 cubic yards dredging would restore the marina to its original design depth of -14.0 Mean Lower Low Water (MLLW) and -10.0 MLLW. The 335-berth marina was constructed in 1978, and is used by both commercial fishermen and recreational boaters. The dredging would be performed within the berthing areas and fairways of the marina over a total area of approximately 16.15 acres. The maximum cut (depth of material) is approximately six feet. The marina would continue to operate during the dredging work to ensure commercial and recreational access to coastal waters.

2. Proposed Method of Dredging and Spoils Disposal

The proposed cutter suction pipeline dredging method involves use of a hollow suction pipe which extends to the bay floor. The pipe contains a rotating cutter head, which can be swept back and forth across the work area. and can be extended into confined areas such as boat slips and under dock faces, etc. As material is loosened by the cutter, it is drawn up the suction pipe to the surface where the suction pipe is joined to a closed flexible pipeline for pumping to the disposal site. The material drawn up by the suction dredge consists of approximately 20% sediment and 80% bay water.

The dredge is a pontoon-mounted crane that lowers a dredge boom, containing a cutter head coupled with a suction pipe, to the bottom. As the cutter head rotates and loosens the bottom material, the material is drawn directly up the suction pipe to the surface and the slurry of sediment and water is then pumped through a floating semi-flexible disposal pipeline, assisted by land based booster pumps for pipeline transfer to the designated disposal area in the surf zone of the Samoa Peninsula.

The slurry pipeline would consist of a 12-inch-diameter fused flexible plastic line. The suction pipe, with a pumping rate of 15-20 feet-per-second, would remove approximately 200 cubic yards of solid material per hour depending on site conditions and dredging operators, and dispose of the material at a similar rate. Unless maintenance or repair is necessary, the dredge is expected to operate 24-hours a day, six to seven days per week. The pipeline is inspected regularly and maintained to insure integrity and prevent leaks or breaks. The dredge and the shore-based booster pumps rely on diesel engines and generate the noise and exhaust roughly equivalent to that of a semi-tractor truck when operational. In order to purge the pipeline of any accumulated sediment, the cutter head would be lifted off the bottom twice a day, and water from the water column would be drawn into the cutter head for approximately twenty minutes.

The pipeline is floated across open water areas and weighted and submerged where crossing navigable waters. Placement of the pipeline in the water would be from a slow moving barge, and the pipeline would be routed through an existing carrier pipes and overland to the approximately 20 acre beach disposal site. The total length of the pipeline is 21,400 feet (4.5 miles), with approximately 6,000 feet overland, and the remaining 15,400 feet in Humboldt Bay.

The line would extend on floats from the dredging location to the State Route 255 (SR 255) right-of-way; SR 255 is the highway that crosses Humboldt Bay between Woodley Island and the Samoa Peninsula in a series of bridges. The pipeline would be placed along the shoulder of the right-of-way where the highway crosses Woodley and Indian Island at ground level, and placed in the water in the shadows of the bridges where the highway crosses water. In tidal locations, the pipeline would be floated into position at high tide to avoid unnecessary disturbance to the mudflats. Where the line would cross navigable waters, weight would be attached to submerge the line and permit the normal passage of vessels. Buoys and lights would be installed to prevent navigational hazards. A Notice to Mariners is also filed with the U.S. Coast Guard for the duration of the project, advising marine travelers of the location of the pipeline and dredging activities. Once the pipeline reaches the Samoa Peninsula, the line would cross under the Northwestern Pacific Railroad and New Navy Base Road through existing carrier pipes and then continues across the dunes of the North

Spit via off-road vehicle trails to the surf zone disposal site. The slurry material is pumped through the pipeline to the disposal site under pressure from several in-line booster pumps.

Once the dredge and crew arrive in Humboldt Bay, mobilization of the spoils line, booster pumps and dredge is expected to take 10 to 15 days. Dredging is scheduled to commence on November 1, 2005 and is expected to be completed by March 31, 2006.

3. Proposed Disposal Site

The location of the surf zone disposal site is shown on Exhibit No. 4. The pipeline would discharge the dredged material directly into the surf zone. The disposal site would be posted at several locations and barricades and lighting would be provided and maintained through the project to further inform users of the Peninsula of the temporary project activities occurring there. The sediment to be dredged consists of typically fine-grained material composed of approximately 15% sand, 45% silt, and 40% clays. It is anticipated that most of the sub-sand material will disperse as suspended sediment along the large Eel River basin shelf area offshore. According to the applicant, this shelf area also absorbs an estimated average annual sediment load of approximately 24,698,370 cubic yards discharged by the Eel and Mad River systems. The Eel River represents one of the largest suspended sediment sources in the world. The proposed dredging and dispersal would occur during the winter months, between November and mid-March, when ocean turbidity from the river discharges is at a natural seasonal maximum, to minimize the sedimentation impact on the ocean. The applicant expects that most of the material discharged to the surf zone disposal site would be dispersed offshore as part of cyclical process of erosion of the winter beach. Some of the material that erodes away would likely be deposited again at the site as part of the natural spring beach build up, but the applicant indicates that all of the material should leave the site within two years.

The Samoa Peninsula surf disposal site has been used thrice previously for dredge material disposal. In 1977, the Corps of Engineers disposed of approximately 1.8 million cubic yards of material from the North Bay Channel Deepening project at this location. In 1988, the site was also used for the disposal of 131,000 cubic yards of material from a maintenance dredging project at the Woodley Island Marina. The Coastal Commission approved the maintenance dredging and surf zone disposal under Coastal Development Permit No. 1-87-172. Subsequently in 1998, pursuant to Coastal Development Permit Nos. 1-96-060 and 1-96-061, 226,238 cubic yards of dredged spoils from the City waterfront and the Woodley Island Marina were disposed at the Samoa Peninsula surf disposal site.

The proposed maintenance dredging project is only one of several dredging projects performed or proposed for Humboldt Bay. The proposed maintenance dredging project is separate from the annual Humboldt Bay maintenance dredging project performed by the U.S. Army Corps of Engineers. The proposed maintenance dredging project is also separate from the annual Humboldt Bay Channel maintenance dredging projects also performed by the Corps. Between 1982 and 2004, the Bay Channel maintenance project removed approximately 802,000 cubic yards per year. The material from the Corps dredging projects has been and will continue to be disposed of at the "Humboldt Open Ocean Disposal Site (HOODS).

#### 4. Shoreline Protective Structural Repairs

Concurrently with the dredging of the berthing areas, repairs will also be made to the revetment armoring that lines the marina shoreline. As a result of high tides and storm surge, some of the 500-lb quarry stone riprap along an approximately 100-foot-long run of the rock slope revetment have become dislodged and fallen into the adjacent berthing areas to be dredged. During the course of the suction dredging the stones will be unearthed and a land-based excavator or other mechanized heavy equipment capable of lifting a ¼-ton rock at a boom length will extricate the rocks from the silted in area and replace them back into the rock slope works.

The entire project except for a portion of the pipeline would be located within the Commission's retained jurisdictional area. The segment of pipeline that extends over the Samoa Peninsula from the bay to the mean high tide line of the surf zone disposal site is located within the coast permit jurisdiction of Humboldt County. The County approved a coastal development permit (CDP-04-37) and a coastal use permit (CUP-04-13) on January 20, 2005. The County permits required avoidance and mitigation of potential disturbance to sensitive rare plants, including the Menzies wallflower (Erysimum menziesii) and beach layia (Layia carnosa). The coastal development permit was not appealed to the Commission.

#### **B. Need for Dredging and Dredge Spoils Disposal.**

The proposed dredging and related nearshore disposal of dredged materials would support the continued use of berthing areas within Humboldt Bay for recreational boaters and commercial fishermen. The Coastal Act contains strong policy language supporting marina uses, including those which require dredging. Section 30220 provides that:

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

Section 30224 provides that:

*Increased recreational boating use of coastal waters shall be encouraged, in accordance with this division, by developing dry storage areas, increasing public launching facilities, providing additional berthing space in existing harbors, limiting non-water-dependent land uses that congest access corridors and preclude boating support facilities, 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.*

Section 30234 provides, in part that:

*Facilities serving the commercial fishing and recreational boating industries shall be protected and, where feasible, upgraded...*

Section 30255 provides that:

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

The proposed maintenance dredging and nearshore dredged material disposal project would support the continued use of the Woodley Island Marina for these priority uses. Without the dredging and the disposal of the dredged materials, the berthing areas and slips of the marina would continue to fill with sediment and would no longer be usable for mooring vessels. Adequate mooring facilities that do not similarly need maintenance dredging and the disposal of the dredged materials are not available elsewhere within Humboldt Bay. Therefore, the Commission finds that the proposed dredging and the disposal of the dredged materials would support recreational boating and commercial fishing, consistent with Sections 30220, 30224, 30234, and 30255 of the Coastal Act.

**C. Protection of Marine and Estuarine Resources.**

A number of Coastal Act policies address the protection of marine resources from the impacts of dredging and dredge spoils fill projects. These policies include, among others, Section 30231 and 30233.

Section 30231 of the Coastal Act provides as follows, in applicable part:

*The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes...shall be maintained and, where feasible, restored...*

Section 30233(a) provides as follows, in applicable part:

(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:*

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

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

*(c) In addition to the other provisions of this section, diking, filling, or dredging in existing estuaries and wetlands shall maintain or enhance the functional capacity of the wetland or estuary. [Emphases added.]*

The above policies set forth a number of different limitations on what development may be allowed in wetlands and other water bodies within the coastal zone. For analysis purposes, the limitations can be grouped into five general categories or tests. These tests are:

- That the purpose of the fill is for one of eight uses allowed under Section 30233;
- That feasible mitigation measures have been provided to minimize adverse environmental effects;
- That the project has no feasible less environmentally damaging alternative;
- That the biological productivity and functional capacity of the habitat shall be maintained and enhanced where feasible; and
- That dredge spoils suitable for beach replenishment be transported to appropriate beaches or into suitable long shore current systems.

1. Permissible Use for Dredge Spoils Disposal in Coastal Waters.

The first test set forth by the Coastal Act policies that address the protection of marine and estuarine resources is that any proposed dredging or fill project must be for an allowable purpose under Section 30233 of the Coastal Act. The proposed project involves maintenance dredging.

Section 30233(2) allows dredging for maintaining existing, or restoring previously dredged depths in existing vessel berthing and mooring areas, and launching ramps. The proposed dredging is limited to areas that have been previously dredged to the same elevation for vessel berthing and mooring. Therefore, the Commission finds that the proposed dredging, and its associated pipeline installation and beach disposal, are consistent with the use limitations of Section 30233, as the dredging is for the maintenance of existing vessel berthing and mooring areas.

## 2. Feasible Mitigation Measures

The second test set forth by Section 30231 and 30233 of the Coastal Act is that feasible mitigation measures have been provided to minimize adverse environmental effects. The Commission must examine the potential impacts of the project on marine and estuarine resources for the non-exempt portions of the project within its jurisdictional area (i.e., excluding the project portions within the County of Humboldt's permitting jurisdiction.) The project could have seven potential adverse effects on such resources, including: (1) the removal of habitat at the dredging sites; (2) the entrainment of juvenile salmonids into the suction dredge pipeline during line flushing maintenance; (3) increasing turbidity levels at the dredge site; (4) increasing turbidity levels during installation and removal of the dredge spoils pipeline; (5) the covering of estuarine intertidal habitat along the route of the dredge spoils pipeline within Humboldt Bay; (6) accidental releases of the dredge spoils slurry and/or pumping-related fuels or lubricants; and (7) disturbing marine intertidal habitat at the dredged material disposal site. None of these impacts, however, have been determined to be significant.

### (1) Removal of Habitat at Dredging Sites.

The site of the proposed dredging within the Woodley Island Marina basin provides soft bottom habitat that may be habitat for a variety of benthic organisms. In addition, sparse clumps of eelgrass have materialized sporadically along the slope of the marina since the previous dredging was performed in 1998. The proposed dredging would remove much of this soft bottom habitat area. However, the impact is not judged to be significant for several reasons. Firstly, when the marina was created in 1978, the eelgrass and soft bottom habitat that was removed by excavating the marina basin was reestablished elsewhere in Humboldt Bay as a mitigation measure. At the time, it was recognized that the marina would require periodic maintenance dredging and the mitigation was required to ensure that creation of the marina and its subsequent maintenance dredging would not result in a net loss of habitat. Secondly, as occurred after the 1988 and 1998 maintenance dredging projects, the site can be expected to be re-colonized by the flora and fauna that would be temporarily displaced by the project. These organisms grow in sufficient abundance in areas adjacent to the marina that a ready source of colonizers exists to replace the organisms that are lost.

### (2) Entrainment of Juvenile Salmonids

Because the maintenance dredging would be conducted within a timeframe concurrent with the out-migration of coho salmon (Oncorhynchus kisutch) of the Southern Oregon/Northern California Coast (SONCC) Evolutionarily Significant Unit (ESU), the staff of NOAA Fisheries have indicated to the Commission staff that the agency expects a few small SONCC coho salmon smolts and their prey to be exposed to risks of potential entrainment by the dredge. In addition, larval stage Pacific herring (Clupea pallasii) and Dungeness crab (Cancer magister) are expected to be entrained as well. Exposure of



these individuals would be limited to late February and March, and limited primarily to within and in the vicinity of Woodley Island.

To minimize the risks of entrainment of these species, NOAA Fisheries staff recommend that the periodic flushing of the pipeline: (1) be undertaken at a depth of three feet from the bay bottom; and (2) water intake from the middle or surface of the water column be prohibited. NOAA Fisheries staff have stated that these dredge operational measures would reduce the potential risks of entrainment of these environmentally sensitive species to a less than significant level.

To assure that the potential entrainment of juvenile salmonids and other estuarine species is minimized, the Commission attaches Special Condition No. 3. Special Condition No. 3 sets forth as project performance standards the above-listed criteria for flushing the dredge spoils slurry pipeline recommended by NOAA Fisheries for minimizing entrainment of estuarine organisms.

(3) Temporary Increase of Turbidity at Dredge Sites.

As the proposed dredging would disturb sediments at the dredging locations, a temporary change in turbidity in the immediate areas of the dredging is expected. Increased turbidity can have deleterious effects on the estuarine habitat, burying eelgrass and other vegetation and disturbing the spawning, feeding, and other activities of fish and other fauna. However, the proposed project would minimize turbidity impacts and reduce them to a level of insignificance through: (1) the use of a suction dredge which creates much less turbidity than other forms of dredging; (2) the use of a pipeline to transport the dredge material to the disposal site as opposed to other forms of transferring the material, such as the use of a hopper barge; and (3) timing the project to occur in the winter months when natural turbidity is high due to increased local river flows.

(4) Temporary Increase of Turbidity During Installation and Removal of the Dredge Spoils Pipeline.

The proposed installation and removal of the dredge spoils transmission pipeline could disturb sediments within the mudflat areas along the pipeline's route. Increased turbidity can have deleterious effects on the estuarine habitat, burying eelgrass and other vegetation and disturbing the spawning, feeding, and other activities of fish and other fauna within the water column and along the bay bottom. However, based upon discussions with National Marine Fisheries Service (NOAA Fisheries) staff, the proposed project could minimize turbidity impacts and reduce them to a level of insignificance through: (a) avoiding mudflats to the greatest extent practicable during installation of the dredge disposal line; (b) installing and removing the pipeline during high tide when these sensitive areas are inundated to assure that no vessel propellers, anchors or dredging equipment are dragged over the mudflats.

(5) Covering of Habitat Along the Dredge Spoils Pipeline within Humboldt Bay.

The routes of the proposed dredge spoils pipeline through Humboldt Bay provide soft bottom habitat that may be habitat for a variety of benthic organisms. In addition, sparse clumps of eelgrass have materialized sporadically in various berthing areas since the previous dredging was performed. The proposed dredging would remove much of this soft bottom habitat area. However, the impact is not judged to be significant. The loss of the sparse patches currently existing along the pipeline routes would not result in a significant loss of biological productivity. In addition, the pipeline routes can be expected to be re-colonized by the flora and fauna that would be temporarily displaced by the project. These organisms grow in sufficient abundance in areas adjacent to the pipeline routes that a ready source of colonizers exists to replace the organisms that are lost.

(6) Accidental Release of Dredge Spoils Slurry or Hazardous Materials.

The project entails the transmission of a dredge spoils slurry through a 12-inch diameter flexible pipeline over a distance of 21,400 feet (4.5 miles), with approximately 6,000 feet of the pipeline crossing overland, and the remaining 15,400 feet traversing the waters of Humboldt Bay. If a rupture should occur in the slurry transmission pipeline, an uncontrolled release of highly turbid water and sediment into environmentally sensitive habitat area within the bay, estuarine or marine wetlands, or upland areas could result with potentially deleterious effects to the plant and animals that utilize these areas as habitat.

Additionally, given the five-month scope of the project, re-fueling or lubricating motorized equipment (i.e., the in-line booster pumps) during the course of maintenance dredging activities is anticipated. An accidental spill of pump fuel or lubricants could adversely affect the environmentally sensitive resources within the project area and the water quality of the adjoining estuarine and marine environments. Special Condition No. 2 requires the applicant to undertake the proposed development consistent with an approved Dredge Spoils Slurry / Hazardous Materials Spill Contingency Plan. This plan is to include pipeline monitoring and leak response provisions and water quality best management practices for the prevention of hazardous material spills and provisions for prompt containment and clean-up of any spills which may inadvertently occur. As conditioned, potential adverse impacts from accidental dredge spoils slurry or fuel or oil spills to land and marine resources will be reduced to less-than-significant levels.

(7) Disturbance of Habitat at the Nearshore Disposal Site.

The surf zone disposal site is inhabited primarily by intertidal invertebrate fauna, including motile, burrowing crustaceans and polychaete worms. As noted previously, the site was used for the similar disposal of approximately 226,238 cubic yards of dredged material in 1998. A monitoring study was conducted prior to, during, and just after this last episode of dredged material disposal. The monitoring report stated that prior to the

last use of the area for dredged material disposal, in overall species richness, Samoa Beach was intermediate between local semi-protected sandy beaches and sandy beaches exposed to extreme wave conditions. In both pre- and post-discharge periods, the beach fauna was dominated in species composition and numerically by the burrowing isopod Excirrolana linguifrons and the burrowing marine worm Euzonus williamsi. The abundance of E. linguifrons and E. williamsi appears to have been much less in 1988 than was collected in 1998. The abundance of other sand beach animals was comparable in 1988 and 1998. By the August sampling period in 1998, the level of faunal similarity approximated that found in the pre-discharge sampling. The reappearance of mole crabs (Emerita analoga) in August samples at all three transects and its abundance at the discharge transect indicates that little residual biological effect of dredge spoils could be detected at the discharge point. The material to be discharged from the proposed project would temporarily bury this habitat, until wave and tidal action disperses the material to the offshore shelf. Impacts to the habitat are expected to be similar to the impacts that occurred in 1998. According to the 1998 monitoring study, the habitat area recovered rapidly:

Based on the present study, negative effects of temporary discharge of dredge spoils on intertidal fauna of Samoa Beach were localized and transitory, primarily affecting the abundance of characteristic beach species in the immediate vicinity of the disposal outfall. Within 1 month following the end of disposal operations, most species characteristic of this beach were present at the outfall site, although at reduced densities. Approximately 4 months following termination of beach disposal, populations at the Disposal Site had recovered to levels comparable to those at the Control Site.

Thus, based on the result of the 1998 monitoring report, the impacts of the proposed discharge of dredged material on the surf zone habitat can be expected to be temporary and insignificant.

The Commission notes that the land based portion of the project, the placement, use, and removal of the portion of the pipeline that would cross the Samoa Peninsula, could have potential impacts on certain rare or endangered species. However, except for the area below the mean high tide line, the segment of the pipeline crossing the Samoa Peninsula is entirely within the coastal permit jurisdiction of the County of Humboldt. The County has approved a separate coastal development permit for this portion of the overall project. Therefore, the "project" before the Commission does not include the portion of the overall project that crosses the Samoa Peninsula.

Nonetheless, the County and the lead agency determined that the environmental effects of the pipeline on the terrestrial habitat of the Samoa Peninsula would not be significant. The pipeline would cross through areas where beach layia (Layia carnosa) is growing. Beach layia is a federally listed endangered species. In addition, the Western snowy

plover (Charadrius alexandrinus nivosus) has been known to nest in the spring along portions of the upper beach areas of the Samoa Peninsula. However, the project as proposed would minimize impacts to these species and reduce them to a level of insignificance. The pipeline would be routed along old trails to avoid the beach layia and would be placed by hand in sensitive areas to minimize disturbance from construction. In addition, a qualified biologist would be present before and during laying of the pipeline to identify and evaluate the status of the beach layia populations in order to avoid the plants and minimize impacts to beach layia seedlings. A field survey and biological assessment of snowy plovers conducted by Mad River Biologists concluded that the proposed outfall area was not suitable habitat for the Western Snowy Plover given the narrow band of possible nesting area along the top of the wave slope and presence of debris and predators and "For these reasons, placement and removal of the pipeline should have no significant effect on the Western Snowy Plover." The County approved the coastal development permit with conditions requiring that the proposed mitigation measures to protect beach layia be implemented by the applicants.

Therefore, the Commission finds that the development as proposed and conditioned includes mitigation measures, where feasible, to minimize significant adverse environmental effects of the project consistent with Section 30233.

### 3. Project Alternatives.

The third test set forth by the Commission's dredging and fill policies is that the proposed dredging or fill project must have no feasible less environmentally damaging alternative. Although the Commission determines that the proposed project will have no significant impacts, the Commission has also considered the various identified alternatives, and determines that none of them provides a feasible less environmentally damaging alternative. A total of four possible alternatives have been identified, including: (a) disposing of the dredged material at the offshore HOODS disposal site; (b) disposing of the dredged material at the upland "Superbowl1" disposal site; and (c) the "no project" alternative.

#### a. Disposal at Offshore HOODS Disposal Site.

As noted previously, the federal government has designated an offshore disposal site for dredged material known as the "HOODS" disposal site. The site is between three and four miles offshore of Humboldt Bay, beyond sovereign state lands in federal waters. The Commission concurred with a Coastal Zone Management Act consistency determination made by the U.S. Environmental Protection Agency for designation of the site in 1995 (CD-72-95). Over 800,000 cubic yards of dredged material is disposed of annually at the site, mostly from maintenance dredging of Humboldt Bay navigational channels performed by the U.S. Army Corps of Engineers. A possible alternative to the proposed project that would avoid even the temporary impacts on habitat at the surf zone disposal site

would be to dispose of the dredged material at the HOODS site. During the 1998 maintenance dredging project three state and federal agencies commented to the Corps of Engineers in response to the Corps' public notice of its consideration of federal permits for the project that this alternative should be used to avoid impacts to habitat at the surf disposal zone. The Commission acknowledged the concerns raised by the commenting agencies, but found that, overall, the impacts of the project as proposed would be less than the alternative of using the offshore HOODS disposal site.

The primary reason the Harbor District and the City of Eureka chose not to propose disposal of the dredged material from the maintenance dredging proposed under coastal permit applications 1-96-60 and 1-96-61 at the HOODS site is the comparative costs of these options. Based on cost estimates provided to the HBHRCD by dredging companies, the proposed project with surf zone disposal would cost approximately \$2 million. The cost of disposing of the material at the HOODS site would nearly double the total cost to \$3.8 million.

Whether or not the extra cost makes use of the HOODS site infeasible, for a variety of reasons the alternative is not environmentally less damaging. As explained by the applicants' consultants in response to the 1998 reviewing agency comments, use of the HOODS disposal site would actually increase turbidity impacts in and around the dredging areas.

Turbidity would be increased near the dredging area because a different method of transferring the dredged material to the disposal site would have to be used. Given the three to four mile distance to the HOODS site across open ocean waters, a pipeline obviously cannot be used to discharge dredged material at the HOODS site and the use of vessels must be relied upon.

Use of a suction dredge is required given the close quarters within the mooring areas where the dredge must operate. The water content of the material dredged with the suction dredge approaches 80%. While the high proportion of water in the slurry material does not present a problem for transferring the dredged material to the disposal site through a contained pipelined, the high water volume does present a problem for transferring the dredged material by barge or hopper dredger to an offshore disposal site. When using hoppers or barged to transport the dredged material, a large proportion of the 80% water volume of the dredged material must be decanted and the resulting water discharged during vessel loading to accommodate the solids (20%). This decanting would take place in or near the dredge area to allow for efficient filling of the vessels. Significant turbidity can be expected to result from the discharge of the supernatant water, which contains significant amounts of sediment. In fine-grained material (only approximately 15% is coarse sandy material), the degree of turbidity will be greater than if the material had a more sandy composition.

The dredging areas are located along the shallower margins of the bay which include sensitive shallow water habitats, including extensive eelgrass beds. The eelgrass beds provide important spawning, rearing, feeding, and resting habitat for numerous fish and other estuarine species. In addition, the shallow waters of Humboldt and Arcata Bays support extensive commercial shellfish operations that can be adversely affected by high turbidity. Given the more sensitive nature of the estuarine habitat within Humboldt Bay as compared to the ocean surf zone, the overall impact of use of the HOODS site is much greater than the impacts of the project as proposed.

The Commission notes that the HOODS site is well suited to the separate channel dredging projects performed by the CORPS, as the turbidity impacts are proportionately less. The content of the material dredged from the channels in those projects is quite sandy and the channel work areas are generally well flushed. Both of these factors reduce the turbidity impact of the CORPS channel dredging projects.

b. Disposal at "Superbowl" Disposal Site.

Dredged materials have previously been deposited at an upland disposal site on the Samoa Peninsula known as the "Superbowl" site (see Exhibit No. 3), adjacent to the Old Eureka Airport/Samoa Dragstrip. The 60-acre site was used for disposal of sediments in the North Bay Channel Improvement Project of 1978-79 and for other projects in the late 1970s. The site reportedly has capacity available, and the dredged material could be piped to the disposal site, thus avoiding turbidity impacts at the dredge site as the proposed project would.

However, since the Superbowl site was last used, portions of the site have transformed into freshwater marsh habitat and sensitive plant species have colonized portions of the site. These areas are considered to be environmentally sensitive habitat areas, and are protected by the Coastal Act. Use of the site for the proposed project would likely result in some permanent disturbance of the habitat. As the habitat values at the surf zone disposal site are less significant, and the impacts of the use of the surf zone disposal site would be temporary, the Commission finds that the alternative of using the Superbowl for dredge disposal is not an environmentally less damaging alternative.

c. The No Project Alternative.

The no project alternative at the Woodley Island Marina. With no dredging, there would be no impacts from dredging and no impacts from disposal. However, without maintenance dredging, the berthing areas would eventually silt in to the point that they could no longer be used for commercial fishing vessels or

recreational boating, except by the shallowest draft vessels. The berthing areas would likely be forced to close, and the boaters who currently use the site would be displaced. As there are limited mooring facilities in Humboldt Bay, many of these users would be forced to leave this region of the coast. Such a result would be contrary to policies of the Coastal Act. As discussed previously, commercial fishing and recreational boating are given high priority under the Coastal Act and the Coastal Act policies call for the protection of these uses and the facilities needed to continue these uses. Therefore, the Commission finds that the no project alternative is not a feasible less environmentally damaging alternative.

#### 4. Maintenance and Enhancement of Estuarine and Marine Habitat Values

The fourth general limitation set by Sections 30231 and 30233 on dredging and fill projects is that any proposed dredging or fill project must maintain and enhance the biological capacity of the habitat, where feasible.

As discussed above, although the project as proposed would have adverse impacts on habitat at both the dredging and disposal sites, the impacts will not be significant. By avoiding significant impacts to coastal resources, the project will maintain the biological productivity and functional capacity of the habitat. However, there will be a continuing need for maintenance dredging of the bay in the future. Based on past dredging patterns, maintenance dredging will likely be required at roughly ten-year intervals. Therefore, the Commission finds that it is necessary for the impacts of the proposed surf disposal to be monitored to ensure that if unexpected impacts were to occur, the results could be used during the evaluation of future dredging projects by the Commission and other agencies. Consideration of the information provided by a monitoring report would help ensure that such future projects are conducted in a manner that will maintain and enhance the biological capacity of the habitat.

The Commission notes that it has relied, in part, on information provided by the 1998 monitoring report prepared after the last episode of surf zone dredge material disposal in its evaluation of the current permit application. Accordingly, the Commission attaches Special Condition No. 1 which requires that prior to issuance of the permit, the applicant submit a surf zone disposal monitoring plan for the review and approval of the Executive Director. The plan must provide for monitoring over a five year period of: (1) the pattern and rate of dispersal of material deposited at the site (2) sediment characteristics at the disposal site and at the control site; (3) the species composition and abundance of intertidal invertebrates in areas directly affected by the disposal of dredge spoils and at a control site near the disposal area over a three year period; and (4) the effects of the surf zone disposal on fisheries.

As conditioned, the Commission finds that the proposed project is consistent with the requirements of Sections 30231 and 30233 of the Coastal Act that any proposed dredging

or fill project must maintain and enhance the biological productivity and functional capacity of the habitat, where feasible.

5. Use of Dredged Material for Beach Replenishment

The fifth test set forth above is that dredge spoils suitable for beach replenishment be transported to appropriate beaches or into suitable long shore current systems. One of the concerns of any dredging project is the loss of sand to the particular longshore current cell and the possible resulting downcoast erosion. When possible, sandy dredge spoils should be disposed in a location that will ensure downcoast disposal.

The sediment to be dredged consists of typically fine-grained material composed of approximately 15% sand, 45% silt, and 40% clays. Only the sand portion of the material is suitable for beach nourishment, and given the small component of sand in the dredged material, the applicants do not claim that the project can be characterized as a beach nourishment project. Nevertheless, given the proposed location and timing the project to be conducted during the winter months when a high background level of turbidity exists along the open ocean shoreline, the proposed disposal site is an appropriate beach for beach replenishment. As the site is within the surf zone, the material would be discharged where the sand component may enter the long shore current system, although the beach in question is not in a sand-starved condition.

Furthermore, the site is sufficiently far from the mouth of Humboldt Bay that discharges at the site would not contribute to a mounding or shoaling problem within a navigational area. Therefore, the Commission finds that the small component of the material to be dredged that is suitable for beach nourishment will be transported to an appropriate beach consistent with the sand supply requirements of Section 30233 of the Coastal Act.

D. Permit Authority, Extraordinary Methods of Repair and Maintenance, Shoreline Protection Structures.

Coastal Act Section 30610(d) generally exempts from Coastal Act permitting requirements the repair or maintenance of structures that does not result in an addition to, or enlargement or expansion of the structure being repaired or maintained. However, the Commission retains authority to review certain extraordinary methods of repair and maintenance of existing structures that involve a risk of substantial adverse environmental impact as enumerated in Section 13252 of the Commission regulations. Section 30610 of the Coastal Act provides, in relevant part:

*Notwithstanding any other provision of this division, no coastal development permit shall be required pursuant to this chapter for the following types of development and in the following areas: . . .*



*(d) Repair or maintenance activities that do not result in an addition to, or enlargement or expansion of, the object of those repair or maintenance activities; provided, however, that if the commission determines that certain extraordinary methods of repair and maintenance involve a risk of substantial adverse environmental impact, it shall, by regulation, require that a permit be obtained pursuant to this chapter. [Emphasis added.]*

Section 13252 of the Commission regulations provides, in relevant part:

*(a) For purposes of Public Resources Code section 30610(d), the following extraordinary methods of repair and maintenance shall require a coastal development permit because they involve a risk of substantial adverse environmental impact: ...*

*(3) Any repair or maintenance to facilities or structures or work located in an environmentally sensitive habitat area, any sand area, within 50 feet of the edge of a coastal bluff or environmentally sensitive habitat area, or within 20 feet of coastal waters or streams that include:*

*(A) The placement or removal, whether temporary or permanent, of rip-rap, rocks, sand or other beach materials or any other forms of solid materials;*

*(B) The presence, whether temporary or permanent, of mechanized equipment or construction materials.*

*All repair and maintenance activities governed by the above provisions shall be subject to the permit regulations promulgated pursuant to the Coastal Act... [Emphases added]*

The rock slope revetment repair portion of the proposed project is a repair and maintenance project because it does not involve an addition to or enlargement of the levee. The approximately 100-foot linear portion of the levee to be repaired is only a small portion of the shoreline protective works that extends for more than a 1,750 lineal feet along the shoreline of the Woodley Island Marina. Although certain types of repair projects are exempt from CDP requirements, Section 13252 of the regulations requires a coastal development permit for extraordinary methods of repair and maintenance enumerated in the regulation. The proposed rock slope revetment repair involves the removal of dislodged riprap from an environmentally sensitive habitat area (Humboldt Bay) and related replacement of these materials onto a shoreline protective structure that is situated within 20 feet of the coastal waters of Humboldt Bay, utilizing mechanized equipment. The proposed repair project therefore requires a coastal development permit under Sections 13252(a)(3)(A) and (B) of the Commission's administrative regulations.

In considering a permit application for a repair or maintenance project pursuant to the above-cited authority, the Commission reviews whether the proposed method of repair or maintenance is consistent with the Chapter 3 policies of the Coastal Act. The Commission's evaluation of such repair and maintenance projects does not extend to an evaluation of the conformity with the Coastal Act of the underlying existing development.

Although not located within the berthing and docking locations proposed for dredging, eelgrass (*Zostera marina*) beds occupy an approximately 50 to 100 square-foot area near the westernmost slips of the marina. These patches of eelgrass could be impacted by the proposed rock slope revetment repairs if materials or personnel were to enter the area and either trample, crush, or up-root the plants during repositioning of the dislodged shoreline protective materials.

To minimize the potential adverse effects to eelgrass from this portion of the project the Commission includes within Special Condition No. 3 provisions requiring that care be taken to avoid trampling or uprooting areas of eelgrass during the repair and maintenance work. In addition, the special condition includes provisions for training contractor personnel as to the presence and identification of eelgrass outcroppings within the vicinity of the subject shoreline protective works repair. These measures would reduce potential cumulative impacts to the estuarine resources of Humboldt Bay associated with the rock slope revetment repair.

#### **E. Public Access.**

Coastal Act Section 30210 requires that maximum public access opportunities be provided when consistent with public safety, private property rights, and natural resource protection. Coastal Act Section 30211 requires that development not interfere with the public's right of access to the sea where acquired through use. Coastal Act Section 30212 requires that public access from the nearest public roadway to the shoreline and along the coast be provided in new development projects, except in certain instances, as when adequate access exists nearby. In applying Sections 30210, 30211, and 30212, the Commission is limited by the need to show that any denial of a permit application based on those sections, or any decision to grant a permit subject to special conditions requiring public access, is necessary to avoid or offset a project's adverse impact on existing or potential public access.

The objectives of the project to ensure that vessels can continue to use berthing areas at the Woodley Island Marina for mooring will help maintain recreational boating as a form of public access to Humboldt Bay and the ocean. In addition, as the project would have a duration of only a few months, as all portions of the disposal pipeline and the dredging area itself would be sufficiently marked to warn boaters of its presence, and all portions of the line crossing navigational channels would be submerged to the bottom where they would not block vessel passage, the project will have no significant effect on vessel

access during project construction. Similarly, as the portion of the pipeline that crosses the Samoa Peninsula and the disposal site would also be marked and lighted during the several months of the winter that the project would be undertaken and would not preclude passage up and down the peninsula by public access users, the project will have no significant impact on public access use of the Samoa Peninsula. Furthermore, as the dredging would only maintain the existing mooring and maneuvering areas, the proposed project will not create new vessel mooring opportunities that could draw more people to the waterfront and create more demand for public access.

Therefore, for the reasons indicated above, the proposed project will not have any significant adverse effect on public access. The Commission finds that the proposed project, which does not include any new provision for shoreline public access, is consistent with the public access policies of the Coastal Act.

#### **F. Visual Resources.**

Section 30251 of the Coastal Act requires that the scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance, and requires in applicable part that permitted development be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, and to be visually compatible with the character of surrounding areas. Furthermore, Section 30240(b) of the Coastal Act states that development in areas adjacent to 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 recreation areas.

Maintenance dredging and related spoils disposal operations present a temporary intrusion into visual resource areas and occur generally along the disposal line within Humboldt Bay, or in proximity to the spoils disposal outfall on the North Spit of the Samoa Peninsula. The bay is generally visible from numerous public viewing areas. These include the Eureka waterfront itself, the A.M. Bistrin Memorial Bridge crossing of State Route 255 over Humboldt Bay, and along the bay shorelines of Indian Island and the Samoa Peninsula. In addition the dredge spoils disposal outfall would be visible from the open ocean and sandy beach areas in the immediate vicinity of the discharge line. In terms of scenic areas of importance, the City of Eureka and the County of Humboldt LCPs both designate views of Humboldt Bay and the Pacific Ocean from specified viewing points as visual resource areas.

The project elements that would occur within the public viewshed include: (1) the dredge platform itself, along with any floating sections of pipe; (2) sections of flexible pipe placed across land segments to transport sediment for nearshore disposal, and (3) the ocean beach portions of the pipeline. However, views of these facilities would not result in a significant impairment of scenic resources, for the following reasons: (1) the presence of the dredge would simply blend in with other vessels already visible and

should not be counted as an adverse impact, and (2) the surface-lain flexible piping for transporting dredge spoils slurry would be similarly temporary and vary in locale, depending on the particular disposal destination of the dredged materials.

Therefore, given its temporary and transient nature, and the fact that the proposed dredging and disposal activity would not significantly alter scenic public views within and along the shorelines of Humboldt Bay along the route of the dredge spoils transmission pipeline or along the open ocean shoreline in proximity to the dredge spoils pipeline outfall, the Commission finds that this project is consistent with Sections 30251 and 30240(b) of the Coastal Act.

**G. U.S. Army Corps of Engineers Review.**

The project is within and adjacent to a navigable waterway and is subject to review by the U.S. Army Corps of Engineers (Corps). Pursuant to the Federal Coastal Zone Management Act, any permit issued by a federal agency for activities that affect the coastal zone must be consistent with the coastal zone management program for that state. Under agreements between the Coastal Commission and the U.S. Army Corps of Engineers, the Corps will not issue a permit until the Coastal Commission approves a federal consistency certification for the project or approves a permit.

On December 10, 1997, pursuant to Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act, the U.S. Army Corps of Engineers (Corps) issued Permit No. 22215N to the Harbor District. The permit, which expires on March 15, 2008, is for maintenance dredging of accumulated sediment in the Outer and Inner Reaches of the Eureka Channel in Humboldt Bay, and for surf disposal of dredged material in the Pacific Ocean off the Samoa Peninsula, Humboldt County, California. The first dredging episode took place in 1998, and permitted the District to excavate and dispose of 67,155 cubic yards (cy) of dredged materials. Although SONCC coho salmon was listed as threatened at the time the permit was issued, the Corps did not consult NOAA Fisheries. However, a special condition of each permit required completion of Section 7 Endangered Species Act (ESA) consultation, prior to authorization of any additional dredging episode. Accordingly, based upon the recommendations received from NOAA Fisheries as contained in a biological opinion pending release in late July – late August, the terms and conditions of Permit No. 22215N may be changed through a Letter of Modification Issued by the Corps.

To ensure that the second round of dredging activities ultimately approved by the Corps is the same as the project authorized herein, the Commission attaches Special Condition No. 4 which requires to applicant to demonstrate that it has all necessary approvals from the U.S. Army Corps of Engineers for the proposed project.

**H. Consultations by National Marine Fisheries Service.**

Pursuant to Section 7 of the Federal Endangered Species Act (16 USC 1531) and the Magnuson-Stevens Fishery Conservation and Management Act (50 CFR 600), the U.S. Army Corps of Engineers Federal Clean Water Act Section 404 individual permit is subject to prerequisite and interim consultations with the National Marine Fisheries Service (NOAA Fisheries) regarding the project's potential environmental effects on fisheries. As discussed in other sections of this report, draft comments and recommendations developed to date by NOAA Fisheries with respect to protecting the environmentally sensitive resources that might be adversely affected by the dredging project have been incorporated either in the project description by the applicant or attached as special conditions to the subject permit.

To ensure that the final biological opinion ultimately issued by NOAA Fisheries addresses the same project operational procedures and restrictions authorized herein, the Commission attaches Special Condition No. 5. Special Condition No. 5 requires the applicant to submit, for the review of the Executive Director, a copy of the final biological opinion issued for the dredging project, and notification of any project changes required by the Corps in response to the recommendations within the final opinion. The Executive Director would determine whether an amendment to the coastal development permit would be required before the dredging work could commence.

#### **I. California Environmental Quality Act.**

Section 13096 of the Commission's administrative regulations requires Commission approval of coastal development permit applications to be supported by a finding showing the application, as modified by any conditions of approval, to be consistent with any applicable requirement of the California Environmental Quality Act (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 the proposed development may have on the environment.

The Commission incorporates its findings on conformity with the Chapter 3 policies of the Coastal Act at this point as if set forth in full. These findings address and respond to all public comments regarding potential significant adverse environmental effects of the project that were received prior to preparation of the staff report. As specifically discussed in these above findings, which are hereby incorporated by reference, mitigation measures that will minimize or avoid all significant adverse environmental impacts have been required. As conditioned, there are no other feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse impacts which the activity may have on the environment. Therefore, the Commission finds that the proposed project can be found to be consistent with the requirements of the Coastal Act to conform to CEQA.

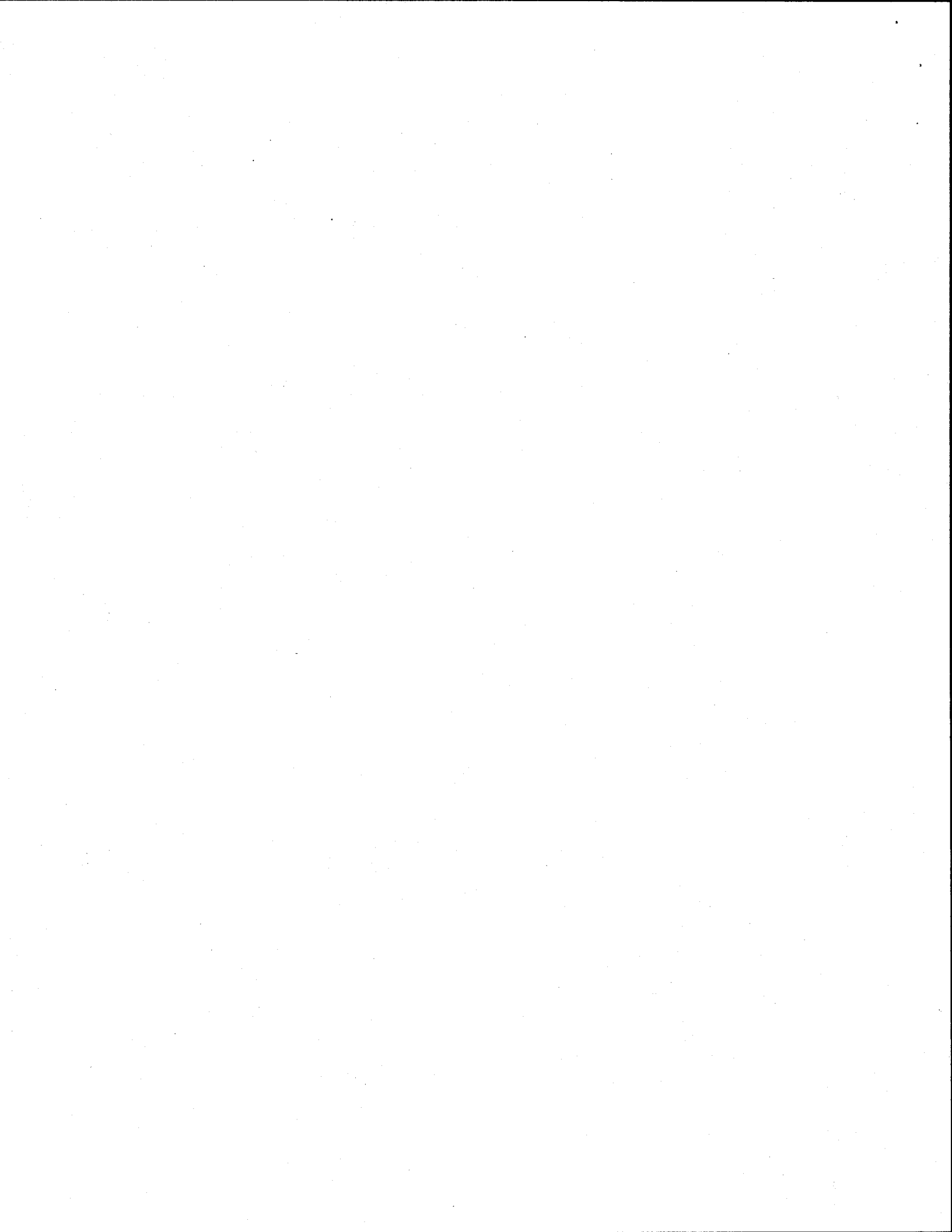
V. **EXHIBITS**

1. Regional Location Map
2. Vicinity Map
3. Mid-Humboldt Bay Maintenance Dredging Overview Map
4. Project Narrative and Site Plan
5. Woodley Island Marina Bathymetric Survey
6. Woodley Island Marina Maintenance Dredging Cross-sections
7. Dredge Spoils Pipeline Route Map
8. Dredge Spoils Nearshore Disposal Site Map
9. Executive Summary – 1998 Dredge Spoils Disposal Site Monitoring Report

**ATTACHMENT NO. 1**

**STANDARD CONDITIONS:**

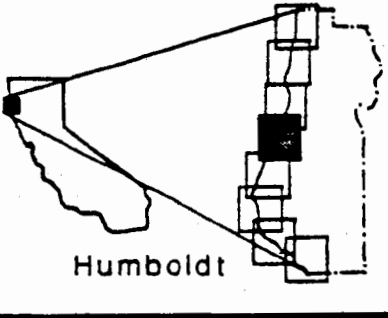
1. Notice of Receipt and Acknowledgment. The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.
2. Expiration.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





A B C D E F G H I J K L M N O

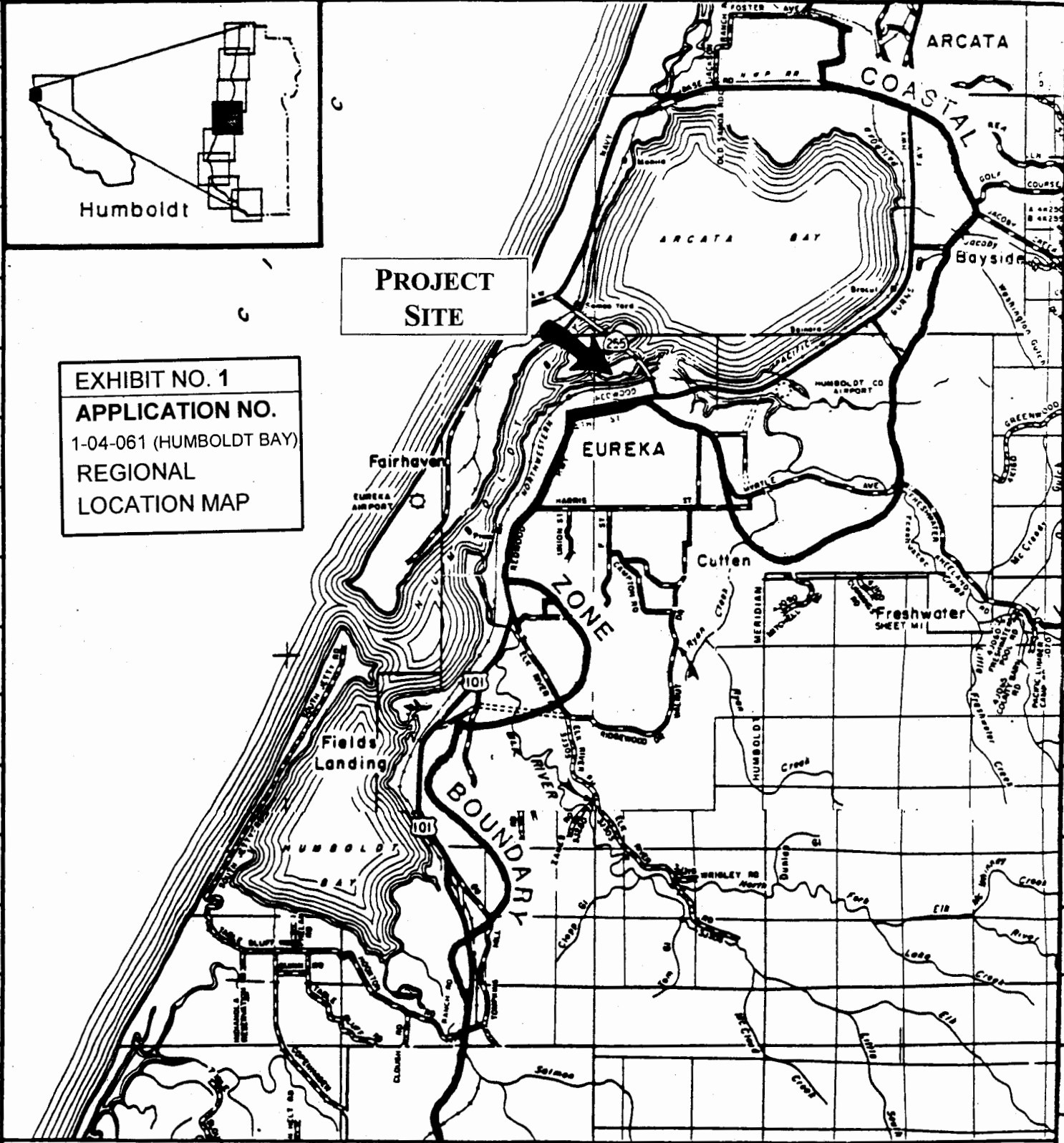
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Humboldt

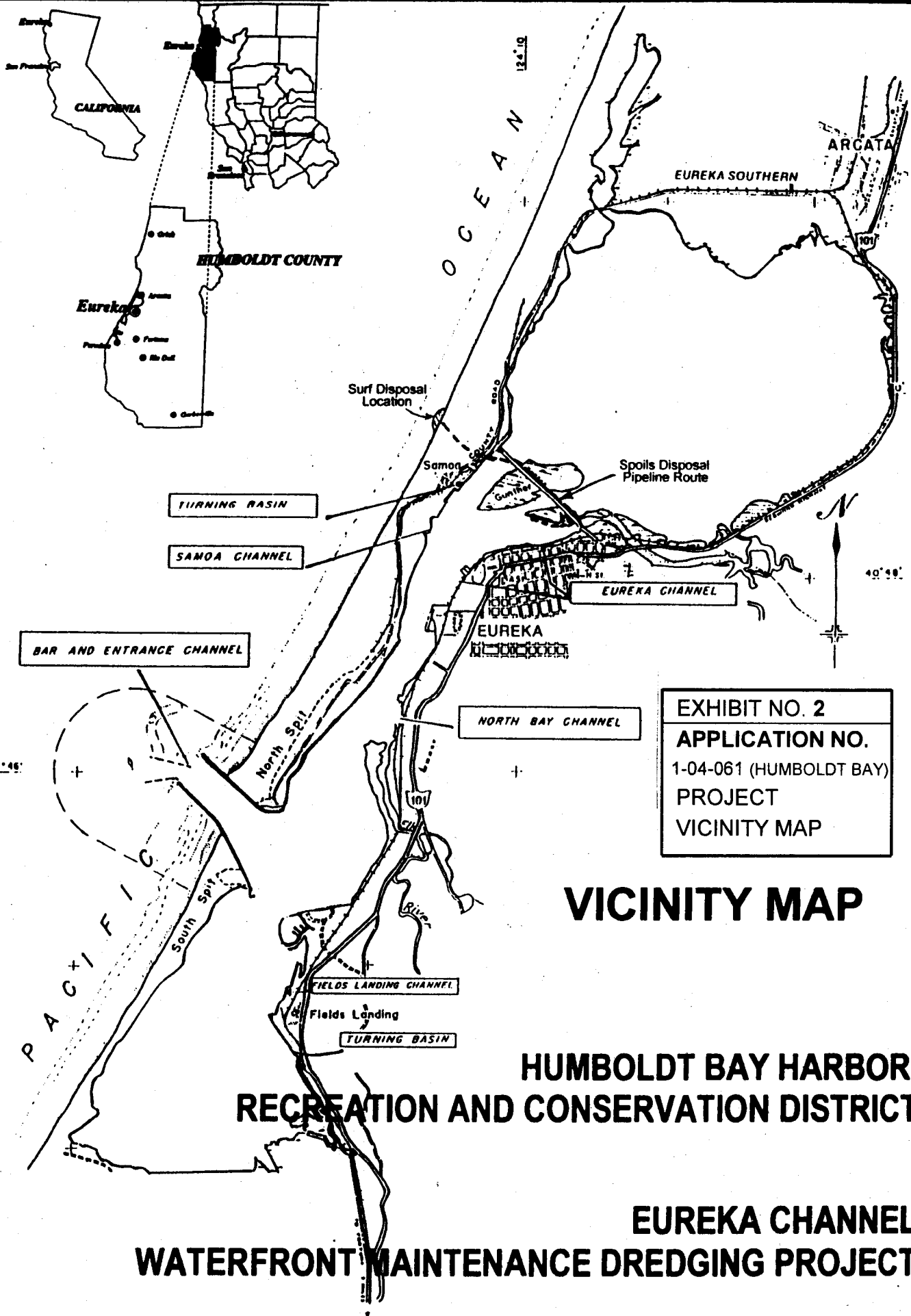
**PROJECT SITE**

**EXHIBIT NO. 1**  
**APPLICATION NO.**  
1-04-061 (HUMBOLDT BAY)  
**REGIONAL**  
**LOCATION MAP**



**LOCATION MAP**





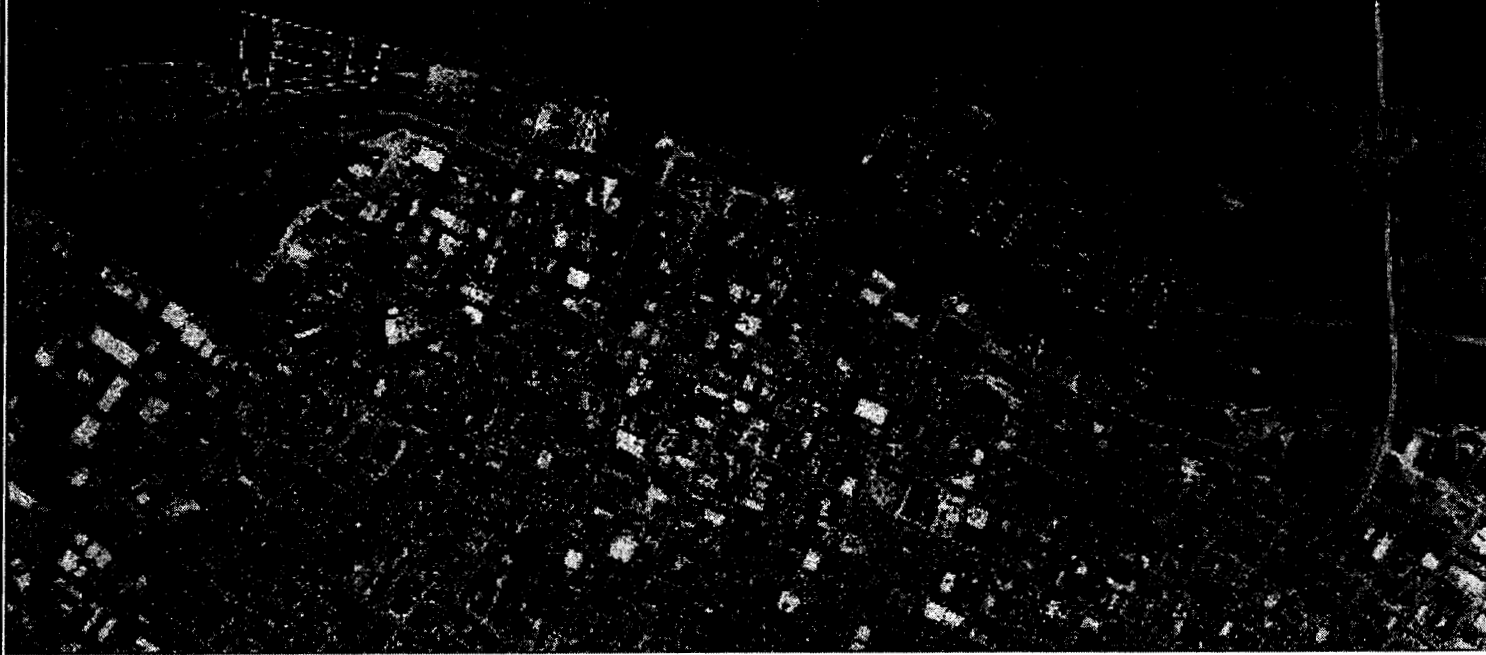
**EXHIBIT NO. 2**  
**APPLICATION NO.**  
 1-04-061 (HUMBOLDT BAY)  
**PROJECT**  
**VICINITY MAP**

**VICINITY MAP**

**HUMBOLDT BAY HARBOR,  
RECREATION AND CONSERVATION DISTRICT**

**EUREKA CHANNEL  
WATERFRONT MAINTENANCE DREDGING PROJECT**

**EXHIBIT NO. 3**  
**APPLICATION NO.**  
 1-04-061 (HUMBOLDT BAY)  
 Mid-Humboldt Bay Maint.  
 Dredging Overview Map



|             |  |  |                      |  |   |
|-------------|--|--|----------------------|--|---|
| <p>HE-1</p> | <p>DATE: APR. 15, 2004<br/>       TIME: 10:00 AM<br/>       BY: [REDACTED]</p> | <p>HBHRCO &amp; CITY OF EUREKA<br/>       MAINTENANCE DREDGING<br/>       EUREKA INNER REACH<br/>       EUREKA, CA</p> | <p>OVERHEAD VIEW</p> | <p>DESIGN<br/>       DAVID L. SCHNEIDER<br/>       500 WEST WASHINGTON DRIVE<br/>       EUREKA, CA 95501<br/>       (707) 448-3661</p> | <p>PACIFIC APPLICANTS<br/>       [REDACTED]</p> |
|-------------|--|--|----------------------|--|---|

# HUMBOLDT BAY HARBOR, RECREATION AND CONSERVATION DISTRICT MAINTENANCE DREDGING OF THE WOODLEY ISLAND MARINA

CALIFORNIA COASTAL COMMISSION PERMIT APPLICATION

EXHIBIT NO. 4

APPLICATION NO.

1-04-061 (HUMBOLDT BAY)

PROJECT NARRATIVE

& SITE PLAN

(Page 1 of 7)

## Project Description

### History

Woodley Island Marina, constructed for the Humboldt Bay Harbor, Recreation and Conservation District in 1978, berths approximately 320 small craft recreational, pleasure and fishing boats on the Eureka Inner Reach Channel of Humboldt Bay. The marina, located on the southern shore of Woodley Island, is directly north across the Channel from the Carson Mansion area of the Historic Old Town District of Eureka.

The marina is configured so that the western two-thirds of the berths (Transient Dock - Dock F) can accommodate vessels having drafts of up to 12 feet and the eastern one-third (Docks G - I), vessels of drafts less than 10 feet. The design depths of -14 feet Mean Lower Low Water (MLLW) and -10 feet Mean Lower Low Water (MLLW) compliment the two areas respectively. Both berthing areas were designed with a one foot maximum overdepth allowance below the depths specified above. The marina was last dredged in 1998 when 120,000 cubic yards of accumulated sediment was removed by cutter-suction dredge and disposed of in the surf along the Samoa Peninsula. Prior to that in 1987, 140,000 cubic yards of accumulated sediment was removed, also by cutter-suction dredge and disposed of in the surf along the Samoa Peninsula. The dredging performed in 1987 was the first since the original construction dredging of the marina in 1978.

The Eureka Inner Reach Channel receives upland run-off from Ryan Slough and Freshwater Slough (Freshwater Creek) and tidal run-off from the Arcata Bay. The winter upland run-off from Ryan and Freshwater Sloughs accounts for the bulk of the Marina's sedimentation, with the Inner Reach Channel becoming very turbid during storm events.

### Purpose of Project

The project is required in order to maintain adequate berthing depth for the 300+ vessels which moor within the existing berthing areas of the Woodley Island Marina, as well as insure the continued safe and convenient operation of this moorage facility. The project will be conducted in combination with the maintenance dredging of the Eureka Small Boat Basin and Waterfront properties. The project is scheduled to commence in November of 2005 and terminate on March 31, 2005, pending approval of all permits.

### Proposed Project

The dredge site, maintenance dredging scenario and the dredge disposal pipeline route proposed are the same as that utilized under the 1998 permits. The current proposal involves the maintenance dredging and disposal of an estimated 120,000 cubic yards of accumulated sediment from the marina's berthing areas. The majority of the material to be dredged is within the western two-thirds of the marina, Transient Dock - Dock F, as

currently 96,000 cubic yards of material is present above the maximum project line of - 15 feet MLLW. The shallower 10 foot berths, Docks G - I, account for the remaining 24,000 cubic yards of sediment to be dredged. This project also involves minor rock slope protection maintenance, inasmuch as rocks that have migrated down the slope into the dredging prism will be reinstated to their original position.

### Project Description

The proposed project involves the maintenance dredging and disposal of an estimated 120,000 cubic yards (including overdredge) of accumulated sediment from the moorage areas of the Woodley Island Marina located on the Inner Reach Channel of the Humboldt Bay Channel System.

Dredging is proposed to be conducted by a cutter-suction pipeline dredge, the same method utilized during the 1987 and 1998 maintenance dredging projects. Approximately 70% of the material to be dredged by this project is fine, silt, and clay. The remainder is about 30% sand. The small cutter-suction dredge used in 1987 and 1998 had the ability to maneuver itself between the main docks and finger slips of the marina and remove dredge material from beneath the areas covered by the floats. The utilization of cutter-suction dredge method of dredging is also the best technology for reducing the turbulence at the dredge location, as the cutter head loosens the sediment and a constant suction is maintained by the pump, drawing the loosened sediments and much of the turbid water into the pipeline. Turbid water will be present at the dredge site and down current, (depending upon the tide) but in significantly lower quantities than if a hopper dredge or clamshell dredge were used. The timing of the project, during the winter months, will effectively reduce the turbidity caused by dredging due to the significant turbidity within the Inner Reach Channel from upland run-off caused by storm events.

The schedule of dredging will be circulated to all tenants of the marina so that boats can be moved as necessary to facilitate the complete maintenance dredging activity.

From the cutter-suction dredge at the marina the spoils slurry will be pumped through a semi-flexible disposal line to the designated disposal area. The spoils line is floated across minimal access open water areas and weighted and submerged where crossing navigable waters. The route of the spoils line is the same as that used in the 1987 and 1998 dredging projects. It is proposed that the spoils line for this project will leave the marina running parallel to the north side of the Inner Reach Channel and upon reaching the Samoa Bridge, will proceed west along the Highway 255 right-of-way. On the Woodley and Indian Island portions of the pipeline route the line will be positioned off the westbound shoulder through an Encroachment Permit from Cal-Trans. Where the line enters the mid-span channel and the Samoa Channel, it will be submerged to allow the passage of vessels. At no point in the pipeline route will the line cross the federally authorized shipping channels of Humboldt Bay. Floating sections of the line will be marked with buoys and lights to warn vessels of its presence for the duration of the project. Booster pumps stationed in the pipeline to assist in pumping the spoils slurry, will be positioned on Woodley Island to the east side of the center span of the Samoa Bridge at the western approach and on the shore of the west side of the Samoa Channel approximately 700 feet south of the Samoa Bridge. From the Samoa booster, the spoils line will be routed through an existing carrier pipe beneath Old Samoa Road,

then above ground across the eastern end of the Louisiana Pacific Corporation upland disposal site to the edge of New Navy Base Road. From this point the line will pass through another existing carrier pipe beneath New Navy Base Road, then run above ground along existing off road vehicle roads to the surf zone of the Samoa Peninsula (Pacific Ocean). Through the dune area to the surf, the pipeline will be covered where utilized roads or trails intersect the route, and marked to warn the public of its presence. At the beach discharge area, signs and barricades will be posted to warn the public of the temporary conditions.

The dredging scenario and the pipeline route described are the same as utilized under the 1987 and 1998 permits. Pipeline route areas disturbed by placement, maintenance and removal of the spoils line will be reclaimed to as near pre-project conditions as possible, and as per conditions of all individual permits.

Surf disposal of spoils has been utilized for several dredging projects and most recently during the 1998 maintenance dredging project and is again proposed herein. Surf disposal during the Winter (2005) will reduce the effects of turbidity within the surf zone of the Samoa Peninsula. During this period of the year, the Eel and Mad Rivers are typically discharging significant amounts of turbid water into the ocean proximal to the surf zone discharge point. The higher sediment-laden levels of the ocean waters, experienced during winter months, aids in reducing the effects of suspended concentrations of sediments at the spoils discharge point relative to the seasonal background levels. Higher wave action during the winter also helps to distribute the discharged sediments through the surf zone.

The winter dredge/disposal period effectively reduces turbidity at the dredge sites, especially within the Eureka Inner Reach Channel of Humboldt Bay where the predominance of turbid run-off from uplands of the North Bay drain. The minor quantity of suspended sediment generated within the Eureka Inner Reach Channel by the cutter-suction pipeline dredge would not be detectible over the diminished background water quality for a good portion of the winter rainy season. Dredging within the Eureka Inner Reach Channel during the summer and fall (May - October) would result in noticeable effects to water quality.

The spoils discharge area will be posted at several locations as to the activities and duration of the project. Barricades and lighting will be provided and maintained throughout the project to further inform users of the Peninsula of the temporary activities. The discharge area will be inspected and maintained daily to ensure the proper public notification of the project activities and safe access to the North Spit Recreational area.

Through the shallows and unnavigable waters of the Bay, the spoils line will be floated. Where the line will cross navigable waters of Humboldt Bay, weights will be attached to submerge the line and permit the normal passage of vessels. Buoys and lights mark the line throughout the bay crossings to prevent navigational hazards to mariners. A Notice to Mariners is also filed with the U.S Coast Guard for the duration of the project, advising marine travelers of the project activities within navigable waters.

Sections of plastic disposal line will be floated into position within the Bay, or placed in position using a small rubber tired tractor within the upland right-of-ways, then heat

fused to prevent leakage of spoils. Cleanup of any leakage will be the responsibility of the dredging contractor. Regular inspection and maintenance of the entire length of the line is carried out during the project to ensure integrity and prevent leaks or breaks.

The dredge and booster pumps rely on diesel engines for the pumping of sediment. They generate the equivalent noise and exhaust of a semi-tractor rig when in operation. Booster pumps are located away from residences for the prevention of noise related impacts. All fuel burning engines will be fitted with appropriate muffler systems and maintained throughout the project. Dredging operations along the Eureka Waterfront are within areas of regular industrial and commercial activities. The diesel engine of the dredge should not cause significant noise increases above the typical daily operational levels of the project area. Other than live-aboards at the Eureka Public Berthing Facility (Small Boat Basin) and the Woodley Island Marina, there are no other residences on the immediate Eureka Outer and Inner Reach Waterfront that would be affected by the proposed project.

Mobilization of the spoils line, booster pumps and dredge is expected to take ten to fifteen days and involve eight to ten full time employees. Following contractor mobilization, the dredging contractor's crew will consist of five to six full time employees. Three or four persons will split the twenty-four hour shift work operating the dredge and the remaining employees will conduct the maintenance activities of the operation. Dredging operations, especially those encumbered by a specific seasonal operating period, run six to seven days a week, twenty-four hours a day. An operational schedule such as this is expected for this project, based upon historic requirements and present informal consultation with the California Regional Water Quality Control Board.

Upon completion of the project, the general public will enjoy efficient access to Humboldt Bay and the important recreational and commercial facilities thereon.

#### **Dredge Material Disposal Specifics**

A sediment sampling plan was approved by the Regional Water Quality Control Board (Mr. Bill Rodriguez) and performed by Pacific Affiliates for the 1998 and the 2005 maintenance dredging project. In short, the final determination on suitability for surf dispersion was that, as characterized, contaminant levels were within acceptable limits for ocean dispersion. A copy of that "Report of Sediment Sample Analysis" is appended herein this permit application as well as a copy of the Chemical Analysis, Toxicity Evaluation and Bioaccumulation Testing of Sediments from Humboldt Bay for prepared for the U.S. Army Corps of Engineers by Toxcan, Inc. and Kinnetic Laboratories, Inc.

Review of the volumes of existing sediment testing data from 2005 of Humboldt Bay and the proposed dredge sites has not indicated any areas of concern. The surf disposal site has been repeatedly monitored, and again the data does not reflect any areas of concern. Since the last sampling, there have not been any vectors, which could have effected a change. As such, re-sampling will not result in any variance of the current samples/data and therefore no new sampling is proposed for this project.

#### **Estimated Cost of Development**

This project and the Woodley Island Marina Maintenance Dredging Project are scheduled to be a cooperative project between the City of Eureka and the Humboldt Bay Harbor, Recreation and Conservation District in an effort to share project related costs, better serving the citizens of the region.

4 of 7

The total estimated cost of development for this project is \$1,250,000.00. The City's portion is estimated to be \$500,000.00 which will be paid for by the City's Redevelopment Funds and the Humboldt Bay Harbor, Recreation and Conservation District's portion is estimated to be \$750,000.00.

**Directions to the Site**

To access the Woodley Island dredge site from Highway 101, North or South, proceed into the City of Eureka to the Highway 255, Samoa Bridge Exit (near the north end of Eureka). Head west on Highway 255 across the southern span of the Samoa Bridge and exit to the Woodley Island Marina, where the southern span touches down upon Woodley Island.

To access the proposed spoils pipeline route and beach disposal site, continue northwest across the Samoa Bridge (the disposal pipeline is proposed to be placed along the westbound shoulder) to the Highway 255, New Navy Base Road Intersection. The pipeline will exit the Bay at a point approximately 700 feet southwest of the west span of the bridge, enter carrier pipes beneath Old Samoa and New Navy Base Roads. The spoils line will exit the carrier pipes at a point approximately 300 feet southwest of the Highway 255 New Navy Base Road intersection and continue overland on existing off road vehicle roads to the ocean beach of the Samoa Peninsula.



## Woodley Island Marina Rock Slope Protection

The contractor shall excavate all rock slope protection (RSP) that has slid down the slope and into the dredging prism. Extracted rock slope protection shall be re-placed on the slope as directed by the Project Engineer. An excavator or approved piece of machinery capable of lifting a 500 lb rock at fifty feet shall be the minimum size employed for the RSP relocation.

The RSP replacement task will occur during low tide. During the last dredging cycle it was found that a lot of RSP had migrated into the dredging prism and it caused problems for the cutter head of the suction dredge. The rocks will be removed as we dredge and then placed back on the slope. Since the rocks will be "hunted" for with an excavator in the dredging prism, it will be under the direction of the engineer on a time and materials basis.

# SITE MAP

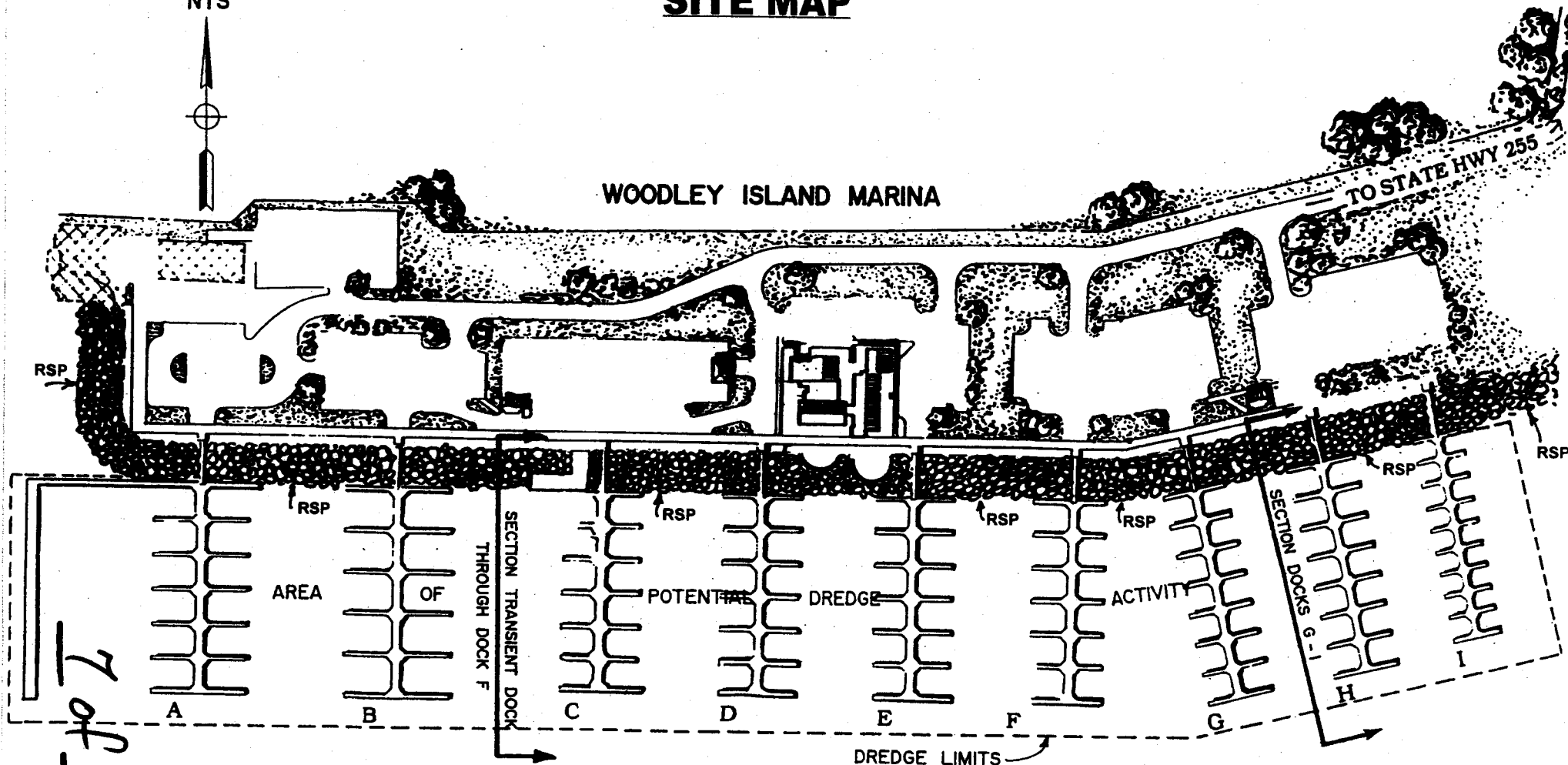
NTS



WOODLEY ISLAND MARINA

TO STATE HWY 255

RSP



AREA

OF

POTENTIAL

DREDGE

ACTIVITY

SECTION TRANSIENT DOCK F

SECTION DOCKS G-H

A

B

C

D

E

F

G

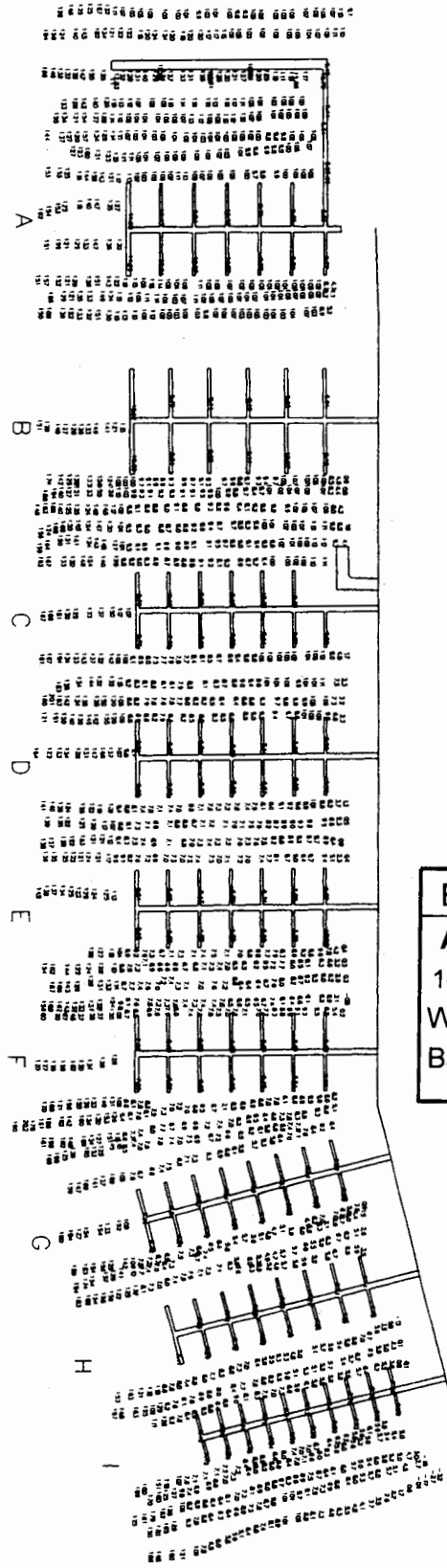
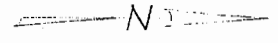
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DREDGE LIMITS

HUMBOLDT BAY

EUREKA INNER REACH CHANNEL

 **PACIFIC AFFILIATES, INC.**  
A CONSULTING ENGINEERING GROUP  
990 W. WATERFRONT DRIVE • EUREKA • CA • 95501  
PHONE: (707) 445-3001 • FAX: (707) 445-3003

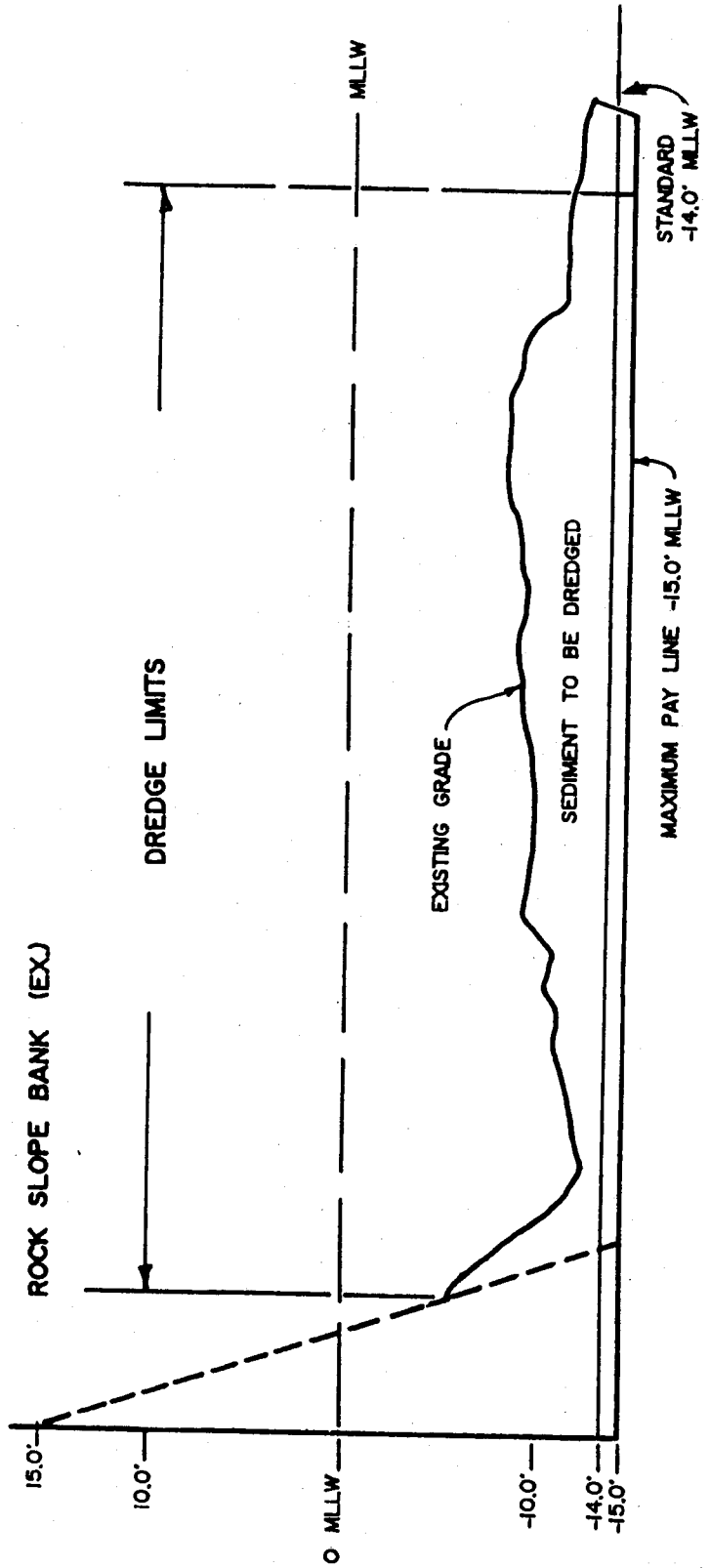


**EXHIBIT NO. 5**  
**APPLICATION NO.**  
 1-04-061 (HUMBOLDT BAY)  
 Woodley Island Marina  
 Bathymetric Survey

**SURVEY NOTES**

SURVEYED BY PACIFIC AFFILIATES CONSULTING ENGINEERS  
 ON FEBRUARY 4, 2004 FOR THE STATION FOR SURVEY PACIFIC AFFILIATES  
 10000 WOODLEY ISLAND MARINA FISHERMAN'S LOADING DOCK IN  
 EUREKA, CA. UTM: 18S 54 10000  
 SOUNDINGS ARE SHOWN TO THE NEAREST FOOT AND TENTHS OF A FOOT.  
 VERTICAL DATUM UTILIZED - MEAN LOWER LOW WATER (MLLW).  
 HORIZONTAL CONTROL REFERENCED TO NAD 83 CALIFORNIA ZONE 1.  
 LAMBERT CONFORMAL PROJECTION. SURVEY REPRESENTS THE CONDITIONS  
 ON THE DATE SURVEYED (FEBRUARY 4, 2004).  
 DRAWINGS NOT TO BE USED FOR NAVIGATION. ONLY CHANNEL CONDITION  
 AT DATE OF SURVEY.

|                              |  |  |  |   |  |  |                        |
|------------------------------|--|--|--|---|--|--|------------------------|
| SHEET NUMBER<br><b>C-1.1</b> | DATE: March 14, 2004<br>SCALE: 1" = 80' U.S.N.<br>DRAWN BY: Trevor Schneider | <b>HUMBOLDT BAY HARBOR,<br/>         RECREATION AND<br/>         CONSERVATION DISTRICT</b><br>P.O. BOX 1030<br>EUREKA, CA 95502-1030 | <b>WOODLEY ISLAND MARINA<br/>         CONDITIONAL<br/>         BATHYMETRIC SURVEY</b><br><small>THIS IS AN ORIGINAL UNPUBLISHED DRAWING AND NOT BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT THE WRITTEN PERMISSION OF PACIFIC AFFILIATES, © 2004</small> | ENGINEER<br><b>DAVID L. SCHNEIDER</b><br>890 WEST WATERTOWN DRIVE<br>EUREKA, CA 95501<br>(707) 445-3001 |  | <b>PACIFIC AFFILIATES</b><br><small>A CIVIL/ENGINEERING GROUP<br/>         FOR WEST WATERSHED DESIGN<br/>         EUREKA, CA 95501</small> | REVISIONS<br>NO.<br>BY |
|                              | REVISIONS<br>NO.<br>BY   |  |  |   |  |  |                        |



**SECTION  
TRANSIENT VESSEL DOCK - DOCK F**

SCALE: HORIZONTAL 1" = 60' VERTICAL 1" = 10'

**AREAS MAINTAINED  
TO  
-14.0' MLLW**

**EXHIBIT NO. 6**  
**APPLICATION NO.**  
 1-04-061 (HUMBOLDT BAY)  
 Woodley Island Marina Maint.  
 Dredging Cross - Sections  
 (Page 1 of 2)

**SITE 11**  
**WOODLEY ISLAND MARINA**  
**Transient Vessel Dock to Dock F**

**PROFILE**  
 Datum: Mean Lower Low  
 Water (MLLW)

**PACIFIC AFFILIATES, INC.**  
 A CONSULTING ENGINEERING GROUP  
 990 W. Waterfront Drive  
 Eureka, CA 95501

AREAS MAINTAINED  
TO  
-10.0' MLLW

NOTES

SOUNDINGS ARE SHOWN TO THE NEAREST FOOT AND TENTHS OF A FOOT.

SOUNDINGS REFER TO THE DATUM OF MEAN LOWER LOW WATER (MLLW) AT THE LOCALITY. SOUNDINGS ARE REFERENCED TO CALTRANS SURVEY MONUMENT NO. S.C. 225, ELEV. 8.49' MLLW.

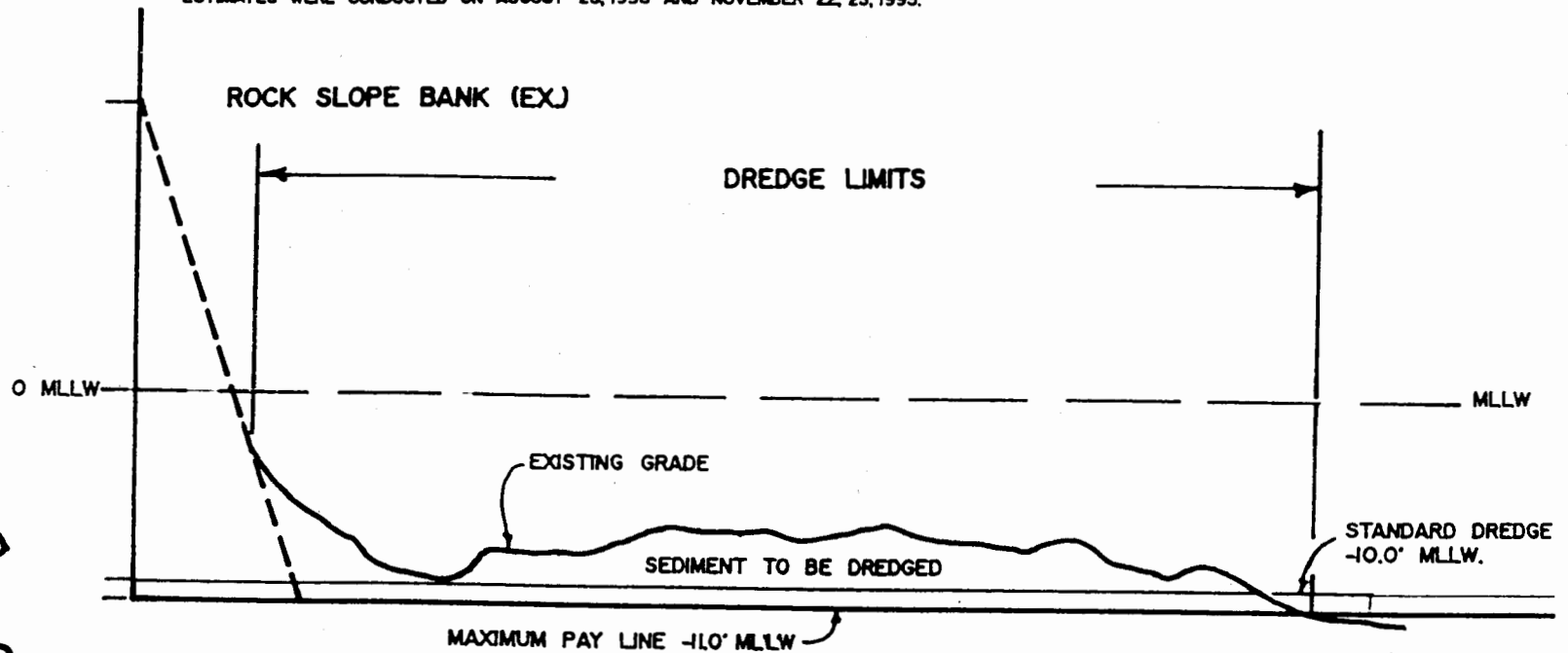
HORIZONTAL CONTROL POINTS FOR HYDROGRAPHIC SURVEYS ARE L.P. PIPE AND COURT HOUSE.

COORDINATES ARE BASED ON THE CALIFORNIA COORDINATE SYSTEM, ZONE I, LAMBERT CONFORMAL PROJECTION.

BERTHING AREA FROM STATION 66-07 TO THE TRANSITION SLOPE SHALL BE DREDGED TO -14.0' MLLW. MAXIMUM PAY LINE WITHIN AREA IS -15.0' MLLW.

BERTHING AREA FROM TRANSITION SLOPE TO STATION 87-93 SHALL BE DREDGED TO A DEPTH OF -10.0' MLLW. MAXIMUM PAY LINE WITHIN AREA IS -11.0' MLLW.

CONDITIONAL SURVEYS FOR SHOWN SOUNDINGS AND PRELIMINARY DREDGE ESTIMATES WERE CONDUCTED ON AUGUST 23, 1995 AND NOVEMBER 22, 23, 1995.



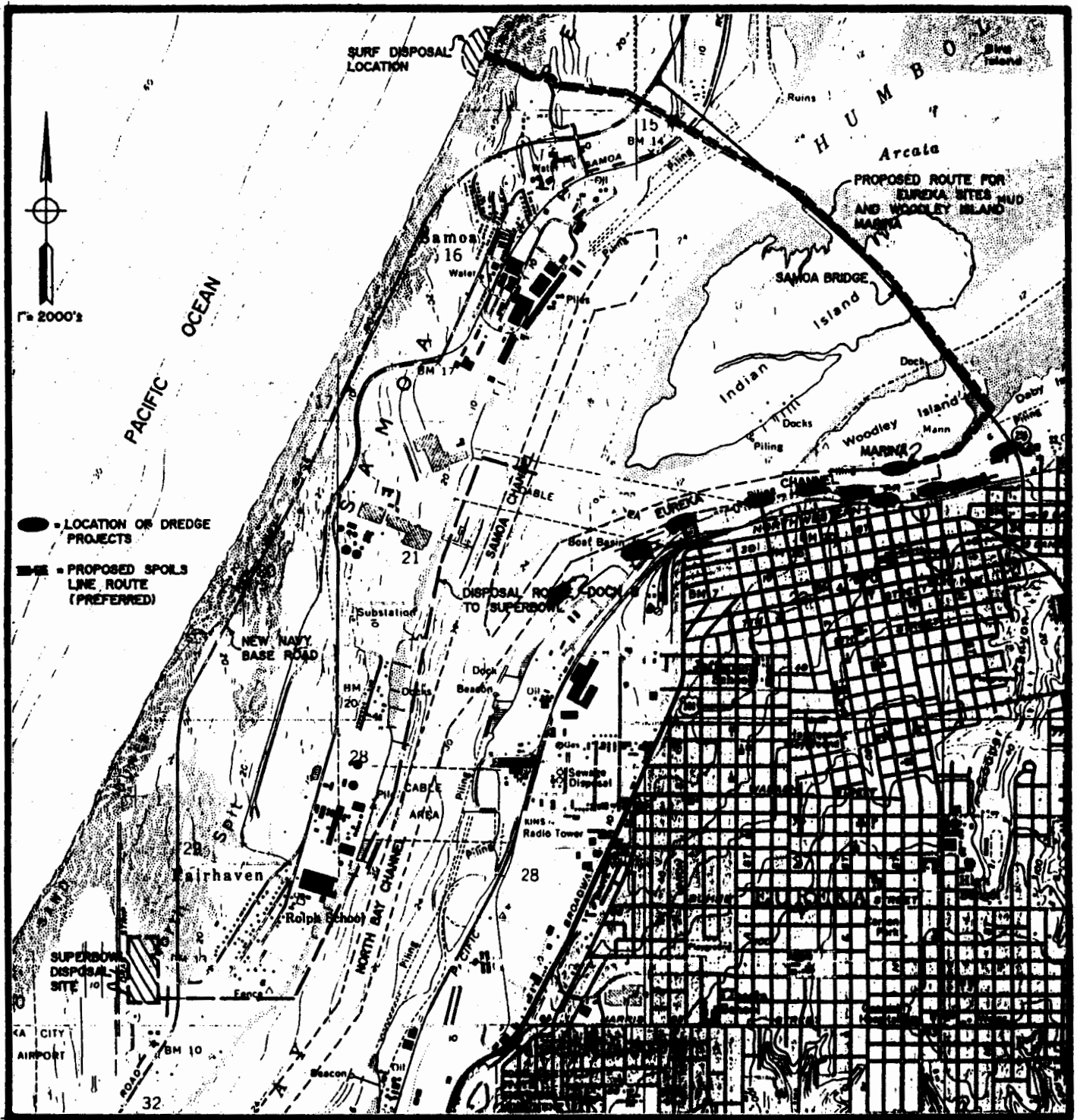
SECTION  
DOCKS G - 1

SCALE: HORIZONTAL 1" = 60' VERTICAL 1" = 10'

SITE 11  
WOODLEY ISLAND MARINA  
Docks G to I

PROFILE  
Datum: Mean Lower Low  
Water (MLLW)

**P** PACIFIC AFFILIATES, INC.  
A CONSULTING ENGINEERING GROUP  
990 W. Waterfront Drive  
Eureka, CA 95501



**DISPOSAL ROUTE**

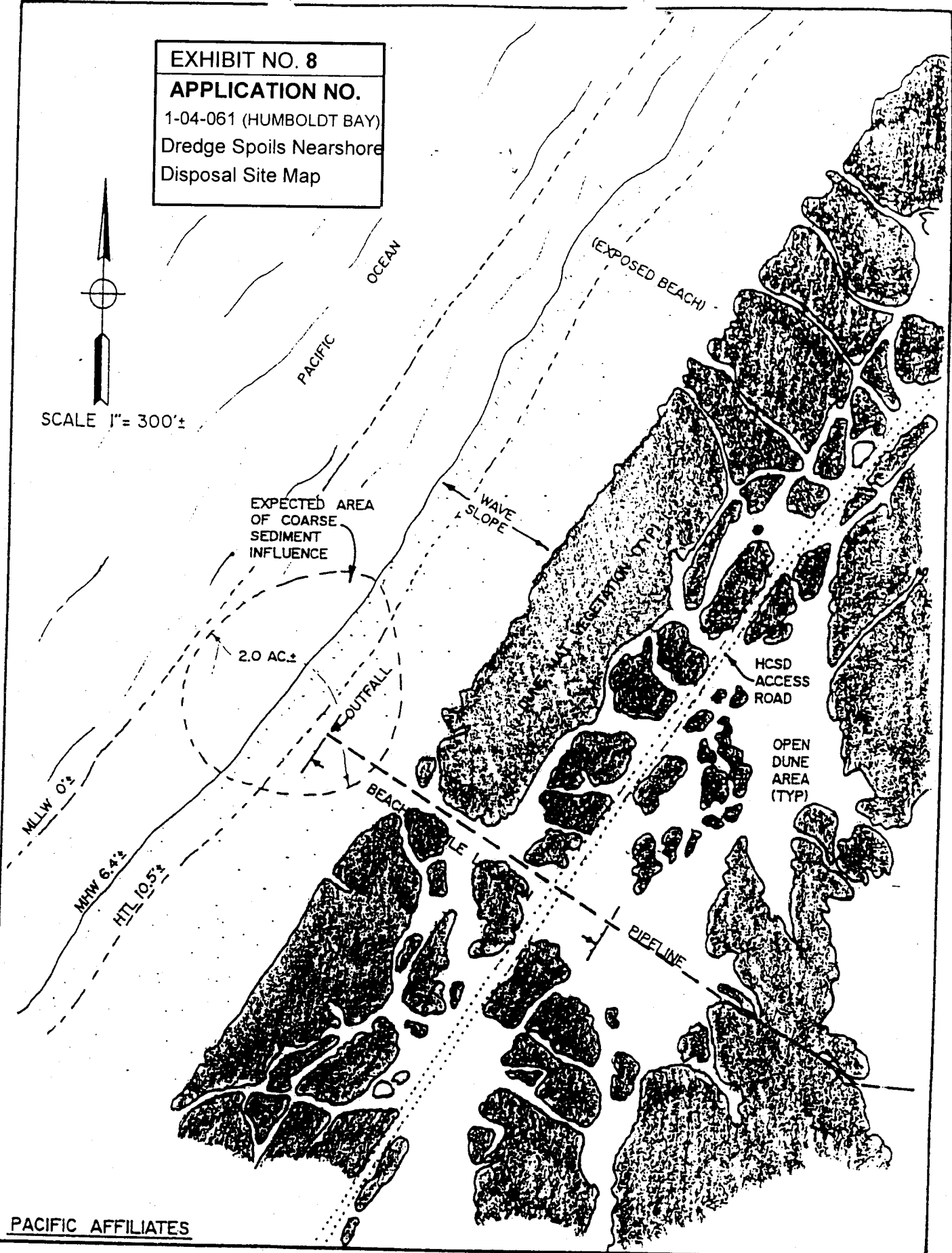
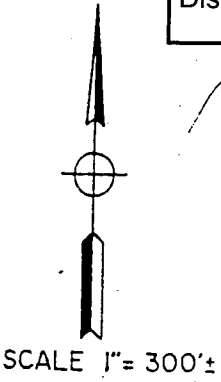
**CITY OF EUREKA & HUMBOLDT BAY HARBOR DISTRICT  
WATERFRONT FACILITIES MAINTENANCE DREDGING  
HUMBOLDT BAY, EUREKA INNER REACH CHANNEL**

**COUNTY OF: HUMBOLDT  
STATE OF: CALIFORNIA**

|                         |
|-------------------------|
| <b>EXHIBIT NO. 7</b>    |
| <b>APPLICATION NO.</b>  |
| 1-04-061 (HUMBOLDT BAY) |
| Dredge Spoils Pipeline  |
| Route Map               |

**PREPARED BY PACIFIC AFFILIATES**

**EXHIBIT NO. 8**  
**APPLICATION NO.**  
1-04-061 (HUMBOLDT BAY)  
Dredge Spoils Nearshore  
Disposal Site Map



PACIFIC AFFILIATES

**SAMOA BEACH SPOILS LINE OUTFALL SITE**  
CITY OF EUREKA & HUMBOLDT BAY HARBOR DISTRICT  
COOPERATIVE MAINTENANCE DREDGING PROJECT

**ANNUAL BIOLOGICAL MONITORING REPORT  
HARBOR DISTRICT AND CITY OF EUREKA  
MAINTENANCE DREDGING PROJECT  
SAMOA BEACH, HUMBOLDT COUNTY, CA**

**1.0 EXECUTIVE SUMMARY**

- Approximately 226, 238 cubic yards of dredged materials were pumped via floating pipeline across the bay to the Samoa Peninsula and discharged across the exposed sand beach between January and May, 1998. The discharge pipe was located on the beach just above the high tide line, at approximate latitude of 40° 49' 20" N, longitude 124° 11' 20' W (Figure 1).
- Three transects were established to determine the species composition and abundance of sand beach animals in the immediate area of the dredged materials discharged, at a location nearby, and at a control site some distance south of the discharge point.
- In both pre- and post-discharge periods, the beach fauna was dominated in species composition and numerically by the burrowing crustacean *Excirrolana linguifrons* and the burrowing marine worm *Euzonus williamsi*.
- The abundance of burrowing isopods (*Excirrolana linguifrons*) and the marine worm *Euzonus williamsi* appears to have been much less in 1988 than we collected in 1998. The abundance of other sand beach animals was comparable in 1988 and 1998.
- Dredged materials were still being discharged across the disposal site during the April sampling interval. All three sites had been affected by winter storm beach erosion. Additionally, the presence of hydrogen sulfide at the discharge transect influenced both occurrence and abundance of animals.
- In the May sampling period we noted a gradual increase in species occurrence and abundance. The severe winter storms that had caused significant erosion on the Samoa Peninsula beaches were no longer a dominant environmental factor.
- In June and July sampling, we encountered about the same number of species at the three sites, but the control site had the highest number of species (11) of the three. Many small *Euzonus williamsi* were collected and it was noted that several of the mole crabs (*Emerita analoga*) were bearing egg masses.
- By the August sampling period the three sites were approaching a level of faunal similarity approximating that found in the January pre-discharge sampling. The reappearance of mole crabs (*Emerita analoga*) in August samples at all three transects and its abundance at the discharge transect indicated that little residual biological effect of dredge spoil disposal could be detected at the discharge point.

**EXHIBIT NO. 9**

**APPLICATION NO.**

1-04-061 (HUMBOLDT BAY)

Exec. Summary - 1998 Dredge

Dredge Spoils Disposal Site

Monitoring Report