CALIFORNIA COASTAL COMMISSION
NORTH COAST DISTRICT OFFICE
710 E STREET • SUITE 200
EUREKA, CA 95501-1865
VOICE (707) 445-7833
FACSIMILE (707) 445-7877

MAILING ADDRESS:
P. O. BOX 4908
EUREKA, CA 95502-4908

RSM

F11a

Date Filed:	December 23, 2004
49th Day:	February 10, 2005
180th Day:	June 21, 2005
Staff:	Jim Baskin
Staff Report:	February 3, 2005
Hearing Date:	February 18, 2005
Commission Action:	

STAFF REPORT: PERMIT AMENDMENT

APPLICATION NO.: **1-99-077-A3**

APPLICANTS: **CITY OF EUREKA**

PROJECT LOCATION: Along the City of Eureka's Inner-channel Waterfront of Humboldt Bay, from ±360 ft. west of the foot of C Street to ±290 ft east of the foot of F Street, Eureka, California

DESCRIPTION OF PROJECT PREVIOUSLY APPROVED: Demolition of all existing dock structures and reconstruction of a 420-ft.-long commercial fishing wharf, a 1,190-ft.-long trestle public boardwalk, a 530-ft-long floating dock, and associated shoreline protective works.

DESCRIPTION OF AMENDMENT REQUEST: Modify permit granted for the construction of a public boardwalk and commercial fishing wharf facility to: (1) extend the interlocking sheetpile bulkhead 180 feet easterly along the entire landward side of the commercial fishing wharf and approximately 30 southerly along the western side of the "C" Street right-of-way; (2) backfill the approximately 10,950-square-foot wetland area behind the extended bulkhead; and (3) provide a combination of in-kind and out-of-kind intertidal mudflat, rocky, and

saltmarsh replacement wetlands at two off-site mitigations sites.

SUBSTANTIVE FILE DOCUMENTS:

1) City of Eureka Local Coastal Program;
2) City of Eureka General Plan EIR SCH #96072062;
3) Eureka Inner-Channel Dock and Boardwalk Revitalization Project Mitigated Negative Declaration SCH #99112064, certified December 21, 1999;
4) Eureka Inner-Channel Dock and Boardwalk Revitalization Project Marine Resources Mitigation Monitoring and Reporting Program (SHN Consulting Engineers, 10/99);
5) Eureka Inner-Channel Dock and Boardwalk Draft Planning Consideration Report (BERGER/ABAM, 10/99);
6) Geotechnical Investigation Inner-Channel Dock & Boardwalk Revitalization Projects (Harding Lawson Associates, 4/16/99); and
7) Eureka Inner-Channel Dock and Boardwalk Revitalization Project Revised Wetland Mitigation and Monitoring Plan (SHN Consulting Engineers, 12/04).

SUMMARY OF STAFF RECOMMENDATION:

The staff recommends that the Commission approve with conditions, the requested amendment to the coastal development permit originally granted for the construction of an approximately 1,610-ft.long dock, boardwalk, and commercial fishing wharf complex along approximately four blocks of the city's frontage on Humboldt Bay. In the project description for the original permit in 2000, and in two subsequent immaterial permit amendments (CDP No. 1-99-077, 1-99-077-A1, and 1-99-077-A2, City of Eureka, Applicant), the backside of the easterly 180-foot portion of the wharf was not proposed to be lined with sheet-piling and backfilled. Since the Commission's action on the original permit and the subsequent immaterial amendments, the City has approved a preliminary design for development of a commercial fishing terminal building for the adjoining landward site. In addition, the installation of sheetpile along the full length of the backside of the wharf and backfilling the bay margins behind the bulkhead is proposed as the most environmentally appropriate design for the foundation subgrade for the envisioned commercial fishing terminal as such contained and engineered fill would reduce further cumulative impacts to water quality and marine aquatic habitat associated with the leaching of contaminants within the friable materials at the bay edges of the project site into coastal waters. To mitigate for the loss of the roughly ¼-acre of wetlands behind the bulkhead that would be back-filled, the applicant is proposing to create a mixture of in-kind and out-of-kind replacement wetlands at two offsite locations. An equal area of mudflat wetlands would be replaced by the extrication of derelict pilings

from along the City's western bayfront. Saltmarsh and rocky intertidal wetlands would be replaced at a rate of approximately 1:1 by the creation of intertidal and supratidal saltmarsh at a mitigation site located along the City's northeastern bayshore.

Staff believes the amended project with the attachment of certain special conditions would be consistent with the policies of Chapter 3 of the Coastal Act. The revised project would conform to the Chapter 3 requirements that permitted new development be sited and designed to: (1) maintain, enhance, and where feasible, restore marine resources; (2) maintain and, where feasible, restore the biological productivity and the quality of coastal waters; and (3) limit the diking, filling, and dredging of wetlands to certain specified uses, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects.

Five of the six special conditions of the original permit approved by the Commission are reimposed verbatim to assure that the amended development remains consistent with the policies of the Coastal Act. One of the original six special conditions is reimposed with revisions to assure continued Coastal Act consistency. In addition staff is also recommending that eight new special conditions be attached to the permit as amended. Special Condition No. 7 would require the City to contractually agree to restrict the uses of the proposed fill site to commercial fishing facilities to assure consistency with the limitations within Coastal Act Section 30233(a) regarding permissible uses for which the filling of open coastal waters and wetlands may be authorized. Special Condition No. 8 requires the back-filled sheetpile bulkhead proposed under the amended development to be constructed in conformance with the recommendations of the approved geo-technical report prepared for the original project. Special Condition No. 9 requires that the applicant prepare and submit for the approval of the Executive Director a revised final wetlands mitigation and monitoring plan detailing additional qualifications for its restoration specialist, the source of the replacement wetland plants, revisions to the replanting schedule, and emphasizing specific reporting and corrective action provisions. Special Condition No. 10 requires the applicant to construct the back-filled sheetpile bulkhead and replacement saltmarsh wetlands consistent with proposed erosion and runoff control plans. Special Condition No. 11 requires the applicants prior to sale, transfer, or leasing the project site to private parties to record a deed restriction against the subject property noticing the prospective owners of the conditions attached to the subject permit. Special Condition No. 12 requires the applicant prior to issuance of the permit amendment to submit a written agreement to assume all risks, waive liability, and indemnify the Commission against all claims associated with development in a setting subject to geologic and flooding hazards. Special Condition No. 13 requires the applicant prior to issuance of the permit amendment to submit a copy of the permit issued by the Humboldt Bay Harbor, Recreation, and Conservation District once its has been secured for the replacement wetlands mitigation portions of the project. Special Condition No. 14 requires the applicant prior to issuance of the permit amendment to submit a copy of the permit or other form of authorization for the amended development issued by the U.S. Army Corps of Engineers, or indication that no such grant of authority is required.

As conditioned, staff has determined that the development with the proposed amendment would be consistent with the policies of the Coastal Act.

STAFF NOTES:

1. Procedural Note.

Section 13166 of the California Code of Regulations states that the Executive Director shall reject an amendment request if: (a) it lessens or avoids the intent of the approved permit; unless (b) the applicant presents newly discovered material information, which he or she could not, with reasonable diligence, have discovered and produced before the permit was granted.

On May 10, 2000, Coastal Permit No. 1-99-077 (City of Eureka – Waterfront Revitalization Program) was approved by the Commission with six special conditions attached to ensure coastal resource protection consistent with the policies of Chapter 3 of the Coastal Act. On August 13, 2001 and April 27, 2004, the Commission authorized two separate immaterial amendments to the original coastal development permit to authorize minor adjustments to the layout of the floating dock portions of the project and to shorten the length of the commercial fishing wharf by 60 feet to allow for the retention of a visitor-serving commercial recreational mooring facility, respectively.

The Executive Director has determined that the proposed amendment would not lessen or avoid the intent of the approved or conditionally approved permit and subsequent permit amendments. The original permit issued by the Commission authorized site development that was specifically conditioned to assure consistency with the provisions of the Coastal Act for protecting marine aquatic habitat areas, coastal water quality, and visual resources, and to minimize the exposure of life and property to geologic and flood hazards. Among the principal requirements of the special conditions attached to the original permit are provisions for finalized plans for replacement wetlands mitigation and erosion and stormwater runoff control, as the project involves the filling of wetlands and in-water construction. Although the amendment proposes an increase in the amount of wetlands fill and further marine construction activities, the project as amended would still be consistent with the Coastal Act's marine and water resource policies as the proposed project changes would also entail the creation of additional replacement wetlands. The development as amended would conform to the policies and standards of the Coastal Act with respect to marine and water resources protection. Similarly, the amendment would not result in any additional adverse impact on public access, as public access and recreational opportunities would continue to be protected and enhanced under the amended project.

Therefore, for the reasons discussed above, the Executive Director has determined that the proposed amendment would not lessen or avoid the intent of the approved permit and has accepted the amendment request for processing.

2. Commission Jurisdiction and Standard of Review.

The proposed project is located within the incorporated boundaries of the City of Eureka along Humboldt Bay, about a mile inland from the ocean, in Humboldt County. The City of Eureka has a certified LCP, however those portions of the project site at and below the Mean High Tide Line (+5.81$_{NAVD_{1988}}$) are within an area of the Commission's retained jurisdiction. Therefore, the standard of review that the Commission must apply to the project is the Coastal Act.

3. Scope.

This staff report addresses only the coastal resource issues affected by the proposed permit amendment, provides recommended special conditions to reduce and mitigate significant impacts to coastal resources and achieve consistency with the policies of the Coastal Act, and provides findings for conditional approval of the amended project. All other analysis, findings, and conditions related to the originally permitted project, except as specifically affected by the proposed permit amendment and addressed herein, remain as stated within the findings for the original development adopted in by the Commission on May 10, 2000, and attached as Exhibit No. 8.

I. MOTION, STAFF RECOMMENDATION, AND RESOLUTION:

The staff recommends that the Commission adopt the following resolution:

Motion:

I move that the Commission approve the proposed amendment to Coastal Development Permit No. 1-99-077-A3 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 amendment as conditioned and adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of the Commissioners present.

Resolution to Approve with Conditions:

The Commission hereby approves the proposed permit amendment and adopts the findings set forth below, subject to the conditions below, on the grounds that the development with the proposed amendment, 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 all feasible

mitigation measures and alternatives have been incorporated to substantially lessen any significant adverse impacts of the development on the environment.

II. STANDARD CONDITIONS: See attached.

III. SPECIAL CONDITIONS:

Note: Special Condition Nos. 1, 2, 4, 5, and 6 of the original permit are reimposed as conditions of the permit amendment without any changes and remain in full force and effect. Special Condition No. 3 of the original permit is modified and imposed as a condition of this permit amendment. Special Condition Nos. 7-14 are additional new conditions attached to the permit amendment.

Deleted wording within the modified special conditions is shown in ~~strikethrough~~ text, new condition language appears as **bold double-underlined** text. For comparison, the text of the original permit conditions are included in Exhibit No.8.

3. Construction Responsibilities and Debris Removal

The permittee shall comply with the following construction-related requirements:

A. No construction materials, debris, or waste shall be placed or stored where it may be subject to wave erosion and dispersion;

B. Any and all debris resulting from construction activities shall be removed from the bay immediately;

C. Sand from the beach, cobbles, or shoreline rocks shall not be used for construction material; ~~and~~

D. Staging and storage of construction machinery and storage of debris shall not take place on any adjacent coastal access support facilities (e.g., parking lots, bike paths, or walkways)~~.~~**;**

E. No debris, soil, silt, sand, bark, slash, sawdust, rubbish, cement or concrete, oil or petroleum products, or other organic or earthen material from any grading and construction activities shall be allowed to enter into or be placed where it may be washed by rainfall or runoff into bay waters;

F. Any fueling of construction equipment shall occur on the paved areas within the adjoining former boat yard structures on the site at a minimum of 100 feet landward from the Mean High High Water line of the bay; and

G. Fuels, lubricants, and solvents shall not be allowed to enter the waters of Humboldt Bay. Hazardous materials management equipment including oil containment booms and absorbent pads shall be available immediately on-hand at the project site, and a registered first-response, professional hazardous materials clean-up/remediation service shall be locally available on call. Any accidental spill shall be rapidly contained and cleaned up. All heavy equipment operating in or near the water's edge shall utilize vegetable-based oil as hydraulic fluid.

7. Limitation on Development and Use of Back-filled Area Behind Bulkhead Extension Authorized by Permit Amendment No. 1-99-077-A3 on APNs 001-011-14 and -15

A. Development and use of the 10,950-square-foot backfilled area behind the bulkhead extension authorized by Permit Amendment No. 1-99-077-A3 on APNs 001-011-14 and –15, as generally shown on Exhibit No. 3, shall solely be limited to commercial fishing facilities.

B. PRIOR TO ISSUANCE OF THIS COASTAL DEVELOPMENT PERMIT AMENDMENT NO. 1-99-077-A3, the applicant shall submit: (1) a written agreement by the City of Eureka, in a form and content acceptable to the Executive Director, providing that upon termination of the City's ownership of the property that is the subject of this coastal development permit, it shall include a provision in any subsequent lease or assignment of such property requiring the lessee or assignee to submit a written agreement to the Commission, for the review and approval of the Executive Director, incorporating all of the terms of subsection A of this condition; and (2) a written agreement by the City of Eureka, in a form and content acceptable to the Executive Director, incorporating all of the above terms of subsection A and subsection B of this condition.

8. Conformance of Design and Construction Plans for Amended Project to Geotechnical Report

A. All final design and construction plans for the installation and back-filling of the extended sheetpile bulkhead, including foundations, grading and drainage plans, shall be consistent with all recommendations contained in Section 6.0 of the Engineering Geologic Report titled Geotechnical Investigation Inner Channel Dock and Boardwalk Revitalization Projects, Eureka, California, prepared by Harding Lawson Associates and dated April 16, 1999. All final design and construction plans for the Eureka Slough Saltmarsh Mitigation Site , including grading and drainage plans, shall be consistent with all recommendations contained in Section 6.0 of the Engineering Geologic Report titled Geotechnical Investigation Inner Channel Dock and Boardwalk Revitalization Projects, Eureka, California, prepared by Harding Lawson Associates and dated April 16, 1999. PRIOR

TO THE ISSUANCE OF COASTAL DEVELOPMENT PERMIT AMENDMENT NO. 1-99-077-A3, the applicant shall submit, for the Executive Director's review and approval, evidence that an appropriate licensed professional has reviewed and approved all final design and construction plans and certified that each of those final plans is consistent with all of the recommendations specified in the above-referenced geologic evaluation approved by the California Coastal Commission for the project site.

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

9. Final Revised Wetlands Mitigation and Monitoring Program

A. PRIOR TO ISSUANCE OF THE COASTAL DEVELOMENT PERMIT AMENDMENT NO. 1-99-077-A3, the applicant shall submit, for review and written approval of the Executive Director, a final revised wetland mitigation and monitoring plan that substantially conforms with the plan dated December, 2004 submitted as part of the permit amendment application and "Amended Wetland Mitigation, Eureka Inner Channel Dock and Boardwalk Revitalization Project, Eureka, California, Revision 1," prepared by SHN Consulting Engineers and Geologists, Inc., dated December 2004, as modified by a letter dated February 1, 2005, from SHN Consulting Engineers and Geologists, Inc. to the Commission, attached to this staff report as Exhibit Nos. 4 and 5, except that the plan shall be revised to be made consistent with the following requirements:

(1) The qualifications for the "restoration specialist" shall be enumerated;

(2) The source of the saltmarsh plants to be installed at the Eureka Slough mitigation site shall be from local genetic stocks procured from a nursery with experience in intertidal wetland restoration plant propagation; and

(3) The timeframe between the end of the grading activities and the installation of the saltmarsh plants shall be no longer than four (4) weeks, unless the transplanting success of particular species require planting at other times during the growing season.

Except as revised to include the preceding provisions, the revised final wetland mitigation and monitoring plan shall conform to the above referenced wetland plan dated December, 2004, including, but not limited to the provisions of the plan that: (a) Quarterly monitoring of site conditions by

the restoration specialist commencing two months after the completion of all restoration plantings for Monitoring Years 1 and 2; (b) Semi-Annual monitoring of site conditions by the restoration specialist commencing two months after the completion of all restoration plantings for Monitoring Years 3 through 5; (c) Submittal to the Executive Director of an annual monitoring report for Monitoring Year 1 no later than by September 30, and by December 30 annually thereafter. Recommendations for any corrective action necessary to ensure the continued success of the mitigation plan will be included in the report; and (d) In the event that the monitoring program identifies any conditions that significantly affect the performance standards, or if the performance standards indicated above are not achieved after five (5) years, a corrective action plan will be developed by the City of Eureka Engineering Department through consultation with the Coastal Commission, the California Department of Fish and Game, and the U.S. Army Corps of Engineers. Recommendations for specific corrective actions will be reviewed and evaluated in conjunction with field observation data. The mitigation site will be inspected with consulted agency personnel to verify the suitability of the recommended corrective action or make modifications. A corrective action plan will be submitted to the resource agencies prior to completion of any action. The City of Eureka Engineering Department shall be fully responsible for any failure to meet the performance standards of the mitigation plan. If it is determined that the habitat mitigation plan will not likely result in attaining the performance standards, then the potential need for identification of other sites will be discussed. Any details pertaining to the selection of an alternative site will be discussed and presented to the resource agencies as required. The City of Eureka Public Engineering shall be responsible for developing an alternative site mitigation plan and obtaining approval from the resource agencies.

B. The permittees shall undertake development in accordance with the revised final wetland mitigation and monitoring plans. Any proposed changes to the approved plan, ,including any changes proposed under a corrective action plan or alternative site mitigation plan developed in the event that the monitoring program indicates the performance standards have not been achieved, shall be reported to the Executive Director. No changes to the approved plans shall occur without a Coastal Commission approved amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

10. Erosion and Runoff Control Plans for Permit Amendment No. 1-99-077-A3

The permittee shall undertake the back-filled bulkhead installation and wetlands mitigation development authorized by Permit Amendment No. 1-99-077-A3 in accordance with the proposed final erosion and runoff control plans, as detailed in the documents entitled " Erosion and Run-off Control Plan for Construction of the Inner Channel Dock and Boardwalk Revitalization Project," prepared by the City

of Eureka Public Works Department - Engineering Division, date-stamped as received by the Commission on December 26, 2000, and "Erosion and Runoff Control Plan, Eureka Slough Salt Marsh Mitigation Site, APN 002-231-012," prepared by SHN Consulting Engineers and Geologists, Inc., dated December 2004, respectively, attached to this staff report as Exhibit No. 6. Any proposed changes to the approved final plans shall be reported to the Executive Director. No changes to the approved final plans shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

11. Deed Restriction

A. PRIOR TO ANY CONVEYANCE OF ANY PORTION OF THE PUBLIC PROPERTY THAT IS THE SUBJECT OF COASTAL DEVELOPMENT PERMIT AMENDMENT NO. 1-99-077-A3, the applicant shall submit to the Executive Director for review and approval documentation demonstrating that the City of Eureka has executed and recorded against the parcel(s) governed by this permit a deed restriction, in a form and content acceptable to the Executive Director: (1) indicating that, pursuant to this permit, the California Coastal Commission has authorized development on the subject property, subject to terms and conditions that restrict the use and enjoyment of that property; and (2) imposing the Special Conditions of this permit as covenants, conditions and restrictions on the use and enjoyment of the Property. The deed restriction shall include a legal description of the entire parcel or parcels governed by this permit. The deed restriction shall also indicate that, in the event of an extinguishment or termination of the deed restriction for any reason, the terms and conditions of this permit shall continue to restrict the use and enjoyment of the subject property so long as either this permit or the development it authorizes, or any part, modification, or amendment thereof, remains in existence on or with respect to the subject property.

B. PRIOR TO ISSUANCE OF COASTAL DEVELOPMENT PERMIT AMENDMENT NO. 1-99-077-A3, the applicant shall submit a written agreement by the City of Eureka, in a form and content acceptable to the Executive Director, incorporating all of the above terms of this condition.

12. Assumption of Risk, Waiver of Liability and Indemnity Agreement

A. By acceptance of this permit, the applicant, on behalf of: (1) itself; (2) its successors and assigns and (3) any other holder of the possessory interest in the development authorized by this permit, acknowledges and agrees: (i) that the site may be subject to hazards from waves, storm waves, flooding and erosion; (ii) to assume the risks to the applicant and the property that is the subject of this permit of injury and damage from such hazards in connection with this permitted development; (iii) to unconditionally waive any claim of

damage or liability against the Commission, its officers, agents, and employees for injury or damage from such hazards; (iv) to indemnify and hold harmless the Commission, its officers, agents, and employees with respect to the Commission's approval of the project against any and all liability, claims, demands, damages, costs (including costs and fees incurred in defense of such claims), expenses, and amounts paid in settlement arising from any injury or damage due to such hazards; and (v) to agree to include a provision in any subsequent sublease or assignment of the development authorized by this permit requiring the sublessee or assignee to submit a written agreement to the Commission, for the review and approval of the Executive Director, incorporating all of the foregoing restrictions identified in (i) through (v).

B. PRIOR TO ISSUANCE OF COASTAL DEVELOPMENT PERMIT AMENDMENT NO. 1-99-077-A3, the applicant shall submit a written agreement by the City of Eureka, in a form and content acceptable to the Executive Director, incorporating all of the above terms of this condition.

13. Humboldt Bay Harbor, Recreation, and Conservation District Approval

PRIOR TO ISSUANCE OF COASTAL DEVELOPMENT PERMIT AMENDMENT NO. 1-99-077-A3, applicant shall provide to the Executive Director a copy of a permit issued by the Humboldt Bay Harbor, Recreation, and Conservation District (HBHRCD) or letter of permission, or evidence that no permit or permission is required. The applicant shall inform the Executive Director of any changes to the project required by the HBHCRD. 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 legally required.

14. U.S. Army Corps of Engineers Approval

PRIOR TO COMMENCEMENT OF CONSTRUCTION AUTHORIZED BY PERMIT AMENDMENT NO. 1-99-077-A3, the permittee shall provide to the Executive Director a copy of a permit or letter of permission issued by the U.S. Army Corps of Engineers, or evidence that no permit or permission is required. The applicant shall inform the Executive Director of any changes to the project required by the U.S. Army Corps of Engineers. 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.

IV. FINDINGS AND DECLARATIONS:

The Commission hereby finds and declares as follows:

A. Scope of Commission's Action on Permit Amendment No. 1-99-077-A3

This staff report addresses only the coastal resource issues affected by the proposed permit amendment, provides recommended special conditions to reduce and mitigate significant impacts to coastal resources and achieve consistency with the policies of the Coastal Act, and provides findings for conditional approval of the amended project. All other analysis, findings, and conditions related to the originally permitted project, except as specifically affected by the proposed permit amendment and addressed herein, remain as stated within the findings for the original development adopted in by the Commission on May 10, 2000, and attached as Exhibit No. 8.

B. Project and Site Description.

1. Project Setting

The site for the development approved under the original permit entailed a 1,606-lineal-foot expanse of the City of Eureka's northern waterfront on Humboldt Bay. Within this area, construction of a roughly ¼-mile-long public boardwalk, a 420-foot-long commercial fishing wharf, and related shoreline protective structures were authorized (see Exhibit Nos. 8 and 9). To date, the boardwalk and revetment between "C" Street and east of "F" Street, and the "F" Street plaza portions of the project have been completed.

The supplemental development that is the subject of this permit amendment request comprises three separate project sites: (1) The bayward side of the planned Fisherman's Terminal Building site, located on Humboldt Bay extending westerly from the bayfront terminus of "C" Street in the Waterfront District of the City of Eureka's downtown Core Area; (2) the "Eureka Slough" wetlands mitigation site, located on the City's northeastern bayfront on an undeveloped parcel at the mouth of Eureka Slough; and (3) the "Truesdale Avenue" wetlands mitigation site, located within the intertidal reaches of Humboldt on the City's western bayfront.

Fisherman's Building Project Site

The project site is located on the eastern shore of Humboldt Bay within the City of Eureka, between "C" Street and approximately 180 feet west of "C" Street, Assessor's Parcel Nos. (APNs) 001-011-14 and -15 (see Exhibit Nos. 2 and 3). The site extends landward approximately 100 feet from the bulkhead line. The project site includes the deteriorated wood pier-supported concrete foundation where the Lazio Building, a fish processing plant and seafood restaurant, once stood. The foundation platform occupies the eastern half of the site and has collapsed in several areas, exposing rocky fill and debris below. Scattered patches of salt marsh vegetation have developed in areas beneath the foundation that have been exposed to direct sunlight. The western portion of the site

supports a mosaic of intertidal mudflat, rocky fill material, concrete rubble, relic pier pilings, and salt marsh vegetation. A dilapidated wooden dock structure, consisting of wooden pilings and decking material occurs off site along the northern Project boundary, immediately seaward of the bulkhead line, in the area where the Fisherman's Dock component of the original project is yet to be constructed.

Eureka Slough Mitigation Site

The salt marsh mitigation site is located in the northern part of the City of Eureka, on the southern shore of the Arcata Bay lobe of Humboldt Bay near the mouth of Eureka Slough, APN 002-231-12 (see Exhibit Nos. 2 and 4). The Eureka Slough property occupies approximately ten acres, and is bound by Humboldt Bay to the north and east, and by undeveloped private property to the south and west. The majority of the property supports relatively undisturbed coastal wetlands, including the open water channel of Eureka Slough, intertidal mudflat, and salt marsh habitat. Site topography within the wetlands ranges from approximately +1.0 ft. Mean Lower Low Water (MLLW) in the intertidal mudflat zone to approximately +8.0 ft. MLLW at the upper extent of salt marsh habitat.

Based on soil profiles and historic information, approximately one quarter of the native tideland underlying the site appears to have been filled by dredge spoils in several phases since the 1950s. An earthen dike was constructed at the current wetland edge and backfilled with dredge spoils to create a broad upland plateau in the southern and western margins of the property.

The entire mitigation area consists of dredge spoil fill placed over historic tidelands, immediately adjacent to existing coastal salt marsh and intertidal habitats on the margin of Humboldt Bay.

Vegetation on the dike slope and fill plateau is dominated by upland shrub and herbaceous species. The dike slope is dominated by thick shrub and herbaceous vegetation, consisting of coyote brush (*Baccharis pilularis*), Himalayan blackberry (*Rubus discolor*), Pacific bramble (*Rubus ursinus*), pampas grass (*Cortaderia jubata*), and fennel (*Foeniculum vulgare*). The fill plateau appears to be regularly brushed, and supports an assemblage of ruderal herbaceous species. No sensitive plant species were observed, nor are expected to occur, within the mitigation area.

The adjacent salt marsh, generally north and east of the mitigation area, supports herbaceous species typical of Humboldt Bay. Dense-flowered cordgrass (*Spartina densiflora*), an invasive non-native, is the dominant species present in the on-site coastal salt marsh. However, a diverse assemblage of native salt marsh species is also present, including sea side arrow grass (*Triglochin maritima*), fat-hen saltweed (*Atriplex patula*), coastal gumweed (*Grindelia stricta*), pickleweed (*Salicornia virginica*), and saltgrass (*Distichlis spicata*). The intertidal mudflat, extending north from the salt marsh into the bay waters, is unvegetated and lacks eelgrass (*Zostera marina*) beds.

Truesdale Avenue Mitigation Site

The intertidal mudflat mitigation site is located in the Bucksport neighborhood area of southwestern Eureka, near the foot of Truesdale Avenue on Humboldt Bay, APNs 007-061-15 and -16, 007-091-02, -05, and -06 (see Exhibit Nos. 2 and 4). The site lies immediately west of a public parking lot, and occurs within the intertidal zone of Humboldt Bay. Surrounding land uses include industrial development to the north, mixed residential and commercial to the east, and undeveloped natural resource areas to the south, including the Elk River Wildlife Sanctuary.

The landward (eastern) portion of the site consists of sandy shore and scattered concrete rubble. The remainder of the site supports intertidal mudflat, interspersed with degraded creosote-treated wooden pier pilings from an historic dock structure. The mitigation area is subject to frequent tidal inundation. Encrusting intertidal organisms are established in moderate abundance on the concrete footings and pilings embedded within the unvegetated mudflat. Soils beneath the concrete footings and pilings are expected to be of identical quality to that of the adjacent mudflat. No eelgrass beds occur within the Truesdale Avenue mitigation area.

2. Description of Originally Approved Project

The original permit application conditionally approved by the Commission on May 10, 2000 consisted of construction of a roughly ¼-mile-long public boardwalk, a 420-foot-long commercial fishing wharf, and related shoreline protective structures. The project can best be described in units corresponding to the street blocks it adjoins from west to east, and/or other offsite locations (mitigation sites). Table 1, below, summarizes the various original project components by block face. Portions of the project that are affected by the requested permit amendment are highlighted in ***bold underlined italics***.

Table 1: Summary of Original Project Components CDP No. 1-99-077

Blockface	Project Element
West of "C" Street	• ***Demolish a deteriorated 380-foot-long x 20-foot-wide wooden dock structure fronting the site of the former Lazio Fish Company processing plant, consisting of approximately 150 creosote-treated wooden pilings and deteriorated decking over the easterly 290 feet.*** Remove the existing public floating dock, ramp, and bulkhead wall at the foot of "C" Street. • Construct a 420-foot-long[1] x 40-foot-wide (16,800 square-feet) concrete marginal wharf berth commercial fishing dock ("Fisherman's Terminal Dock") from ±360 feet west of the west line of "C" Street to the east line of "C" Street, equipped with three jib cranes with electric winches (two 2-ton, one 5-ton capacity), bollards on 60-foot centers at the pile caps, and a fender system of pre-cast concrete piling with ultra-high molecular weight (UHMW) plastic facing

Blockface	Project Element
	spaced at 10-foot centers, and overhead lighting. • ***Construct approximately 380 lineal feet of interlocking sheetpile bulkhead wall per ASTM A-328 standards, at the landward edge of the western half of the Fisherman's Terminal Dock, anchored by tie-rods and "dead man" anchors, including approximately 3,456 cubic yards of engineered backfill and pavement.***
"C" St. to "D" St.	• Remove the existing Humboldt State University Rowing Crew private floating dock at the foot of "D" Street. • Demolish approximately eight single- and double-spar dolphins, comprising approximately 20 creosote-treated wooden pilings. • Install approximately 64 lineal feet of cutoff wall at the foot of "C" Street behind approximately 160 cubic-yards (1,450 square-feet) of rock slope protection. • Grade approximately 200 cubic yards of the existing top of bank and install ±270 lineal feet (3,950 square-feet) of rock slope protection from the east line of "C" Street to "D" Street. • Construct a concrete public boardwalk extending over Humboldt Bay, generally ranging in width from 16 to 24 feet, with a 60-foot-width at the foot of "D" Street, with the landward edge at the top of bank, 7 to 24 feet from the Bulkhead Line; install ZED® Z40 overhead lighting standards, and guardrails; construct an interpretive kiosk, a sailing mast public art structure, and extend water and sewer service lines at the "C" Street Plaza. • Install a new tidegate on an existing 54-inch diameter reinforced concrete pipe within the "C" Street right-of-way.
"D" St. to "F" St.	• Demolish a deteriorated 580-foot-long x 20-foot-wide wooden dock structure fronting the former Fisherman's Building and the Hum-Boats Sail, Canoe, and Kayak Center rental yard, consisting of approximately 320 creosote-treated wooden pilings and deteriorated decking. Remove the existing private floating dock and ramp fronting the Hum-Boats rental yard. Remove the existing public floating dock, ramp and the bulkhead wall at the foot of "F" Street. • Continue construction of a concrete public boardwalk extending over Humboldt Bay, generally ranging from 16 to 24 feet in width, with lighting and guardrails. • Construct an 8-ft.-wide x ±530-foot long (5,491 square-feet) floating dock adjacent to the proposed boardwalk, extending from the east line of "D" Street to approximately 50 feet west of the west line of "F" Street.[2]
Foot of "F" St.	• Install approximately 138 lineal feet of cutoff wall at the foot

Blockface	Project Element
	of "F" Street behind approximately 124 cubic yards (1,120 square-feet) of rock slope protection. • Construct the 170-foot wide "F" Street Plaza," from approximately 50 feet west of the west line of "F" Street to approximately 62 feet east of the east line of "F" Street, extending from approximately 50 feet landward of the Bulkhead Line to approximately the Pierhead Line; install lighting, guardrails, and an interpretive kiosk; extend water & and sewer service lines. • Construct a new 18-inch diameter stormdrain and tidegate in the "F" Street right of way.
East of "F" Street	• Demolish a deteriorated 50-foot-long x 30-foot-wide deteriorated wooden pier structure and approximately fifteen single- and double-spar dolphins, consisting of approximately 60 creosote-treated wooden pilings and deteriorated decking over the southerly 40 feet of the pier, fronting the proposed Humboldt Harbor Inn (Sicard) development. • Install approximately 101 cubic yards (910 square-feet) of rock slope protection extending from the east line of "F" Street to approximately 190 feet east of the east line of "F" Street. • Continue construction of a concrete public boardwalk extending over Humboldt Bay, generally ranging from 16 to 20 feet in width, extending from approximately 62 feet east of the east line of "F" Street to approximately 290 feet east of the east line of "F" Street.
Various Locations along Boardwalk & within Plazas	• Pathway lighting, informational kiosks and interpretative signage, benches, trash receptacles, planters, and drinking fountains.
Eureka Small Boat Basin	• Designate 20,200 ft^2 of rock slope protection as a mitigation site for an equivalent area (1:1 exchange ratio) of rocky intertidal habitat filled/shaded by the project.
City of Eureka Parcel 4	• Create 4,200 ft^2 of intertidal mudflat and 3,000 ft^2 of saltmarsh habitat to replace approximately 5,500 ft^2 of intertidal mudflat and 730 ft^2 of saltmarsh habitat areas shaded and/or filled by the project, at a combination of 1:1 in-kind and out-of-kind replacement habitat areas.

Blockface	Project Element
Notes:	
1.	This project component was later shortened by sixty feet, corresponding to the portion of the dock at the terminus of "C" Street, to provide for the retention of the mooring dock for the M/S Madeket, a tour boat commercial recreational use, under Permit Amendment No. 1-99-077-A2.
2.	This project component was subsequently revised to re-configure the location and orientation of the floating dock and gangway, respectively, under Permit Amendment No. 1-99-077-A1.

3. Description of Permit Amendment

Extension of Backfilled Sheetpile Bulkhead: The applicants now propose to amend the portions of the "West of 'C' Street" component of the original project highlighted above. The amendment would expand the length of authorized shoreline protective structures easterly to extend the entire bayfront length of the commercial fishing wharf corresponding to the planned site for the Fishermen's Terminal building. In preparation for this work, all derelict decking and piles would first be demolished and removed from the approximately 16,740-square-foot wharfside building site that formerly supported the Lazio Fish Company building which was destroyed in a fire a number of years ago. Approximately 180 lineal-feet of interlocking sheetpile bulkhead would then be installed along the common property line between APNs 001-011-14 and –15, continuing in an easterly direction from the sheetpile bulkhead authorized and constructed under the original permit. An additional approximately 30 lineal feet of bulkhead would also be installed on the eastern side of APN 001-011-14, along the western side of the "C" Street right-of-way. Once the bulkhead materials have been installed, approximately 2,500 cubic yards of engineered fill materials would be placed within the 10,950-square-foot area behind the bulkhead that is currently occupied by the pile and pier foundation remnants of the former Lazio Fish Company building and dock, which had been built over the site. The area to be filled consists of a mosaic of mudflat, rocky intertidal, and scattered saltmarsh wetlands (see Exhibit No. 3). The backfill is intended to establish a part of the building site for the future development of the City's Fisherman's Terminal commercial fishing processing facility and fish market retail outlet (see Exhibit No. 10).

Replacement Wetlands Mitigation: To mitigate for the 10,950 square-feet of bay margin wetlands that would be supplanted by installation of the bulkhead and back-fill, the applicants propose to develop 15,150 square-feet of a combination of in-kind and out-of-kind replacement wetlands at two mitigation sites on Humboldt Bay near the mouth of the Eureka Slough and in the Bucksport area, both within the municipal boundary of the City of Eureka (see Exhibit No. 2, 4, and 5). The proposed mitigation replacement wetlands would be provided at the respective replacement ratios summarized in Table 2 as follows:

Table 2: Summary of Project Wetland Impacts and Proposed Replacement Wetlands Mitigation

Habitat Type	Project Wetlands Impacts (Square feet)	Proposed Replacement Mitigation (Square feet)	Mitigation Ration
Intertidal Mudflat	1,000	In kind: 1,000	1:1
Rocky Intertidal	5,750	In kind: 3,348[1]	1:1
		Out of kind: 2,402[1]	1:1
Saltmarsh	4,200	In kind: 8,400	2:1
Totals:	**10,950**	**15,150**	---

Notes:

1 Impacts to rocky intertidal habitat in the original project plan were offset by replacing the existing habitat with the hard intertidal surfaces of the bulkhead and boardwalk structures. The Commission required 1:1 mitigation for the loss of rocky intertidal habitat. The original project provided a total of 22,468 square feet (20,188 sq. ft. from concrete pilings + 2,280 sq. ft. from bulkhead sheet pile) of mitigation for 20,200 sq. ft. of impacted rocky intertidal habitat, or 2,268 sq. ft. of excess mitigation. The 180 lineal-feet of proposed additional bulkhead surface would provide 1,080 square-feet of substrate surface area for encrusting organisms within the site's roughly six-foot tidal range. The 2,402 square-foot balance of rocky intertidal habitat to gain a 1:1 mitigation ratio would be provided through the development of an equivalent replacement area of out-of-kind saltmarsh habitat at the Eureka Slough site.

Eureka Slough Mitigation Site

Replacement mitigation for the patches of salt marsh and for a portion of the rocky intertidal wetlands that would be diked and filled by the proposed project amendment would be provided at the Eureka Slough mitigation site. The proposed salt marsh mitigation area occupies approximately 12,000 square feet in the central portion of the site, and extends from the toe of the fill slope landward to the parcel's south property line.

Approximately 7,500 cubic yards of fill, covering an approximately 24,000-square-foot area would be excavated and removed from the salt marsh mitigation site. Approximately 12,000 square-feet of the mitigation area will be excavated to lower the ground surface to the elevation of the adjacent salt marsh habitat, between approximately +6 ft. to +8 ft. MLLW. The excavation would expose underlying native soils beneath the fill and provide a range of tidal exposure to insure a frequent, periodic influence of saltwater hydrology. Following site excavation, the saltmarsh mitigation area would be ripped to loosen surface soils and create suitable conditions for the installation of plant materials. Once the proper elevation is established within the salt marsh mitigation area and tidal-influenced hydrology is restored, intrusion of salt marsh vegetation from the adjacent areas is expected to occur. To accelerate habitat development, the mitigation site would be planted with native salt marsh species

An earthen slope would be constructed at a proposed 2H:1V gradient between the salt marsh elevation and the existing fill plain elevation, and seeded with a mix of native upland and wetland species. The slope between the salt marsh and the upland fill plain

would also be seeded with native species adapted to survive in transitional zones, or "ecotones," between wetland and upland areas. The landscape contractor would be responsible for the propagation and installation of plants at the mitigation site, as directed by the restoration specialist. Table 3, below, summarizes the restoration plantings that would be undertaken at the various intertidal and supratidal elevations within the mitigation site.

Table 3: Saltmarsh Planting Plan for Eureka Slough Mitigation Site

Scientific Name	Common Name	Percent Plant Palette
LOWER SALT MARSH (6.25 ft. to 7.25 feet MLLW)		
Distichlis spicata	salt grass	30
Salicornia virginica	pickleweed	25
Scirpus martimus	alkali bulrush	25
Jaumea carnosa	marsh jaumea	20
HIGH SALT MARSH (7.25 ft. to 8.25 feet MLLW)[1]		
Distichlis spicata	salt grass	20
Deschampsia cespitosa var. cespitosa	tufted hair grass	20
Salicornia virginica	pickleweed	15
Grindelia stricta var. stricta	gum weed	15
Limonium californicum	sea lavender	15
Scirpus martimus	alkali bulrush	15
WETLAND/UPLAND ECOTONE (> 8.25 feet MLLW)		
Seed Mixture		
Deschampsia cespitosa	tufted hair grass	TBA
Hordeum brachyantherum	meadow barley	TBA
Bromus carinatus	California brome	TBA
Scirpus microcarpus	small fruited bulrush	TBA
Cyperus eragrostis	nutsedge	TBA
Juncus spp.	rushes	TBA
Container Plantings[2]		
Myrica californica	California myrtle	TBA
Pinus contorta	beach pine	TBA
Lonicera involucrata	twin berry	TBA
Deschampsia cespitosa	tufted hair grass	TBA
Baccharis pilularis	coyote bush	TBA
Salix spp.	Sitka or Hooker's willow	TBA

Notes:

1. Additional native salt marsh species that occur in the vicinity of the mitigation area, such as fat hen (*Atriplex patula*) and common arrowgrass (*Triglochin maritima*), readily establish from natural seed sources and are not included in the planting plan.
2. Containerized plantings may include any combination of the listed species, at the discretion of the restoration specialist.

Heavy equipment would access the site from the existing dirt roads south of the mitigation area. Work would progress incrementally from the eastern edge of the salt marsh mitigation area to the west. Excavated fill material would be loaded by an excavator into dump trucks and temporarily stored on site within a fenced 10,000-square-foot area on the western portion of the property, to later be disposed properly off site at an approved location. The excavated material would consist of bay muds and sands from historic dredge spoils. An equipment staging area would be established in the western portion of the site, on the fill plain within disturbed habitat areas adjacent to the proposed materials storage area. All construction equipment would be restricted to the staging area when not required for restoration activities, and would be placed above an impervious ground liner when stored or serviced. In addition, the handling and dispensing of petroleum products for equipment operation would be confined to the staging area. All construction, material storage, and equipment operation would be conducted pursuant to a detailed erosion and stormwater runoff control plan (see Exhibit No. 6).

A qualified archaeological monitor would also be present on site during project grading. If sub-surface cultural artifacts are encountered, the archaeological monitor would have the authority to divert construction activities until such time as the resource can be evaluated.

After the site is graded, staff from the relevant permitting agencies (i.e., Coastal Commission, California Department of Fish and Game, U.S. Corps of Engineers) would be invited on site to approve the grading elevations. If necessary for mitigation success, the Project applicant would comply with requests for additional grading by the permitting agencies.

Truesdale Avenue Mitigation Site

Restoration activities within the mudflat mitigation area would consist of the removal of dock pilings and other unnatural debris from the mitigation area. The removal of these materials and subsequent tidal action is expected to create at least 1000 square-feet of mudflat habitat. Heavy equipment would access the site from Truesdale Avenue. All work in the mudflat mitigation area would be completed during low tide to avoid adverse impacts to water quality in Humboldt Bay. Where possible, dock pilings would be removed completely from the mudflat. However, pilings in poor condition may break off during extraction. These piles would be cut at a point at least one (1) foot below the mudflat surface and removed. Excavated debris would be temporarily stored in a confined upland area on site, and later hauled off site and disposed of properly at an approved location.

The staging area for equipment would be established in the large parking lot near the foot of Truesdale Avenue. All construction equipment would be restricted to the staging area when not required for restoration activities, and would be placed above an impervious ground liner when stored or serviced. In addition, the handling and dispensing of petroleum products for equipment operation would be confined to the staging area.

A qualified archaeological monitor would also be present on site during project activities. If sub-surface cultural artifacts are encountered, the archaeological monitor would have the authority to divert construction activities until such time as the resource can be evaluated.

After restoration grading is complete, staff from the relevant permitting agencies (i.e., Coastal Commission, California Department of Fish and Game, U.S. Corps of Engineers) would be invited on site to approve final site conditions. If necessary for mitigation success, the project applicant would comply with requests for additional restoration measures by the permitting agencies.

With respect to habitat restoration planting, intertidal mudflat is an unvegetated habitat type. It is expected that tidal action in the mudflat mitigation area would deposit bay mud into the excavated areas, restoring suitable, uniform habitat for benthic invertebrates and other mudflat organisms.

Mitigation Plan Logistics

The proposed mitigation program would be initiated within 12 months of the start of construction on the Eureka Inner Channel Dock and Boardwalk Revitalization Project. Prior to implementation, the City of Eureka Engineering Department would retain the services of qualified installation and landscape contractors. A qualified restoration specialist would be selected and given the responsibility of supervising and implementing the mitigation plan. The permitting agencies would be notified at least one month before the work is to begin and given the name and contact information for the party responsible for supervising and documenting implementation of the mitigation plan. The notification would also identify the proposed work dates and daily hourly work schedule as verification that work would not be completed while the mitigation areas are covered by tidal water.

Grading of the mitigation site would be conducted in the fall. Revegetation of the ecotone portion of the mitigation area would occur immediately after site grading. The timing of planting would be synchronized with the on-set of winter rains. Prior to or concurrent with site grading in the fall, the landscape contract would also collect seed from local sources and begin propagation of salt marsh plants in the nursery. Planting of the nursery-grown salt marsh species would occur in late spring (e.g., April or May) of the following year.

Following implementation of the mitigation plan, a report would be prepared summarizing all work completed. The report would include the following:

- The name of the contractor(s) who completed the work;
- The name of the party responsible for supervising the work;
- The work dates and time within which the work was completed;
- A site plan illustrating the limits of work in each of the mitigation areas;
- As-built topographic plans of the mitigation areas; and
- Pre- and post-construction photographs of the mitigation area.

The report would be submitted to the City of Eureka Engineering Department, which would then forward the report to the permitting agencies. The report would be submitted within 30 days of completion of the mitigation plan (grading and planting phases). In the event that any unusual circumstances occur that would delay the completion of the mitigation plan once it has be initiated, the Commission, CDFG, and Corps would be notified.

On-going Maintenance

The applicant's proposed maintenance program is intended to ensure the successful establishment and persistence of habitat within the salt marsh mitigation area. The mudflat mitigation area is not expected to require any additional maintenance, once restoration activities are completed. Maintenance activities within the salt marsh mitigation area would be conducted by the landscape contractor, as directed by the restoration specialist. The restoration specialist is responsible for identifying area requiring remedial measure and for implementation of such measures. The restoration specialist would coordinate with the applicant and the permitting agencies regarding proposed measures. Maintenance personnel would be fully informed of the habitat restoration program so that they understand the goals of the effort and the maintenance requirements.

Plants would be replaced at the direction of the restoration specialist, if necessary to meet mitigation program performance standards. Weed eradication would be conducted as necessary to minimize competition that could prevent the establishment of native species within the mitigation area. Cordgrass (*Spartina densiflora*) is a particularly aggressive non-native plant that is expected to colonize the salt marsh mitigation area. The restoration specialist would determine the need for weeding and would contact the maintenance contractor for any required work. Maintenance personnel would be trained to distinguish weed species from desirable native vegetation. Weeds would be removed by hand or other manual means. The use of herbicide for weed control would be limited to extraordinary circumstances as determined by the restoration specialist, and subject to specific authorization by the permitting agencies.

The entire salt marsh mitigation area would be weeded in the spring of the first year, prior to installation of nursery-grown plants. The restoration specialist would contact the landscape contractor for any additional required maintenance work during the five-year monitoring period. Maintenance would be conducted as necessary to meet final performance standards, under the direction of the restoration specialist. It is anticipated that required maintenance would be most intense in the first two years of the mitigation program. As native habitat develops within the mitigation area, the need for maintenance activities (for example, weed control) should decrease.

Mitigation Monitoring

The monitoring program is proposed to begin with the construction process and continue for five years. The restoration specialist would perform daily monitoring during the site excavation and plant installation phases. Following completion of work in the mitigation areas, a five-year mitigation and monitoring reporting program would be initiated. The monitoring and reporting program would consist of four field visits the first two years of the mitigation program and twice per year thereafter. Success of the mitigation program has been defined by the applicant as the restoration of functional salt marsh and intertidal habitats of equal or greater area than those impacted by the Inner Channel Dock and Boardwalk Revitalization Project Amendment. Specific performance standards for the mitigation program include:

- Establishment of at least 10,800 square-feet of saltmarsh habitat.
- Establishment of at least 1,000 square-feet of intertidal mudflat habitat.

- A five-year goal that the restored saltmarsh habitat should have at least 75 percent of the native vegetation cover, density, and diversity of that within an adjacent reference site of existing salt marsh habitat.[1]
- The approximately +6 ft. to +8 ft. MLLW tidal range of the saltmarsh mitigation area would remain within the target elevation for the duration of the 5-year monitoring period.

To monitor achievement of these goals, qualitative (visual assessment) and quantitative (transect data collection) sampling would be performed by a qualified biologist. The biological monitor would assess general characteristics of cover, soil and hydrologic conditions, and general use of the restoration areas by wildlife. In the salt marsh mitigation area, transect sampling data would be collected once per year, in the third quarter (June to August) monitoring event, to document compliance with the performance standards. Results of all field visits would be documented and maintained on file at the City of Eureka. The field notes would be used to make formal maintenance requests and for the preparation of annual reports, which would evaluate the success of the mitigation plan.

A report summarizing the status of the restoration effort would be completed within three months of completing the implementation phase of the plan (i.e., completion of As-Built Drawings), and by December 30 annually thereafter. The first annual monitoring event would occur in the third quarter, at least six months following installation. Annual reports would be submitted to the permitting agencies. Recommendations for any corrective action necessary to ensure the continued success of the mitigation plan would be included in the report.

In the event that the monitoring program identifies any conditions that significantly affect the performance standards, or if the performance standards indicated above are not achieved after five years, a corrective action plan would be developed by the City of Eureka Engineering Department through consultation with the permitting agencies. Recommendations for specific corrective actions would be reviewed and evaluated in conjunction with field observation data. The mitigation site would be inspected with permitting agency personnel to verify the suitability of the recommended corrective action or make modifications. A corrective action plan would be submitted to the resource agencies prior to completion of any action. The City of Eureka Engineering Department would be fully responsible for any failure to meet the performance standards of the mitigation plan.

If it is determined that the habitat mitigation plan would not likely result in attaining the performance standards, then the potential need for identification of other sites would be discussed. Any details pertaining to the selection of an alternative site would be discussed and presented to the resource agencies as required. The City of Eureka Engineering Department would be responsible for developing an alternative site mitigation plan and obtaining approval from the resource agencies.

---

[1] No specific performance standards are proposed for the unvegetated intertidal mudflat mitigation area. Once the dock pilings and debris are removed from the Truesdale Avenue mitigation site, tidal action will replace excavated areas with surrounding bay muds, effectively restoring habitat functions.

A final monitoring report would be submitted to the permitting agencies upon completion of the five-year mitigation program. If the project meets performance standards at the end of the five-year monitoring period, the applicant's proposed mitigation would be considered a success; if not, the maintenance and monitoring program would be extended one year at a time until the standards are met. Specific remedial measures approved by the permitting agencies would be used during any extension. Monitoring extensions would be done only for areas that fail to meet final success criteria. This process would continue until all standards are met or until the agencies determine that other mitigation measures are appropriate. If the mitigation effort meets all goals prior to the end of the five-year monitoring period, the resource agencies, at their discretion, may terminate the monitoring effort.

C. Protection of Marine and Aquatic Biological Resources

Several Coastal Act policies address protection of wetlands and open coastal waters from the impacts of development. These policies include Sections 30230, 30231, and 30233. Section 30230 applies generally to the protection of marine resources. Section 30231 applies generally to any development in coastal waters, wetlands, estuaries, and lakes in the coastal zone.

The proposed installation of interlocking sheetpile bulkhead and back-filling the area behind the bulkhead to form a building site for the related *Fisherman's Terminal* commercial fishing receiving facility involves the diking open coastal waters and the subsequent filling of wetlands. "Diking" is generally recognized as referring to the erection of a barrier for the purpose of containing the flow of water or to keep out the sea. "Fill" is defined as comprising "...*earth or any other substance or material... placed in a submerged area*," per Section 30108.2 of the Coastal Act.

Section 30230 of the Coastal Act provides:

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

Section 30231 provides, in part:

> *The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored...*

Section 30108.2 of the Coastal Act defines fill as:

...earth or any other substance or material ... placed in a submerged area.

Section 30233 of the Coastal Act reads, in applicable part, as follows:

> *(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...*
>
> *(7) Restoration purposes...*
>
> *(b) Dredging and spoils disposal shall be planned and carried out to avoid significant disruption to marine and wildlife habitats and water circulation....*
>
> *(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 and parenthetic added.]

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

(1) That the purpose of the filling, diking, or dredging is for one of the eight uses allowed under Section 30233;

(2) That feasible mitigation measures have been provided to minimize adverse environmental effects;

(3) That there is no feasible less environmentally damaging alternative; and

(4) That the biological productivity and functional capacity of the habitat, and water quality, shall be maintained and enhanced, and where feasible, restored.

1. Permissible Diking, Dredging, and Filling

The first test set forth above is that any proposed filling, diking or dredging must be allowable as specified under Section 30233 of the Coastal Act. Two of the allowable

purposes for diking, filling, or dredging, under Section 30233(a) sub-sections (1) and (7) are "new or expanded port, energy, and coastal-dependent industrial facilities, including commercial fishing facilities" and "restoration purposes."

The proposed project consists of the placement of solid fill and fixed sheetpiling as part of a waterfront complex for the mooring of commercial fishing vessels and the processing and incidental retail sales of fish catches (see Exhibit Nos. 9 and 10). The sheetpile bulkhead materials and back-fill will serve coastal-dependent uses as the site is used as a coastal-dependent commercial fishing support facility which must be located adjacent to the waterfront to serve its basic functions (i.e., expedited off-loading, processing, and packing of highly-perishable foodstuffs). As such, the project consists of "new or expanded coastal-dependant industrial facilities." Similarly, the proposed diking and subsequent filling, and the dredging of mudflat materials to extract derelict pilings associated with the saltmarsh and mudflat replacement wetlands mitigation project component entails the incremental reestablishment of portions of the formerly filled tidelands of Humboldt Bay. As such, this project component comprises "restoration purposes."

The applicant's permit amendment request is limited to preparing the site behind the bulkhead extension pursuant to the City Redevelopment Agency's Waterfront Revitalization Plan to accommodate future development of the Fisherman's Terminal by other parties (see Exhibit No. 10). The development of the Fisherman's Terminal building itself would require that a separate coastal development permit be obtained from the City. As the Fisherman's Terminal building is not currently before the Commission, there is some risk that some other use for the site might ultimately be proposed that is not consistent with the purposes for which fill may be placed in wetlands consistent with Section 30233(a). To assure that the purpose for the filling of wetlands at the Fisherman's Terminal site remains a permissible commercial fishing facility, the Commission attaches Special Condition Nos. 7 and 11. Those conditions are added to ensure that the proposed back-filled sheetpile is used for the Fisherman's Terminal project. Special Condition No. 7 would require the City to contractually agree to restrict the uses of the proposed fill site to commercial fishing facilities to assure consistency with the limitations within Coastal Act Section 30233(a) regard permissible uses for which the filling of open coastal waters and wetlands may be authorized. Special Condition No. 11 requires the applicants prior to sale, transfer, or leasing the project site to private parties to record a deed restriction against the subject property noticing the prospective owners of the conditions attached to the subject permit. Special Condition Nos. 7 and 11 also require that prior to issuance of the permit the applicant submit a written agreement by the City of Eureka, in a form and content acceptable to the Executive Director, incorporating all of the above terms of Special Condition Nos. 7 and 11. These conditions will ensure that the use of the filled area will be limited to commercial fishing facilities and that future purchasers of the property will be notified of these limitations on the use of the site.

Therefore, the Commission finds that as conditioned to limit uses of the diked and back-filled wetland areas, the purpose of the fill is consistent with subsections (1) and (7) of Section 30233(a) of the Coastal Act.

2. Feasible Mitigation Measures

The second test set forth by the dredging and fill policy of the Coastal Act is whether feasible mitigation measures have been provided to minimize the adverse environmental impacts of the proposed filling, diking, or dredging of wetlands.

Depending on the manner in which the proposed revetment is constructed, the proposed project could have four potential adverse effects on the marine environment of Humboldt Bay. The project could have potential adverse impacts to: (a) unconsolidated bed estuarine wetlands where the proposed fill would be placed; (b) shoreline essential fish habitat associated with the eelgrass beds offshore of the site; (c) estuarine water quality from construction activities conducted at the water's edge and the release of leachate from inappropriate sheet pile materials; and (d) aquatic life from mechanized equipment fuel or hydraulic spills into Humboldt Bay. The potential adverse impacts and their mitigation are discussed in the following four sections:

a. Unconsolidated Bed and Emergent Scrub-Shrub Estuarine Wetlands

As detailed in the attached wetland delineation and mitigation plan, the project would result in the placement of fill atop approximately 10,950 square-feet of intertidal wetlands consisting of the unconsolidated rocky and mudflat materials, and saltmarsh, interspersed with derelict piling and pier debris, that comprises portions of the bayfront along the City of Eureka's northern shore with Humboldt Bay. With the exception of the patches of saltmarsh plants, much of project area is largely denuded of vegetation and consist primarily of construction debris, un-engineered riprap, inter-bedded with bay mud, sand, bi-valve shell fragments, and other materials (flotsam litter). Because of the location of the materials within the intertidal range of the bay, these sediments are periodically saturated for substantial periods of the growing season. In addition, any soil materials within these sediments would likely qualify as hydric soils. Accordingly, notwithstanding the lack of hydrophytic vegetation over the majority of the site, and the nominal habitat potential these areas afford, the subject area would meet the Commission's definition of "wetlands."

To mitigate for the loss of filled and shaded habitat areas, the City has proposed a mitigation plan, attached as Exhibit No. 5. As discussed in Project Description Findings Section IV.B.3, the mitigation plan has four elements: (1) designate 2,268 square-feet of concrete piling surface area at the City Boardwalk project component of the original project as mitigation habitat area to replace an equivalent area of rocky intertidal habitat area filled by the amended project at a 1:1 replacement ratio; (2) designate the 1,080-square-foot surface area of the new sheetpile bulkhead component of the amended project as mitigation habitat area to replace an equivalent area of rocky intertidal habitat area filled or shaded by the amended project at a 1:1 replacement ratio; (3) excavate

approximately 10,800 square-feet of upland fill from an area at the Eureka Slough mitigation site and establish an equivalent area of saltmarsh habitat to compensate in-kind for 4,200 square-feet of saltmarsh filled by the project and out-of-kind for the approximately 2,400 square feet of intertidal mudflat filled by the project at 2:1 and 1:1 replacement ratios, respectively; and (4) remove an approximately 1,000-square-foot surface area of derelict creosote-treated pilings at the Truesdale Avenue mitigation site and establish an equivalent amount of intertidal mudflat to compensate for intertidal mudflat areas filled by the project at a 1:1 replacement ratio.

The proposed rocky intertidal mitigation proposal consists in part of a mitigation "credit" applied to the structural pilings previously placed at the adjoining City Boardwalk under the original permit. These materials were placed to support the elevated platform of the boardwalk. The mudflat areas that these materials covered was previously mitigated under the original project permit through creation of off-site, out-of-kind saltmarsh habitat at the City's "Parcel 4" mitigation site.

Although the pilings of the City Boardwalk might provide viable habitat substrate for encrusting benthic organisms, the scope of that project did not include provisions for establishing a wetland mitigation bank at the project site against which future development project might apply credits against any surplus habitat area created by the project. Consequently, recognizing the boardwalk's piling materials as mitigation area would not be appropriate.

However, even without using credit from the original project, the proposed sheetpile bulkhead project will partially mitigate for the loss of some rocky intertidal habitat. As mentioned in Findings Section IV.F. 2, above, the intertidal surface area of inter-locking sheetpile 180 lineal-feet @ 6-foot tidal bore = 1,080 square-feet) will provide hard surfaces for encrusting littoral and benthic organisms to attach themselves to at a replacement ratio of approximately 1:1. This habitat feature is only nominally available on the existing construction debris riprap and will serve to substitute for approximately 10 percent of the surface area of rocky intertidal habitat filled by the project. The remaining 4,670 square-feet of degraded low-productivity rocky wetland at the Fisherman's Terminal site could be recognized as being replaced by an equivalent area portion of the 10,800 square-feet of potentially highly-productive saltmarsh wetland proposed to be created at the Eureka Slough site. However, such recognition of mitigation would, in effect, lower the exchange ratio for the replacement of the saltmarsh wetlands from the intended 2:1, as stated by the applicant, to 1.45:1 (10,800 – 4,670 / 4,200).

With regard to mitigating for filled mudflat and saltmarsh wetlands, although proposed for another offsite locations, the proposed mitigation will be developed adjacent to functioning wetlands of the same types. The new mudflat area to be created is adjacent to the intertidal mudflat that exists on the mid-Humboldt Bay reaches. The proposed saltmarsh enhancement site is similarly located adjacent to other similar wetlands on the bay margins along the mouth of Eureka Slough and the bay channel between the Eureka mainland and Daby Island.

The ratio of habitat creation to habitat loss that would result from the project amendments would be 1.45:1 to 1:1, depending upon the type of wetland involved. Although these ratios are low in comparison with the replacement ratios the Commission requires with some developments (i.e., ≥4:1), the Commission has approved many projects at a 1:1 ratio when the kind of habitat involved is unvegetated mudflat and/or degraded rocky intertidal areas, such as the case with portions of the project site. The biotic community in unvegetated mudflat areas is relatively simple in comparison with eelgrass or saltmarsh habitats, and the benthic organisms that are commonly found within unvegetated mudflat areas typically can be expected to fully colonize new mudflat areas within a couple of years. Given that the mudflat area at the Truesdale Avenue mitigation site can be created adjacent to an adjoining mudflat habitat, benthic organisms can be expected to migrate to and colonize the new habitat fairly readily.

Similar rationale can be applied to the proposed 1:1 exchange ratio for rocky intertidal habitat. The ecological structure of organisms who utilize this substrate is likewise uncomplicated compared to other benthic communities. In addition, encrusting organisms rapidly colonize new rocky surfaces within a relatively short time frame. As discussed above, the application of a mitigation credit for the previous installation of foundation piles at the boardwalk structure after its approval without such a banking provision is not appropriate. However, the on-site mitigation of rocky intertidal habitat with bulkhead surfaces in combination with replacement with offsite, out-of-kind saltmarsh wetlands as proposed is consistent with marine resource protection policies.

The mitigation plan also proposes to replace filled saltmarsh habitat in-kind and a part of lost intertidal mudflat out-of-kind kind at a 2:1 exchange ratio. As previously discussed, however, deducting out the proposed credit for 2,268 square-feet of rocky intertidal wetlands would lower the actual in-kind replacement ratio for saltmarsh to 1.45:1. Nonetheless, considering the highly degraded state of the wetlands at the project site, and the opportunity to incrementally restore highly-valued saltmarsh wetlands, the Commission finds that the proposed exchange ratio for in-kind saltmarsh replacement and out-of-kind rocky intertidal wetlands replacement at 1.45:1 and 1:1, respectively, is appropriate.

The proposed mitigation plan also includes success standards, monitoring and remedial action procedures. Among these provisions are cross-sectional analysis of saltmarsh plant growth and community structure, and indirect assessment of mudflat re-colonization by benthic and epi-benthic organisms through bird foraging surveys. These performance standards reference success thresholds for saltmarsh restoration at a minimum of 75% plant cover, density, and diversity of that encountered in the adjacent existing saltmarsh is required to be in-place at the end of five years. This standard would be consistent with the rate of primarily succession within a high-energy intertidal environment. No quantitative goal for the success of re-colonizing mudflat biota was set given the relatively small size of this mitigation site, the interspersed nature of the areas of mudflat being "created" through removal of the derelict pilings with a tidal mudflat, and, as stated

previously, the high potential for rapid epi-benthic colonization of the restored mudflat areas by organisms from adjoining similar habitat.

As further detailed in Project Description Findings Section IV.B.2, determinations of the success of a restoration effort will be based on qualitative and quantitative standards as set forth within the proposed mitigation monitoring plan (see Exhibit No. 5). The California Department of Fish and Game have reviewed the mitigation and monitoring plan and have determined the proposal to be adequate provided: (1) the restoration specialist responsible for administering the mitigation and monitoring plan is a trained and qualified professional with experience in wetland restoration; (2) the plantings to be installed at the saltmarsh mitigation site are of local genetic stock obtained from a nursery with experience in intertidal wetland plant propagation; and (3) the planting schedule is adjusted to require the proposed saltmarsh planting to be installed within four weeks of the completion of site grading, unless the growth requirements of any of the saltmarsh species dictate planting at a later time to ensure transplanting success.

The Commission finds that the revisions recommended by the Department of Fish and Game to the mitigation plan's performance criteria are appropriate. Accordingly, the Commission attaches Special Condition No. 9, requiring the applicant submit a revised mitigation and monitoring plan for the review and approval by the Executive Director stipulating the three requirements identified by the Department of Fish and Game listed above.

As conditioned, the Commission finds that the project will provide feasible mitigation measures that will adequately mitigate and minimize adverse impacts of the proposed project on the filling and shading of intertidal mudflat, rocky intertidal and saltmarsh habitats.

b. Estuarine Water Quality

Construction activities in and adjacent to the bay would result in degradation of water quality through the entry of soil materials either directly or entrained in runoff passing over ground disturbed areas. To prevent sediment discharge from upland sources into the bay, the applicant proposes to: (1) utilize the erosion and runoff control plan approved for the original project when installing the proposed sheetpile bulkhead materials; and (2) utilize an erosion and runoff control plan prepared for the amended project's saltmarsh wetlands mitigation site during and following construction of the replacement wetlands (see Exhibit No. 6). These plans set forth numerous established best management practices to prevent and minimize water quality impacts associated with shoreline development activities such as those proposed under the requested permit amendment.

By conducting the project work consistent with the formerly-approved and proposed erosion and runoff control plans, the potential adverse impacts to estuarine water quality have been mitigated to less than significant levels. Special Condition No. 10 requires the applicant to comply with these protective measures. Therefore, the Commission finds

that as conditioned, feasible mitigation measures have been provided to minimize adverse impacts to estuarine water quality.

c. Accidental Hazardous Materials Spills

The applicants will utilize a variety of motorized heavy equipment and fuel-powered devices in demolishing the derelict structures at the project site, and installing the sheetpile and back-fill, in grading the Eureka Slough saltmarsh mitigation site, and in extricating the piling as the Truesdale Avenue mudflat mitigation site. Re-fueling or lubricating motorized equipment (i.e., excavators, back-hoes, air compressors, electrical generators, chainsaws) during project construction is not anticipated. Should re-fueling of equipment become necessary, the applicant proposes to conduct any such re-fueling within pavement-surfaced areas at the project site, within contained and barrier-protected designated upland staging areas at the Eureka Slough site, or on the margins of the upland parking lot area adjacent to the Truesdale Avenue site where facilities would be in place to minimize the occurrence and magnitude of impact of fueling spills.

The Commission hereby reimposes Special Condition No. 3, modified to require that any fueling of equipment to occur on the paved and/or upland areas adjoining the project and mitigation sites, be a minimum of 100 feet away from the Mean High Water Line. In addition, the condition includes performance conditions requiring that fuels, lubricants, and solids not be allowed to enter Humboldt Bay, and that hazardous materials response equipment be kept immediately on hand at the project site. As conditioned, potential adverse impacts from accidental fuel or oil spills to marine resources will be reduced to less-than-significant levels.

As proposed and conditioned, the Commission finds that feasible mitigation is included within the amended project design to minimize all significant adverse impacts associated with the proposed filling of coastal waters.

Therefore, the Commission finds, as conditioned herein, the proposed breaching program is consistent with the requirements of Section 30230, 30231, and 30233 of the Coastal Act, in that feasible mitigation measures have been provided to maintain, enhance, and where feasible, restore marine resources, give special protection to areas and species of special biological or economic significance, ensure that uses of the marine environment are carried out in a manner that will sustain biological productivity and the maintenance of healthy populations of marine organisms, and to minimize or avoid adverse environmental effects.

3. Alternatives

The third test set forth by the Commission's dredging and fill policies is that the proposed dredge or fill must have no feasible less environmentally damaging alternative. In this case, the Commission has considered various identified alternatives, and determines that there are no feasible less environmentally damaging alternatives to the project as conditioned. A total of three possible alternatives have been considered by the

Commission, including: (a) a "no project" alternative; (b) constructing the commercial fishing upland support facility on open pilings; and (c) constructing the commercial fishing facility in a more landward location.

"No Project" Alternative

Under the no project alternative, the backfilled sheetpile bulkhead for forming a portion of the building pad for the Fisherman's Terminal building would not be installed along the backside of the Fisherman's dock. Similarly, the restoration work at the Eureka Slough and Truesdale Avenue replacement wetlands mitigation sites would not be undertaken. The project and mitigation sites would remain in their current degraded states, and continue to be utilized only as urban open space areas.

A "no project" alternative would not accomplish the project objectives of providing the City's commercial fishing economic sector with a support facility for the off-loading and initial process of fish catches, a high priority coastal-dependent use identified in the Coastal Act. The derelict central waterfront structures would remain in place rendering the area unavailable for such uses, visually blighting the area, and continuing to release wooden debris and hazardous materials into coastal waters from their creosote-treated piles. Allowing this latter impact to coastal water quality to continue has been stated as a concern by the North Coast Regional Water Quality Control Board, who have commented that retaining this portion of the City waterfront behind the proposed sheetpile bulkhead and capping the friable fill materials at the bay margins with engineered back-fill would serve to incrementally remediate the entry of hazardous materials into the waters of Humboldt Bay (see Exhibit No. 11). Therefore, the "no project" alternative is not a feasible less environmentally damaging alternative to the project as conditioned.

Exposed Pile Foundation

Another design option considered involved the construction of the Fisherman's Terminal utilizing open-field ("day-lighted") pile or cantilevered foundation systems, where the fish processing facility structure would be constructed upon open piles that would either allow bay tides to rise and flow beneath the building, or support the building with a land-based deep foundation system that would permit a portion of the structure to project out over the water as a free span, eliminating the need or in-water piles. While this option might reduce the amount of fill in coastal waters, it would require extensive upland excavation and grading, or structural modifications to the project design that would be cost prohibitive. Furthermore, although this alternative would avoid the intertidal area landward of the commercial fishing wharf from being filled, this alternative would be similarly as damaging to habitat as it would result in the wetlands being completely shaded by the overlying building. In such a relatively confined and enclosed space, the productivity of the wetland habitat would be significantly diminished to a level similar to as if the area were covered with solid fill. Moreover, the cumulative impacts to water quality from the entry of hazardous materials within the existing fill at the bay edges would continue unabated. The Regional Water Quality Control Board has documented

that petroleum-based leachate is entering the bay from the existing fill beneath the site (see Exhibit No. 11). As stated in their comment letter on the amended project, Regional Board staff have indicated that placing the solid fill would provide a more effective barrier to the continued release of such hazardous materials than would a pile-supported or cantilevered construction alternative. Therefore the exposed pile foundation alternative is not a feasible less environmentally damaging alternative to the project as conditioned.

More Landward Building Site

Developing the commercial fishing support facility in a more landward location, such as fully upon the upland portions of the project site, was also considered. This option would not meet basic project objectives, namely providing direct access to fishing boats mooring at the adjoining Fisherman's Dock, and providing land of sufficient size on which to develop the facility of adequate dimensions. One of the primary objectives of the overall revitalization program, including the boardwalk and commercial fishing dock and upland shoreline support facilities is to reintegrate the City of Eureka with its waterfront. To achieve this goal, direct access to the bay waters was presented as being a crucial design element. Developing the Fisherman's Terminal in a location set back from the Fisherman's dock would unduly complicate its basic operations, especially in the off-loading of catches, requiring, for example, the installation of large boom-cranes, instead of allowing alongside access to fork-lifts and workers. In addition, many of the adjoining landward parcels are not under City ownership for which the added costs for acquisition could make the project financially infeasible. Even if so acquired, vacant land zoned for coastal-dependent uses in the central waterfront area is limited and generally takes the form of wide parcels with shallow lot depths platted for maximum bay frontage. Development of these properties with a fish off-loading and initial processing facility would leave little building area for development of other adjacent coastal-dependant and compatible waterfront uses. Therefore a more landward building site alternative is not a feasible less environmentally damaging alternative to the project as conditioned.

Conclusion

Therefore, the Commission finds the proposed amended project is consistent with the requirements of Section 30233(a) of the Coastal Act that no feasible less environmentally damaging alternative to the proposed development exists.

4. Maintenance and Enhancement of Estuarine Habitat Values

The fourth general limitation set by Sections 30230, 30231 and 30233 is that any proposed diking or filling in coastal waters must maintain and enhance the biological productivity and functional capacity of the habitat, and the quality of coastal waters, and where feasible, restored.

For the reasons discussed above, the Commission finds that the proposed project would maintain, enhance, and restore the biological productivity and functional capacity of the

habitat, and the quality of coastal waters. Although the development of the back-filled sheetpile bulkhead would result in the filling of 10,950 square-feet of intertidal rocky shoreline, mudflat, and saltwater wetlands, these areas are highly degraded in terms of their anthropogenic origin (contaminated demolition debris), their size, extent, or isolated location, the fish and wildlife habitat these substrate afford, and the hazardous material contaminants they contain. In their place, 10,800 square feet of potentially highly productive saltmarsh and 1,000 square-feet of mudflat would be restored at two offsite locations along the bay. In addition to replacing the wetlands filled by the development, these restored habitat areas would serve to incrementally reverse the significant loss of the highly valued saltmarsh wetlands statewide. Furthermore the containment and capping of the friable materials within the scarp along the project site bayfront would help reduce the amount of nonpoint-source pollution entering Humboldt Bay.

5. Conclusions

The Commission thus finds that the diking and filling of wetlands is for an allowable purpose, that there is no feasible less environmentally damaging alternative, that feasible mitigation measures have been provided and the adverse environmental effects associated with the dredging and filling of coastal waters have been avoided or minimized, and that estuarine habitat values will be maintained or enhanced. Therefore, the Commission finds that the proposed development, as conditioned, is consistent with Sections 30230, 30231 and 30233 of the Coastal Act.

D. Visual Resource Protection and Compatibility with Surrounding Character.

1. Summary of Applicable Coastal Act Provisions

Section 30251 of the Coastal Act states, in applicable part, that:

> *The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas...*

2. Analysis

The site is located on the west side of "C" Street in an area that transitions between commercial-industrial fish processing, commercial docks, and recreational boating marinas further to the west and general commercial areas and coastal access facilities (City Boardwalk) to the east. The area is developed with a wide assortment of building types and styles of varying size, bulk, and states of repair, whose character could be described as "eclectic." The Eureka Slough mitigation site lies along a currently vacant portion of the City's northeastern bayshore, used in recent past decades as a dredge spoils disposal basin. The Truesdale Avenue mitigation site is situated along the City's industrial/heavy commercial-dominated western bayfront and is bordered by surrounding land uses that include a rail corridor, a petroleum fuels bulk plant, a shopping mall, a

sewage lift-pump station, and several non-conforming residential dwellings. None of the project or mitigation sites are designated within the City's LCP as "highly scenic areas."

The proposed amended development at the Fisherman's Terminal project site and the replacement wetlands activities at the two mitigation sites would not have significant adverse effects on visual resources within the area surrounding these sites. All of the proposed improvements and mitigation work would occur at or near existing grades and would not entail significant amounts of excavation or grading. As a result, views to and along the scenic areas within the bay would not be obstructed or otherwise impacted, and landform alteration would be minimized. Given the urban waterfront setting of the project and mitigation sites, the development proposed under the requested permit amendment would be visually compatible with the character of surrounding areas. Therefore, the Commission finds the amended development would be consistent with Section 30251.

E. Coastal Access.

1. Summary of Applicable Coastal Act Provisions

Coastal Act Sections 30210, 30211, and 30212 require the provision of maximum public access opportunities, with limited exceptions. Section 30210 states that maximum access and recreational opportunities shall be provided consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse. Section 30211 states that development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation. Section 30212 states that public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects except where it is inconsistent with public safety, military security needs, or the protection of fragile coastal resources, adequate access exists nearby, or agriculture would be adversely affected.

2. Analysis

In its application of these policies, the Commission is limited by the need to show that any denial of a permit application based on the above public access policies, 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 access.

Although the project and mitigation site are located between the first public road (First Street/Waterfront Drive; Broadway/Highway 101) and the sea, the amended development will not otherwise adversely affect public access. There are no trails that provide shoreline access through the subject properties and therefore, the construction of the back-filled sheetpile bulkhead and replacement wetlands would not result in a barrier to public coastal access. Furthermore, these proposed improvements would not create any

new demand for public access or otherwise create any additional burdens on public access.

Therefore, the Commission finds that the amended development is consistent with the public access policies of the Coastal Act.

F. Geologic Hazards and New Development.

1. Summary of Applicable Coastal Act Provisions

The Coastal Act contains policies to assure that new development provides structural integrity, minimizes risks to life and property in areas of high flood hazard, and does not create or contribute to erosion. Section 30253 of the Coastal Act states in applicable part:

> *New development shall:*
>
> (l) *Minimize risks to life and property in areas of high geologic, flood, and fire hazard.*
>
> (2) *Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.*

2. Analysis

The proposed amended project involves grading and filling at or below the high tide line along portions of Humboldt Bay which were reclaimed in the early 1900's. The area is blanketed in loose sandy fills, containing shell fragments, wooden debris, and other rubble, underlain successively by bay muds, inter-bedded dense sands and gravel, and stiff clay. These materials do not provide a competent building platform. Therefore, the dock and boardwalk structures authorized under the original permit, and the envisioned future Fisherman's Terminal complex have been designed to bear on pile foundations.

The geotechnical study for the original project (Harding Lawson, 4/16/99) sets forth three sets of recommendations addressing site preparation and fill placement, the jetting and driving of pile pipes, and the installation of the interconnecting sheetpile bulkhead. To ensure the stability of the project site and the structural integrity of the amended project improvements, the Commission imposes Special Condition No. 8, which requires that the recommendations of the geo-technical report be followed in constructing the back-filled sheetpile portion of the amended project.

Similar concerns arise with respect to the competency of the materials at the Eureka Slough mitigation site. As discussed in greater detail in Project Description Findings Section IV.B.3 above, development of the replacement wetlands will involve the grading

and forming of a new bank along approximately 700-lineal feet of bayfront adjacent to Eureka Slough. The onsite materials from which this bank would be constructed are comprised of a mixture of dredged sand and bay mud interspersed with more terrestrial-borne soil materials of varying cohesion and structural bearing strengths. The site is exposed to potential hydraulic scouring from high flows entering the bay from Eureka Slough on low tides, and, though muted somewhat by the presence of Daby Island and shoals directly offshore of the site, erosion from wind and storm surge waves coming in off the bay. If not properly engineered, the constructed bankslope could subsequently fail, with portions of the slope collapsing into Humboldt Bay, and expose areas further inland to additional coastal erosion losses and related instability.

The applicant's agent has investigated the potential for such geologic failures or instigation of geologic instability at the site and have prepared a geo-technical evaluation for the saltmarsh mitigation component of the proposed amended project (see Exhibit No. 7). Based upon an examination of aerial photography, the evaluation found that no significant shoreline erosion was evident over the last, approximately 35 years, which would indicate that the site has a low risk of significant erosion under normal tidal, storm, and Eureka Slough flooding influences. Furthermore, no evidence of slope failure or instability along the existing revetment face as a result of erosive forces was observed. In addition, the site was found not to have been subject to unusually high storm surges or tsunamis since the area was filled and the revetment constructed.

With regard to exposure to coastal erosion, the report concluded:

> The proposed modifications to the site consist of retreating the existing perimeter revetment or face slope to create additional marshland areas. The existing marshland, between the shoreline and the current toe of slope, would not be affected. Preservation of the existing, vegetated shoreline would provide a significant buffer between the shore and the created salt marsh and would protect the mitigation site from potential erosive forces (waves, flooding, etc.). With the proposed perimeter revetment equal to or more resistant to erosion than the current revetment, the project should not result in any new or increased erosion hazards. Erosion potential at the site would be further minimized through the implementation of the following mitigation measures:
>
> 1. Implementation of the erosion and runoff control plan for the mitigation project
> 2. Revegetation of the salt marsh and slope face, per specifications in the mitigation and monitoring plan
> 3. Implementation of all measures and recommendations by the project's registered geotechnical engineer.

With regard to overall geologic stability of the proposed transitional wetland bank/revetment and its surroundings, the report concluded:

> We conclude that it is feasible to construct the proposed shoreline revetment to be equal to or more stable than the existing revetment. With the proposed project completed, risk of liquefaction-related site effects are anticipated to remain the essentially the same as they now are. That is, the proposed project will not increase risk of such effects...
>
> For the nature of the project considered, where there is little risk to life and property, appropriate revetment design in our opinion will consist of providing stability under static conditions, and seismic stability at least equal to the existing condition, with the revetment not designed to prevent lateral spreading potential if deep liquefiable deposits exist beneath the existing and proposed revetment alignments.

The cited geotechnical engineer's measures and recommendations take the form of the following design parameters for the transitional wetland bank/revetment:

- Base elevation: +5 feet MLLW
- Face slope: 1.7H:1V
- Basal width: 15 feet
- Top width: 5 feet
- Drainage: Embankment graded to back-drain unto adjoining dredge spoils disposal field
- Materials: Cohesive, moderately plastic soils (Plasticity Index between 10 and 16)
- Relative Compaction: Minimum 90% per American Society for Testing and Materials (ASTM) D 1557.

These specifications have been incorporated into the design of the proposed saltmarsh wetland restoration project component. Special Condition No. 9 requires that the permittee undertake the development in accordance with the final wetland mitigation plans.

Based upon the geologic evaluation prepared by the applicants' geologist, the Commission finds that the risks of geologic hazard, such as increased liquefaction hazard exposure for the previously filled area landward of the saltmarsh mitigation site, are minimized with the inclusion of the design specifications set forth in the letter-report. However, no geology report can conclude with any degree of certainty that a geologic hazard does not exist and the approved development and its maintenance may cause future problems that were not anticipated. Therefore, the Commission attaches Special Condition Nos. 11 and 12.

Special Condition No. 12 requires the landowner to assume the risks of extraordinary erosion and geologic hazards of the property and waive any claim of liability on the part of the Commission. Given that the applicants have chosen to implement the project despite these risks, the applicant must assume the risks. In this way, the applicant is notified that the Commission is not liable for damage as a result of approving the permit

for development. The condition also requires the applicant to indemnify the Commission in the event that third parties bring an action against the Commission as a result of the failure of the development to withstand hazards. In addition, as discussed below, the requirement of Special Condition No. 11 that a deed restriction be recorded will ensure that future owners of the property will be informed of the risks, the Commission's immunity from liability, and the indemnity afforded the Commission.

The Commission finds that Special Condition No. 11 is also required to ensure that the proposed development is consistent with Coastal Act Section 30253. Special Condition No. 11 is required to provide notice of potential hazards of the property and help eliminate false expectations on the part of potential lessees, assignees, or purchasers of the subject property, lending institutions, and insurance agencies that the subject property and its surroundings are inherently safe for an indefinite period of time and for further development indefinitely into the future. Special Condition No. 11 requires that the applicant, in the event of a sale by the City of a portion of the property, record and execute a deed restriction approved by the Executive Director against the property. Special Condition No. 11 also requires, prior to issuance of the coastal development permit amendment, that the applicant provide a written agreement stating that the City will record such a deed restriction prior to sale of the subject property to a private party.

Therefore, the Commission finds, that as conditioned, the proposed amended project will include adequate measures to insure structural stability, minimize risks to life and property from geologic instability, and ensure that erosion, geologic stability, or destruction of the site is prevented, consistent with Section 30253 of the Coastal Act.

G. Other Local Agency Permits Required.

The Humboldt Bar 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 HBHRCD regulatory jurisdiction includes all of the waters of Humboldt Bay up to the Mean Higher High Water (MHHW) level (+6.52 feet $NAVD_{1988}$) except for Indian, Woodley and Daby Islands where the District's jurisdiction extends up to the Mean High Water (MHW) elevation (+5.81 feet $NAVD_{1988}$).

The saltmarsh replacement mitigation portion of the amended development entails the creation of wetlands which, upon their completion, will partially lie at and below the MHHW. Accordingly, the proposed saltmarsh replacement development is subject to the permit authority of the HBHRCD. To assure that all local government authorizations, including those required by the HBHRCD, have been secured, the Commission attaches Special Condition No. 13. Special Condition No. 13 requires the applicant, prior to issuance of the Commission's permit amendment, to provide a copy of the permit issued by the District. To further insure that the development approved by the HBHRCD is

consistent with that authorized by the Commission, Special Condition No. 13 includes a requirement that the applicant inform the Executive Director of any changes to the project required by the HBHCRD. . Should the Executive Director determine that any such changes necessitate that a permit amendment to the coastal development permit be obtained, the applicant is required to secure the amendment from the Commission prior to incorporating the changes mandated by the Harbor District into the project.

H. U.S. Army Corps of Engineers Review.

The project is within and adjacent to a navigable waterway and is subject to the authority of the U.S. Army Corps of Engineers (USACE) under Section 404 of the Federal Water Pollution Control Act (33 USC 1251 *et seq.*) and Section 10 of the Rivers and Harbors Act (33 USC 403). Pursuant to the Federal Coastal 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 USACE, the Corps will not issue a permit until the Coastal Commission approves a federal consistency certification for the project or approves a permit. To ensure that the amended project ultimately approved by the Corps is the same as the project authorized herein, the Commission attaches Special Condition No. 14 that requires the applicant, prior to commencing construction authorized by this permit amendment, to demonstrate that all necessary approvals from the USACE for the proposed shoreline revetment and wetland mitigation development have been obtained.

I. California Environmental Quality Act (CEQA).

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 requirements 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 which the activity may have on the environment.

The Commission incorporates its findings on conformity with LCP policies 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 discussed above, the development as amended has been conditioned to be found consistent with the policies of the Coastal Act. Mitigation measures which will minimize all adverse environmental impacts have been required as permit special conditions. As conditioned, there are no feasible alternatives or feasible mitigation measures available, beyond those required, which would substantially lessen any significant adverse impact that the activity may have on the environment. Therefore, the Commission finds that the development as amended and conditioned to mitigate the identified impacts, 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. Project Site Plans
4. Mitigation Site Plans
5. Mitigation Plan
6. Erosion and Runoff Control Plans
7. Geologic Stability Technical Memo
8. Excerpts, Original Coastal Development Permit Staff Report
9. Excerpts, Original Project Site Maps and Elevations
10. Preliminary *Fisherman's Terminal* Site Plan and Artist's Rendition
11. Agency Correspondence

ATTACHMENT A:

STANDARD CONDITIONS

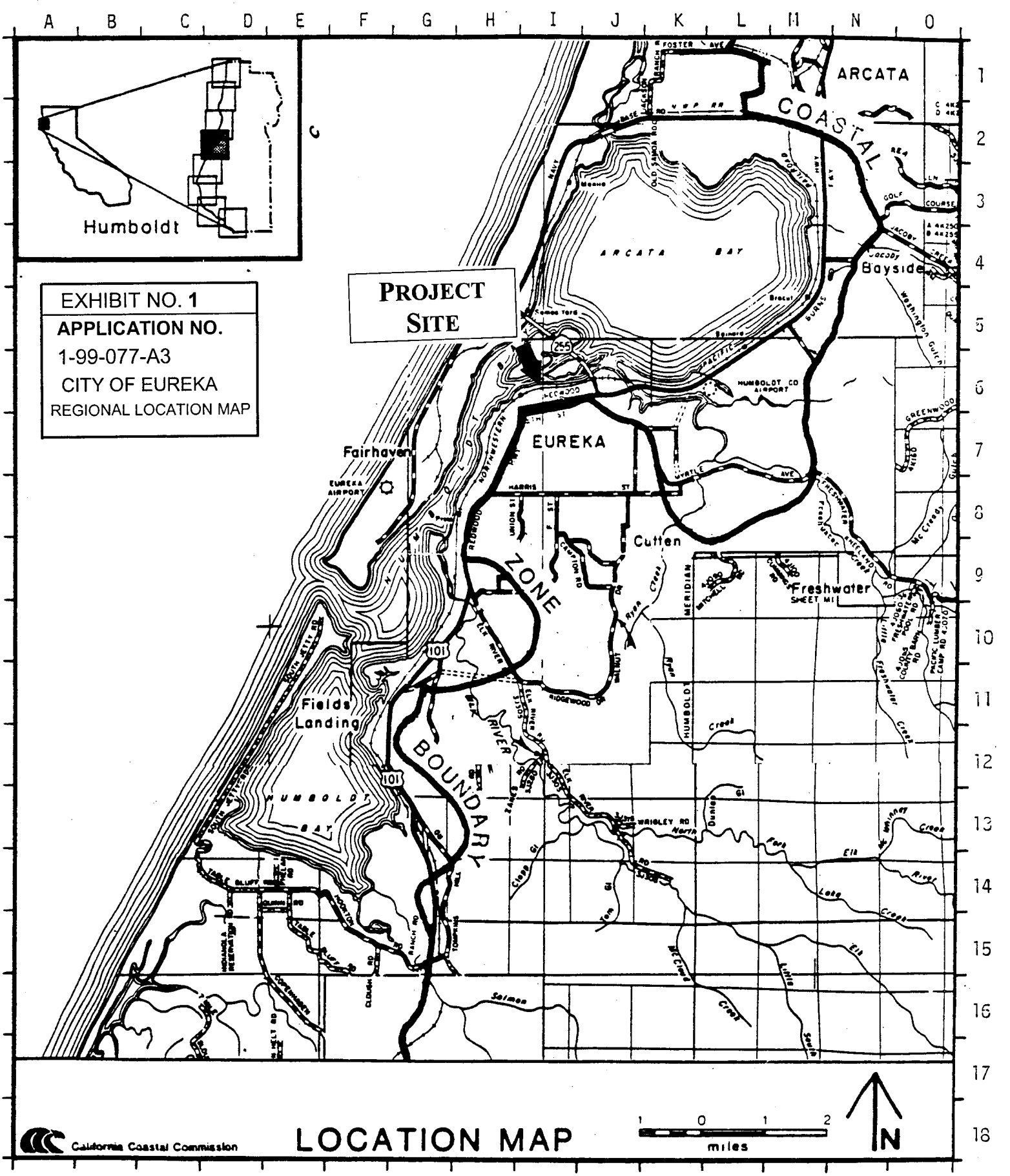
1. Notice of Receipt and Acknowledgment. The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.

2. Expiration. If development has not commenced, the permit amendment 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 amount of time. Application for extension of the permit must be made prior to the expiration date.

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



County of Humboldt

Sheet 4 of 8

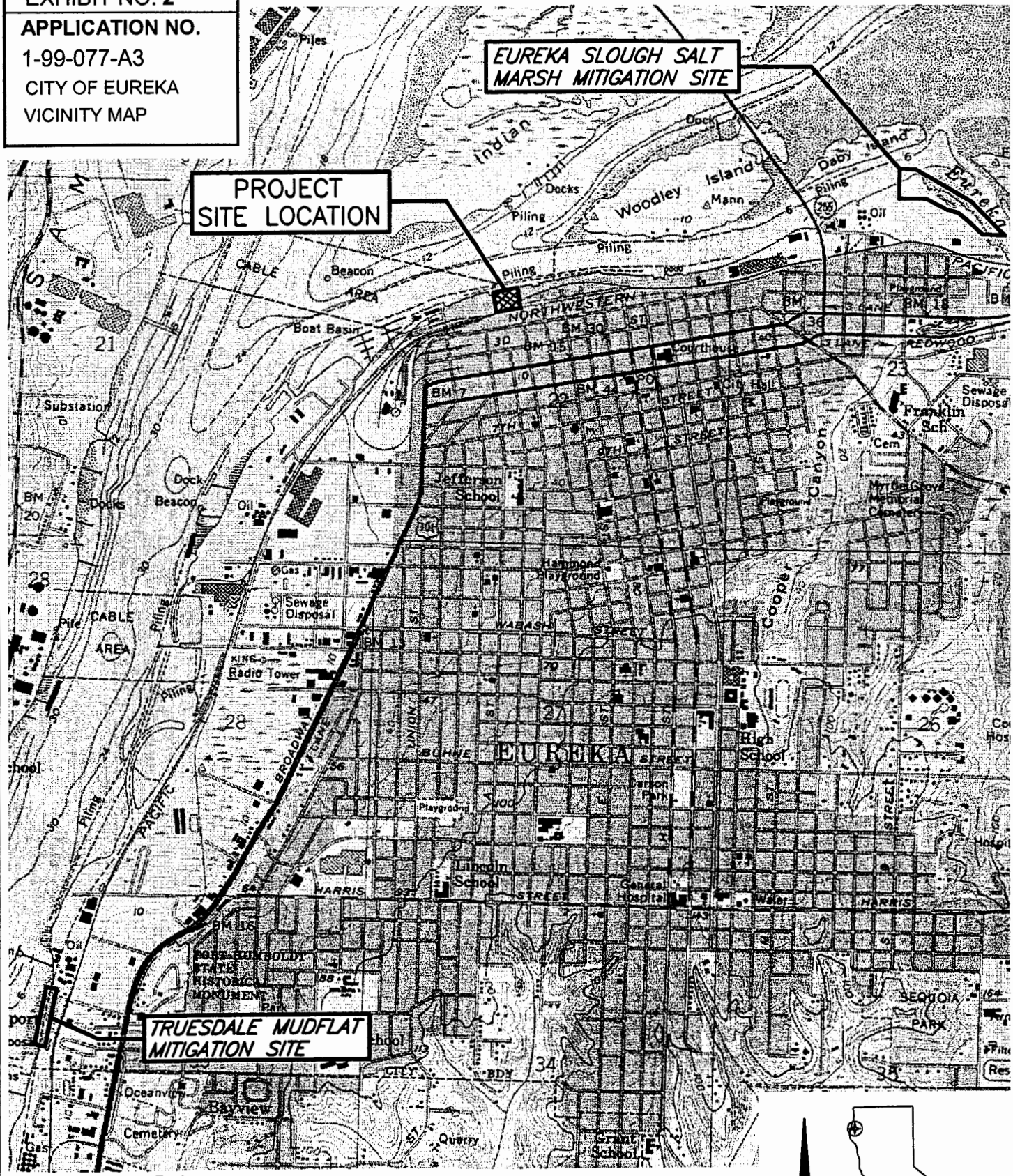
EXHIBIT NO. 2

APPLICATION NO.

1-99-077-A3

CITY OF EUREKA

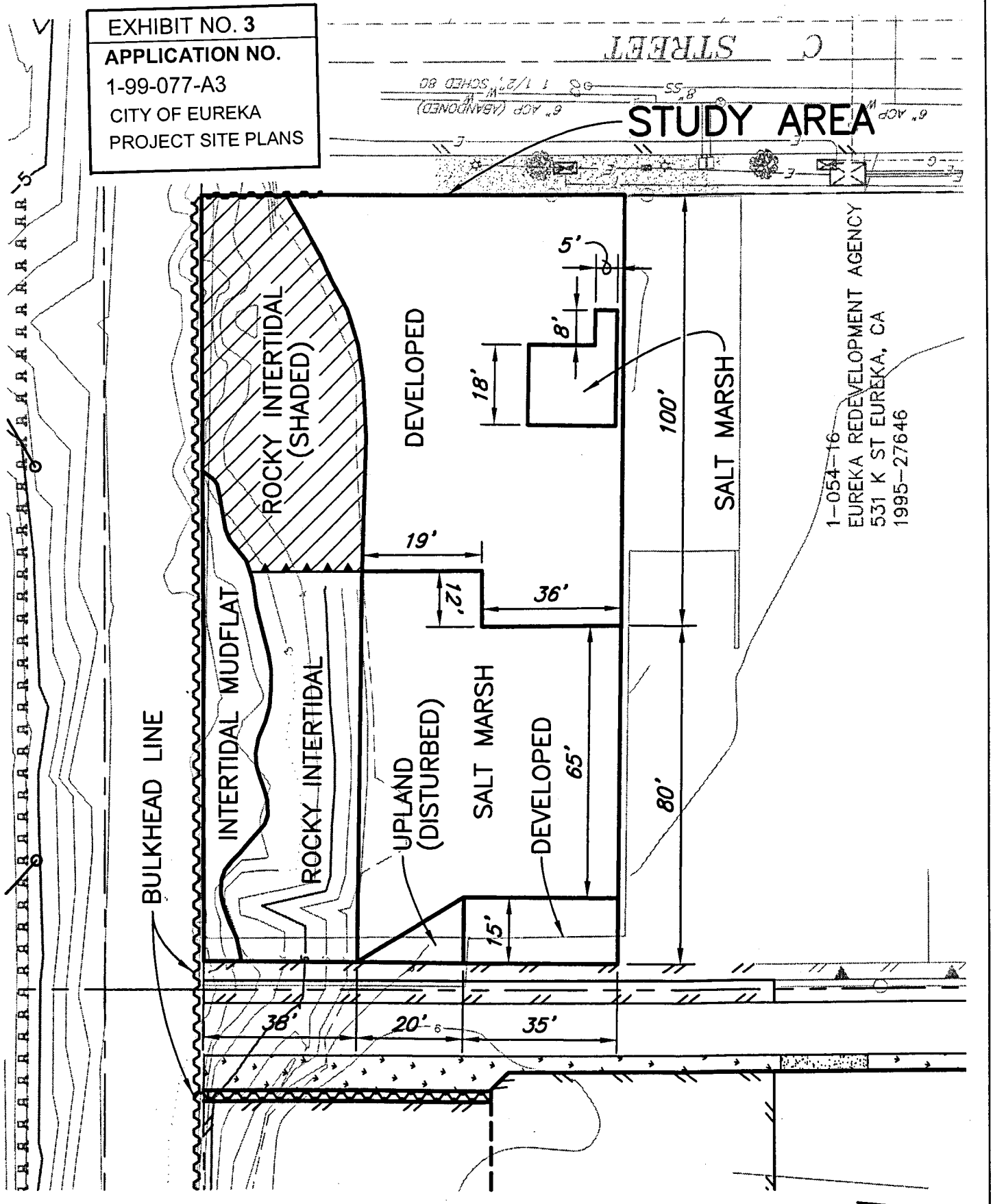
VICINITY MAP



SOURCE: EUREKA USGS 7.5 MINUTE QUADRANGLE

SHN Consulting Engineers & Geologists, Inc.	City of Eureka Inner Channel Dock and Boardwalk Revitalization Project	Site Location Map SHN 098175.500
	JULY 2004	098175.500-LOCATION	Figure 1

EXHIBIT NO. 3
APPLICATION NO.
1-99-077-A3
CITY OF EUREKA
PROJECT SITE PLANS



NOTE: MAPPED FEATURES BASED ON FIELD OBSERVATIONS, 4/04
BASE MAP SOURCE FROM 100% PLAN SUBMITTAL (SHN, MARCH 2004)

1"=30'

SHN Consulting Engineers & Geologists, Inc.	City of Eureka Inner Channel Dock and Boardwalk Revitalization Project	Site Map SHN 098175.500	
	JULY 2004	098175.500-SITE-MAP	Figure 2

EXHIBIT NO. 4

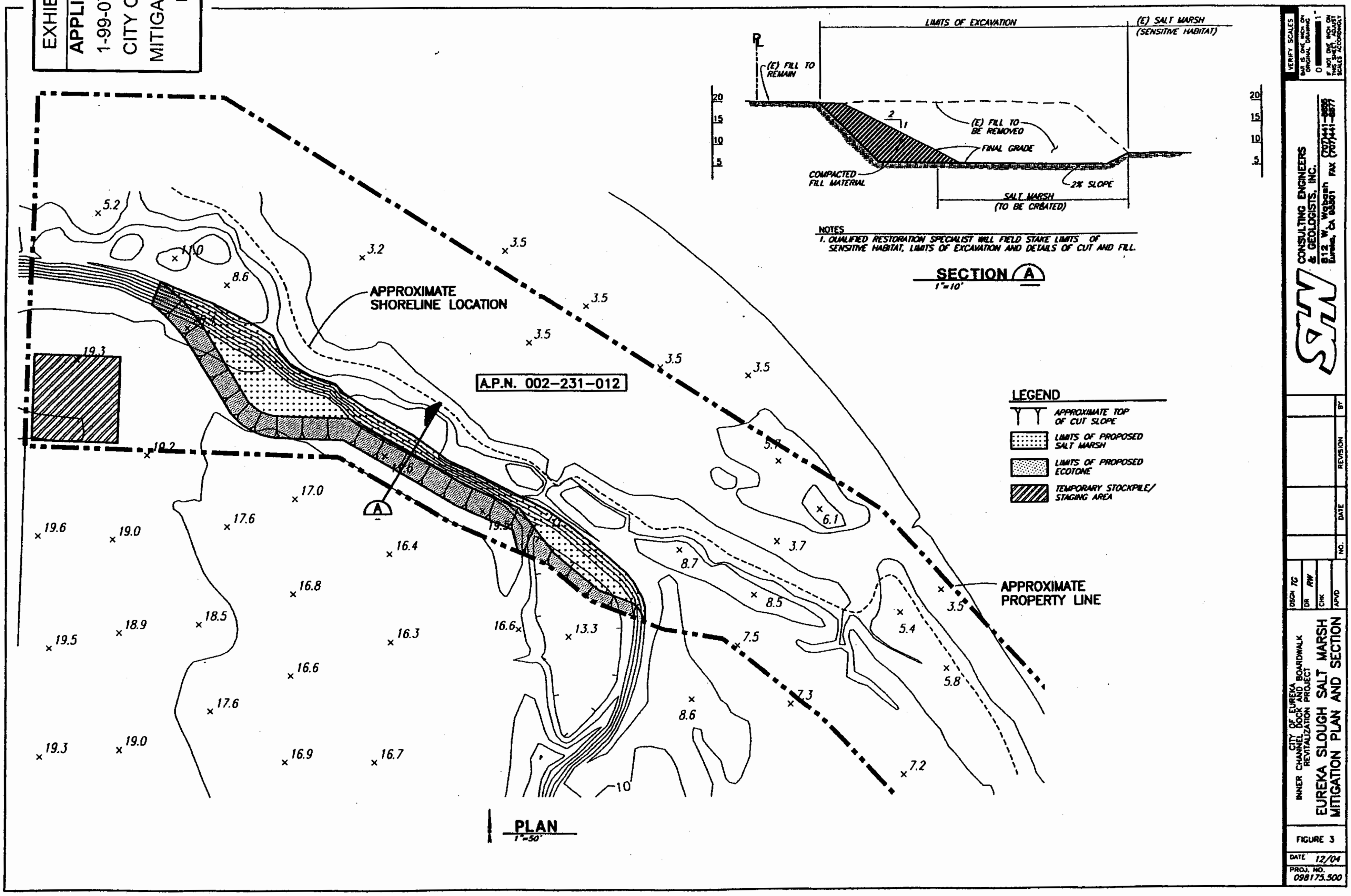
APPLICATION NO.

1-99-077-A3

CITY OF EUREKA

MITIGATION SITE PLANS

Page 1 of 2



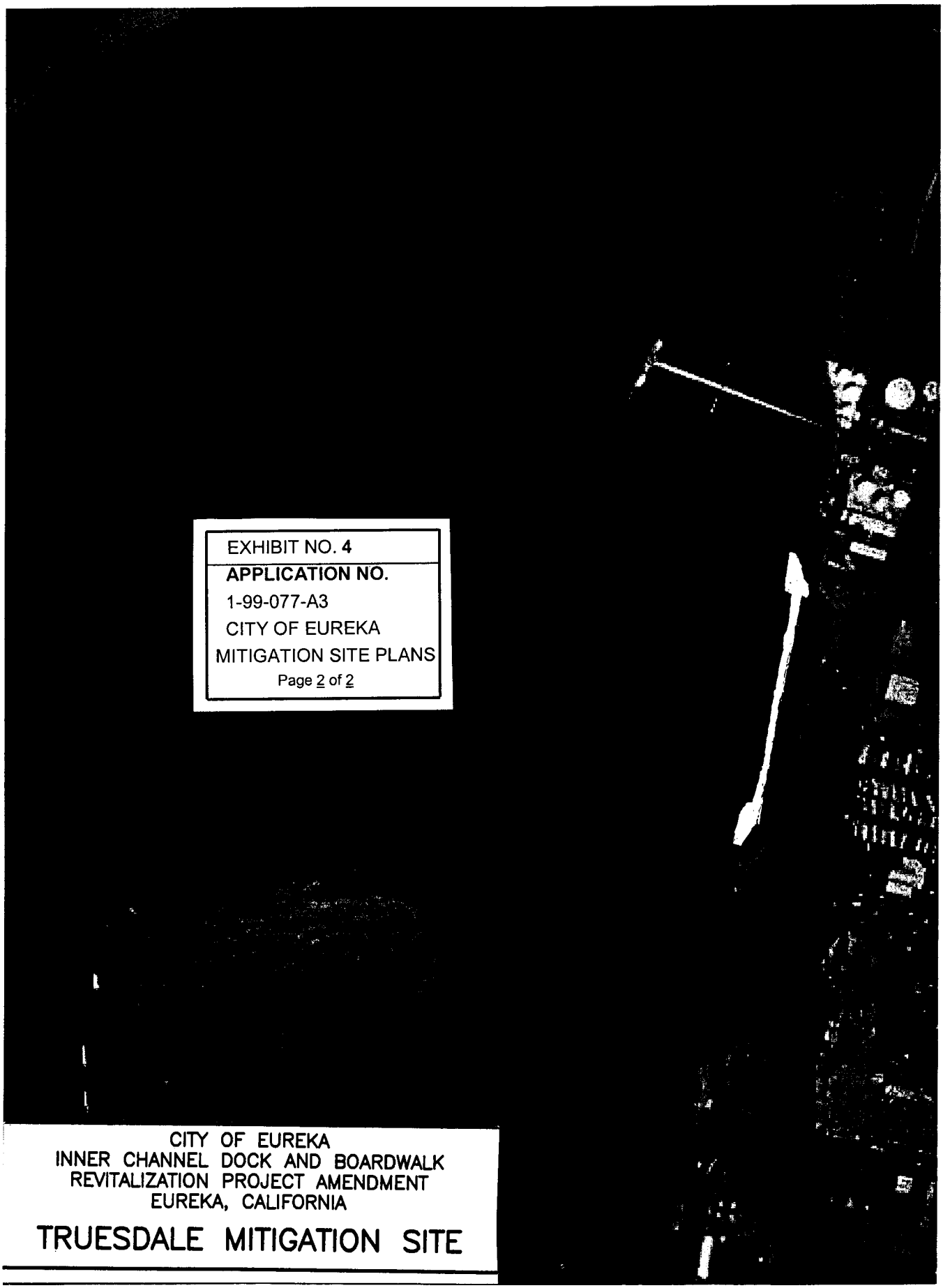


EXHIBIT NO. 4
APPLICATION NO.
1-99-077-A3
CITY OF EUREKA
MITIGATION SITE PLANS
Page 2 of 2

CITY OF EUREKA
INNER CHANNEL DOCK AND BOARDWALK
REVITALIZATION PROJECT AMENDMENT
EUREKA, CALIFORNIA

TRUESDALE MITIGATION SITE

Reference: 0098175.500.530

Amended Wetland Mitigation and Monitoring Plan

Eureka Inner Channel Dock and Boardwalk Revitalization Project Eureka, California

Revision 1

Prepared For:

City of Eureka
Engineering Department

Prepared By:

Consulting Engineers & Geologists, Inc.
812 W. Wabash
Eureka, CA 95501-2138
707/441-8855

December 2004

QA/QC:AW

EXHIBIT NO. **5**
APPLICATION NO.
1-99-077-A3
CITY OF EUREKA
MITIGATION PLAN
Page 1 of 22

Table of Contents

Table of Contents, Continued

List of Illustrations

Figures **Follows Page**

Tables **Page**

Abbreviations and Acronyms

ft.	feet
sq. ft.	square feet

CDP	Coastal Development Permit
City	City of Eureka
Corps	U.S. Army Corps of Engineers
DFG	California Department of Fish and Game
MLLW	Mean Lower Low Water
SHN	SHN Consulting Engineers & Geologists, Inc.

1.0 Introduction

This plan is submitted by SHN Consulting Engineers & Geologists, Inc. (SHN) on behalf of the City of Eureka and outlines a program for the restoration of coastal wetlands as mitigation for impacts associated with the City of Eureka's Inner Channel Dock and Boardwalk Revitalization Project (Project). The City of Eureka proposes to amend the original Project to include the development of a parcel at the foot of C Street (site), adjacent to the future Fisherman's Terminal Work Area, on the Humboldt Bay waterfront in Old Town, Eureka. Development of the site would result in permanent impacts to approximately 10,950 square feet of coastal wetlands. To mitigate for these impacts, the City proposes to restore and preserve wetlands off site at the City's Eureka Slough property (APN 002-231-12) and Truesdale properties (APNs 007-061-15 and -16, 007-091-02, -05, and -06). Implementation of the wetland mitigation and monitoring program outlined in this plan is intended to satisfy the mitigation measures required by the California Coastal Commission, California Department of Fish and Game (DFG), and U.S. Army Corps of Engineers (Corps).

2.0 Project Background

2.1 Site Description

The Project site is located on the eastern shore of Humboldt Bay within the City of Eureka (City), between C Street and approximately 180 feet west of C Street (Figures 1 & 2). The site extends landward approximately 100 feet from the bulkhead line. The Project site includes the deteriorated wood pier-supported concrete foundation where the Lazio Building, a fish processing plant and seafood restaurant, once stood. The foundation platform occupies the eastern half of the site and has collapsed in several areas, exposing rocky fill and debris below. Scattered patches of salt marsh vegetation have developed in areas beneath the foundation that have been exposed to direct sunlight. The western portion of the site supports a mosaic of intertidal mudflat, rocky fill material, concrete rubble, relic pier pilings, and salt marsh vegetation. A dilapidated wooden dock structure, consisting of wooden pilings and decking material occurs off site along the northern Project boundary, immediately seaward of the bulkhead line.

2.2 Project Summary

The approved original Project plan includes a commercial fishing dock (Fisherman's Terminal Dock) from C Street to 360 feet west of C Street along the waterfront margin. The plan also calls for the construction of a Fisherman's Terminal Work Area landward of the dock, consisting of a sheet pile bulkhead wall and engineered backfill and pavement. This work area extends from approximately 180 feet to 360 feet west of C Street. The original Project plan does not include development designs for the subject site, between C Street and the Fisherman's Terminal Work Area.

Under the project's existing Coastal Development Permit (CDP; 1-99-077), the City of Eureka has the Coastal Commission's approval to fill and shade coastal wetlands along the waterfront for the construction of the Fisherman's Terminal Dock and Work Area west of C Street. The City proposes to amend the existing CDP to include development of the subject site. Proposed site development consists of the installation of interlocking sheet piling along the bulkhead line between C Street and

the proposed Fisherman's Terminal Work Area. The landward portions of the site would then be backfilled to grade for the future development of a planned commercial fishing facility. Under the amended project proposal, the entire site, including approximately 10,950 square feet (sq. ft.) of coastal wetlands, would be directly impacted by fill (SHN, 2004).

2.3 Summary of Project Impacts

On April 21, 2004, SHN staff conducted a biological assessment of the site to identify natural resources to be affected by the proposed Project amendment. A total of approximately 10,950 sq. ft. of coastal wetlands were identified on site, including intertidal mudflat (1,000 sq. ft.), rocky intertidal habitat (5,750 sq. ft.), and coastal salt marsh (4,200 sq. ft.; Table 1; Figure 2). The remainder of the site consists of developed areas and disturbed upland habitat. Under the amended Project plan, the entire site would be directly impacted by fill. A brief summary of each habitat is provided below.

Table 1
Project Impacts to Natural Resources
Eureka Inner Channel Dock and Boardwalk Revitalization Project

Habitat Type	Area (square feet)
Intertidal Mudflat	1,000
Rocky Intertidal--Shaded	3,500
Rocky Intertidal--Exposed	2,250
Salt Marsh	4,200
Total	**10,950**

2.3.1 Intertidal Mudflat

Intertidal mudflats occupy approximately 70 percent of the Humboldt Bay area, and extend from just below the mean lower low water tide line to the mean high water tide line (Barnhart et al., 1992). Exposed at low tide, sediments of the intertidal mudflats are rich in organic material and support abundant micro- and macroalgae due to the high light availability. The high primary productivity of mudflats provides for dense assemblages of invertebrates, which, in turn, attract shorebirds, fish, and crab (Zedler, 2001).

Intertidal mudflat was identified along the northern margin of the site, west of the Lazio Building foundation. The mudflat is exposed during periods of low tide and the presence of bird and mammal tracks were noted in the mud substrate at the time of the survey. Eel grass (*Zostera marina*) was absent from the on-site mudflat, which covers a total area of approximately 1,000 sq. ft.

2.3.2 Rocky Intertidal Habitat

In contrast to the soft sediment of intertidal mudflats suited for burrowing invertebrates, rocky intertidal habitat provides a hard substrate for encrusting littoral and benthic organisms to attach themselves. Organisms found within rocky intertidal habitats are adapted to tolerate extreme environmental fluctuations in temperatures, wind, and sun exposure associated with tidal cycles. Common species within the rocky intertidal zone include barnacles, mussels, chitons, sea urchins,

grazing snails, sea stars, hermit crabs, and sea anemones, as well as worms and sea cucumbers that hide in crevices and under rocks. Kelps and other macroalgae may also grow in abundance in the rocky intertidal zone.

The rocky intertidal habitat on site occurs in the upper reaches of tidal zone, from approximately the mean low water line at the intertidal mudflat boundary to the mean high water line. The habitat substrate consists of degraded pier pilings, chunks of concrete fill material, and natural stones. Algae, barnacles, and other marine organisms are present in low to moderate concentrations. The rocky intertidal habitat in the eastern portion of the site is shaded by Lazio Building foundation. Barnacles were observed in the shaded habitat area, but plants or evidence of other primary producers were absent. Rocky intertidal habitat covers approximately 5,750 sq. ft. of the site, 3,500 sq. ft. of which is shaded.

2.3.3 Coastal Salt Marsh

Coastal salt marshes develop along the intertidal shores of bays, lagoons, and estuaries. This habitat occurs on hydric soils that are subject to regular tidal inundation by salt water for at least part of each year (Holland, 1986). Vegetation consists of salt-tolerant hydrophytes forming moderate to dense cover up to a height of 1 meter. Salt marshes have high photosynthetic productivity and provide habitat for numerous organisms. Native plant species commonly associated with coastal salt marshes in the Humboldt Bay area include fat-hen (*Atriplex patula*), gumweed (*Grindelia stricta*), marsh jaumea (*Jaumea carnosa*), pickleweed (*Salicornia virginica*), common cordgrass (*Spartina densiflora*), and salt grass (*Distichlis spicata*). The original distribution of coastal salt marsh in Humboldt Bay has been reduced nearly 90 percent from agricultural conversion, diking, and coastal development (Barnhart et al, 1992).

Salt marsh was mapped in the southwest portion of the site, in an open area immediately west of the Lazio Building foundation. Wooden pier pilings and rocky debris are scattered throughout the sparsely vegetated area, which is dominated by such species as common cordgrass, pickleweed, salt grass and seaside arrowgrass (*Triglochin maritima*). The coastal salt marsh occupies approximately 4,000 sq. ft. A second, smaller patch of salt marsh was mapped within the footprint of the Lazio Building remains, where a portion of the foundation has collapsed. Approximately 200 sq. ft. of salt marsh vegetation has developed within a discrete patch of habitat in the south, central portion of the foundation footprint.

2.3.4 Developed/Disturbed Habitat

The remainder of the site was identified as developed or disturbed habitat areas. The developed area includes a portion of the Lazio Building foundation beyond the limits of tidal water inundation, which consists of a concrete foundation platform, supported by wooden pier pilings. The area beneath the foundation is shaded, comprised of rocky fill and debris, and lacks vegetation and marine benthic organisms. A concrete pad in the southwest corner of the site was also mapped as "developed," and a patch of disturbed upland habitat was identified on the western site boundary. The disturbed habitat supports an assemblage of non-native upland species, including wild oats (*Avena* sp.), fennel (*Foeniculum vulgare*), dandelion (*Taraxacum officinale*), and vetch (*Vicia* sp.).

2.4 Functions and Values of Habitats To Be Affected

Coastal intertidal and salt marsh habitats have many valuable functions, such as protecting shorelines from erosion, dampening flood effects, trapping water-born sediments, serving as nutrient reservoirs, acting as tertiary water treatment systems to rid coastal waters of contaminants, serving as nurseries for many juvenile fish and shellfish species, and serving as habitat for various wildlife species (Kusler and Kentula, 1989). While the salt marsh and intertidal habitats on site may provide some of these functions, they are limited due to the site's disturbed state, small size, and urbanized setting.

The entire site has been disturbed by historic fill and development. The salt marsh on site is sparsely vegetated, and no sensitive plant species known to occur in this habitat were observed. The shaded portions of the site are devoid of plants and other primary producers, although encrusting benthic organisms (for example, barnacles) were observed in the shaded intertidal area. Overall, the abundance and diversity of macro-organisms within the rocky intertidal zone appear to be low. Shorebird tracks were noted in the intertidal mudflat at low tide, indicating the site has value for wildlife use.

No preserved open space occurs in the immediate Project vicinity, and adjacent land uses consist of existing and approved planned development. Following construction of the approved commercial dock, the site will become more isolated from adjacent bay habitat. Therefore, although the site provides some wetland functions and values, the isolation, small size, and disturbed condition preclude its significance as a valuable resource for both wildlife use and public recreation.

3.0 Project Mitigation Requirements

Impacts to coastal wetlands require mitigation measures to compensate for the loss of biologically significant natural resources. Based on impact mitigation under the original project plan, the Coastal Commission and Corps require a 2:1 exchange ratio for impacts to salt marsh habitat, and a 1:1 exchange ratio for impacts to intertidal mudflat and rocky intertidal habitats. Mitigation would be required for impacts to intertidal mudflat (1,000 sq. ft.), rocky intertidal habitat (5,750 sq. ft.), and coastal salt marsh (4,200 sq. ft.; Table 2).

Table 2
Project Mitigation Requirements
Eureka Inner Channel Dock and Boardwalk Revitalization Project

Habitat Type	Project Impacts (square feet)	Mitigation Ratio	Mitigation (square feet)
Intertidal Mudflat	1,000	1:1	1,000
Rocky Intertidal	5,750	1:1	5,750
Salt Marsh	4,200	2:1	8,400
Total	**10,950**	--	**15,150**

Mitigation for impacts to rocky intertidal habitat would be partially satisfied on site by the construction of the proposed corrugated sheet pile bulkhead, which would provide an intertidal surface as encrusting benthic organism habitat. As reported in the Coastal Commission Staff Report (1-99-077) for the original project, "the on-site mitigation of rocky intertidal habitat with

pile and bulkhead surfaces...is consistent with marine resource protection policies" (p.26; Coastal Commission, 2000). The proposed sheet pile bulkhead provides a total of 1,080 sq. ft. (180 lineal feet [ft.] at 6-ft. tidal bore) of intertidal surface area. Excess rocky intertidal mitigation from the original project would provide 2,268 sq. ft. of additional mitigation for the proposed Project amendment.[1] Therefore, of the 5,750 sq. ft. of rocky intertidal habitat mitigation required by the project amendment, 3,348 sq. ft. would be "self-mitigated" by the Project. The remaining 2,402 sq. ft. of required mitigation would be provided off site at the City's Eureka Slough property through the creation/restoration of salt marsh habitat. Out-of-kind mitigation is proposed because rocky intertidal habitat is inconsistent with the natural morphology of Humboldt Bay, which is characterized by tidal channels, large intertidal mudflats, and marginal salt marshes (Barnhart, 1992).

Mitigation for impacts to 4,200 sq. ft. of salt marsh would be provided off site at the City's Eureka Slough property through salt marsh habitat creation. The City proposes to restore at least 10,800 sq. ft. of salt marsh habitat for project impacts to salt marsh (2:1 exchange ratio = 8,400 sq. ft.) and rocky intertidal habitat (1:1 exchange ratio = approx. 2,400 sq. ft.). To mitigate for intertidal mudflat impacts, the City would also restore at least 1,000 sq. ft. of mudflat in Humboldt Bay near the foot of Truesdale Avenue.

4.0 Mitigation Sites

4.1 Environmental Setting

4.1.1 Eureka Slough Salt Marsh Mitigation Site

The salt marsh mitigation site is located in the northern part of the City of Eureka, on the southern shore of Humboldt Bay near the mouth of Eureka Slough (Figure 3). The Eureka Slough property occupies approximately 10 acres, bound by Humboldt Bay to the north and east and undeveloped private property to the south and west. The majority of the property supports relatively undisturbed coastal wetlands, including the open water channel of Eureka Slough, intertidal mudflat, and salt marsh habitat. Site topography within the wetlands ranges from approximately +1 ft. Mean Lower Low Water (MLLW) in the intertidal mudflat zone to approximately +8 ft. MLLW at the upper extent of salt marsh habitat.

Based on soil profiles and historic information, approximately one quarter of the native tideland underlying the site appears to have been filled by dredge spoils in several phases since the 1950s. An earthen dike was constructed at the current wetland edge and backfilled with dredge spoils to create a broad upland plateau in the southern and western margins of the property.

[1] Impacts to rocky intertidal habitat in the original Project plan was "self-mitigated" by replacing the existing habitat with the hard intertidal surfaces of the bulkhead and boardwalk structures. The original Project provided a total of 22,468 sq. ft. (20,188 sq. ft. from concrete pilings + 2,280 sq. ft. from bulkhead sheet pile) of mitigation for 20,200 sq. ft. of impacted rocky intertidal habitat (p. 25; Coastal Commission, 2000), or 2,268 sq. ft. of excess mitigation.

4.3.2 Truesdale Mudflat Mitigation Area

The proposed mudflat mitigation area occurs within existing intertidal mudflat habitat interspersed with degraded creosote-treated dock pilings. The mitigation area is subject to frequent tidal inundation. Encrusting intertidal organisms are established in moderate abundance on the concrete footings and pilings embedded within the unvegetated mudflat. Soils beneath the concrete footings and pilings are expected to be of identical quality to that of the adjacent mudflat. No eel grass beds occur within the mitigation area.

4.4 Selection of Mitigation Areas

The selection of Project mitigation areas was based on several factors. Primarily, the locations of the proposed mitigation areas were determined by their proximity to existing, high-quality examples of the target habitat types (salt marsh and intertidal mudflat), where natural environmental conditions favor habitat persistence. In addition, because the mitigation sites are located in areas that once supported the target habitat types, they are expected regain habitat functions once natural elevations, hydrologic and soil conditions are restored. Finally, the proposed mitigation sites offer upland access and staging locations that will allow for the restoration of the target habitats, while avoiding impacts to existing sensitive habitat on site (including wetlands).

4.5 Functions and Values of Habitat To Be Created

After an initial period of habitat establishment, the created wetlands will have greater functions and values than currently exist in the mitigation areas. High quality salt marsh habitat will replace the filled, disturbed upland areas at the Eureka Slough mitigation site. The restored salt marsh will provide increased habitat value for wildlife, and significantly expand the area of contiguous salt marsh habitat near the mouth of Eureka Slough.

Restoration of the intertidal mudflat mitigation site will increase the area of intertidal bay muds utilized by wildlife and marine benthic organisms. Removal of the historic dock will prevent further contamination from the deteriorating creosote-treated pier pilings and will restore the natural topography of continuous mudflat in the lower intertidal zone. All of the restored wetlands will be preserved in perpetuity, and if adjacent parcels are further developed, the mitigation area will provide passive recreational opportunities (for example, birding) to the public.

5.0 Responsible Parties

The following participants are responsible for the installation, maintenance, and monitoring of this mitigation program. The responsibilities of each party are described below.

5.1 Project Proponent

The project proponent, the City of Eureka Engineering Department, will be ultimately responsible to ensure that the approved mitigation plan is implemented and successful. The City will be responsible for financing the preparation (that is, grading and planting), maintenance and monitoring of the mitigation areas. The contact at the City is Mr. Brent Siemer, City Engineer. He can be reached be telephone at 707-441-4194, or at 531 K Street Eureka, California 95501.

4.1.2 Truesdale Mudflat Mitigation Site

The intertidal mudflat mitigation site is located in south Eureka, near the foot of Truesdale Avenue on Humboldt Bay (Figure 4). The site lies immediately west of a public parking lot, and occurs within the intertidal zone of Humboldt Bay. Surrounding land uses include industrial development to the north, mixed residential and commercial to the east, and undeveloped natural resource areas to the south, including the Elk River Wildlife Sanctuary.

The landward (eastern) portion of the site consists of sandy shore and scattered concrete rubble. The remainder of the site supports intertidal mudflat, interspersed with degraded creosote-treated wooden pier pilings from an historic dock structure.

4.2 Goal of Mitigation

The goal of this mitigation plan is to compensate for Project impacts to jurisdictional wetlands through the creation of similar habitat with improved functions and values at the Eureka Slough and Truesdale sites. The primary mitigation objective is the creation of approximately 10,800 sq. ft. of salt marsh habitat and 1,000 sq. ft. of intertidal mudflat habitat. This objective is to be met primarily through the excavation and removal of upland fill material, debris, and ruderal vegetation, restoring a natural, tidally influenced hydrology in the mitigation areas. To accelerate habitat development, the marsh restoration area shall be planted with native salt marsh species.

4.3 Existing Conditions Within and Adjacent to Mitigation Area

4.3.1 Eureka Slough Salt Marsh Mitigation Area

Mitigation for salt marsh impacts resulting from the proposed Project amendment would be provided at the Eureka Slough site (Figure 3). The proposed salt marsh mitigation area occupies approximately 12,000 square feet in the central portion of the site, and extends from the toe of the fill slope landward (south) to the property line. The entire mitigation area consists of dredge spoil fill placed over historic tidelands, immediately adjacent to existing coastal salt marsh and intertidal habitats on the margin of Humboldt Bay.

Vegetation on the dike slope and fill plateau is dominated by upland shrub and herbaceous species. The dike slope is dominated by thick shrub and herbaceous vegetation, consisting of coyote brush (*Baccharis pilularis*), Himalayan blackberry (*Rubus discolor*), Pacific bramble (*Rubus ursinus*), pampas grass (*Cortaderia jubata*), and fennel (*Foeniculum vulgare*). The fill plateau appears to be regularly brushed, and supports an assemblage of ruderal herbaceous species. No sensitive plant species were observed, nor are expected to occur, within the mitigation area.

The adjacent salt marsh, generally north and east of the mitigation area, supports herbaceous species typical of Humboldt Bay. Dense-flowered cordgrass (*Spartina densiflora*), an invasive non-native, is the dominant species present in the on-site coastal salt marsh. However, a diverse assemblage of native salt marsh species is also present, including sea side arrow grass (*Triglochin maritima*), fat-hen saltweed (*Atriplex patula*), coastal gumweed (*Grindelia stricta*), pickleweed (*Salicornia virginica*), and saltgrass (*Distichlis spicata*). The intertidal mudflat, extending north from the salt marsh into the bay waters, is unvegetated and lacks eel grass (*Zostera marina*) beds.

4.3.2 Truesdale Mudflat Mitigation Area

The proposed mudflat mitigation area occurs within existing intertidal mudflat habitat interspersed with degraded creosote-treated dock pilings. The mitigation area is subject to frequent tidal inundation. Encrusting intertidal organisms are established in moderate abundance on the concrete footings and pilings embedded within the unvegetated mudflat. Soils beneath the concrete footings and pilings are expected to be of identical quality to that of the adjacent mudflat. No eel grass beds occur within the mitigation area.

4.4 Selection of Mitigation Areas

The selection of Project mitigation areas was based on several factors. Primarily, the locations of the proposed mitigation areas were determined by their proximity to existing, high-quality examples of the target habitat types (salt marsh and intertidal mudflat), where natural environmental conditions favor habitat persistence. In addition, because the mitigation sites are located in areas that once supported the target habitat types, they are expected regain habitat functions once natural elevations, hydrologic and soil conditions are restored. Finally, the proposed mitigation sites offer upland access and staging locations that will allow for the restoration of the target habitats, while avoiding impacts to existing sensitive habitat on site (including wetlands).

4.5 Functions and Values of Habitat To Be Created

After an initial period of habitat establishment, the created wetlands will have greater functions and values than currently exist in the mitigation areas. High quality salt marsh habitat will replace the filled, disturbed upland areas at the Eureka Slough mitigation site. The restored salt marsh will provide increased habitat value for wildlife, and significantly expand the area of contiguous salt marsh habitat near the mouth of Eureka Slough.

Restoration of the intertidal mudflat mitigation site will increase the area of intertidal bay muds utilized by wildlife and marine benthic organisms. Removal of the historic dock will prevent further contamination from the deteriorating creosote-treated pier pilings and will restore the natural topography of continuous mudflat in the lower intertidal zone. All of the restored wetlands will be preserved in perpetuity, and if adjacent parcels are further developed, the mitigation area will provide passive recreational opportunities (for example, birding) to the public.

5.0 Responsible Parties

The following participants are responsible for the installation, maintenance, and monitoring of this mitigation program. The responsibilities of each party are described below.

5.1 Project Proponent

The project proponent, the City of Eureka Engineering Department, will be ultimately responsible to ensure that the approved mitigation plan is implemented and successful. The City will be responsible for financing the preparation (that is, grading and planting), maintenance and monitoring of the mitigation areas. The contact at the City is Mr. Brent Siemer, City Engineer. He can be reached be telephone at 707-441-4194, or at 531 K Street Eureka, California 95501.

5.2 Restoration Specialist

Overall supervision of installation activities and monitoring of the mitigation area will be the responsibility of a specialist familiar with wetland habitat restoration. The restoration specialist will educate all contractors with regard to mitigation goals and requirements at a pre-construction meeting.

After each monitoring event, the restoration specialist will provide the project proponent and landscape contractor with a written list of items in need of attention. The restoration specialist is responsible for identifying habitat areas requiring remedial measures and for directing the implementation of such measures. All requests for work that go beyond the installation or landscape contractor's scope of work will first be approved by the City.

5.3 Installation Contractor

The installation contractor is responsible for fence installation/removal, the excavation/grading and preparation of mitigation areas, and disposal of fill material in approved locations. The installation contractor will work closely with the restoration specialist to ensure that excavation/preparation of the mitigation area will allow for the successful development of target wetland habitats. The installation contractor will provide a set of as-built plans to the restoration specialist at completion of site excavation/preparation.

5.4 Landscape Contractor

The landscape contractor is responsible for the installation of plant materials at the salt marsh mitigation site, following site excavation. Under the direction of the restoration specialist, the landscape contractor will be responsible for maintaining the mitigation area during the five year monitoring period. The landscape contractor will meet the restoration specialist at the site when requested and will complete maintenance requests from the restoration specialist within 15 working days upon receipt of any written request or monitoring report.

6.0 Implementation Plan

6.1 Fencing

Existing wetland habitat and other native vegetation to be preserved in the vicinity of the mitigation area will be protected during grading operations by construction fencing and/or silt fencing, where deemed necessary by the restoration specialist. Fencing will limit access to the mitigation area and define an approved area for equipment operations. Additional fencing may be required at any time if considered necessary by the restoration specialist. The restoration specialist will flag the limits of the mitigation work area, and prior to any grading, the site will be inspected to ensure that all fencing has been installed correctly and in their proper locations.

6.2 Excavation/Site Preparation

The installation contractor, under the direct supervision of the restoration specialist, will conduct grading of the proposed mitigation areas. The limits of grading shall be clearly identified by flagging and/or construction fencing. An on-site, pre-construction meeting will be held with the contractor and the restoration specialist to identify sensitive areas adjacent to the mitigation area and devise a strategy for avoidance prior to initiation of grading activities. Throughout the excavation work, the restoration specialist will conduct periodic daily inspections to ensure there are no incursions of spoils or heavy equipment into the adjacent sensitive habitat areas.

6.2.1 Salt Marsh Mitigation Area

Approximately 7,500 cubic yards of fill, covering 24,000 sq. ft., will be excavated and removed from the salt marsh mitigation site. Approximately 12,000 sq. ft. of the mitigation area will be excavated to lower the ground surface to the elevation of the adjacent salt marsh habitat, between approximately +6 ft. to +8 ft. MLLW. The excavation is expected to expose underlying native soils beneath the fill and provide a range of tidal exposure to insure a frequent, periodic influence of salt-water hydrology. Following site excavation, the salt marsh mitigation area shall be ripped to loosen surface soils and create suitable conditions for the installation of plant materials. An earthen slope shall be constructed at a proposed 2 to 1 (horizontal to vertical) gradient between the salt marsh elevation and the existing fill plain elevation, and seeded with a mix of native upland and wetland species.

Heavy equipment will access the site from the existing dirt roads south of the mitigation area. Work will progress incrementally from the eastern edge of the salt marsh mitigation area to the west. Excavated fill material will be loaded by an excavator into dump trucks and temporarily stored on site in the western portion of the property, to later be disposed properly off site at an approved location. The excavated material is expected to consist of bay muds and sands from historic dredge spoils.

The staging area for equipment will be established in the western portion of the site, on the fill plain within disturbed habitat areas. All construction equipment will be restricted to the staging area when not required for restoration activities, and will be placed above an impervious ground liner when stored or serviced. In addition, the handling and dispensing of petroleum products for equipment operation will be confined to the staging area.

A qualified archaeological monitor will also be present on site during project grading. If sub-surface cultural artifacts are encountered, the archaeological monitor will have the authority to divert construction activities until such time as the resource can be evaluated.

After the site is graded, the Coastal Commission, DFG, and Corps shall be invited on site to approve the grading elevations. If necessary for mitigation success, the Project proponent will comply with requests for additional grading by the above-mentioned agencies.

6.2.2 Intertidal Mudflat Mitigation Area

Restoration activities within the mudflat mitigation area will consist of the removal of dock pilings and other unnatural debris from the mitigation area. The removal of these materials and subsequent tidal action is expected to create at least 1000 sq. ft. mudflat habitat. Heavy equipment will access the site from Truesdale Avenue. All work in the mudflat mitigation area will be completed during low tide to avoid adverse impacts to water quality in Humboldt Bay. Where possible, dock pilings will be removed completely from the mudflat. However, pilings in poor condition may break off during extraction. These piles would be cut at a point at least one (1) foot below the mudflat surface and removed. Excavated debris shall be temporarily stored in a confined upland area on site, and later hauled off site and disposed of properly at an approved location.

The staging area for equipment will be established in the large parking lot near the foot of Truesdale Avenue. All construction equipment will be restricted to the staging area when not required for restoration activities, and will be placed above an impervious ground liner when stored or serviced. In addition, the handling and dispensing of petroleum products for equipment operation will be confined to the staging area.

A qualified archaeological monitor will also be present on site during project activities. If sub-surface cultural artifacts are encountered, the archaeological monitor will have the authority to divert construction activities until such time as the resource can be evaluated.

After restoration grading is complete, the Coastal Commission, DFG, and Corps shall be invited on site to approve final site conditions. If necessary for mitigation success, the Project proponent will comply with requests for additional restoration measures by the above-mentioned agencies.

6.3 Habitat Establishment

Once the proper elevation is established within the salt marsh mitigation area and tidal-influenced hydrology is restored, intrusion of salt marsh vegetation from the adjacent areas is expected to occur. To accelerate habitat development, the mitigation site shall be planted with native salt marsh species (Section 6.3.1). The slope between the salt marsh and the upland fill plain will also be seeded with native species adapted to survive in transitional zones, or "ecotones," between wetland and upland areas (Section 6.3.2). The landscape contractor will be responsible for the propagation and installation of plants at the mitigation site, as directed by the restoration specialist.

Intertidal mudflat is an unvegetated habitat type. It is expected that tidal action in the mudflat mitigation area will deposit bay mud into the excavated areas, restoring suitable, uniform habitat for benthic invertebrates and other mudflat organisms.

6.3.1 Salt Marsh Planting Plan

A planting plan is proposed in the salt marsh mitigation area to facilitate the establishment and persistence of native vegetation within the five-year monitoring period. Plant palettes were developed for low-elevation salt marsh (6.25 to 7.25 ft. MLLW) and high-elevation salt marsh (7.25 to 8.25 ft. MLLW) within the mitigation area (Table 3). The plant palettes, target elevations, and

relative species distributions, are based on the observed habitat composition in the adjacent, existing salt marsh and the known elevation distribution of salt marsh plants in Humboldt Bay (Eicher, 1987).

Table 3
Salt Marsh Planting Plan
Eureka Inner Channel Dock and Boardwalk Revitalization Project

Scientific Name	Common Name	Percent Plant Pallete
LOWER SALT MARSH (6.25 ft. to 7.25 feet MLLW)		
Distichlis spicata	salt grass	30
Salicornia virginica	pickleweed	25
Scirpus martimus	alkali bulrush	25
Jaumea carnosa	marsh jaumea	20
HIGH SALT MARSH (7.25 ft. to 8.25 feet MLLW)		
Distichlis spicata	salt grass	20
Deschampsia cespitosa var. cespitosa	tufted hair grass	20
Salicornia virginica	pickleweed	15
Grindelia stricta var. stricta	gum weed	15
Limonium californicum	sea lavender	15
Scirpus martimus	alkali bulrush	15

Notes: Additional native salt marsh species that occur in the vicinity of the mitigation area, such as fat hen (*Atriplex patula*) and common arrowgrass (*Triglochin maritima*), readily establish from natural seed sources and are not included in the planting plan.

The planting plan for the salt marsh area primarily involves the installation of nursery-propagated container stock. Plants will generally be installed in groupings of seven to ten containers of the same species, at one-foot, on-center spacings. Following plant installation, total native vegetation cover within the salt marsh mitigation area is expected to be between 60 and 75 percent. To reduce the colonization rate of non-native cordgrass (*Spartina densiflora*), plants will be installed at higher densities where the mitigation area borders the adjacent, existing salt marsh habitat.

All plant materials will be inspected and approved by the restoration specialist prior to installation. Modifications to the proposed planting plan may be necessary if, for example, desired species are not available from commercial nurseries. Any proposed substitution or modification to this plan will require review by the restoration specialist, who will coordinate with the City, Coastal Commission, DFG, and Corps for final approval.

6.3.2 Ecotone Planting Plan

Native habitat establishment within the ecotone, adjacent to the salt marsh restoration area, is not a specific goal of this mitigation program. However, the establishment of native vegetation on the constructed slope would provide erosion protection and wildlife habitat area, and would act as a buffer between the wetland area and ruderal habitat present on the upland plain. The ecotone would be seeded with a native seed mix, consisting of native herbaceous species, locally common in the region. Limited plantings of container stock would also be included to establish native shrub and tree species on the slope. A minimum of one container planting per 20 feet on center is required. Table 4 provides a suggested planting plan.

Table 4 Ecotone Planting Plan Eureka Inner Channel Dock and Boardwalk Revitalization Project	
Scientific Name	**Common Name**
SEED MIXTURE	
Deschampsia cespitosa	tufted hair grass
Hordeum brachyantherum	meadow barley
Bromus carinatus	California brome
Scirpus microcarpus	small fruited bulrush
Cyperus eragrostis	nutsedge
Juncus spp.	rushes
CONTAINER STOCK	
Myrica californica	California myrtle
Pinus contorta	beach pine
Lonicera involucrata	twin berry
Deschampsia cespitosa	tufted hair grass
Baccharis pilularis	coyote bush
Salix spp.	Sitka or Hooker's willow
Notes: Containerized plantings may include any combination of the listed species, at the discretion of the restoration specialist.	

6.4 Schedule

The proposed mitigation program will be initiated within 12 months of the start of construction on the Eureka Inner Channel Dock and Boardwalk Revitalization Project. Prior to implementation, the City of Eureka Engineering Department will retain the services of qualified installation and landscape contractors. A qualified restoration specialist will be selected and given the responsibility of supervising and implementing the mitigation plan. The Coastal Commission, DFG, and Corps will be notified at least one month before the work is to begin and given the name and contact information for the party responsible for supervising and documenting implementation of the mitigation plan. The notification will also identify the proposed work dates and daily hourly work schedule as verification that work will not be completed while the mitigation areas are covered by tidal water.

Grading of the mitigation site would be conducted in the fall. Revegetation of the ecotone portion of the mitigation area would occur immediately after site grading. The timing of planting should be synchronized with the on-set of winter rains. Prior to or concurrent with site grading in the fall, the landscape contract shall also collect seed from local sources and begin propagation of salt marsh plants in the nursery. Planting of the nursery-grown salt marsh species would occur in late spring (April or May) of the following year.

6.5 As-Built Conditions

Following implementation of the mitigation plan, a report will be prepared summarizing all work completed. The report shall include the following:

- name of the contractor(s) who completed the work,
- name of the party responsible for supervising the work,
- work dates and time within which the work was completed,
- a site plan illustrating the limits of work in each of the mitigation areas,
- as-built topographic plans of the mitigation areas, and
- pre- and post-construction photographs of the mitigation area.

The report will be submitted to the City of Eureka Engineering Department, which will then forward the report to the Coastal Commission, DFG, and Corps. The report will be submitted within 30 days of completion of the mitigation plan (grading and planting phases). In the event that any unusual circumstances occur that will delay the completion of the mitigation plan once it has be initiated, the Coastal Commission, DFG, and Corps will be notified.

6.6 Maintenance During Five-Year Monitoring Period

The maintenance program is proposed to ensure the successful establishment and persistence of habitat within the salt marsh mitigation area. The mudflat mitigation area is not expected to require any additional maintenance, once restoration activities are completed (Section 6.2.2). Maintenance activities within the salt marsh mitigation area will be conducted by the landscape contractor, as directed by the restoration specialist. The restoration specialist is responsible for identifying area requiring remedial measure and for implementation of such measures. The restoration specialist will coordinate with the City, Coastal Commission, DFG, and Corps, regarding proposed measures. Maintenance personnel will be fully informed of the habitat restoration program so that they understand the goals of the effort and the maintenance requirements.

6.6.1 Maintenance Responsibilities

Plants will be replaced at the direction of the restoration specialist, if necessary to meet mitigation program performance standards. Weed eradication will be conducted as necessary to minimize competition that could prevent the establishment of native species within the mitigation area. Cordgrass (*Spartina densiflora*) is a particularly aggressive non-native plant that is expected to colonize the salt marsh mitigation area. The restoration specialist will determine the need for weeding and will contact the maintenance contractor for any required work. Maintenance personnel will be trained to distinguish weed species from desirable native vegetation. Weeds shall be removed by hand or other manual means. The use of herbicide for weed control shall not be permitted, except in extraordinary circumstances, and only with approval from the restoration specialist, Coastal Commission, DFG, and Corps.

6.6.2 Maintenance Schedule

The entire salt marsh mitigation area will be weeded in the spring of the first year, prior to installation of nursery-grown plants. The restoration specialist will contact the landscape contractor for any additional required maintenance work during the five-year monitoring period. Maintenance will be conducted as necessary to meet final performance standards, under the direction of the restoration specialist. It is anticipated that required maintenance will be most intense in the first two years of the mitigation program. As native habitat develops within the mitigation area, the need for maintenance activities (for example, weed control) should decrease.

7.0 Performance Standards

Success of the mitigation program is defined as the restoration of functional salt marsh and intertidal habitats of equal or greater area than those impacted by the Inner Channel Dock and Boardwalk Revitalization Project Amendment. Out-of-kind mitigation for approximately 2,400 sq. ft. of rocky intertidal impacts would be provided through the creation of additional salt marsh habitat. Once the dock pilings and debris are removed from the intertidal mudflat mitigation area, tidal action will replace excavated areas with surrounding bay muds, effectively restoring habitat functions. Therefore, no specific performance standards for the intertidal mudflat mitigation area are specified in this report.

7.1 Target Surface Area

Specific performance standards for the mitigation program include the establishment of at least 10,800 sq. ft. of salt marsh habitat. After 5 years, the restored salt marsh habitat should have at least 75 percent of the native vegetation cover and native plant species density as compared to an adjacent reference site of existing salt marsh habitat.

7.2 Target Hydrologic Regime

The salt marsh mitigation area will be exposed to a tidal range between approximately +6 ft. to +8 ft. MLLW. The surface elevation will be consistent with the surrounding, adjacent salt marsh. This range of tidal water exposure will insure coverage with saltwater on a frequent basis. Elevations in the mitigation area must remain within the target range for the duration of the 5-year monitoring period.

7.3 Target Functions and Values

The habitat functions and values of the restored salt marsh should be similar to those provided by existing adjacent habitats. The use of the salt marsh mitigation area by wildlife and cover by native vegetation should be similar to the reference sites by the end of the 5-year monitoring period. The diversity of native salt marsh species must be at least 75 percent of the diversity present within the existing salt marsh reference site.

8.0 Monitoring and Reporting Program

The restoration specialist's monitoring program will begin with the construction process and continue for five years. The restoration specialist will perform daily monitoring during the site excavation and plant installation phases. Following completion of work in the mitigation areas, a five-year mitigation and monitoring reporting program will be initiated. The monitoring and reporting program will consist four field visits the first two years of the mitigation program and twice per year thereafter. A monitoring schedule is provided in Table 5.

Table 5
Monitoring and Reporting Program
Eureka Inner Channel Dock and Boardwalk Revitalization Project

Phase	Schedule
Grading	Daily
Plant Installation	Daily
Years 1 and 2	Four times: 3-month intervals, starting 2 months after installation
Years 3 to 5	Twice: January-March and July-August

As part of the monitoring program, both qualitative (visual assessment) and quantitative (transect data collection) sampling will be performed by a qualified biologist. The biological monitor will assess general characteristics of cover, soil and hydrologic conditions, and general use of the restoration areas by wildlife. In the salt marsh mitigation area, transect sampling data shall be collected once per year, in the third quarter (June to August) monitoring event, to document compliance with the performance standards. Results of all field visits will be documented and maintained on file at the City of Eureka. The field notes will be used to make formal maintenance requests and for the preparation of annual reports, which will evaluate the success of the mitigation plan.

8.1 Qualitative Visual Assessment

During each monitoring event, visual observations of habitat conditions will be noted. The qualitative visual assessment will be the primary tool by which habitat development is evaluated and the need for any remedial measures identified. Particular attention will be paid to the following:

- species recruitment and habitat development in the salt marsh mitigation area,
- evidence of viable plant reproduction in the salt marsh mitigation area,
- the presence of shorebirds and other wildlife in the intertidal mudflat mitigation area compared to reference habitat,
- the introduction and infestation of exotic species,
- the accumulation or erosion of sediment within the mitigation area, and
- verification of functioning tidal hydrology in the mitigation areas.

8.2 Quantitative Sampling

Quantitative comparative vegetation data will be collected annually during the third quarter (July-September) monitoring event of the salt marsh mitigation area. Transects will be randomly located for the first sampling event and permanently marked to facilitate their use in subsequent years. Transects will also be placed in a salt marsh reference site supporting similar, undisturbed habitat types as present the mitigation area. One-meter square quadrants will be sampled along the monitoring transects in the mitigation area and salt marsh reference site. These data will be used to determine if final performance standards for the mitigation site have been met (that is, 75 percent of native vegetation cover, plant density, and species diversity relative to reference site).

8.3 Photo Documentation

In addition to the general qualitative assessment and transect sampling, several permanent stations for photo documentation will be established in each mitigation area. Photos will be taken prior to grading and included as part of each annual monitoring report.

8.4 Annual Reports

A report summarizing the status of the restoration effort will be completed within 3 months of completing the implementation phase of the plan (that is, completion of As-Built Drawings), and by December 30 annually thereafter. The first annual monitoring event will occur in the third quarter, at least 6 months following installation. Annual reports will be submitted to the Coastal Commission, DFG, and Corps. Recommendations for any corrective action necessary to ensure the continued success of the mitigation plan will be included in the report.

9.0 Corrective Action

In the event that the monitoring program identifies any conditions that significantly affect the performance standards, or if the performance standards indicated above are not achieved after 5 years, a corrective action plan will be developed by the City of Eureka Engineering Department through consultation with the Coastal Commission, DFG, and Corps (resource agencies). Recommendations for specific corrective actions will be reviewed and evaluated in conjunction with field observation data. The mitigation site will be inspected with resource agency personnel to verify the suitability of the recommended corrective action or make modifications. A corrective action plan will be submitted to the resource agencies prior to completion of any action. The City of Eureka Engineering Department shall be fully responsible for any failure to meet the performance standards of the mitigation plan.

If it is determined that the habitat mitigation plan will not likely result in attaining the performance standards, then the potential need for identification of other sites will be discussed. Any details pertaining to the selection of an alternative site will be discussed and presented to the resource agencies as required. The City of Eureka Public Engineering shall be responsible for developing an alternative site mitigation plan and obtaining approval from the resource agencies.

10.0 Completion of Mitigation

The project proponent will notify the Coastal Commission, DFG, and Corps upon completion of the 5-year mitigation program through the submittal of a final monitoring report. If the project meets performance standards at the end of the 5-year monitoring period, the mitigation will be considered a success; if not, the maintenance and monitoring program will be extended one year at a time until the standards are met. Specific remedial measures (approved by the Coastal Commission, DFG, and Corps) will be used during any extension. Monitoring extensions will be done only for areas that fail to meet final success criteria. This process will continue until all standards are met or until the agencies determine that other mitigation measures are appropriate. If the mitigation effort meets all goals prior to the end of the 5-year monitoring period, the resource agencies, at their discretion, may terminate the monitoring effort.

11.0 References Cited

Barnhart, Roger A., Milton J. Boyd, and John E. Pequegnat. (1992). "The Ecology of Humboldt Bay, California: An Estuarine Profile." *U.S. Fish and Wildlife Service Biological Report*. Washington D.C.: U.S. Department of the Interior.

California Coastal Commission. (May 10, 2000). *Staff Report for the City of Eureka Inner Channel Dock and Boardwalk Revitalization Project (Application No. 1-99-077).* Eureka: North Coast District Office.

Eicher, Annie. (1987). *Salt Marsh Vascular Plant Distribution in Relation to Tidal Elevation, Humboldt Bay, California.* M.A. Thesis. Arcata: Humboldt State University.

Kusler, J.A. and M.E. Kentula. (1989). *Wetland Creation and Restoration: the Status of the Science, Vol. 1 Regional Review EPA/600/3-89/038.* Corvallis: U.S. Environmental Protection Agency, Environmental Research Lab.

SHN Consulting Engineers & Geologists, Inc. (April 29, 2004). "Technical Memorandum: Inner Channel Dock and Boardwalk Revitalization Project Natural Resource Assessment and Impacts Analysis." Eureka: SHN.

---. (December 21, 2000). *Eureka Inner Channel Dock and Boardwalk Revitalization Project: Revised Marine Resource Mitigation Monitoring and Reporting Program, Revision 1.* Eureka: SHN.

Zedler, Joy B., ed. (2001). *Handbook for Restoring Tidal Wetlands.* Baton Raton: CRC Press LLC.

Erosion and Run-off Control Plan

For Construction of the Inner Channel Dock and Boardwalk Revitalization Project

Prepared by the:

Public Works Department, Engineering Division
of the
City of Eureka
531 K Street, Eureka, CA 95501-1165
(707) 441-4191

EROSION AND RUN-OFF CONTROL PROCEDURES
QUICK REFERENCE

EMERGENCY ACTION PLAN

1. Evaluate source, nature and extent of erosion and/or run-off
2. Stop source of erosion/run-off if it can be easily done
3. Call supervisor or project foreman
4. Call Project Inspector
5. Contain erosion if it can be easily done
6. Place earthen dike, hay bales or silt fence as appropriate
7. Notify Project Engineer
8. Remove protective measures as required
9. Replenish containment materials as necessary

EMERGENCY NOTIFICATION LIST

Contractor's Personnel		
Job Foreman	TBA	TBA
Job Supervisor	TBA	TBA
City of Eureka Personnel		
Project Inspector	TBA	TBA
Project Manager	TBA	TBA
Project Engineer	Gary Boughton	441-4187
City Engineer	Brent Siemer	441-4189
Public Works	Secretary	441-4191

Erosion and Run-off Control Plan

For the Construction of the Inner Channel Dock and Boardwalk Revitalization Project

Prepared by:

Brent Siemer, C-33559
City Engineer/Public Works Director
City of Eureka, California

Public Works Department, Engineering Division
of the
City of Eureka
531 K Street, Eureka, CA 95501-1165
(707) 441-4191

December 22, 2000

TABLE OF CONTENTS

Erosion and Run-off Control Plan

1.0 INTRODUCTION

This Erosion and Run-off Control Plan was prepared by the City of Eureka Public Works Department for submittal to the California Coastal Commission.

2.0 OBJECTIVE

The objective of this plan is to ensure that run-off from the activities related to the construction of the City of Eureka's Inner Channel Dock and Boardwalk Revitalization Project does not cause sedimentation to enter coastal waters. Best Management Practices (BMPs) are outlined to address this objective.

3.0 PROJECT DESCRIPTION AND BACKGROUND

3.1 GENERAL INFORMATION

3.1.1 Name of Facility

City of Eureka Inner Channel Dock and Boardwalk Revitalization Project

3.1.2 Type of Facility

Public dock and boardwalk

3.1.3 Location of Facility

Along Humboldt Bay from approximately the foot of "B" Street to "G" Street

3.1.4 Name and Address of Owner

City of Eureka
531 "K" Street
Eureka, CA 95501-1165

3.1.5 Designated Erosion and Runoff Control Oversight

Gary Boughton, Deputy City Engineer
City of Eureka
Public Works Department
531 "K" Street
Eureka, CA 95501-1165
(707) 441-4187

3.2 PROJECT OBJECTIVE

The objective of the proposed project is to construct the City of Eureka Inner Channel Dock and Boardwalk Revitalization Project.

3.3 SITE LOCATION

The subject property is located along Humboldt Bay between a point ±360 feet west of the foot of "C" Street and a point ±290 feet east of the foot of "F" Street.

3.4 FACILITY DESCRIPTION

The proposed project will encompass demolition of all existing dock structures and reconstruction of a 420-foot long commercial fishing wharf, a 1,190-foot long trestle public boardwalk, a 530-foot long floating dock and associated shoreline protective works.

3.5 BACKGROUND INFORMATION

The California Coastal Commission has given its approval to the City of Eureka Inner Channel Dock and Boardwalk Revitalization Project. A detailed "Erosion and Run-off Control Plan" is required by Special Condition Number 4.

3.6 FIELD ACTIVITIES

This plan proposes that the City Construction Inspector will monitor the work site on a daily basis to determine whether the Contractor's land side work activities pose any potential to cause sedimentation to enter coastal waters.

3.7 BEST MANAGEMENT PRACTICES FOR EROSION AND RUN-OFF CONTROL

3.7.1 Standard procedures

The standard construction procedure to minimize the potential for erosion run-off shall be avoidance. All effort should be made to schedule work activities that disturb soil or exacerbate erosion potential for times of the years that minimize this potential. Providing positive control of run on waters is to be provided when work during times of rain is unavoidable.

3.7.2 Good Housekeeping

Good housekeeping includes a clean and orderly work environment. It reduces the chance of storm water picking up sediment as it passes through the work area. The implementation of good housekeeping will

provide an effective approach to storm water management and sediment control.

3.7.3 Incident Response

Once a run-off and/or erosion incident occurs and is contained, the material must be cleaned up and disposed of. All applicable personnel shall be trained in the proper methods to isolate and control run-off. The proper materials for control of run-off shall be readily accessible to personnel.

3.7.4 Material Handling and Storage

This includes the proper methods for handling, transporting and storing materials to be used in the control of run-off. The Contractor shall be trained in the proper methods of storing, handling, installation and removal of materials for the controlling of run-off.

3.7.5 Employee Training

Employee instruction shall be conducted to inform personnel, at all levels of responsibility, of the processes and materials with which they are working, including the proper storing and handling procedures, the practices for preventing erosion, and the procedures for responding properly and rapidly to erosion incidents. The Contractor shall be made familiar with the functional purpose of the Erosion and Run-off Control BMPs as detailed in this Plan.

3.7.6 Visual Inspection

Visual inspection consists of reviewing the construction activates, and observing operation, maintenance and housekeeping practices to detect variance form the BMPs. Daily site inspections are to be performed by designated personnel to identify potential problems which might impact storm water runoff into coastal waters.

3.7.7 Quality Assurance

This includes all the procedures to ensure that all elements of this Plan and the monitoring program are being conducted and are effective. The daily inspections will include review to determine the effectiveness of the BMPs in reducing or eliminating contamination of storm water runoff and costal waters from the site. All aspects of the Plan shall be reviewed in a day to day basis to ensure that they are being properly implemented.

3.8 NON-STRUCTURAL CONTROL MEASURES

3.8.1 Run On Control Devices

Control devices include trenches, drains, graded pavement, or other devices that route storm water runoff or run on. Surface water controls will be installed to route run-off away from excavated areas or where the soil surface is subject to erosion. This will be accomplished through the use of hay bales or earthen berm diversions up slope of the excavated area or erodable surface. Hay bales or sediment fencing will be located along diversion trenches to trap any silt and sediment particles entrained by the runoff. Details of the specific BMPs are provided in Appendix B.

3.8.2 Dust Control

The unpaved areas of the work area shall be watered during dry weather to help prevent the generation of dust by work activities. Speeds of trucks will be carefully monitored to prevent the generation of excess dust form the wheels or from the material in the bed of the truck.

3.8.3 Dewatering

Any water encountered during excavation activities, including groundwater will be removed from the excavation and disposed of properly. Such disposal, at a minimum, shall include de-sedimentation prior to disposal into coastal waters.

3.8.4 Containment

Erosion and run-off control materials shall be on site at all times in order to promptly address any run-off before it is allowed to reach costal waters.

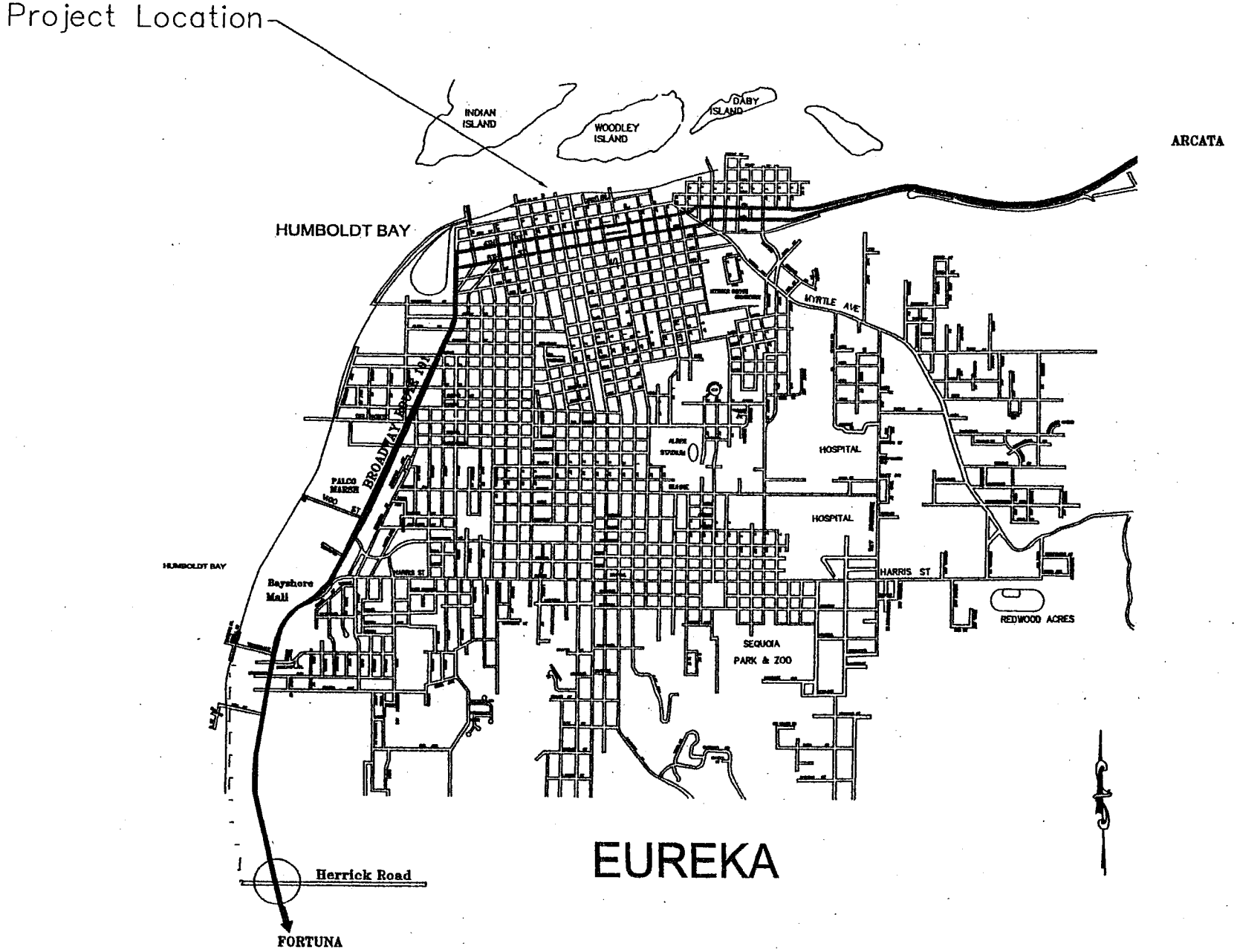
APPENDIX A

Figures:

1 Location / Vicinity Map

2 Project Layout

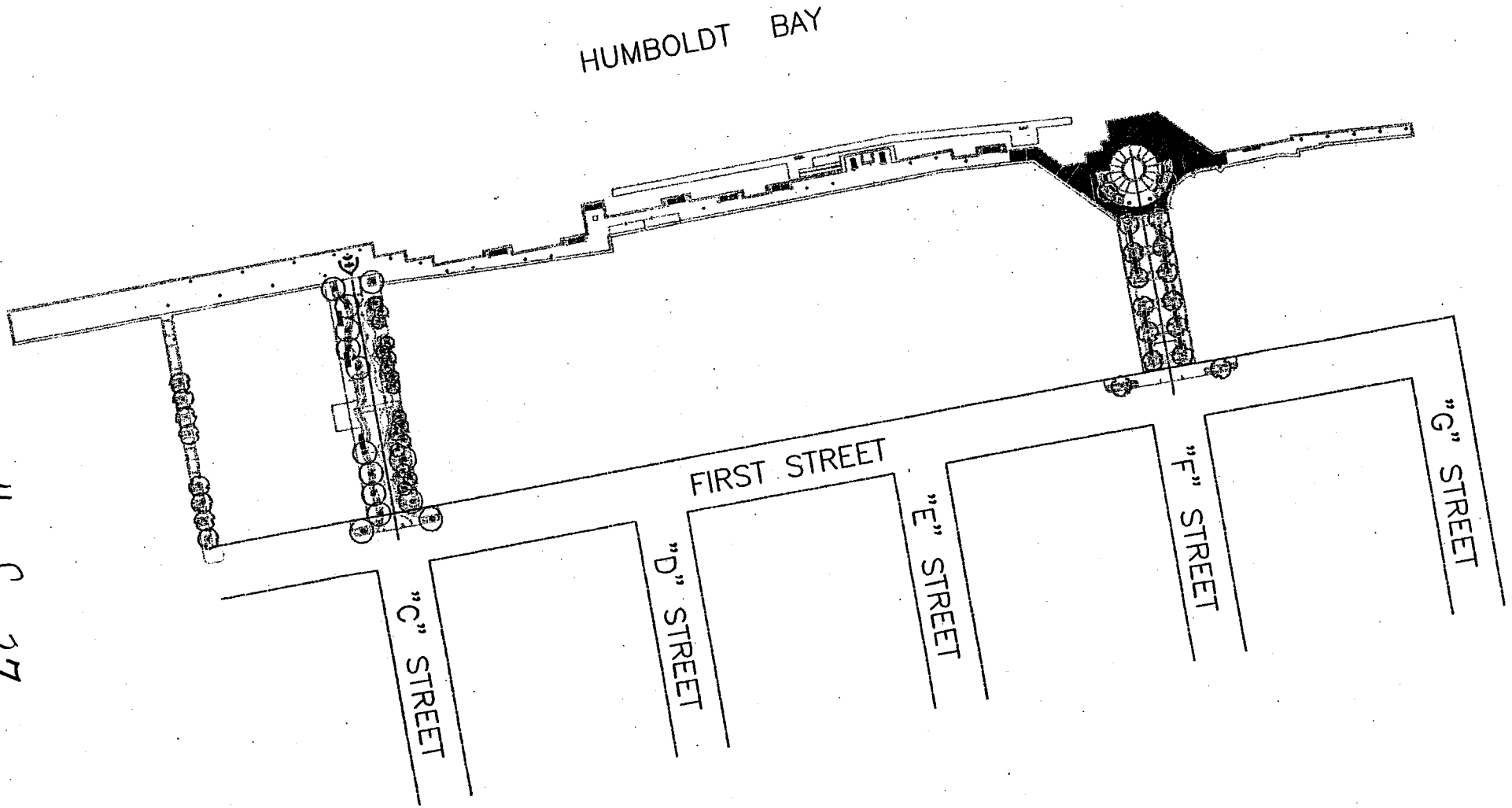
3 Site Plan and BMP Locations



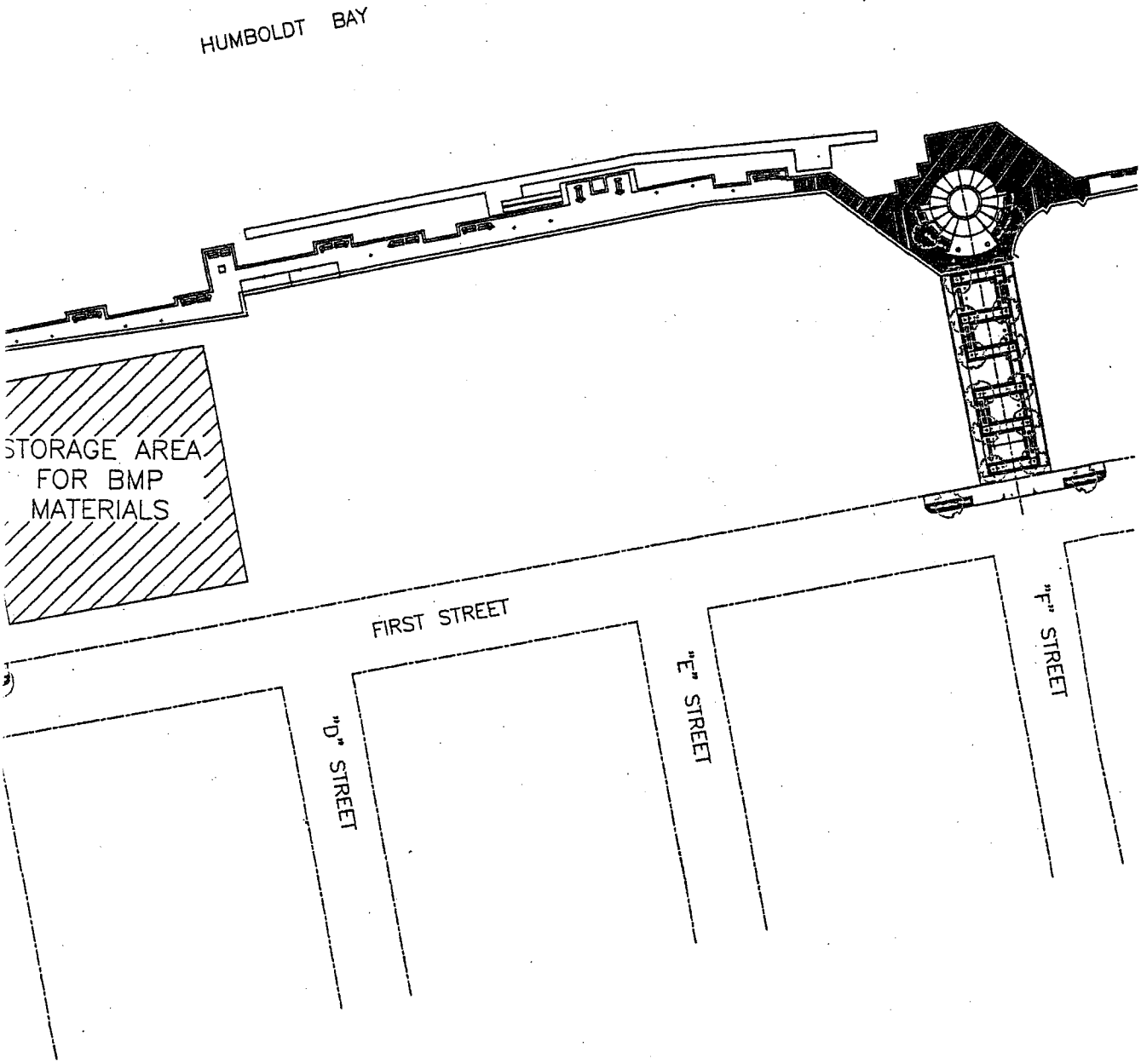
VICINITY MAP
(No Scale)

CITY OF EUREKA
Public Works/Engineering Department

12 of 27



CITY OF EUREKA
INNER CHANNEL AND DOCK REVITALIZATION PROJECT
SITE PLAN



CITY OF EUREKA
INNER CHANNEL AND DOCK REVITALIZATION PROJECT
BMP PLAN

APPENDIX B

Description of Best Management Practices (BMPs)

From the California Storm Water
Best Management Practices Handbook

Reference: 098175.500.530

Erosion and Runoff Control Plan

Eureka Slough Salt Marsh Mitigation Site
Eureka, California
APN 002-231-012

Prepared for:

City of Eureka

Prepared by:

Consulting Engineers & Geologists, Inc.
812 W. Wabash Ave.
Eureka, CA 95501-2138
707/441-8855

December 2004

QA/QC: MEL___

Table of Contents

Appendices

15 of 27

Introduction

This erosion and runoff control plan has been prepared by SHN Consulting Engineers & Geologists, Inc. (SHN) to provide site-specific guidelines for erosion and runoff control at the City of Eureka's Eureka Slough salt marsh mitigation site. The salt marsh mitigation site is located in northern part of the City of Eureka, on the southern shore of Humboldt Bay near the mouth of the Eureka Slough and is comprised of Assessor's Parcel Number (APN) 002-231-012 (Figure 1). Mitigation activities at the site include coastal salt marsh restoration as mitigation for impacts associated with the City of Eureka's Inner Channel Dock and Boardwalk Revitalization Project (Project).

This plan is intended to support the Amended Wetland Mitigation and Monitoring Plan (SHN, December 2004) for the project by identifying the temporary and permanent erosion and runoff control best management practices (BMPs) to be incorporated as part of the proposed mitigation project. The intent of this erosion and runoff control plan is to identify measures to be implemented at the site during and following mitigation activities that will prevent, or reduce to less than significant levels, impacts to the quality of the coastal waters of Humboldt Bay.

This erosion and runoff control plan was prepared based on several documents describing best management practices related to erosion control. These documents include the California Stormwater Best Management Practice Handbook--Construction (California Stormwater Quality Association, 2003), the Biotechnical Erosion Control for Slopes and Stream Banks short course manual (International Erosion Control Association, 1996) and the County of Humboldt Erosion Control Guidelines (County of Humboldt, 2002).

This plan is presented in four sections. The first section provides an introduction to the plan. The second section gives an overview of the proposed mitigation site activities. The third section identifies the proposed temporary and permanent erosion control measures to be implemented at mitigation site. The fourth section presents the limitations of this plan.

Overview of Site Activities

Proposed mitigation activities at the Eureka Slough site include replacing filled, disturbed upland habitat areas with high quality salt marsh habitat. The proposed salt marsh mitigation area occupies approximately 12,000 square feet in the central portion of the site, and extends from the toe of the fill slope south to the property line (Figure 2). The entire mitigation area consists of dredge spoil fill placed over historic tidelands, immediately adjacent to existing coastal saltmarsh and intertidal habitats on the margin of Humboldt Bay. Mitigation activities at the site will include excavation of existing fill material, grading of the lower salt marsh habitat, and dike/slope re-construction between the salt marsh habitat and the existing fill plain. Following earthwork activities, the salt marsh habitat area will be replanted with native salt marsh species and the remainder of the disturbed areas on the constructed slope will be replanted using a mix of native upland and wetland species.

Proposed Temporary and Permanent Control Measures

The proposed temporary and permanent control measures outlined in this plan include both erosion control and runoff control management practices. Erosion control practices consist of source control measures that are designed to prevent soil particles from detaching and becoming suspended or entrained in storm water runoff. Runoff or sediment control practices are structural control

measures that are intended to complement and enhance the erosion control measures. These structural controls are designed to intercept and settle out soil particles that have been detached and are being transported in storm water runoff.

General guidelines for erosion control, as presented in the Humboldt County grading ordinance (June 2002 version), are presented in Appendix A. These guidelines present a broad set of management practices to mitigate erosion potential, and serve as a framework from which to apply the site-specific recommendations that follow. Where applicable, the site-specific recommendations include references to specific BMP fact sheets and copies of the referenced fact sheets are included in Appendix B. Site-specific recommendations for non-storm water management and waste management control measures are also provided in this section.

- **Sediment Control, Slope Construction and Protection of Watercourses.** Surface drainage at the site is directed primarily towards Humboldt Bay to the north. Under existing conditions, the site is predominately vegetated and construction of the proposed salt marsh and upland habitat areas should not cause an increase in the quantity of surface runoff from the parcel. A silt fence will be installed around the perimeter of the restoration area during construction, and prior to site grading, to provide a sediment transport barrier for surface runoff (see BMP fact sheet SE-1, Appendix B). The proposed location for the silt fence is shown on the site plan (Figure 2). This barrier will be maintained during and following construction activities, and removed once a permanent vegetative cover has been established on the site. The barrier will be constructed so that surface water flows from the site are filtered through the fencing material before discharging to Humboldt Bay. Additional sediment control BMPs such as fiber rolls and/or straw bale barriers will also be used on-site as necessary to trap and filter sediment laden runoff (see BMP fact sheets SE-5 and SE-9, Appendix B). Following grading activities and prior to the winter season (October 15 through April 15), exposed slopes and other exposed soil areas along the bank of the restoration area will be stabilized using appropriate streambank stabilization methods (see BMP fact sheet EC-12, Appendix B). The stabilization methods may include permanent biotechnical erosion control techniques such as biodegradable erosion control blankets or mats that prevent or reduce erosion on slopes and provide favorable site conditions for the establishment of permanent vegetative cover (see BMP fact sheet EC-7, Appendix B).
- **Disposal of Excavated Materials.** It is estimated that approximately 7,500 cubic yards of fill material will be excavated from the salt marsh mitigation site. The excavated material is expected to consist of bay muds and sands from historic dredge spoils. Excavated fill material will be loaded by an excavator into dump trucks and temporarily stored on site in the western portion of the property (Figure 2). Excavated materials will be temporarily stored in stockpiles and later disposed off site at an approved location. Waste management practices will be implemented to prevent erosion of the stockpiles during construction and through the winter season (October 15 through April 15). Stockpiles will be surrounded with silt fencing or hay bales, and/or covered with plastic sheeting (Visqueen®, for example) at least 6 mils thick (see BMP fact sheet WM-3, Appendix B).
- **Dust Control.** All construction areas and access roads shall be treated and maintained as necessary to minimize the generation of dust that may blow off site. The most common method of dust control during construction activities is through periodic application of water (see BMP fact sheet WE-1, Appendix B).
- **Removal of Vegetation and Revegetation.** Removal of vegetation will occur on the existing dike slope and the fill plateau during the site excavation and grading activities. Vegetation in these areas consists primarily of upland shrub and herbaceaous species. Existing wetland habitat

and other native vegetation to be preserved in the vicinity of the mitigation area will be protected during construction activities by construction fencing and/or silt fencing (see BMP fact sheet EC-2, Appendix B). The fencing will limit access to the mitigation area and define an approved area for equipment operations. The limits of the mitigation area will be flagged, and prior to any grading, the site will be inspected to insure all fencing has been installed correctly. Revegetation will include planting native salt marsh species in the lower elevation salt marsh restoration area and native upland species on the constructed slope. A detailed planting plan is included in the Amended Wetland Mitigation and Monitoring Plan (SHN, December 2004).

- **Equipment Access and Staging Areas.** Heavy construction equipment used on site will access the site from the existing dirt roads located south of the mitigation area. A stabilized construction entrance and exit will be used to prevent the tracking of materials on and off site (see BMP fact sheet TC-1, Appendix B). Once on site, all construction equipment will be restricted to a designated staging area when not in use. The staging area will be located in the western portion of the site, on the fill plain and within disturbed habitat areas. Maintenance of construction equipment, and handling and dispensing of petroleum products, if required, will be confined to the staging area (see BMP fact sheets NS-9 and NS-10, Appendix B). Cleaning of construction equipment will not be allowed on-site.
- **Scheduling.** The proposed project schedule has been optimized to address the recommended planting seasons for both the upland and the salt marsh habitat species and to reduce erosion potential by designating proper sequencing of construction activities (see BMP fact sheet EC-1, Appendix B). The construction schedule for this project includes earthwork activities commencing in the early fall, with planting of the upland habitat areas and the slope face by late fall. During the wet winter season (October 15 through April 15) exposed soils in lower salt marsh habitat area will be protected from erosion using an appropriate erosion control method such as shaping the ground surface to prevent concentrated surface flows and/or providing localized hay bale or silt fencing. Revegetation of the lower marsh habitat will occur during spring of the following year.

Limitations

SHN has prepared this plan for use on this project in accordance with the generally accepted erosion and sediment control best management practices. However, SHN does not undertake the guarantee of construction nor relieve the contractor of their primary responsibility to produce a complete project conforming to the project plans and specifications. No warranty is expressed or implied. The recommendations provided in this plan are based on the assumption that SHN or other qualified professionals will conduct field observations during the construction phase in order to evaluate compliance with the recommendations.

If there is a substantial lapse of time between the submission of this plan and the start of work at the site, or if conditions have changed due to natural causes or construction operations at or adjacent to the site, this plan should be reviewed to determine the applicability of the conclusions and recommendations considering the changed conditions and time lapse. This plan is applicable only to the project and site referenced.

Appendix A

County of Humboldt Erosion Control Guidelines

Appendix A
County of Humboldt Erosion Control Guidelines

Source: County of Humboldt Grading, Erosion Control, Geological Hazards, Streamside Management Areas, and Related Ordinance Revisions (June 2002)

Erosion and Sedimentation Control. These minimum erosion control and sedimentation control standards shall apply to all projects requiring building, grading, and development permits, and County of Humboldt Public Works activities, to prevent sedimentation or damage to onsite and offsite property. These standards shall be incorporated into the project design and shall be adhered to during project construction:

General Guidelines

a. Minimize soil exposure during the rainy season by proper timing of grading and construction.

b. Retain trees and natural vegetation to stabilize hillsides, retain moisture, reduce erosion, minimize siltation and nutrient runoff and preserve scenic qualities.

c. Vegetate and mulch denuded areas to protect them from winter rains.

d. Divert runoff away from steep, denuded slopes or other critical areas with barriers, berms, ditches, or other facilities.

e. Design grading to be compatible with adjacent areas and result in minimal disturbance of the terrain and natural land features.

f. Limit construction, clearing of vegetation and disturbance of the soil to areas of proven stability. Mitigate geologic hazards and adverse soil conditions when they are encountered.

g. Reduce sediment transport off the site to the maximum extent feasible through the use of Best Management Practices (BMPs).

h. Propose a new or modified erosion and sediment control technique if the technique is preferred and meets the intent of these regulations. Obtain approval from the County prior to implementation.

i. Conduct frequent site inspections to ensure that control measures are working properly and to correct problems as needed.

j. Employ other means of erosion and sediment control as required by the Chief Building Official or Director of the Department of Public Works as applicable.

Sediment Control

a. Use sediment basins, silt traps, or similar measure to retain sediment transported by runoff water onsite.

b. Collect and direct surface runoff at non-erosive velocities to the common natural watercourse of the drainage area.

c. Avoid concentrating surface water anywhere except swales or watercourses.

d. Prevent mud from being tracked onto the public roadway by traveling over a temporary gravel construction entrance or washing off vehicle tires before entering a public or private driveway.

Slope Construction

a. Minimize length and steepness of slopes by benching, terracing, or constructing diversion structures.

b. Preserve, match, or blend cuts and fills with the natural contours and undulations of the land.

c. Round sharp angles at the top and sides of cut and fill slopes.

d. Maintain cut and fill slopes at less than two-to-one (2:1 run:rise) slope unless a geological and engineering analysis indicates that steeper slopes are safe and erosion and sediment control measures can successfully prevent erosion.

e. Where a cut or fill slope occurs between two lots, make the slope a part of the downhill lot if possible.

Protection of Watercourses and Drainage Inlets

a. Prepare drainageways to handle concentrated or increased runoff from disturbed areas by using appropriate lining materials or energy absorbing devices to reduce the velocity of runoff water.

b. Trap sediment-laden runoff in basins to allow soil particles to settle out before flows are released to receiving waters, storm drains, streets, or adjacent property. This standard is not mandatory for grading conducted between April 15 and October 15. Remove trapped sediment to a suitable on-site or at a disposal site approved by the County.

c. Do not grade or drive equipment in a Streamside Management or Other Wet Areas except as allowed through the County Streamside Management Area Ordinance.

d. Deposit or store excavated materials away from watercourses.

e. Protect all existing or newly installed storm drainage structure from sediment clogging.

f. Use straw bales, filter fabric wraps, and drainage inlet protections in a manner that does not cause additional erosion or flooding of a roadway.

Disposal of Excavated Materials

a. Stockpile topsoil on the site for use on areas to be revegetated.

b. Place stockpiled soil in locations so that if erosion occurs, it will not contribute to offsite sediment discharge.

c. Protect stockpiled soil promptly through the use of appropriate BMPs to reduce the risk of erosion and sediment transport. Apply mulch or other protective coverings on stockpiled material that will be exposed through the winter season.

d. Dispose of excavated material not used at the site at a location approved by the County.

Dust Control

a. All construction areas, including disposal sites, shall be treated and maintained as necessary to minimize the emission of dust. Maintenance shall be conducted as necessary to prevent a nuisance to offsite properties.

b. All construction sites, including driveways, shall be maintained as necessary to minimize the emission of dust and prevent the creation of a nuisance to adjacent properties.

Revegetation

a. Apply temporary seeding and mulching to denuded areas prior to October 15 unless the project is conditioned otherwise

b. Establish a permanent vegetative cover on denuded areas not otherwise stabilized. Permanent vegetation ground cover must control soil erosion satisfactorily and survive severe weather conditions.

c. Retain a vegetative barrier whenever possible around property boundaries.

d. Use self-sustaining, non-invasive plants that require little or no maintenance and do not create an extreme fire hazard.

e. Use native plant species whenever feasible.

Appendix B
BMP Fact Sheets

Erosion Control

EC-1 Scheduling
EC-2 Preservation of Existing Vegetation
EC-7 Geotextiles and Mats
EC-12 Streambank Stabilization

Sediment Control

SE-1 Silt Fence
SE-5 Fiber Rolls
SE-9 Straw Bale Barrier

Tracking Control

TC-1 Stabilized Construction Entrance/Exit

Wind Erosion Control

WE-1 Wind Erosion Control

Non-Stormwater Management Control

NS-9 Vehicle and Equipment Fueling
NS-10 Vehicle and Equipment Maintenance

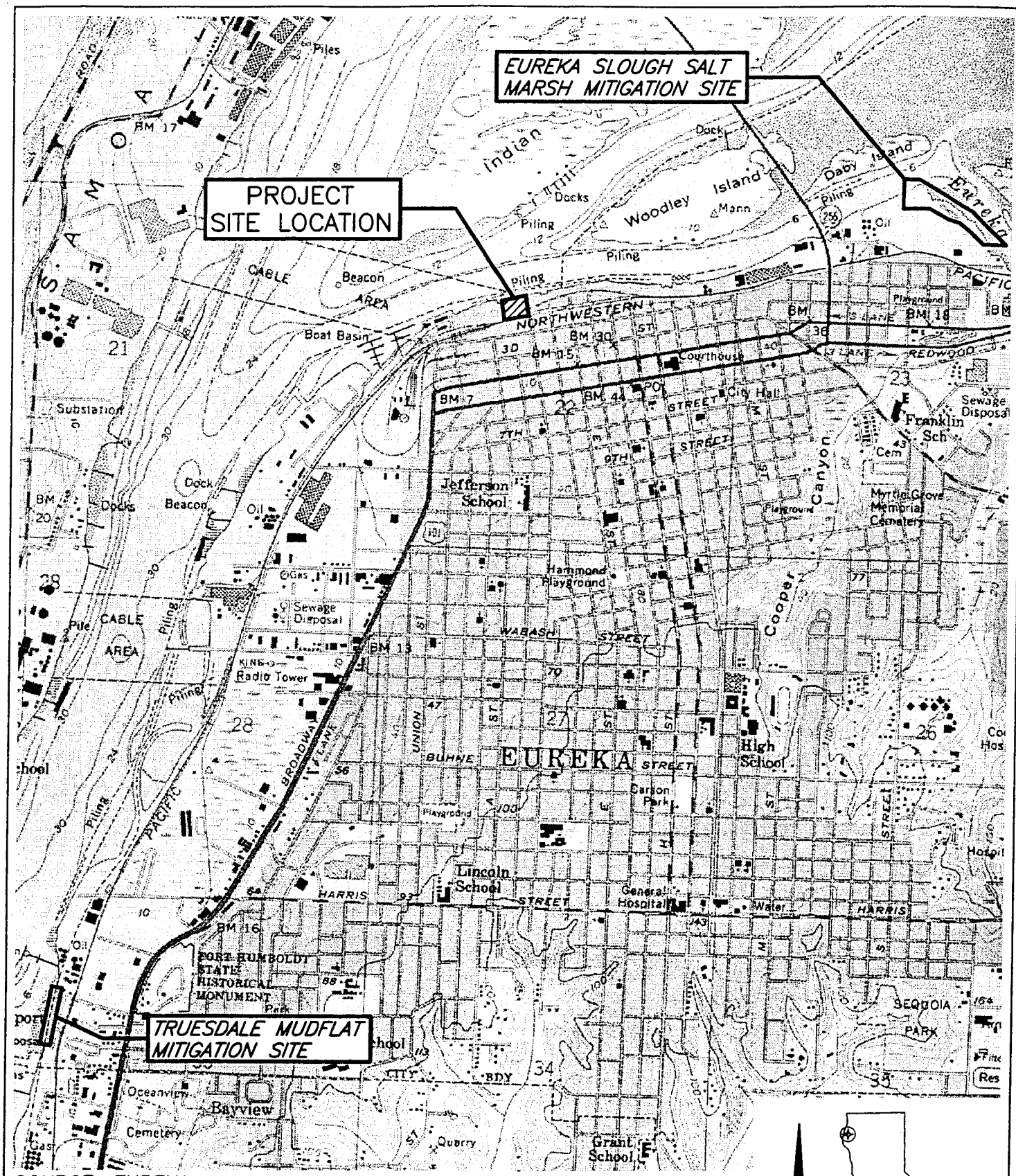
Waste Management Control

WM-3 Stockpile Management

Appendix C

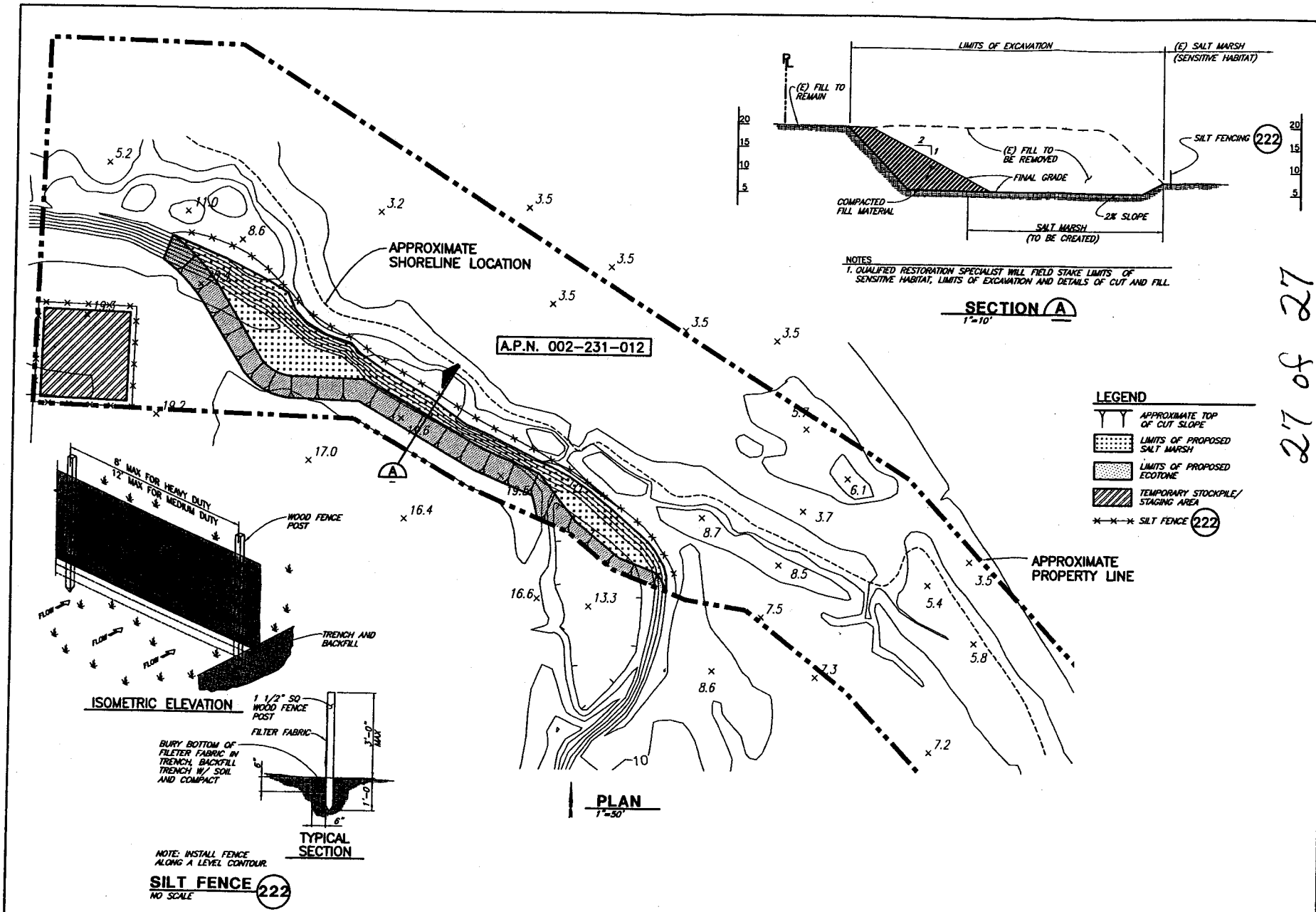
25 of 27

Figures



SOURCE: EUREKA USGS 7.5 MINUTE QUADRANGLE

SHN Consulting Engineers & Geologists, Inc.	City of Eureka Inner Channel Dock and Boardwalk Revitalization Project	Site Location Map SHN 098175.500
	JULY 2004	098175.500-LOCATION	Figure 1



27 of 27

CONSULTING ENGINEERS & GEOLOGISTS, INC.
812 W. Wabash
Eureka, CA 95501
(707)441-8855
FAX (707)441-8877

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
IF NOT ONE INCH ON THIS SHEET ADJUST SCALES ACCORDINGLY

NO.	DATE	REVISION	BY

DSGN TC
DR RW
CHK
APVD

CITY OF EUREKA
INNER CHANNEL DOCK & BOARDWALK REVITALIZATION PROJECT

EUREKA SLOUGH SALT MARSH
EROSION & RUNOFF CONTROL PLAN

FIGURE 2

DATE 12/04
PROJ. NO. 098175.500

C:\AD\098175-300-EROSION-CONTROL.DWG

Technical Memorandum #1

Reference:	0098175.500.530
Date:	December 10, 2004
To:	Mr. Ted Grantham, Environmental Planner
Copy:	Martin Lay, Project Manager
From:	David Bradley, Geotechnical Engineer
Subject:	**Geotechnical Comments, City of Eureka Waterfront Revitalization Project, Eureka Slough Mitigation Site, Eureka, California**

I have reviewed the November 12, 2004, letter to you titled, "Review of Submittal of Coastal Development Permit Amendment Request No. 1-99-077-A3 for *Eureka Waterfront Revitalization* Fisherman's Terminal Sheetpile Bulkhead Back-fill, Eureka Waterfront Area, City of Eureka, Humboldt County California; City of Eureka, Applicant," from Mr. Jim Baskin, ACIP, Coastal Planner with the California Coastal Commission. The purpose of my review was to determine project feasibility from a geotechnical perspective.

Under Item 2. "Coastal Engineering and Geo-Technical Analyses," the letter reads

> *The Coastal Act requires that new development: (a) minimize risks to life and property in areas of high geologic and flood hazard; (b) assure [sic] stability and structural integrity; and (c) neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.*

Other geotechnical concerns mentioned in the letter include shoreline erosion, geologic stability, and the engineering design of the revetment.

Shoreline Erosion

Preliminary information indicates that much of the site was filled in the 1960s, and the current shoreline has been in existence at least since the early 1970s. The shoreline bordering the filled area was created at that time. Currently, the distance from the shoreline to the toe of the revetment slope ranges from approximately 20 feet to 50 feet. No significant shoreline erosion is evident over the last, approximately 35 years, indicating a low risk of significant erosion under normal tidal, storm, and Eureka Slough flooding influences. Furthermore, there is no evidence of slope failure or instability along the existing revetment face as a result of erosive forces. The site has not been subject to unusually high storm surges or tsunamis since the area was filled and the revetment constructed.

The steepness of the existing slope face, which stands on the order of 10 feet in height at slopes varying up to about 1:1 (horizontal:vertical), indicates that the soils forming this slope face are cohesive. Interior fill soils (south of the existing revetment) include significant amounts of sandy, silty, cohesionless deposits, as evidenced by site surface exposures and SHN file boring information. These cohesionless soils are highly erodable, but are protected by the existing, cohesive, perimeter revetment.

Cohesive soils are not considered especially prone to significant erosion during rare events such as atypically high storm surges or tsunamis. (We understand the entire lower-in-elevation, northern and western portions of Eureka were inundated by a storm surge in the late 1800s.) With the currently existing shoreline not exhibiting significant erosion over the last three decades, and with a low likelihood of significant erosion of cohesive perimeter revetments, the site has a concluded low risk of significant erosion during rare, high storm surges, or tsunamis. The essentially cohesionless soils exposed on the filled, interior site surface south of the revetment may be subject to shallow sheet erosion if flood waters were to flow across the surface in such rare events. The proposed project would not change this risk.

The proposed modifications to the site consist of retreating the existing perimeter revetment or face slope to create additional marshland areas. The existing marshland, between the shoreline and the current toe of slope, would not be affected. Preservation of the existing, vegetated shoreline would provide a significant buffer between the shore and the created salt marsh and would protect the mitigation site from potential erosive forces (waves, flooding, etc.). With the proposed perimeter revetment equal to or more resistant to erosion than the current revetment, the project should not result in any new or increased erosion hazards. Erosion potential at the site would be further minimized through the implementation of the following mitigation measures:

1. Implementation of the erosion and runoff control plan for the mitigation project
2. Revegetation of the salt marsh and slope face, per specifications in the mitigation and monitoring plan
3. Implementation of all measures and recommendations by the project's registered geotechnical engineer

Geologic Site Stability

Geologic and geotechnical site stability issues include seismic shaking, tsunami inundation, and seismically induced liquefaction effects. Liquefaction effects may include subsidence, lateral spreading, and sand boils. SHN has reviewed geotechnical boring information from the larger filled site area south and west of the project site. This information indicates an approximately 15 to 20 foot thick layer of dredge spoil fill across the site, which includes deposits of potentially liquefiable sandy soils. Beneath the fill are bay muds (organic clayey silts or silty clays) transitioning into dense sands about 30 feet beneath the site surface. Fall season groundwater levels were indicated to be 8 to 15 feet beneath the site surface. This boring information, which includes laboratory-derived parameters, provides a general concept of subsurface conditions. Based on this preliminary information, portions of the site, as it exists, are currently considered at risk of liquefaction, co-seismic settlement (subsidence), and liquefaction-related lateral spreading and sand boil formation, under relatively rare, very strong and/or prolonged seismic events. (It should be noted that such effects were not reported at the site during the April, 1992 Petrolia earthquakes, which had magnitudes on the order of 6.5 to 7.1.)

We conclude below that it is feasible to construct the proposed shoreline revetment to be equal to or more stable than the existing revetment. With the proposed project completed, risk of liquefaction-related site effects are anticipated to remain the essentially the same as they now are. That is, the proposed project will not increase risk of such effects.

Engineered Revetment Design

It is feasible to construct a new revetment in a retreated location that will be more stable than the existing shoreline face slope or revetment. This can be done by investigating the composition and extent of the existing revetment, which is suspected to consist of a compacted embankment of cohesive soils, and then constructing a stronger, less steep, more stable, and equally non-erosive revetment. Design should also include subsurface investigations to determine soil profiles along the proposed revetment alignment, so that a stable revetment can be designed with slope face stability equal to or better than the existing slope face. The engineering design would include a specified base elevation for the new embankment, a specified embankment geometry, and embankment fill criteria and specifications, and can be backdrained to mitigate groundwater buildup behind the embankment. For example, the embankment may have a specified base elevation of 5, a face slope of 1.7:1, a basal width of 15 feet, a top width of 5 feet, with the embankment specified to be backdrained, and constructed of cohesive, moderately plastic soils (Plasticity Index between 10 and 16), compacted to a minimum of 90% per American Society for Testing and Materials (ASTM) D 1557.

As discussed above, there may be a risk of lateral spreading in rare, strong and or prolonged seismic events. This predominately depends on whether or not low to moderate density, essentially cohesionless sandy soils underlie the existing and proposed revetment sites. If there are only shallow deposits (for example less about 10 feet) of liquefiable soils underlying the revetment sites, revetment design can cost-effectively incorporate enough strength to mitigate risk of revetment deformation from lateral spreading. However, if liquefiable deposits extend deep (for example 15 to 20 feet) below the current filled site surface, it becomes relatively expensive to reduce lateral spreading risk to levels less than they now are. If potentially liquefiable soils exist and will remain beneath proposed revetment sites, the potential outcome in a relatively rare, strong, prolonged seismic event is a series of ground cracks parallel to and behind the slope face, with moderate subsidence and lateral movement of soil in the downslope direction. For the nature of the project considered, where there is little risk to life and property, appropriate revetment design in our opinion will consist of providing stability under static conditions, and seismic stability at least equal to the existing condition, with the revetment not designed to prevent lateral spreading potential if deep liquefiable deposits exist beneath the existing and proposed revetment alignments.

Engineering design will be based on subsurface explorations and laboratory testing of collected soils samples at the existing and proposed revetment sites to identify underlying soils conditions and to develop geotechnical engineering design parameters. The proposed revetment can then be readily designed to be as, or more, erosion resistant and stable than the existing slope face. For example, if the existing revetment consists of a compacted embankment of cohesive clayey silt or silty clay soils, the proposed revetment could consist of a similar compacted embankment that is at least equal in cohesive strength, that is equal or greater in width and depth, and that has a flatter face slope.

Summary

In summary, it is feasible, in our opinion, to design and construct a retreated revetment that is more stable and resistant to erosion than the existing condition, resulting in net site improvement. This is true with respect to localized revetment stability, and with respect to general geologic site instability hazards. Thus, the proposed revetment can meet the stated Coastal Act criteria:

> *(a) minimize risks to life and property in areas of high geologic and flood hazard; (b) assure [sic] stability and structural integrity; and (c) neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.(Coastal Act)*

The purpose of this technical memorandum is to stress that the project is feasible for its intended nature and purpose, without, at this time, providing a specific finalized design based on subsurface information.

STATE OF CALIFORNIA -- THE RESOURCES AGENCY

CALIFORNIA COASTAL COMMISSION

NORTH COAST DISTRICT OFFICE
710 E STREET • SUITE 200
EUREKA, CA 95501-1865
VOICE (707) 445-7833
FACSIMILE (707) 445-7877

MAILING ADDRESS:
P. O. BOX 4908
EUREKA, CA 95502-4908

GRAY DAVIS, *GOVERNOR*

W21b

Filed:	March 20, 2000
49th Day:	May 9, 2000
180th Day:	September 16, 2000
Staff:	Jim Baskin
Staff Report:	April 26, 2000
Hearing Date:	May 10, 2000
Commission Action:	

STAFF REPORT: REGULAR CALENDAR

APPLICATION NO.:	**1-99-077**
APPLICANT:	**City of Eureka**
PROJECT LOCATION:	Along the City of Eureka's Inner-channel Waterfront of Humboldt Bay, from ±360 ft. west of the foot of C Street to ±290 ft east of the foot of F Street, Eureka, California
PROJECT DESCRIPTION:	Demolition of all existing dock structures and reconstruction of a 420-ft.-long commercial fishing wharf, a 1,190-ft.-long trestle public boardwalk, a 530-ft-long floating dock, and associated shoreline protective works.
LOCAL APPROVALS RECEIVED:	City of Eureka Coastal Development Permit No. CDP-11-99, approved December 21, 1999.
LOCAL APPROVALS PENDING:	Humboldt Bay Harbor, Recreation, & Conservation District, (tentatively scheduled for 4/27/00)
OTHER APPROVALS REQUIRED:	US Army Corps of Engineers CWA §404 Permit; and Regional Water Quality Control Board CWA §401 Certification.

SUBSTANTIVE FILE DOCUMENTS:	City of Eureka Local Coastal Program; City of Eureka General Plan EIR SCH #96072062; Eureka Inner-Channel Dock and Boardwalk Revitalization Project Mitigated Negative Declaration SCH #99112064, certified December 21, 1999; Eureka Inner-Channel Dock and Boardwalk Revitalization Project Marine Resources Mitigation Monitoring and Reporting Program (SHN Consulting Engineers, 10/99); Eureka Inner-Channel Dock and Boardwalk Draft Planning Consideration Report (BERGER/ABAM, 10/99); Geotechnical Investigation Inner-Channel Dock & Boardwalk Revitalization Projects (Harding Lawson Associates, 4/16/99); and Parking Maximization Study in the City of Eureka (SPECTRUM Engineering, 3/31/98)

SUMMARY OF STAFF RECOMMENDATION

Staff recommends that the Commission approve with conditions the proposed City of Eureka Inner-Channel Dock and Boardwalk Revitalization Project. The project involves the removal of derelict waterfront structures and construction of an approximately 1,610-ft.long dock and boardwalk complex along approximately four blocks of the city's frontage on Humboldt Bay. Associated with these improvements are shoreline protection structures to protect the development from wave and tidal forces. The extension of public infrastructure to serve the project area would also be undertaken.

The project is a part of the City's on-going efforts to redevelop its waterfront which has included past approvals by the Commission for industrial dock works, commercial fishing support facilities, a small boat mooring basin, and coastal recreational and assembly amenities. The purpose of the project is to provide extensive public coastal access, recreational opportunities, and upgrade commercial fishing facilities along the City's central waterfront, an area presently occupied by an assortment of dilapidated buildings, piers, wharves and docking. It is the City's hope that these improvements will foster adjacent private development to revitalize its historic "Old Town" area and re-establish itself as a diversified northern California seaport.

As shoreline development, the project does raise potential concerns regarding protection of marine biological resources and coastal waters. In addition, ensuring that coastal access support facilities, such as parking areas, are adequately provided and located, risks

of exposure to geologic hazards are minimized, and visual resources are protected are other issues associated with the project.

The project setting is an urbanized waterfront planned and zoned for coastal-dependent and waterfront commercial uses. Though proposed mostly over tidal and submerged areas, the project site is landward of significant marine resource areas, most notably eelgrass (Zostera marina) beds along the inner-tidal mudflats adjacent to the navigation channel. The project has been configured to avoid intrusion into these areas. Demolition and construction activities have been conditioned to minimize effects to marine resources.

With respect to the potential impacts to marine resources, the project will involve the filling of coastal waters. A total of 4,280 cubic yards of fill as sheet piling, jetted/driven piles and shoreline protective works covering 7,115 square feet (ft^2) will be placed in bay waters. In addition, boardwalk and wharf decking and a floating dock will shade approximately 19,315 ft^2 of intertidal mudflat, rocky intertidal, and saltmarsh habitat areas. Replacement of these habitat areas is proposed at a 1:1 areal exchange ratio of in-kind and out-of-kind habitat. As discussed herein, staff is recommending that the replacement for lost saltmarsh habitat should be in-kind and increased to a 2:1 ratio to ensure that habitat values are fully restored for this more complex habitat type.

During the environmental review of the project, the City and Commission staff consulted with the U.S. Fish and Wildlife Service, the U.S. Army Corps of Engineers, the California Department of Fish and Game and the North Coast Regional Water Quality Control Board regarding potential impacts to bay and near-shore habitats, and water resources. These agencies advised that the project was not likely to have significant adverse impacts on the beneficial uses of the waters of Humboldt Bay or to federal and state listed fish and wildlife habitat provided that in-water development activities are conducted within specified time periods, replacement mitigation for filled wetlands is provided, and established best management practices to contain and minimize water quality disruptions are included in demolition and construction phase activities. These mitigation measures have been included in the recommended special conditions for the project.

Ensuring that the proposed new development includes adequate support infrastructure, such as parking, and protects and enhances coastal access were other concerns identified for the project. Based upon a parking use study developed for the project area, there is adequate under-utilized public parking within a reasonable distance from the project site.

The geotechnical report for the project provides recommendations regarding the placement of fill, piles and the sheetpile bulkhead. These recommendations address the use of geotextile liners on excavated surfaces beneath fill materials, pile jetting techniques to avoid lateral shifts during pile erection, and design of anchoring for

sheetpile bulkhead. These recommendations have also been included as special conditions for the project.

Finalized plans for all boardwalk and plaza improvements are not available as of the writing of this report. Therefore, a plan review requirement has been included with the other project special conditions to assure that visual resources of the project area are not adversely affected once the designs for boardwalk and plaza lighting, signage, and street art structures are finalized.

Staff believes the proposed project as conditioned is consistent with the Coastal Act and recommends approval.

STAFF NOTES

1. Jurisdiction and Standard of Review.

The proposed project is located within the incorporated boundaries of the City of Eureka along Humboldt Bay, about a mile inland from the ocean, in Humboldt County. The City of Eureka has a certified LCP, but those portions of the site below the High Tide Line are within an area shown on State Lands Commission maps over which the state retains a public trust interest. Therefore, the standard of review that the Commission must apply to the project is the Coastal Act.

STAFF RECOMMENDATION:

The staff recommends that the Commission adopt the following resolution:

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. 1-99-077 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 the majority of the Commissioners present.

Resolution to Approve 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 attached.

III. SPECIAL CONDITIONS:

1. U.S. Army Corps of Engineers Approval

PRIOR TO COMMENCEMENT OF CONSTRUCTION, permittee shall provide to the Executive Director a copy of a permit issued by the U.S. Army Corps of Engineers, or letter of permission, or evidence that no permit or permission is required. The applicant shall inform the Executive Director of any changes to the project required by the U.S. Army Corps of Engineers. 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.

2. Final Wetland Mitigation Program

A. **PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT,** the applicant shall submit for review and written approval of the Executive Director, a final wetland mitigation program for all wetland impacts associated with the proposed project. The program shall be developed in consultation with the California Department of Fish & Game and U.S. Fish & Wildlife Service and at a minimum shall include:

1. A detailed revised site plan of the wetland impact area that substantially conforms with the plan titled Eureka Inner Channel Dock and Boardwalk Revitalization Project Marine Resources Mitigation Monitoring and Reporting Program, dated October, 1999, and submitted to the Commission on November 24, 1999. The final plan must delineate all impact areas (such as on a map that shows elevations, surrounding landforms, etc.), the types of impact (both permanent and temporary), and the exact acreage of each impact so identified.

2. The baseline ecological assessment of the wetland impact area submitted on November 24, 1999.

3. A detailed final site plan of the mitigation site that substantially conforms with the site plan submitted to the Commission on November 24, 1999, as revised as follows:

   a. Replacement of in-kind saltmarsh habitat area based upon an exchange ratio of 2:1; and

   b. The location of intertidal mudflat and saltmarsh reference and monitoring cross-sections at the Parcel 4 mitigation site shall be shown.

   The mitigation site plan shall include both the extent of restored areas and the buffer surrounding the restored areas from adjacent development.

4. The goals, objectives, and performance standards set forth in the report entitled Eureka Inner Channel Dock and Boardwalk Revitalization Project Marine Resources Mitigation Monitoring and Reporting Program, dated October, 1999, and submitted to the Commission on November 24, 1999, for the mitigation site, as revised as follows:

   a. Plant cover percentages, density, and species diversity for replacement saltmarsh habitat based upon that in the reference area; and
   b. Faunal re-colonization success reference and monitoring counts for replacement intertidal mudflat habitat based upon direct sampling of the density of appropriate benthic and epi-benthic indicator species using established biological survey protocols.

5. The final design and construction methods that will be used to ensure the mitigation site achieve the defined goals, objectives, and performance standards.

6. Provisions for the full restoration of all wetland impacts that are identified as temporary (such as temporary fill areas). Restoration of temporarily impacted areas shall include at a minimum, restoration of before-impact elevations, restoration of before-impact hydrology, removal of all non-native plant species, and replanting with locally collected native wetland plant species.

7. Provisions for submittal, within 30 days of completion of initial restoration work of "as built" plans demonstrating that the wetland mitigation site has been established in accordance with the approved design and construction methods.

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

3. Construction Responsibilities and Debris Removal

The permittee shall comply with the following construction-related requirements:

A. No construction materials, debris, or waste shall be placed or stored where it may be subject to wave erosion and dispersion;

B. Any and all debris resulting from construction activities shall be removed from the bay immediately;

C. Sand from the beach, cobbles, or shoreline rocks shall not be used for construction material; and

D. Staging and storage of construction machinery and storage of debris shall not take place on any adjacent coastal access support facilities (e.g., parking lots, bike paths, or walkways).

4. Erosion and Run-Off Control Plans

A. **PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT,** the applicant shall submit, for review and approval of the Executive Director, a plan for erosion and run-off control.

1. EROSION CONTROL PLAN

a. The erosion control plan shall demonstrate that:

1) During construction, erosion on the site shall be controlled to avoid adverse impacts on adjacent properties and marine resources;
2) The following temporary erosion and sedimentation control measures shall be used during construction: "dry season" construction scheduling, straw bale barriers, silt fencing, sandbag/coffer damming, and outlet protection (outfall energy dissipaters);
3) Following construction, erosion on the site shall be controlled to avoid adverse impacts on adjacent properties

and resources through the use of re-seeding and mulching of bare soil areas; and

4) The following permanent erosion control measures shall be installed: geo-textile liners beneath rock slope protection structures.

b. The plan shall include, at a minimum, the following components:

1) A narrative report describing all temporary run-off and erosion control measures to be used during construction and all permanent erosion control measures to be installed for permanent erosion control;
2) A site plan showing the location of all temporary erosion control measures;
3) A schedule for installation and removal of the temporary erosion control measures;
4) A site plan showing the location of all permanent erosion control measures; and
5) A schedule for installation and maintenance of the permanent erosion control measures.

2. RUN-OFF CONTROL PLAN

a. The run-off control plan shall demonstrate that:

1) Run-off from the project site shall not increase sedimentation in waters of Humboldt Bay;
2) Run-off from all decking, walkways, and other impervious surfaces and slopes on the site shall be collected and discharged to avoid ponding or erosion either on or off the site;
3) An on-site spill prevention and control response program, consisting of the storage of clean-up materials, training, designation of responsible individuals, and reporting protocols to the appropriate public and emergency services agencies in the event of a spill, shall be implemented at the commercial fishing dock site to capture and clean-up any pollutants accidentally releases of oil, grease, fuels, lubricants, or other hazardous materials from entering coastal waters, as approved by the Regional Water Quality Control Board; and
4) Scouring at stormwater outfalls is prevented through the installation of energy dissipaters at their points of discharge.

b. The plan shall include, at a minimum, the following components:

1) A schedule for installation and maintenance of the outfall energy dissipaters, and implementation of the spill prevention and control program; and
2) A site plan showing finished grades (at 1-foot contour intervals) and drainage improvements.

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

5. Conformance of Design and Construction Plans to Geotechnical Report Geologic Hazard

A. All final design and construction plans, including foundations, grading and drainage plans, shall be consistent with all recommendations contained in Section 6.0 of the Engineering Geologic Report titled Geotechnical Investigation Inner Channel Dock and Boardwalk Revitalization Projects, Eureka, California, prepared by Harding Lawson Associates and dated April 16, 1999. **PRIOR TO THE ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT**, the applicant shall submit, for the Executive Director's review and approval, evidence that an appropriate licensed professional has reviewed and approved all final design and construction plans and certified that each of those final plans is consistent with all of the recommendations specified in the above-referenced geologic evaluation approved by the California Coastal Commission for the project site.

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

6. Boardwalk Plaza Improvements Plan Review

A. **PRIOR TO PLACEMENT OF BOARDWALK AND PLAZA IMPROVEMENTS,** the applicant shall submit, for the review and approval of the Executive Director, final plans for improvements for the public boardwalk and "C" and "F" Street Plazas. The plans shall be prepared by a qualified professional with experience in the fields of architecture, landscape architecture, and/or historic preservation.

1. The plans shall demonstrate that future public improvements and amenities at the project site are:

   a. Visually compatible with the character of surrounding areas with respect to lighting levels, structural heights, bulk, and do not significantly obstruct views from coastal scenic vistas (foot of "C" and "F" Streets) ; and

   b. Subordinate to the character of its setting (i.e., Humboldt Bay Inner Channel waterfront, Old Town district) with respect to architectural style, surface treatments, and physical appearance.

2. The plan review shall apply, either as one comprehensive review, or individually in modules, to the following types of improvements:

   a. Lighting --- ZED® Z-40 or equivalent lamp posts, shielded to direct illumination onto deck surfaces and not into bay waters;

   b. Informational kiosks and interpretative signage as detailed in the project site details (BERGER/ABAM, 12/7/99). Said kiosks and signage to be sited such that there long axis is parallel to coastal scenic vista points to minimize blockage of views; and

   c. Street art (i.e., focal point structures, such as masts, lanyards, booms, riggings, play structures, etc.) as detailed in the project site details (BERGER/ABAM, 12/7/99). Said focal-point structures are not to exceed 35 feet in height for the "C" Street "boat" or 50 feet in height for the "F" Street "mast."

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

IV. FINDINGS AND DECLARATIONS.

A. Project Description.

The proposed project consists of the demolition and reconstruction of over one-quarter mile of the City of Eureka's central waterfront as part of an on-going economic development project for the area. Derelict dock, pier, wharf, bulkhead, and floating dock structures, comprising approximately 35,443 ft^2 in coverage, will be demolished with

their piles cut off at the bay mudline. An approximately 1,610-foot-long commercial fishing dock and public boardwalk complex would then be constructed.

1. Demolition and Construction Activities

Although the City intends to undertake construction of the dock and boardwalk complex in one phase, the project can best be described in units corresponding to the street blocks it adjoins from west to east as follows:

West of "C" Street: Demolish a deteriorated 380-ft.-long x 20-ft.-wide wooden dock structure fronting the site of the former Lazio Fish Company processing plant, consisting of approximately 150 creosote-treated wooden pilings and deteriorated decking over the easterly 290 feet. Remove the existing public floating dock, ramp, and bulkhead wall at the foot of "C" Street.

Construct a 420-ft.-long x 40-ft.-wide (16,800 ft^2) concrete marginal wharf berth commercial fishing dock ("Fisherman's Terminal Dock") from 360± ft. west of the west line of "C" Street to the east line of "C" Street, equipped with three jib cranes with electric winches (2-2 tons, 1-5 tons capacity), bollards on 60-ft. centers at the pile caps, and a fender system of pre-cast concrete piling with ultra-high molecular weight (UHMW) plastic facing spaced at 10-ft. centers, and overhead lighting.

Construct approximately 380 lineal feet of interlocking sheetpile bulkhead wall per ASTM A-328 standards, at the landward edge of the Fisherman's Terminal Dock, anchored by tie-rods and "dead man" anchors, including approximately 3,456 cubic yards (yd^3) of engineered backfill and pavement.

"C" St. to "D" St.: Remove the existing Humboldt State University Rowing Crew private floating dock at the foot of "D" Street.

Demolish approximately eight single- and double-spar dolphins, comprising approximately 20 creosote-treated wooden pilings.

Install approximately 64 lineal feet of cutoff wall at the foot of "C" Street behind approximately 160 yd^3 (1,450 ft^2) of rock slope protection.

Grade approximately 200 yd^3 of the existing top of bank and install 270± lineal feet (3,950 ft^2) of rock slope protection from the east line of "C" Street to "D" Street.

Construct a concrete public boardwalk extending over Humboldt Bay, generally ranging in width from 16-24 ft., with a 60-ft.-width at the foot of "D" Street, with the landward edge at the top of bank, 7-24 ft. from the Bulkhead Line; install ZED® Z40 overhead lighting standards, and guardrails; construct an interpretive kiosk, a sailing mast public art structure, and extend water and sewer service lines at the "C" Street Plaza.

Install a new tidegate on an existing 54-in. diameter reinforced concrete pipe within the "C" Street right-of-way.

"D" St. to "F" St.: Demolish a deteriorated 580-ft.-long x 20-ft.-wide wooden dock structure fronting the former Fisherman's Building and the Hum-Boats Sail, Canoe, and Kayak Center rental yard, consisting of approximately 320 creosote-treated wooden pilings and deteriorated decking. Remove the existing private floating dock and ramp fronting the Hum-Boats rental yard. Remove the existing public floating dock, ramp and the bulkhead wall at the foot of "F" Street.

Continue construction of a concrete public boardwalk extending over Humboldt Bay, generally ranging from 16-24 ft. in width, with lighting and guardrails.

Construct an 8-ft.-wide x 530±-ft. long (5,491 ft^2) floating dock adjacent to the proposed boardwalk, extending from the east line of "D" Street to approximately 50 ft. west of the west line of "F" Street.

Foot of "F" St.: Install approximately 138 lineal feet of cutoff wall at the foot of "F" Street behind approximately 124 yd^3 (1,120 ft^2) of rock slope protection.

Construct the 170-ft. wide "F" Street Plaza," from approximately 50 ft. west of the west line of "F" Street to approximately 62 ft. east of the east line of "F" Street, extending from approximately 50 ft. landward of the Bulkhead Line to approximately the Pierhead Line; install lighting, guardrails, and an interpretive kiosk; extend water & and sewer service lines.

Construct a new 18-in. diameter stormdrain and tidegate in the "F" Street right of way.

East of "F" St.: Demolish a deteriorated 50-ft.-long x 30-ft.-wide deteriorated wooden pier structure and approximately fifteen single- and double-spar dolphins, consisting of approximately 60 creosote-treated wooden pilings and deteriorated decking over the southerly 40 feet of the pier, fronting the proposed Humboldt Harbor Inn (Sicard) development.

Install approximately 101 cy^3 (910 ft^2) of rock slope protection extending from the east line of "F" Street to approximately 190 ft. east of the east line of "F" Street.

Continue construction of a concrete public boardwalk extending over Humboldt Bay, generally ranging from 16-20 ft. in width, extending from approximately 62 ft. east of the east line of "F" Street to approximately 290 ft. east of the east line of "F" Street.

Additional detailing of project improvements (i.e., utilities, boardwalk amenities, public art) are discussed under Findings Sections IV. H, below.

2. Marine Resources Mitigation Activities

The project also includes a wetlands mitigation component to be conducted at two off-site locations:

Eureka Small Boat Basin: Designate 20,200 ft^2 of rock slope protection as a mitigation site for an equivalent area (1:1 exchange ratio) of rocky intertidal habitat filled/shaded by the project.

City of Eureka Parcel 4: Create 4,200 ft^2 of intertidal mudflat and 3,000 ft^2 of saltmarsh habitat to replace approximately 5,500 ft^2 of intertidal mudflat and 730 ft^2 of saltmarsh habitat areas shaded and/or filled by the project, at a combination of 1:1 in-kind and out-of-kind replacement habitat areas.

Further details of this portion of the project are discussed under Findings Section IV. H, following.

B. Site Description.

1. Project Site

The project site is located on the eastern shore of Humboldt Bay within the City of Eureka along a reach known as the "Inner Channel" between the City's central waterfront and Woodley and Indian Islands (see Exhibits 1 and 2). The project setting comprises an urbanized commercial-industrial port that has mostly fallen into disrepair with the decline

in the region's timber and fish processing economies over the last thirty years. With the exception of floating docks at the foot of "C," "D," and "F" Streets, the majority of the site is occupied by an assortment of dilapidated wharfing, piers, and docks unsafe for port uses in their present condition.

Landward of the project site lies the City's "Old Town," a Victorian Era historical district developed primarily with an assortment of retail commercial, professional offices, residential and public uses. Along the waterfront to the east and west of the project site are commercial fishing docks and processing plants. Beyond those facilities lie the City's Adorni Recreational Center and the Wharfinger Building / Eureka Small Boat Basin complex, respectively.

The project site is located at or below the mean high tide line of the sea on tidelands that were legislatively granted to the City of Eureka. These tidelands are co-terminus with the Commission's area of original coastal development permit jurisdiction (see Exhibit 3). Adjoining portions of the overall Dock and Boardwalk Revitalization Project area located above the high tide line (i.e., the "C" and "F" Street Plazas) are within the City of Eureka's coastal development permit jurisdiction. On January 14, 2000, the City of Eureka approved coastal development permit CDP-11-99 authorizing those portions of the revitalization project within City's jurisdiction. The City's action on CDP-11-99 was not appealed to the Commission.

2. Mitigation Sites

The proposed location for mitigating rocky intertidal areas filled or shaded by the project is at the Eureka Small Boat Basin, approximately ¼ mile west of the project site. The Boat Basin consists of numerous floating dock slips and walkways constructed within the bay extending from a graded and filled parking lot area. The 1,480-lineal-foot frontage of the Boat Basin has been armored with approximately 92,000 ft^2 of rock slope protection. It is these materials which the City seeks to utilize to offset the proposed loss of rocky intertidal habitat by designating a portion of their coverage as a mitigation site.

"Parcel 4," the mitigation site for intertidal mudflat and saltmarsh habitat areas is a City-owned reclaimed tidelands property located approximately 2½ miles southwest of the project site behind the Bayshore Mall. The parcel consists of an overgrown industrial lot with remnant structural foundations and debris from its former use as a lumber mill. Further descriptions of the mitigation sites are included under Findings Section IV E, below.

C. Public Access.

Coastal Act Sections 30210, 30211, and 30212 require the provision of maximum public access opportunities, with limited exceptions.

Section 30210 states:

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

Section 30211 states:

> *Development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.*

Section 30212 states:

> *(a) Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects except where:*
>
> *(1) it is inconsistent with public safety, military security needs, or the protection of fragile coastal resources,*
>
> *(2) adequate access exists nearby, or,*
>
> *(3) agriculture would be adversely affected. Dedicated accessway shall not be required to be opened to public use until a public agency or private association agrees to accept responsibility for maintenance and liability of the accessway.*

Coastal Act Section 30210 requires in applicable part that maximum public access and recreational opportunities be provided when consistent with public safety, private property rights, and natural resource protection. Section 30211 requires in applicable part that development not interfere with the public's right of access to the sea where acquired through use (i.e., potential prescriptive rights or rights of implied dedication). Section 30212 requires in applicable part 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, such as when adequate access exists nearby or when the provision of public access would be inconsistent with public safety.

In applying Sections 30211 and 30212, the Commission is limited by the need to show that any denial of a permit application based on these 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 project site is located adjacent to Humboldt Bay, approximately 1½-mile inland and six miles up-channel from where bay waters enter the Pacific Ocean near the community of King Salmon. Due to the private commercial-industrial development pattern of the central waterfront, public coastal access points to and along the bay in the project area are limited to the foot of "C" and "F" Streets. Within ¼ mile to the east, west, and north of the project area are coastal access facilities, comprising the waterfront trails, boat launches and floating docks fronting the City's Adorni Recreational Center, Wharfinger Building / Eureka Small Boat Basin complex, and Woodley Island Marina, respectively.

Although not a standard of review in the Commission's retained jurisdiction area, the City of Eureka's LCP (adopted February 27, 1997) can be utilized by the Commission as guidance. The LCP addresses access points to Humboldt Bay in the project vicinity. Coastal Recreation and Access Policy 5.B.1. reads, in applicable part, as follows:

> *The City shall provide public open space and shoreline access throughout the Coastal Zone, particularly along the waterfront and First Street, through all of the following :...*
>
> *b. Establish a walkway system located on or near the shoreline throughout the city's waterfront Core Area.* [emphases added]

Among the primary objectives for Eureka's Dock and Boardwalk Revitalization Project is the goal of socially and economically reintegrating the City with its waterfront. To accomplish this goal, the project proposes to provide extensive coastal access and recreational opportunities for the enjoyment of its residents and visitors. Existing coastal access and recreational facilities within the project area are available only at the foot of "C" and "F" Streets, and along a vacant City lot between "C" and "D" Streets. The proposed project would make available 1,190 lineal feet of modulated-width public boardwalk and 530 lineal feet of floating dock, anchored by two waterfront plazas, providing a variety of active and passive recreational opportunities.

The development would also incrementally contribute to implementing a major goal of the City's local coastal plan access element by in-filling between other public access facilities (i.e., Adorni Center, Wharfinger complex), for the eventual development of contiguously accessible central waterfront.*

---

* The Eureka waterfront is composed of a mixture of public and private properties fronting on Humboldt Bay. It should be noted that while the City's LCP calls for establishing a shoreline walkway "throughout the city's waterfront Core area," ingress/egress through some coastal-dependant use areas (i.e., commercial fishing loading docks and processing facilities) may not be appropriate for public safety reasons. Although the City has discussed the possibility of establishing viewing areas for the public to observe fishing dock operations, through-access in these areas may need to be re-routed inland to the sidewalk alongside First Street / Waterfront Drive.

Therefore, the Commission finds that the proposed project, which includes substantial new public access, is consistent with the public access policies of the Coastal Act.

D. Planning and Siting New Development.

Section 30250(a) of the Coastal Act states in applicable part that:

> *New residential, commercial, or industrial development, except as otherwise provided in this division, shall be located within, contiguous with, or in close proximity to, existing developed areas able to accommodate it or, where such areas are not able to accommodate it, in other areas with adequate public services and where it will not have significant adverse effects, either individually or cumulatively, on coastal resources.*

The intent of this policy is to channel development toward more urbanized areas where services are provided and potential impacts to resources are minimized.

Coastal Act Section 30252 continues on to state that:

> *The location and amount of new development should maintain and enhance public access to the coast by (1) facilitating the provision or extension of transit service, (2) providing commercial facilities within or adjoining residential development or in other areas that will minimize the use of coastal access roads, (3) providing nonautomobile circulation within the development, (4) providing adequate parking facilities or providing substitute means of serving the development with public transportation, (5) assuring the potential for public transit for high intensity uses such as high-rise office buildings, and by (6) assuring that the recreational needs of new residents will not overload nearby coastal recreation areas by correlating the amount of development with local park acquisition and development plans with the provision of onsite recreational facilities to serve the new development.* [emphasis added]

The proposed development entails a 1,610-ft.long dock and boardwalk complex with associated shoreline protective works located along the central waterfront of the City of Eureka. The project site lies adjacent to City's "Old Town" district, fully developed with community water and sewer services and public utilities availability. The City of Eureka currently provides police, fire protection, and public transit services in the project area. In addition, the proposed project will lie bayward of First Street, and will abut the ends of "C," "D," "E," and "F" Streets, all public roads with fully improved, 60-ft-wide sections (2 lanes, on-street parking, curb, gutter, & sidewalk). The proposed development, therefore, is consistent with Coastal Act Section 30250(a) to the extent that it is located in a developed area with adequate water, sewer, utility, transportation, and other public service capabilities.

Adequacy of Parking Facilities

In regards to the maintenance and enhancement of public access to the coast under Section 30252, the adequacy of support facilities to serve the project is a concern as the project does not provide dedicated parking spaces for the proposed dock and boardwalk uses. The project would result in the loss of 36 existing on-street parking spaces associated with the closure of "C" and "F" Streets to vehicular traffic north of 1st Street. In addition, as the City's municipal code does not set parking standards for plazas and boardwalks (they are considered by the City as a form of public sidewalk), no parking requirements were established for the project. Further, in adopting the Mitigated Negative Declaration for the project, the City concluded that the project would not result in inadequate parking capacity in the Downtown area. This conclusion was based on (1) the lack of parking requirements within the City's municipal code for dock and boardwalk projects; (2) the findings and recommendations in previous parking studies conducted for the Downtown area; and (3) parking demand characteristics of prospective dock and waterfront users.

Off-Street Parking Standards for Waterfront Docks and Boardwalks

In concluding that adequate parking capacity is available to serve the project, the City first cites its municipal code's lack of off-street parking standards for dock and boardwalks. These facilities are effectively considered a form of public sidewalk for which off-street parking requirements are not enumerated. In such cases, the City relies on the use of on-street parking resources to serve the public use. As discussed under the following rationale, the City concluded that there was ample on-street parking within the project vicinity to adequately serve the proposed project.

Parking Maximization Study

In 1998, the City of Eureka commissioned a study to survey and analyze parking conditions, identify exist and future problem areas, and develop appropriate solutions for the Downtown and Henderson Center business districts (SPECTRUM Engineering, 3/31/98). With respect to existing conditions in the Downtown area, including the project site vicinity, the report found that:

> (W)hile there are acute spot problems [Staff Note: These parking deficient areas are located in the Old Town commercial district, not in proximity to the project site] as reported by several merchants and residents of Eureka, the overall picture is not critical. In all cases, according to the several detailed occupancy and turn-over surveys which we had taken, there is ample parking located within a one block distance from block faces where ample parking is a problem...

Preparation of the SPECTRUM study pre-dated the design of the proposed project. Consequently, no analysis of the effects of the dock and boardwalk was included. However, the report noted the presence of several public parking lots in the project vicinity. These include:

- 1st & "C" Street Parking Lot (64 spaces);
- 1st & "E" Street Parking Lot (27 spaces); and
- Samoa Bridge Boat Ramp Parking Lot (22 standard spaces, 20 double-length RV / boat trailer spaces).

In addition, walk-through surveys conducted as part of the SPECTRUM report identified several block faces within a 2-block proximity to the project site with typically unused parking spaces:

Block Face	**Observed Unused Spaces**
"C" Street between the waterfront and 1st Street:	9-10
"D" Street between the waterfront and 1st Street:	19-20
"E" Street between the waterfront and 1st Street:	12
"F" Street between the waterfront and 1st Street:	2 - 3
First Street between "C" and "D" Streets:	8 - 9
First Street between "D" and "E" Streets:	7 - 8
First Street between "E" and "F" Streets:	6 - 8
"C" Street between 1st and 2nd Streets:	3 - 6
"D" Street between 1st and 2nd Streets:	1 - 3
"E" Street between 1st and 2nd Streets:	2 - 3
2nd Street between "C" and "D" Streets:	8 - 9
2nd Street between "D" and "E" Streets:	4 - 5
Total Under-Utilized On-Street Parking Spaces within 2 Blocks of Project Site:	**81- 96**

Based on the results of the Parking Maximization Study, the City concluded there is an abundance of available parking facilities within a reasonable distance from the project site alleviating the need for additional dedicated parking to serve the project.

Parking Demand Characteristics of Dock and Waterfront Users

Finally, the City of Eureka also based their conclusion regarding the lack of parking impacts from the project based upon the use patterns of typical dock and boardwalk users. It is anticipated that significant portion of waterfront patrons will be visitors to the downtown area, either as customers to its commercial establishments or over-night occupants of visitor-serving facilities such as hotels, motels, and bed & breakfast inns. Many of these visitors will walk to the dock

and boardwalk from these businesses. In those cases, parking will have been provided at facilities serving those commercial uses. In addition, peak use times for waterfront attractions are generally in the evenings and on weekends when many commercial and professional office firms are closed. Consequently, this offset in parking demand will make available additional parking facilities during waterfront peak-use times.

The Commission thus concludes that the proposed project is located in an area with adequate public services availability. Further, the Commission concludes that the project has been designed and sited to include adequate support facilities, including parking, such that public access to the coast will be enhanced and maintained. Accordingly, the project is consistent with Sections 30250 and 30252 of the Coastal Act.

E. Fill in Coastal Waters and the Protection of Marine Resources.

The Coastal Act defines fill as including *"...earth or any other substance or material ... placed in a submerged area."* The proposed project includes the placement of fill in coastal waters, as the proposed piles, floating dock, and rock slope protection would be placed within intertidal and submerged areas of Humboldt Bay. The total area of fill proposed in coastal waters is 7,115 square feet. In addition, dock and boardwalk structures would shade an approximately 19,315-square-foot area of intertidal mudflat, rocky intertidal, and saltmarsh habitats.

The proposed project could have several potential adverse impacts on estuarine habitat. The piles and rock slope protection would be installed within intertidal mudflat and rocky habitats that support a variety of benthic organisms. In addition, the shading of intertidal areas will reduce incidental sunlight to the euphotic zone, potentially affecting biological productivity.

Several sections of the Coastal Act address the placement of fill within coastal waters and the construction of revetments and similar shoreline structures. Section 30231 provides in applicable part that:

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.[emphases added]

Section 30235 provides, in applicable part:

Revetments, breakwaters, groins, harbor channels, seawalls, cliff retaining walls, and other such construction that alters natural shoreline processes shall be permitted when required to serve coastal-dependent uses or to protect existing structures or public beaches in danger from

erosion, and when designed to eliminate or mitigate adverse impacts on local sand supply. [emphases added]

The above policies set forth a number of different limitations on what types of shoreline protection fill projects may be allowed in coastal waters. For analysis purposes, the limitations applicable to the subject project can be grouped into five general categories or tests. These tests are:

1. The purpose of the fill is either for one of the eight uses allowed under Section 30233, to serve coastal dependent uses, or to protect existing structures or public beaches in danger from erosion; and

2. The project is designed to eliminate or mitigate adverse impacts on local sand supply; and

3. The project has no feasible less environmentally damaging alternative; and

4. Adequate mitigation measures are provided to minimize the adverse impacts of the proposed project on habitat values; and

5. Habitat values are maintained and enhanced.

1. Permissible Use for Fill

The first general limitation set forth by the above-referenced Chapter 3 policies is that any proposed fill can only be allowed for certain limited purposes. Under Section 30233(a), fill in coastal waters can only be placed for one of eight different uses, including under sub-sections (1), "commercial fishing facilities," (4), "in open coastal waters other than wetlands, including streams, estuaries, and lakes, new and expanded boating facilities and the placement of structural pilings for public recreational piers that provide public access and recreational opportunities," and (5), "incidental public services purposes, including ...burying... pipes... and maintenance of existing... outfall lines." The proposed project consists of the placement of solid fill and fixed wharf, boardwalk, dock float piling, and related infrastructure as part of a public waterfront complex for the mooring of commercial fishing vessels, a public boardwalk, and the launching and landing of recreational watercraft. The rock slope protection will serve coastal-dependent uses as the site is used as a combined coastal-dependent commercial dock, recreational boating, and coastal access facility which must be located on or adjacent to water to serve its basic functions. As such, the project consists of "new or expanded coastal-dependant industrial facilities," "new or expanded boating facility," and involves the installation of infrastructure for "incidental public service purposes." Therefore the Commission finds that the purpose of the fill is consistent with subsections (1), (4), and (5) of Section 30233(a) of the Coastal Act and is required to serve a coastal-dependent use consistent with Section 30235 of the Coastal Act.

2. Impact on Local Sand Supply

The proposed seawall will not adversely effect local shoreline sand suppy as the structure is sited on an enclosed harbor within Humboldt Bay. No changes in sediment transport for Humboldt Bay should result.

Therefore, the Commission finds that the project, as conditioned, will maintain the biological productivity and quality of Humboldt Bay, consistent with Section 30231 of the Coastal Act. Similarly, as conditioned, the proposed project will maintain the functional capacity of the wetlands as required by Section 30233(c).

3. No Feasible Less Environmentally Damaging Alternatives

A second general limitation set forth by the above-referenced Chapter 3 policies is that any proposed fill project must have no less environmentally damaging feasible alternative.

There are no apparent feasible alternatives to the project that would be less environmentally damaging. The applicant has provided information relating to the size of other pier and boardwalk projects, including the Santa Monica Pier, Santa Cruz Wharf, San Diego Boardwalk and the Port of Long Beach (see Exhibit No. 8). The currently proposed 16 to 76-ft. width of the boardwalk and wharf complex and the number of piles to be driven is not excessive in comparison with typical marinas, piers and boardwalks throughout the state (widths ranging from 12 to 150 feet). The proposed dock and boardwalk will extend no farther into Humboldt Bay than is necessary to meet essential project objectives (i.e., adequate spatial requirements for the loading and off-loading of commercial fishing vessel cargoes, adequate cross-sectional area for boardwalk functions, including the movement of persons, lighting, benches, bay viewing, and potential "sidewalk seating" for future adjoining private commercial visitor-serving uses such as restaurants). In addition, the surface of the piles and sheetpile bulkhead will be self-mitigating to a certain extent, as they will provide a substrate to which intertidal encrusting organisms may attach themselves to, a habitat feature precluded on the existing creosote-treated wooded pile surfaces.

A "no project" alternative would not accomplish the project objectives of providing the City and its visitors with extensive public access and coastal recreational opportunities, providing moorage for commercial fishing vessels, and fostering recreational boating, all priority uses under the Coastal Act. The derelict central waterfront structures would remain in place rendering the area unavailable for such uses, continuing to release wooden debris and hazardous materials into coastal waters from their creosote-treated piles, and visually blighting the area.
In developing plans for the dock and boardwalk complex, the City considered other design options that would have provided better operational advantages at the wharf and expanded access and recreational opportunities boardwalk. One such option involved the

"C" Street to "D" Street boardwalk segment being constructed entirely over bay waters. These project versions involved significantly greater areas of fill and/or encroached into environmentally sensitive eelgrass beds. These options were subsequently rejected because of the additional environmental effects that would have resulted.

Developing the boardwalk in a more landward location --- in the form of an upland promenade --- was also considered. This option was also rejected due to its lack of meeting basic project objectives and other site-specific constraints. One of the primary objectives of the boardwalk is to reintegrate the City of Eureka with its waterfront. To achieve this goal, direct access to the bay waters was presented as being a crucial design element. In addition, many of the adjoining landward parcels are not under City ownership for which the added costs for acquisition could make the project financially infeasible. Even if so acquired, vacant land zoned for coastal-dependent uses in the central waterfront area is limited and generally takes the form of wide parcels with shallow lot depths platted for maximum bay frontage. Development of these properties with an upland boardwalk would leave little building area for development of other adjacent coastal-dependant and compatible waterfront uses.

Another design option considered involved the construction of cantilevered dock and boardwalk structures, where the need for in-water piles might be significantly reduced or eliminated. While this option might reduce the amount of fill in coastal waters, it would require extensive upland excavation and grading, or structural modifications to the project design that would be cost prohibitive.

Therefore, the Commission finds that the proposed reconstruction of the dock and boardwalk involves the least environmentally damaging feasible alternative as required by Section 30233(a).

4. Mitigation for Adverse Impacts

A third general limitation set forth by Sections 30231 and 30233(a) is that adequate mitigation to minimize the adverse impacts of the proposed project on habitat values must be provided.

Feasible mitigation measures are available to mitigate the potential adverse impacts of the project. The three main impacts of the proposed project are (1) the loss of intertidal mudflat, rocky intertidal, and saltmarsh habitat through direct filling with driven piles and rock slope protection; (2) shading of habitat areas by wharf and boardwalk decking; and (3) potential water quality impacts from project construction and accidental spills.

Construction of the rock slope protection will result in the filling of approximately 3,040 square feet of rocky intertidal and mudflat habitat areas below the high water line. In addition, the placement of piles to support the new dock and boardwalk complex will displace approximately 1,251 square feet of mudflat and rocky intertidal habitat. The

installation of sheetpile bulkhead and backfill will also cover a certain amount of intertidal and saltmarsh habitats. Altogether, the filling of approximately 7115 square feet of fill in coastal waters is associated with the project.

Associated with the preceding impact category are the effects associated with the construction of dock and boardwalk decking. These structures will shade an approximately 19,315 square feet area of rocky intertidal, mudflat, and saltmarsh habitat. This shading will reduce the amount of incidental sunlight and potentially decrease the productivity of marine organisms is these areas.

To mitigate for the loss of filled and shaded habitat areas, the City has proposed a mitigation plan, attached as Exhibit No. 6. As discussed in Findings Section IV. A, Project Description, the mitigation plan has three elements: (1) designate 20,200 square feet of rock slope protection at the Eureka Small Boat Basin as mitigation habitat area to replace an equivalent area of rocky intertidal habitat area filled or shaded by the project at a 1:1 exchange ratio; (2) remove an approximately 4,200 square feet of concrete foundation at the City's "Parcel 4" property and establish an equivalent amount of intertidal mudflat without eelgrass to compensate for intertidal mudflat areas shaded by the project at a 1:1 exchange ratio; and (3) excavate approximately 3,000 square feet of upland fill from an area on Parcel 4 and establish an equivalent area of saltmarsh habitat to compensate in-kind for 730 square feet of saltmarsh filled or shaded by the project and out-of-kind for the approximately 1,650 square feet of intertidal mudflat with saltmarsh filled or shaded by the project at a 1:1 exchange ratio.

The proposed rocky intertidal mitigation proposal consists of a mitigation "credit" applied to the rock slope protection previously placed at the Eureka Small Boat Basin, located approximately ¼ mile west of the project site. These materials were placed to armor the shoreline of the boat basin from wide and tidal forces to protect the mooring improvements at the boat basin. The mudflat areas that these materials covered was previously mitigated through creation of on-site, in-kind mudflat habitat (see Coastal Development Permit 1-98-028, approved June 11, 1998).

Although the riprap at the Small Boat Basin might provide viable habitat substrate for encrusting benthic organisms, the scope of that project did not include provisions for establishing a wetland mitigation bank at the site. Consequently, unless that project's coastal development permit is amended for such, recognizing the boat basin's shoreline hardening materials as mitigation area would not be appropriate. However, even without using credit from a previous project, the proposed boardwalk project will mitigate for the loss of rocky intertidal habitat. As mentioned in Findings Section IV. E. 2, above, the intertidal surface area of concrete pilings (459-24″ diameter piles @ 6-ft. tidal bore = 20,188 square feet) and sheetpile bulkhead (380 lineal feet @ 6-ft. tidal bore = 2,280 square feet) will provide hard surfaces for encrusting littoral and benthic organisms to attach themselves to at a replacement ratio of approximately 1:1. This habitat feature is not available on the existing creosote-treated piles and bulkheads and approximates the

surface area of rocky intertidal habitat filled or shaded by the project. Accordingly, the project is self-mitigating with respect to the replacement of rocky intertidal habitat areas filled or shaded by the development.

Although proposed for another offsite location, the proposed mitigation for intertidal mudflat and saltmarsh will be developed adjacent to functioning wetland of the same types. The new mudflat area to be created is adjacent to the intertidal mudflat that exists on the mid-Humboldt Bay reaches. The proposed saltmarsh enhancement site is located between two areas where Point Reyes Birdsbeak (Cordylanthus maritimus ssp. palustris), a rare and endangered saltmarsh plant species, is well established.

The ratio of habitat creation to habitat loss is proposed at 1:1. Although this ratio is low in comparison with the ratio the Commission requires with some projects, the Commission has approved many projects at 1:1 ratios when the kind of habitat involved is unvegetated mudflat, such as the case with portions of the proposed dock and boardwalk project site. The biotic community in unvegetated mudflat areas is relatively simple in comparison with eelgrass or saltmarsh habitats, and the benthic organisms that are commonly found within unvegetated mudflat areas typically can be expected to fully colonize new mudflat areas within a couple of years. Given that the mudflat area at the mitigation site can be created adjacent to an adjoining mudflat habitat, benthic organisms can be expected to migrate to and colonize the new habitat fairly readily.

Similar rationale can be applied to the proposed 1:1 exchange ratio for rocky intertidal habitat. The ecological structure of organisms who utilize this substrate is likewise uncomplicated compared to other benthic communities. In addition, encrusting organisms rapidly colonize new rocky surfaces within a relatively short time frame. As discussed above, the application of a mitigation credit for the previous placement of rock slope protection at the offsite Small Boat Basin after its approval without such a banking provision is not appropriate. However, the on-site mitigation of rocky intertidal habitat with pile and bulkhead surfaces in combination with the removal of decaying treated wooden piles as proposed is consistent with marine resource protection policies.

The mitigation plan also proposes to replace filled or shaded saltmarsh habitat in-kind and a part of lost intertidal mudflat out-of-kind kind at a 1:1 exchange ratio. As previously discussed, the establishment of replacement saltmarsh habitat is not straightforward. Saltmarsh habitat is ecologically complex, utilized by a variety of micro and macro-faunal organisms. Plantings are generally more difficult to establish as their growth and successional rates are slower. Considerable delays between the wetland loss at the development site and wetland establishment at the mitigation site may occur resulting in a net decline in habitat availability. Accordingly, to compensate for the temporal as well as spatial loss of habitat, the Commission finds that increasing the required exchange ratio for in-kind saltmarsh replacement area from 1:1 to 2:1 is appropriate. Imposing this additional mitigation requirement is feasible as there is ample additional area at the mitigation site to accommodate replacement at a 2:1 exchange ratio.

The proposed mitigation plan also includes success standards, monitoring and remedial action procedures. Among these provisions are cross-sectional analysis of saltmarsh plant growth and community structure, and indirect assessment of mudflat re-colonization by benthic and epi-benthic organisms through bird foraging surveys. These performance standards reference relatively low success thresholds: For saltmarsh restoration, a minimum of 50% plant cover, comprised of not less than 50% of the plant species encountered in the adjacent existing saltmarsh is required to be in-place at the end of five years. No quantitative goal for the success of re-colonizing mudflat biota was set. Instead, only the surveying of bird use in the replacement area and comparing the counts with others taken in mudflats adjacent to the mitigation site is specified.

In order for the adverse impacts to habitat values associated with the filling of coastal waters to be adequately mitigated, they should at least approximate the functional capacity of adjacent habitat areas. Determinations of the success of a restoration effort should be based on quantifiable standards that can be objectively monitored and reviewed. The Commission thus finds that revisions to the mitigation plan's exchange ratio and performance criteria are appropriate. Accordingly, Special Condition No. 3 has been imposed, requiring the City to submit a revised mitigation plan for the review and approval by the Executive Director that incorporate an increase in in-kind saltmarsh exchange ratio from 1:1 to 2:1. The condition also includes a requirement that success criteria be based on a statistical comparison with reference habitat areas based on direct quantitative measurements (e.g., stem counts, basal area, benthic habitat survey protocols).

As conditioned, the Commission finds that the project will provide feasible mitigation measures that will adequately mitigate the impacts of the proposed project on the filling and shading of intertidal mudflat, rocky intertidal and saltmarsh habitats.

The proposed project could adversely affect the water quality in Humboldt Bay in at least three principal ways. First, the demolition of the dilapidated dock and pier structures may result in the release of wooden debris into intertidal and submerged areas. No specific preventative or clean-up measures addressing construction debris were identified in the project application. Second, site grading for installation of rock slope protection and other improvements may cause sedimentation of the bay due to entrainment of exposed soils in stormwater runoff or scouring at outfalls. Third, accidental spills associated with operations at the commercial fishing dock could result in hazardous materials entering coastal waters.

To reduce the potential for construction debris to enter the bay, the Commission attaches Special Condition No. 4, which requires that all construction debris be removed from the site upon completion of the project.

To ensure that sedimentation of the bay does not result from erosion of graded areas or scouring at outfalls, the Commission attaches Special Condition No. 5, which requires the

preparation of an erosion and runoff control plan to minimize adverse impacts to coastal waters.

Finally, to reduce the potential for hazardous materials being discharged into the bay from accidental spills at the commercial fishing dock, Special Condition No. 4 requires that a spill prevention and response program be developed as part of the required erosion and runoff control plan.

The Commission finds, that as conditioned, the proposed project will include adequate mitigation to minimize the potential water quality impacts of the project.

The Commission finds, that as conditioned, the proposed project is consistent with the third test for approvable fill projects set forth in Section 30233 of the Coastal Act and the requirements of Section 30231 of the Act in that adequate mitigation for the adverse environmental effects of the proposed project will be provided.

5. Maintenance and Enhancement of Estuarine Habitat Values

The fourth general limitation set by Sections 30231 and 30233(a) on fill projects is that any such proposed project shall maintain and enhance the biological productivity and functional capacity of the habitat, where feasible.

The proposed mitigation plan will both maintain and enhance the biological productivity and functional capacity of Humboldt Bay. As discussed above, the mitigation plan will ensure that through the creation of in-kind and out-of-kind replacement wetlands, there will be no net loss of combined mudflat, rocky intertidal and saltmarsh area. Thus habitat values are maintained. In addition, the proposed out–of-kind replacement for a part of intertidal mudflat area will be with highly valued saltmarsh developed between two existing areas of saltmarsh. These areas support a substantial population of Point Reyes Birdsbeak (Cordylanthus maritimus ssp. palustris), a species included on the Inventory of Rare and Endangered Vascular Plants of California (Skinner and Pavlick, 1994) on List 1B (rare or endangered throughout its range). The removal of existing debris from the intertidal areas during site preparation work at the project site is also proposed by the applicant as a habitat enhancement measure.

Therefore, the Commission finds that the project, as conditioned, will maintain the biological productivity and quality of Humboldt Bay, consistent with Section 30231 of the Coastal Act. Similarly, as conditioned, the proposed project will maintain the functional capacity of the wetlands as required by Section 30233(c).

F. Allowable Shoreline Protective Device

Section 30235 of the Coastal Act states, in part, that revetments, breakwaters, seawalls, cliff retaining walls, and other such construction that alters natural shoreline processes

shall be permitted when required to serve coastal-dependent uses or to protect existing structures or public beaches in danger from erosion, and when designed to eliminate or mitigate adverse impacts on shoreline sand supply.

The proposed project includes the placement of approximately 640 lineal feet of rock slope protection (RSP) along the shoreline in areas beneath the proposed boardwalk structure. The RSP will prevent continued bank erosion. The RSP will serve coastal-dependent uses as the site is used as a combined coastal-dependent commercial fishing dock, recreational boating, and coastal access facility which must be located on or adjacent to water to serve its basic functions.

The proposed seawall will not adversely effect local shoreline sand supply as the structure is sited on an enclosed harbor within Humboldt Bay. No changes in sediment transport for Humboldt Bay should result.

Therefore, the project is consistent with Section 30235 of the Coastal Act as the proposed rock slope protection is required to serve coastal-dependent uses and has been designed to minimize adverse impacts on local shoreline sand supply.

G. Geologic Hazards and New Development.

The Coastal Act contains policies to assure that new development provides structural integrity, minimizes risks to life and property in areas of high flood hazard, and does not create or contribute to erosion. Section 30253 of the Coastal Act states in applicable part:

> *New development shall:*
>
> (1) *Minimize risks to life and property in areas of high geologic, flood, and fire hazard.*
>
> (2) *Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.*

The project involves grading and filling at or below the high tide line along a portion of Humboldt Bay which was reclaimed in the early 1900's. The area is blanketed in loose sandy fills, containing shell fragments, wooden debris, and other rubble, underlain successively by bay muds, interbedded dense sands and gravel, and stiff clay. These materials do not provide a competent building platform. Therefore, the dock and boardwalks structures have been designed to bear on pile foundations.

The geotechnical study for the project (Harding Lawson, 4/16/99) sets forth three sets of recommendations addressing site preparation and fill placement, the jetting and driving of pile pipes, and the installation of the interconnecting sheetpile bulkhead. To ensure that stability of the project site and the structural integrity of the dock and boardwalk improvements, the Commission attaches Special Condition No. 6, which requires that the recommendations of the geo-technical report be followed in constructing the project.

The Commission finds, that as conditioned, the proposed project will include adequate measures to insure structural stability, minimize risks to life and property from geologic instability, and ensure that erosion, geologic stability, or destruction of the site is prevented, consistent with Section 30253 of the Coastal Act.

H. Visual Resources.

Section 30251 of the Coastal Act states 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, in designated highly scenic coastal areas, permitted development must be subordinate to the character of its setting.

The project site is located along the shoreline of Humboldt Bay, between the first public (First Street) road and the sea. Due to the presence of existing waterfront structures, views to and along the ocean are limited to the ends of "C" and "F" Streets and from a vacant parcel between "C" and "D" Streets. The City of Eureka LCP designates the northern waterfront area in general and the foot of "F" Street in particular as "scenic vista points". As noted previously, the LCP is not the standard of review for the project, but provides useful guidance. With respect to visual resource protection in such project area, Land Use and Development Framework Policies 1.H.1, 1.H.2, and 1.H.4 provide:

1.H.1. The City shall promote unobstructed view corridors to the waterfront from public streets and other public spaces through careful building siting and effective street tree maintenance.

1.H.2. The City shall create a gateway to the waterfront / inner harbor at the foot of F Street, defining the terminus of the street (e.g., flags, ship masts).

1.H.4. The City shall establish landmark features (e.g., buildings, sculptures) at the terminus of key Core Area streets, most importantly at the west end of 2nd Street (B Street) and at the foot of F Street.

Policy 1.D.1 goes on to address ensuring that new waterfront development occur in harmony with and enhance the character of the Old Town area:

The City shall retain the historic waterfront building scale and general character in waterfront revitalization and development as a means of creating a 'Victorian Seaport' identity for the waterfront area. New buildings developed along the waterfront north of First Street / Waterfront Drive should not exceed three stories or 50 feet in height.

The project entails the construction of a 1,610-ft.-long concrete dock and boardwalk complex extending to a height of approximately 12 feet above mean low low water (mllw). At such height, the dock and boardwalk structure will approximate that of the existing docks, wharfing, and piers in the project area, making the project visually compatible with the character of the surrounding area. In addition, the development of a dock and boardwalk along the project site will be subordinate to the character of the Old Town setting, an urbanized waterfront.

In addition to the dock and boardwalk structure itself, the project application also enumerated several improvements to be installed for the finished boardwalk and plaza areas. These include the installation of pathway lighting, informational kiosks and interpretative signage, benches, trash receptacles, planters, and drinking fountains along the boardwalk. Of these amenities, only the maximum height of the informational kiosks (16 feet above mllw) and generalized "typicals" of lamppost standards, benching, etc. were included in the application materials. In addition, decorative focal-point structural attractions are planned to be deployed at the two street plazas. Preliminary designs identify installation of boat play structure at the "C" Street Plaza, and erection of a sailing mast at the "F" Street Plaza (see Exhibit No. 7). City staff have indicated that while including the development of these features within the permit authorization for the dock and boardwalk is desired, the finalized design of lighting and boardwalk amenities has not been completed at this time. Accordingly, no thorough assessment of the potential impacts to coastal visual resources has been conducted for these finalized boardwalk elements.

To ensure that the scenic and visual qualities of coastal areas shall be considered and protected, the Commission attaches Special Condition No. 7, which requires that plans for boardwalk and plaza amenities establish that they will be visually compatible and subordinate to the character of the project setting. Imposing these standards is appropriate to ensure that in authorizing the design of submitted project improvements, any deviations in their final forms are adequately assessed with regard to their effect on coastal views and their physical expression with respect to the character of the area.

The Commission finds, that as conditioned, the proposed project will: (a) include adequate measures to insure that the scenic and visual qualities of coastal areas are considered and protected; (b) insure that permitted development is sited and designed to protect views to and along the ocean and scenic coastal areas; (c) minimize the alteration of natural land forms; (d) be visually compatible with the character of surrounding areas; and (e) be subordinate to the character of its setting.

I. State Waters

The project site is located in areas that were formerly State-owned waters or are otherwise subject to the public trust. However, these State-owned waters were transferred to the City of Eureka through a legislative grant. Therefore the applicant has the necessary property rights to carry out the project on former State-owned lands

J. U.S. Army Corps of Engineers Review

The project requires the review and approval by the U.S. Army Corps of Engineers. 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 or permit for the project. To ensure that the project ultimately approved by the Corps is the same as the project authorized herein, the Commission attaches Special Condition No. 2 which requires the permittee to submit to the Executive Director evidence of U.S. Army Corps of Engineers approval for the project prior to the commencement of work.

K. California Environmental Quality Act.

Section 13906 of the California Code of Regulation requires Coastal Commission approval of Coastal Development Permit applications to be supported by a finding showing the application, as conditioned by any conditions of approval, to be consistent with any applicable requirements of the California Environmental Quality Act (CEQA). Public Resources Code Section 21080.5(d)(2)(A) of CEQA prohibits a proposed development from being approved if there are any feasible alternatives or feasible mitigation measures available, which would substantially lessen any significant adverse effect that the activity may have on the environment.

The proposed project has been conditioned to be consistent with the policies of the Coastal Act and the requirements of PRC §21080.5(d). Special condition(s) have been attached to require mitigation measures which will minimize all adverse environmental impacts. 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, as conditioned to mitigate the identified impacts, can be found consistent with the requirements of the Coastal Act to conform to CEQA.

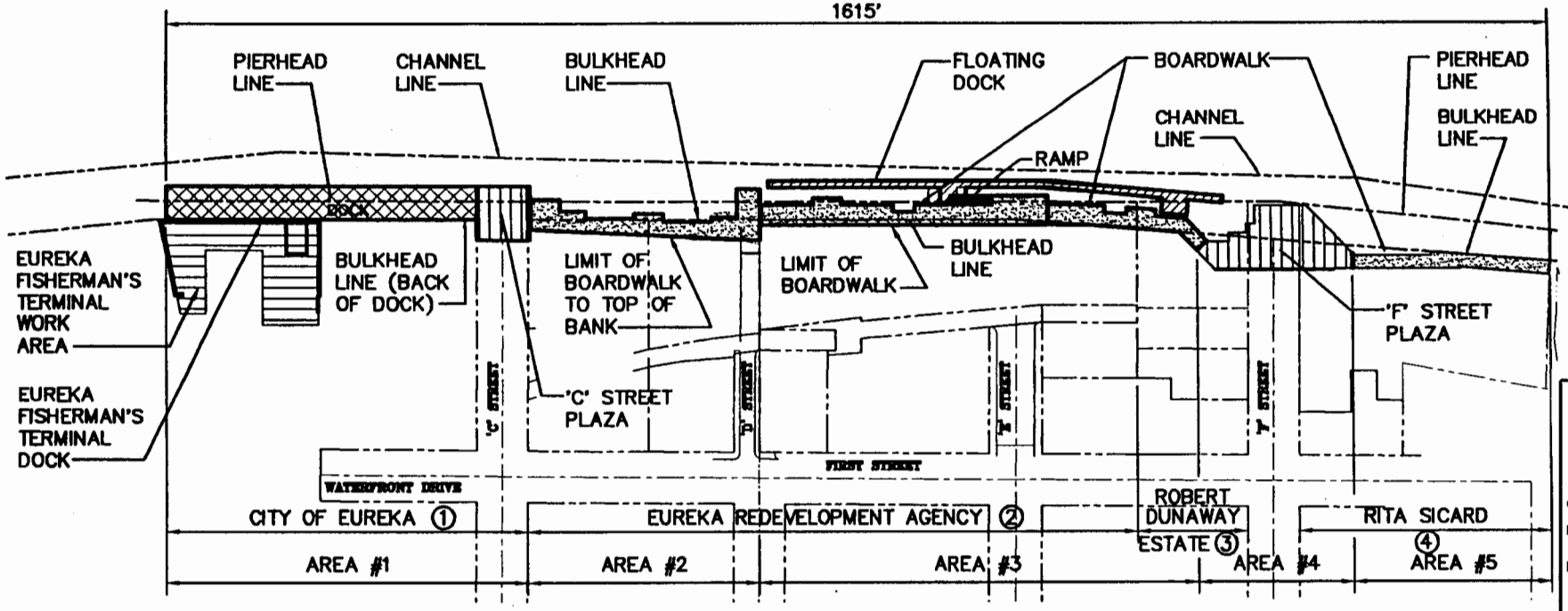
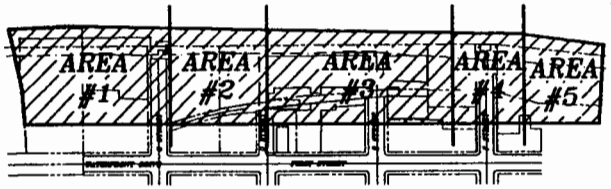


EXHIBIT NO. 9
APPLICATION NO.
1-99-077-A3
CITY OF EUREKA
EXCERPTS, ORIGINAL PROJECT SITE MAPS AND ELEVATIONS
Page 1 of 5



KEY PLAN

PROJECT PLAN

LEGEND

- FISHERMAN'S TERMINAL DOCK 14,480 sq ft
- FISHERMAN'S TERMINAL WORK AREA 13,976 sq ft
- PUBLIC PLAZA AREA 13,140 sq ft
- BOARDWALK 23,590 sq ft
- FLOATING DOCK (TRANSIENT MOORAGE) 5,491 sq ft

PURPOSE: INNER CHANNEL DOCK AND BOARDWALK REVITALIZATION

DATUM: MLLW - 0.0'

ADJACENT PROPERTY OWNERS:
1. CITY OF EUREKA
2. EUREKA REDEVELOPMENT AGENCY
3. ROBERT DUNAWAY ESTATE
4. RITA SICARD

200 0 200 400
scale 1"=200' feet

CITY OF EUREKA
531 K STREET
EUREKA, CALIFORNIA

IN: HUMBOLDT BAY
AT: EUREKA OLD TOWN WATERFRONT
COUNTY OF: HUMBOLDT
STATE: CALIFORNIA
APPLICATION BY: CITY OF EUREKA
SHEET: 2 OF 20 **DATE:** NOVEMBER 1999

PLOTTED: Mon Nov 22 1999 11:44am FILENAME: C:\1999\Vol 018\Cadd\Dwgs\EUREKA_8-99\81_2x11\Sheets\E-02.dwg SCALE: 1

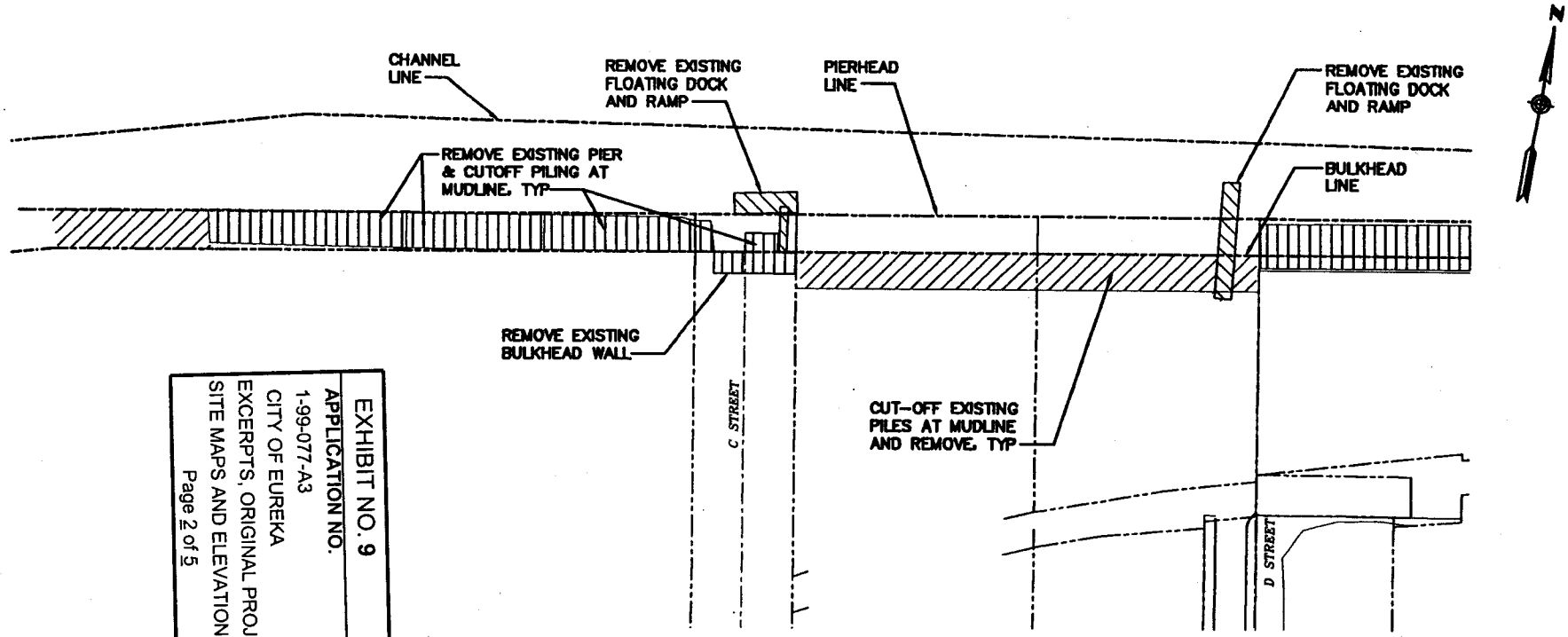
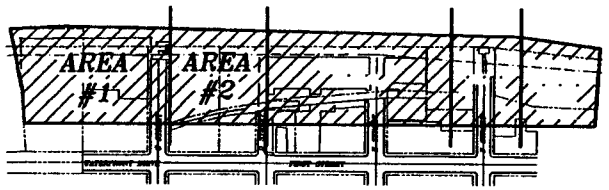


EXHIBIT NO. 9
APPLICATION NO.
1-99-077-A3
CITY OF EUREKA
EXCERPTS, ORIGINAL PROJECT SITE MAPS AND ELEVATIONS
Page 2 of 5

LEGEND

- REMOVE EXISTING PIER & CUT OFF PILING AT MUDLINE
  19,193 sq ft TOTAL
- REMOVE EXISTING PILING (REMAINS OF EXISTING DOCK)
  11,570 sq ft TOTAL
- REMOVE FLOATING DOCK
  4,480 sq ft TOTAL

DEMOLITION PLAN
AREAS 1 AND 2



KEY PLAN

PURPOSE: INNER CHANNEL DOCK AND BOARDWALK REVITALIZATION

DATUM: MLLW - 0.0'

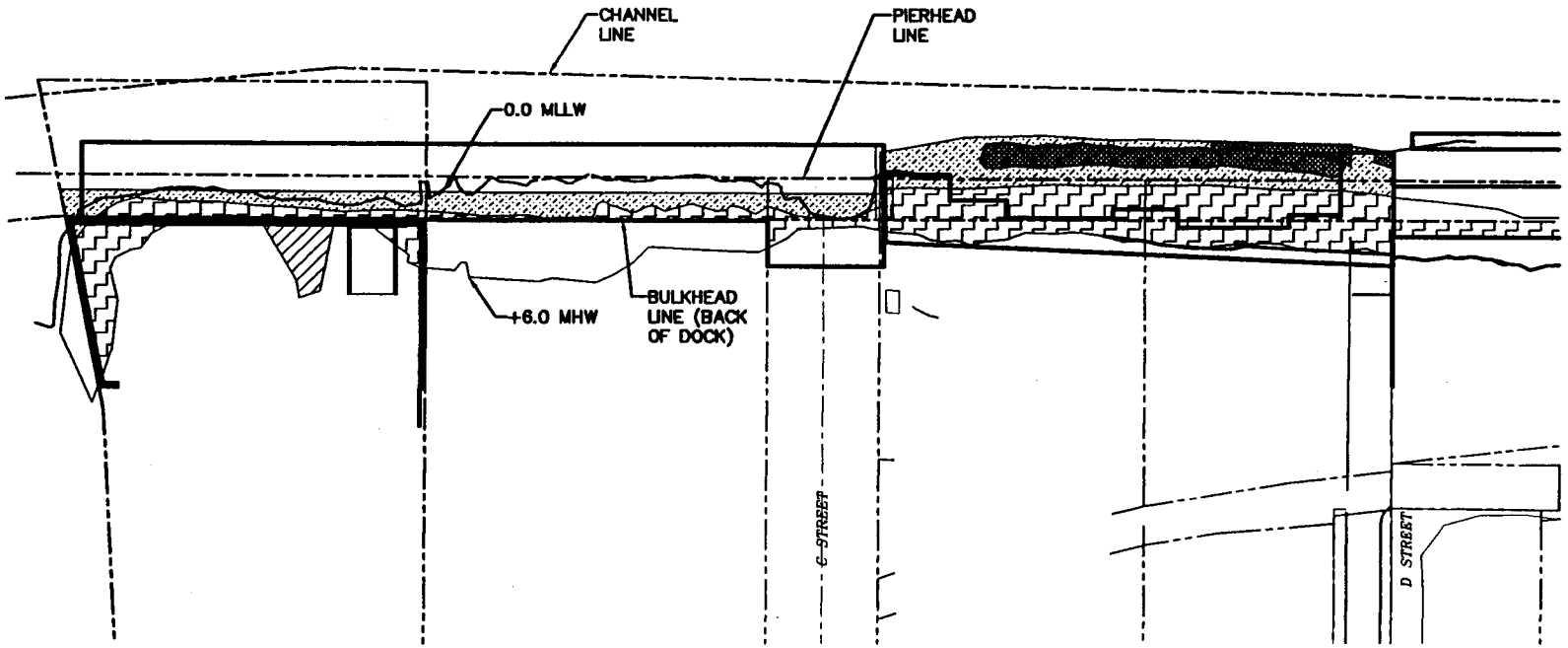
ADJACENT PROPERTY OWNERS:
1. CITY OF EUREKA
2. EUREKA REDEVELOPMENT AGENCY
3. ROBERT DUNAWAY ESTATE
4. RITA SICARD

100 0 100 200
scale 1"=100' feet

CITY OF EUREKA
531 K STREET
EUREKA, CALIFORNIA

IN: HUMBOLDT BAY
AT: EUREKA OLD TOWN WATERFRONT
COUNTY OF: HUMBOLDT
STATE: CALIFORNIA
APPLICATION BY: CITY OF EUREKA
SHEET: 3 OF 20 **DATE:** NOVEMBER 1999

D: Mon Nov 22 1999 11:42am FILENAME: G:\1999\A99016\Cadd\Dwgs\EUREKA_8-99\81_2x11Sitecths\E-03.dwg SCALE: 1



N

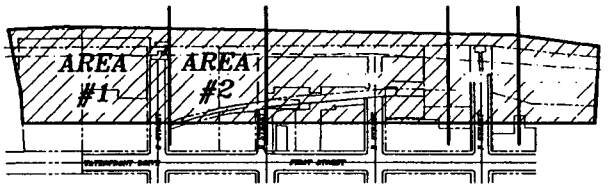
EXHIBIT NO. 9
APPLICATION NO.
1-99-077-A3
CITY OF EUREKA
EXCERPTS, ORIGINAL PROJECT SITE MAPS AND ELEVATIONS
Page 3 of 5

LEGEND

- ROCKY INTERTIDAL 27,600 sq ft TOTAL
- MUD FLAT W/O EEL GRASS 26,200 sq ft TOTAL
- MUD FLAT W/ EEL GRASS 4,800 sq ft TOTAL
- SALT MARSH 730 sq ft TOTAL

MARINE RESOURCES PLAN
AREAS 1 AND 2

NOTE
EXISTING MARINE RESOURCES NOT SHOWN WERE PREVIOUSLY ADDRESSED BY EXISTING DREDGING PERMITS.



KEY PLAN

PURPOSE: INNER CHANNEL DOCK AND BOARDWALK REVITALIZATION

DATUM: MLLW - 0.0'

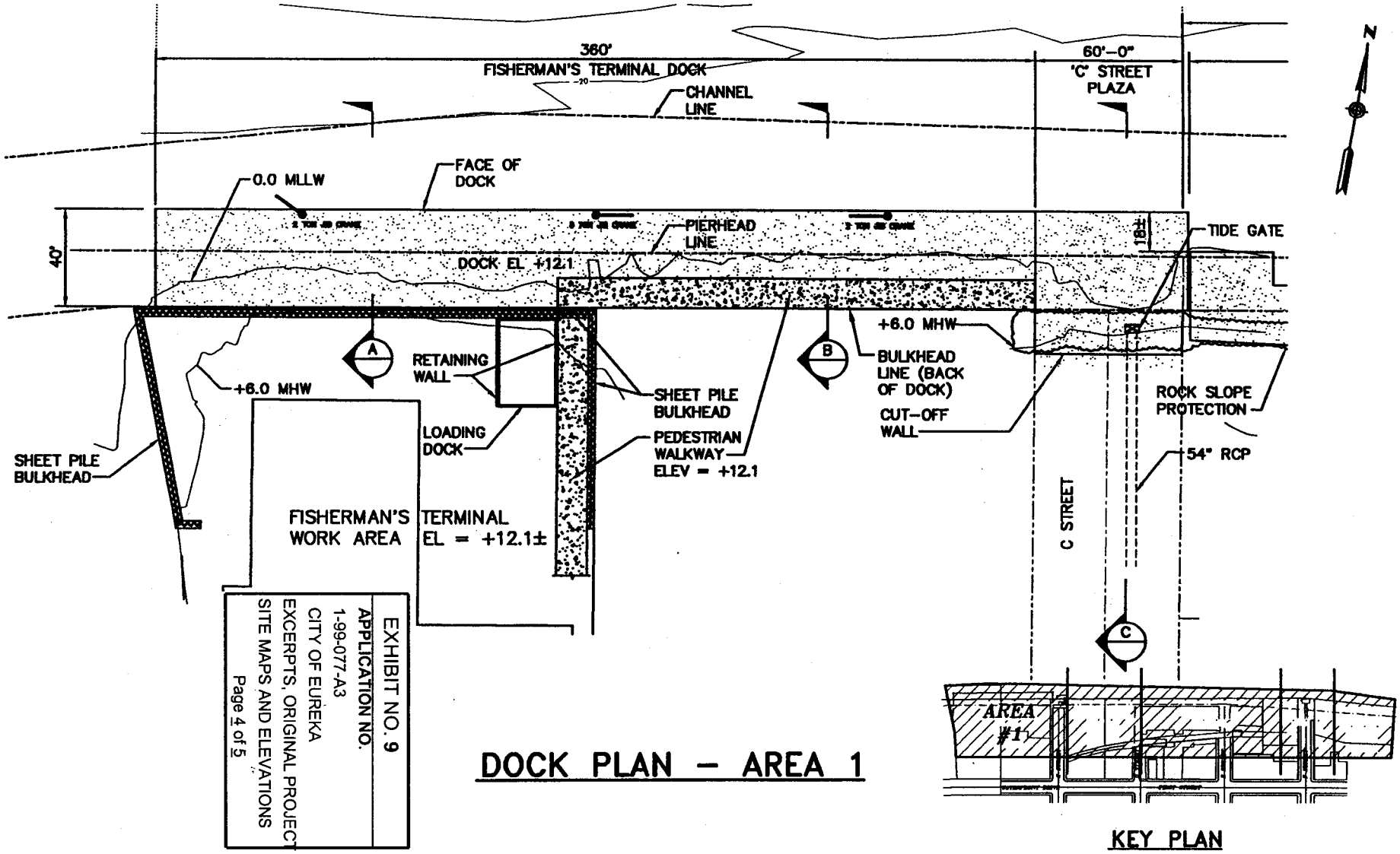
ADJACENT PROPERTY OWNERS:
1. CITY OF EUREKA
2. EUREKA REDEVELOPMENT AGENCY
3. ROBERT DUNAWAY ESTATE
4. RITA SICARD

100 0 100 200
scale 1"=100' feet

CITY OF EUREKA
531 K STREET
EUREKA, CALIFORNIA

IN: HUMBOLDT BAY
AT: EUREKA OLD TOWN WATERFRONT
COUNTY OF: HUMBOLDT
STATE: CALIFORNIA
APPLICATION BY: CITY OF EUREKA
SHEET: 7 OF 20 **DATE:** NOVEMBER 1999

PLOTTED: Mon Nov 22 1999 11:38am FILENAME: C:\1999\A990187\^~1d\Dwgs\EUREKA_8-99\81_2x11Sheets\E-07.dwg SCALE: 1



DOCK PLAN – AREA 1

KEY PLAN

EXHIBIT NO. 9
APPLICATION NO.
1-99-077-A3
CITY OF EUREKA
EXCERPTS, ORIGINAL PROJECT SITE MAPS AND ELEVATIONS
Page 4 of 5

PURPOSE: INNER CHANNEL DOCK AND BOARDWALK REVITALIZATION

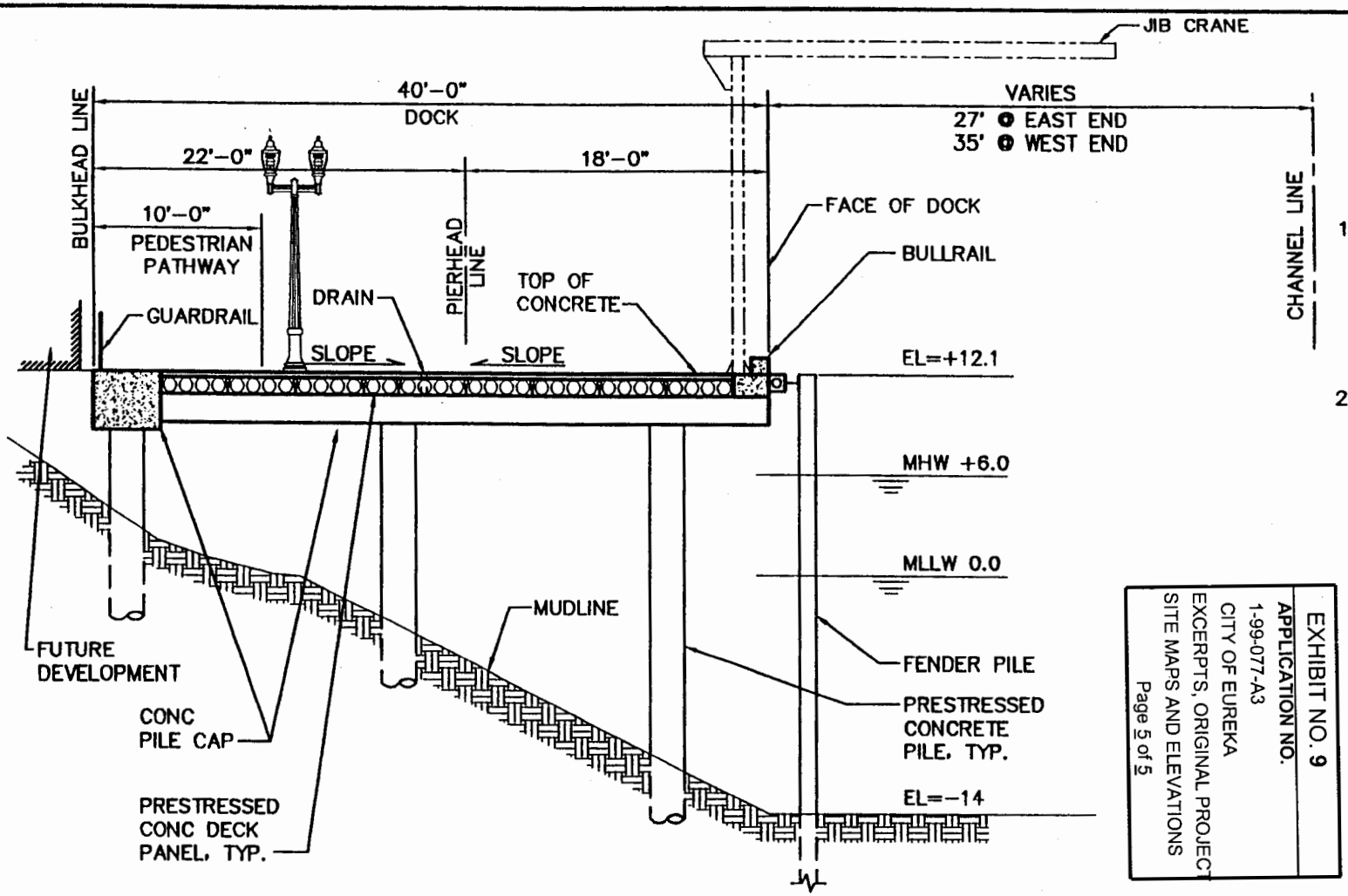
DATUM: MLLW - 0.0'

ADJACENT PROPERTY OWNERS:
1. CITY OF EUREKA
2. EUREKA REDEVELOPMENT AGENCY
3. ROBERT DUNAWAY ESTATE
4. RITA SICARD

60 0 60 120
scale 1"=60' feet

CITY OF EUREKA
531 K STREET
EUREKA, CALIFORNIA

IN: HUMBOLDT BAY
AT: EUREKA OLD TOWN WATERFRONT
COUNTY OF: HUMBOLDT
STATE: CALIFORNIA
APPLICATION BY: CITY OF EUREKA
SHEET: 9 OF 20 **DATE:** NOVEMBER 1999



NOTES:

1. ELEVATIONS SHOWN ARE U.S. ARMY CORPS OF ENGINEERS DATUM.(MLLW) ADD 0.38 FEET FOR ELEVATIONS BASED ON CITY OF EUREKA DATUM.
2. UNLESS OTHERWISE SHOWN ON THE PLANS, MUDLINE ELEVATIONS ARE IN ACCORDANCE WITH PERMITS CURRENTLY ISSUED AND ARE TO BE DREDGED BY OTHERS PRIOR TO THIS CONSTRUCTION.

EXHIBIT NO. 9
APPLICATION NO.
1-99-077-A3
CITY OF EUREKA
EXCERPTS, ORIGINAL PROJECT
SITE MAPS AND ELEVATIONS
Page 5 of 5

(B) SECTION – DOCK AT FISHERMAN'S TERMINAL

PURPOSE: INNER CHANNEL DOCK AND BOARDWALK REVITALIZATION

DATUM: MLLW - 0.0'

ADJACENT PROPERTY OWNERS:

1. CITY OF EUREKA
2. EUREKA REDEVELOPMENT AGENCY
3. ROBERT DUNAWAY ESTATE
4. RITA SICARD

10 5 0 10 20

scale 1"=10' feet

CITY OF EUREKA
531 K STREET
EUREKA, CALIFORNIA

IN: HUMBOLDT BAY
AT: EUREKA OLD TOWN WATERFRONT
COUNTY OF: HUMBOLDT
STATE: CALIFORNIA
APPLICATION BY: CITY OF EUREKA
SHEET: 14 OF 20 **DATE:** NOVEMBER 1999

PLOTTED: Mon Nov 22 1999 12:05pm FILENAME: G:\1999\A99018\Dwgs\EUREKA_8-99\01_2x11Sheets\E-14.dwg SCALE: 1

As shown in Figure 3-2, the Seaport Village buildings would be oriented somewhat diagonally across the site with narrow setbacks at the intersections of 1st and C Streets and at D Street and the boardwalk. Design characteristics would be in keeping with the "Victorian Seaport" style (see Figure 3-3). Parking would be located in the southeast portion of the lot, and be screened from views from the boardwalk and Humboldt Bay.

The Seaport Village buildings would frame an outdoor public Piazza that would look out onto Humboldt Bay and provide connectivity among Seaport Village, the proposed C Street pedestrian plaza, and the proposed Fisherman's work area and café (see below).

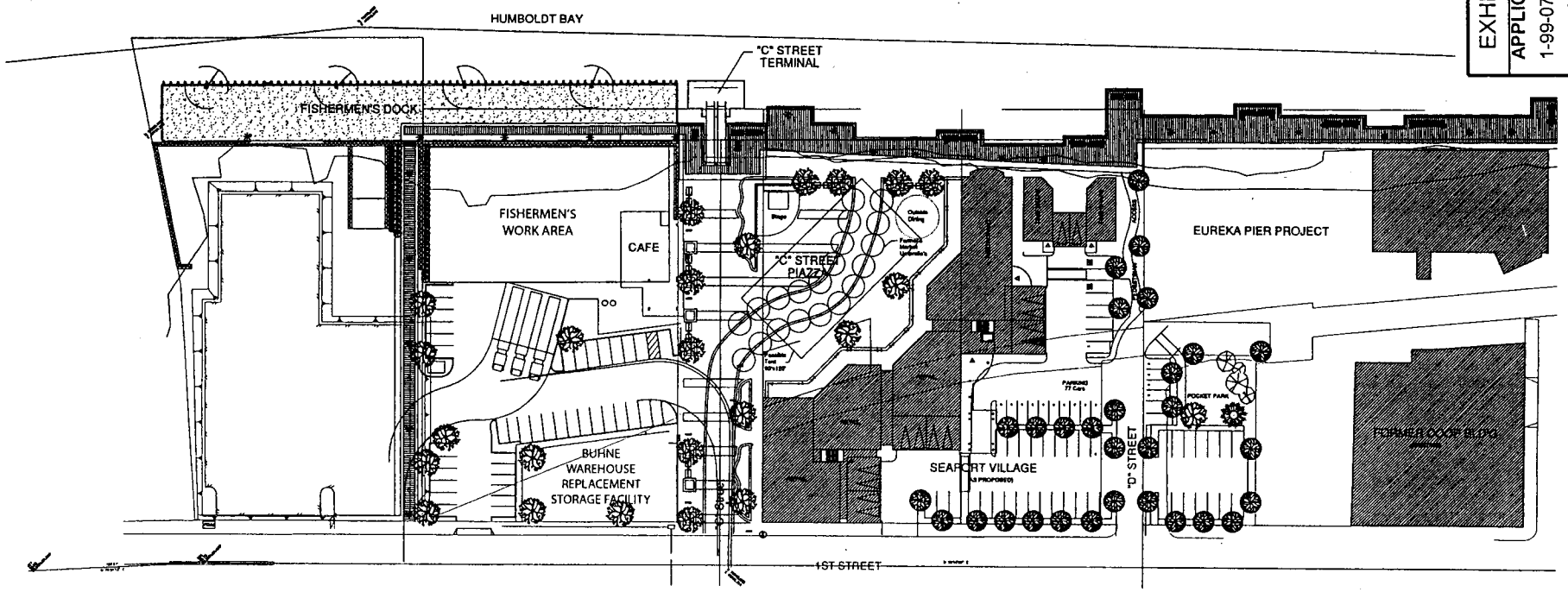
The project also would require demolition of the historic Buhne Warehouse that is currently located on the project site. The City may build a new warehouse of the same proportions across the street at the northwest corner of 1st and C Street, which would use salvaged materials recovered from the Buhne Warehouse building, if feasible. The new warehouse building would be owned by the City and would store items such as the removable umbrellas, tents, holiday decorations, portable heaters, trash receptacles, etc. from the boardwalk, C Street and F Street Plazas, and the Piazza. Prior to dismantling the Buhne Warehouse, the City of Eureka would photo-document the warehouse and salvage reusable materials.

FISHERMAN'S WORK AREA AND CAFÉ

This project would include construction of a 15,271-sf fish processing building and a 1,626-sf café on the northwest corner of 1st and C Streets, as shown in Figure 3-2. The fish processing building would be a rectangular structure that would be oriented east-west such that the length of the building would run parallel to Humboldt Bay. The building would feature a low-pitched gable roof and would be covered in board and batten or shingle siding to reflect the architectural style of historic fishing-related buildings along Eureka's waterfront (see Figure 3-4). Posts, cornices, and trim details would reference the Victorian character of the nearby Old Town district. The approximately 25-foot high fish processing facility would have an open floor plan that could be shared by several tenants and divided based on tenants' needs. The building would house fish off-loading, weighing, and distribution functions.

The café would be located in the southeastern corner of the fish processing building. The café would be designed to focus views to this portion of the building and to draw the public to the café. Design elements would be similar to the fish processing facility.

The Fisherman's Work Area and Café would also contain a parking lot that would provide spaces for approximately 40 vehicles and would be situated on the southern area of the lot. However, the current parcel configuration does not allow enough space for the parking lot due to a triangular-shaped parcel that occupies the southern area of the block. The project sponsor would apply for a lot line adjustment to reconfigure the triangular parcel into a parcel that is more trapezoidal in shape, thus opening up the southeast corner of the block for the parking spaces (see the dashed line on Figure 3-2).



SOURCE: City of Eureka, Philippe Lapotre, and Environmental Science Associates

Figure 3-2
Proposed C Street Projects Site Plan

California Regional Water Quality Control Board
North Coast Region
William R. Massey, Chairman

Terry Tamminen
Secretary for Environmental Protection

http://www.swrcb.ca.gov/rwqcb1/
5550 Skylane Boulevard, Suite A, Santa Rosa, California 95403
Phone 1-877-721-9203 Office (707) 576-2220 FAX (707) 523-0135

Arnold Schwarzenegger
Governor

September 9, 2004

EXHIBIT NO. **11**
APPLICATION NO.
1-99-077-A3
CITY OF EUREKA
AGENCY CORRESPONDENCE
Page 1 of 2

Brent Siemer, City Engineer
City of Eureka
531 K Street
Eureka, CA 95501

Dear Mr. Siemer:

Subject: Concurrence with sheet piling for protection of Humboldt Bay

File: Eureka Fishing Gear Facility, Waterfront Drive, Eureka, California
Case No. 1NHU529 - Coastal Permit No.: 1-99-077

Coastal Project
Title: Inner Channel Docks and Boardwalk Material Amendment

We spoke recently concerning the installation of sheet piling along the edge of Humboldt Bay where soil and groundwater contamination has been identified at properties adjacent to the bay. Although there are several contaminated properties along the shoreline of Humboldt Bay, we specifically discussed the installation of sheet piling in conjunction with the area identified as the Fisherman's Work Area and Dock.

You will recall that initial soil and groundwater sampling at this site occurred in 1996. Recent groundwater sampling within ten feet of the current riprap identified groundwater contamination has increase by an order of magnitude since 1996. Original 1996 data indicated Total Petroleum Hydrocarbons (TPH) as diesel at 150 ug/L and in June of 2004 the level of TPH as diesel is 4,000 ug/L. Discharges of TPH as motor oil and polynuclear aromatic hydrocarbons (PAHs) have also been identified and those levels have also increased. TPH as diesel will taint fish flesh at 1,000 ug/L and PAHs bioaccumulate in benthic fauna.

The current proposal to remove contaminated soils and groundwater from the site during construction will not remove all the contamination sources. Levels of contaminants may still migrate into waters of Humboldt Bay. The installation of sheet pile along the shoreline of the entire site can prevent the migration of contaminants into Humboldt Bay. This would enable protection of the bay from the site and any accidental discharges that may occur in the future.

Regional Water Quality Control Board staff strongly recommends the installation of the sheet piling along the shoreline as a protective measure for the beneficial uses of Humboldt Bay.

Please contact me at (707) 576-2673 if you have any questions.

Sincerely,

for

Kasey Ashley R.G.
Engineering Geologist

KA: tmk\090904_KSA_kaeukfs13

EXHIBIT NO. 11
APPLICATION NO.
1-99-077-A3
CITY OF EUREKA
AGENCY CORRESPONDENCE
Page 2 of 2