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Staff:	Tiffany S. Tauber
Staff Report:	September 1, 2000
Hearing Date:	September 13, 2000
Commission Action:	

STAFF REPORT: REGULAR CALENDAR

APPLICATION NO.:	1-00-013
APPLICANT:	CHEVRON PRODUCTS CO.
AGENTS:	Winzler & Kelly Consulting Engineers
PROJECT LOCATION:	Along the shoreline of Humboldt Bay at 3400 Christie Street, City of Eureka, Humboldt County (APNs 007-071-08 & 007-071-13)
PROJECT DESCRIPTION:	Rehabilitate an existing marine terminal dock by: (1) removing approximately 50 creosote-treated piles and 425-square-feet of decking from the mooring dolphins and causeways, (2) removing a 360-square-foot building and 10-14 associated piles and debris, (3) installing 3 concrete piles to relocate an existing floating dock, (4) installing one Chemonite-treated pile under the main wharf, (5) removing 40-50 creosote treated piles at the main wharf and replacing them with Chemonite-treated piles, and (6) repairing and replacing miscellaneous pile caps, bolts, and fender lagging.
GENERAL PLAN DESIGNATION:	Coastal Dependent Industrial/Natural Resources

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ZONING DESIGNATION:	Coastal Dependent Industrial/Natural Resources
LOCAL APPROVALS RECEIVED:	Humboldt Bay Harbor, Recreation, and Conservation District Permit (August 2000)
OTHER APPROVALS REQUIRED:	Army Corps of Engineers
SUBSTANTIVE FILE DOCUMENTS:	City of Eureka Local Coastal Program, Mitigated Negative Declaration prepared by Winzler & Kelly Consulting Engineers (April 2000)

SUMMARY OF STAFF RECOMMENDATION:

Staff recommends approval with special conditions of the proposed rehabilitation of the Chevron Eureka Marine Terminal located within Humboldt Bay at the foot of Christie Street in Eureka. The Chevron Marine Terminal is an existing docking facility that is used for off-loading petroleum products from ocean going barges to storage tanks on shore for later distribution by truck to customers throughout the north coast. The proposed project involves: 1) removing two mooring dolphins and causeways; 2) removing and replacing approximately 50 piles and installing one new pile under the main wharf; 3) installing three concrete piles to relocate an existing floating dock; and 4) repairing and maintaining miscellaneous bolts, fender lagging, bracing, pile caps, and pile guides. The staff further recommends that this approval be subject to conditions that ensure the protection of marine resources and water quality.

This recommendation is based, in part, on an analysis of Coastal Act Sections 30233(a) and 30230 which address the placement of fill within open coastal waters and the protection of marine resources. The proposed fill within open coastal waters includes installing three new concrete piles and one new wood pile in addition to replacing approximately 50 wood piles. The project is an allowable use of fill in coastal waters pursuant to Coastal Act Section 30233(a)(1), because it is intended to rehabilitate an existing port facility.

Significant adverse impacts are often associated with the placement of fill in open coastal waters. The proposed project could have potential impacts to: (1) mudflat habitat; (2) fisheries; (3) eelgrass; and (4) water quality. The coverage of mudflat habitat from the fill associated with the project is insignificant because only four new piles would be installed covering approximately 4-square-feet of mudflat habitat. The other piles to be installed would replace existing piles and thus would not displace any additional habitat. Given that the amount of fill associated with the new piles is minimal and that the piles would provide offsetting hard intertidal substrate habitat, staff is not recommending that any additional mitigation for impacts to mudflat habitat be required. Additionally, eelgrass beds exist in areas around the facility where proposed improvements would occur. Eelgrass beds provide important habitat to marine life, including providing cover for fish and in some locations a spawning place for herring. Information submitted by the applicant provides that herring and salmon would not be affected by the proposed project.

Staff at the Department of Fish and Game has indicated that they are not aware of anadromous fish use of eelgrass habitat in Humboldt Bay. Pacific herring occur as a commercial fishery in Humboldt Bay. However, herring are known to spawn in eelgrass in the North Bay and King Salmon areas outside the area of the proposed project. Therefore, the proposed project would not result in significant adverse impacts to fisheries and staff is not recommending that any additional mitigation be required for impacts to fisheries.

A portion of the proposed project involves the removal of piles, mooring dolphins, and two causeways from within Humboldt Bay. These structures are proposed to be removed by vibratory extraction using equipment mounted on a floating barge. Some of the work area is shallow and the applicant proposes that situations may arise that would require the barge to settle on the bottom for a short time during periods of low tides. This work would occur in areas where eelgrass beds (*Zostera marina*) are present and it is possible that the barge may come to settle on eelgrass. Eelgrass is considered to be an environmentally sensitive habitat area because of the cover and foraging habitat that it provides for fish and other wildlife. Although eelgrass has been studied extensively, no known information is available that addresses the question of whether barges resting on eelgrass for short periods of time would result in a significant disruption of habitat values. However, the applicant has submitted an analysis from a qualified biologist that states that no adverse impact to eelgrass is expected as a result of barge operations.

Furthermore, the applicant has proposed an eelgrass mitigation and monitoring plan should inadvertent or unexpected impacts to eelgrass occur. The proposed plan involves pre-construction surveys, monitoring during construction, and post-construction surveys to determine any adverse impacts. The proposed plan provides for replanting and monitoring only if post-construction densities fall below 85% of pre-construction densities. However, the proposed plan does not provide that pre-construction densities *and* extent of vegetated cover would be restored to pre-construction levels. Therefore, to ensure that the mitigation and monitoring plan is adequate to minimize significant adverse impacts to eelgrass, staff recommends Special Condition No. 1 that requires the applicant to submit a revised eelgrass mitigation and monitoring plan for review and approval that adds additional elements and modifications to the plan. The plan as conditioned would require that pre-construction densities and extent of vegetated cover are restored to pre-construction levels and would include provisions for remediation should the success standard fail to be met after five years. Staff believes that as conditioned, the mitigation and monitoring plan provides adequate mitigation for potential impacts to eelgrass.

To address water quality concerns and ensure consistency with Section 3023 and 30233 of the Coastal Act, staff is recommending several other conditions to prevent adverse impacts to water quality from wood preservatives or construction debris entering Humboldt Bay. These recommended conditions include: 1) preventing construction materials, equipment, debris, or waste from being placed or stored where it may be subject to entering the bay; 2) preventing machinery or construction materials not essential for project improvements from being in the bay at any time; 3) requiring proposed piles to be treated with Chemonite or another wood preservative approved by the Department of Fish and Game rather than creosote; and 4)

requiring all construction material, removed piles and debris to be removed from the site upon project completion.

As conditioned, staff has determined that the proposed development would be consistent with the Chapter 3 policies of the Coastal Act.

STAFF NOTES:

1. Standard of Review

The proposed project is located in the City of Eureka. Eureka has a certified LCP, but the portion of the project that is the subject of Coastal Development Permit Application No. 1-00-013 is within the Commission's retained jurisdiction area in submerged and tidal areas along Humboldt Bay. Therefore, the standard of review that the Commission must apply to the project is the Coastal Act.

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. 1-00-013 pursuant to the staff recommendation.

STAFF RECOMMENDATION OF APPROVAL:

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

RESOLUTION TO APPROVE THE PERMIT:

The Commission hereby approves a coastal development permit for the proposed development and adopts the findings set forth below on grounds that the development as conditioned will be in conformity with the policies of Chapter 3 of the Coastal Act. Approval of the permit complies with the California Environmental Quality Act because either 1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the development on the environment, or 2) there are no further feasible mitigation measures or alternatives that would substantially lessen any significant adverse impacts of the development on the environment.

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II. STANDARD CONDITIONS: See Attachment A.

III. SPECIAL CONDITIONS:

1. Final Revised Eelgrass Mitigation and Monitoring Plan

A. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit, for review and written approval of the Executive Director, a final revised eelgrass mitigation and monitoring plan that substantially conforms with the plan submitted to the Commission in March, 2000 entitled "Proposed Eelgrass Survey, Planting & Monitoring Methods at Chevron Terminal Pier," except that it shall be revised to include the following provisions:

- (a) The pre-construction survey shall be completed during the months of May through August, the period of active growth of eelgrass. The pre-construction survey shall be completed no more than 120 days prior to the beginning of construction;
- (b) The post-construction survey shall be completed no more than 30 days following the completion of construction;
- (c) Adverse impacts to eelgrass shall be measured as the difference between the pre-construction and post-construction estimates of eelgrass cover and density. The extent of vegetated cover is defined as that area where eelgrass is present and where gaps in coverage are less than one meter between individual turion clusters. Density is defined as the average number of turions per unit area;
- (d) If post-construction survey results indicate that eelgrass densities are less than 85% of pre-construction survey results, or if there is a loss of extent of vegetated cover, then the area shall be replanted consistent with the approved final revised eelgrass mitigation and monitoring plan;
- (e) If post-construction densities decrease, but by less than 15%, then the site shall be monitored consistent with the approved final mitigation and monitoring plan for five years or until the performance criteria in section 1(g) have been met;
- (f) Adverse impacts to eelgrass shall be mitigated at a ratio of 1.2 m² replanted for each 1 m² impacted;
- (g) Within five years of the completion of planting, the entire mitigation site shall have an extent of vegetated cover and an average density of eelgrass equal to the pre-construction extent of vegetated cover and average density at the impacted site. Changes in density and extent of vegetated cover of the control areas will be used to adjust the density and extent of vegetated cover in the impacted areas;

- (h) The mitigation site shall be remediated within a year of a determination by the permittee or the Executive Director that monitoring results indicate that the site does not meet the performance standards identified in section 1(g) and in the approved final monitoring and mitigation program. If the performance criteria have not been met at the end of five years following the completion of planting, the applicant shall submit an amendment to the coastal development permit describing additional mitigation.
 - B. The permittee shall undertake development in accordance with the approved eelgrass mitigation and monitoring plan. Any proposed changes to the approved final plan shall be reported to the Executive Director. No changes to the approved final plan shall occur without a Commission approved amendment to this coastal development permit unless the Executive Director determines that no amendment is required.
2. Construction Responsibilities

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

- (a) No construction materials, equipment, debris, or waste shall be placed or stored where it may be subject to wave erosion and dispersion;
 - (b) No machinery or construction materials not essential for project improvements shall be allowed at any time in Humboldt Bay;
 - (c) Grounding and direct contact of the barge with eelgrass beds shall be minimized.
 - (d) No propellers, anchors, construction equipment, or piles shall be dragged over the mudflats or eelgrass beds;
 - (e) All piles shall be removed in their entirety.
3. Pile Preservatives

No creosote treated piles shall be used in the project. The wooden piles to be installed shall only be treated with "A.C.Z.A." (Chemonite) or another wood preservative approved by the Department of Fish and Game that will provide equivalent or greater protection against water contamination.

4. Debris Disposal

All surplus construction material, removed piles and debris shall be removed from the site upon completion of the project. Placement of any surplus material or debris in the coastal zone at a location other than in a licensed landfill will require a coastal development permit.

5. Army Corps of Engineers Approval

PRIOR TO COMMENCEMENT OF CONSTRUCTION, permittee shall provide to the Executive Director a copy of a permit issued by 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.

IV. FINDINGS AND DECLARATIONS

The Commission hereby finds and declares:

1. Site Description & Project Description

Chevron USA Products Company, Inc. proposes to rehabilitate an existing docking facility at the company's Eureka Marine Terminal along the shoreline of Humboldt Bay at the foot of Christie Street in Eureka. The site is adjacent to the southeast corner of the Bayshore Mall (see Exhibits 1-3). The Eureka Marine Terminal is a port facility used for off-loading petroleum products from ocean going barges to storage tanks on shore for later distribution by truck to customers throughout the north coast. The Chevron Eureka Terminal Pier is a T-shaped structure with a 22' x 152' main wharf forming the cap and an approximately 600-foot-long pipe and bridge trestle forming the stem. The project includes removal of two existing detached causeways with mooring dolphins that extend north and south of the main wharf at a point approximately 500 feet out from the shoreline. The five-foot-wide north causeway extends approximately 120 feet to the north and the five-foot-wide south causeway extends approximately 165 feet to the south.

Eelgrass beds (*Zostera marina*) are scattered throughout the shallower waters of the project area. The eelgrass beds are found extending just offshore to approximately 500 feet west of the shore in the area near the existing north and south mooring dolphins and causeways and around the eastern portion of the stem of the pier. In addition, a narrow band of salt and sand tolerant salt marsh species is found between the bay margin to the developed asphalt pad of the terminal facility. Vegetation found along this area includes cord grass (*Spartina densiflora*), beach grass (*Leymus mollis*), sea rocket (*Cakile maritima*), and salt brush (*Atriplex patula*).

The marine terminal is located in state waters leased from the California State Lands Commission. The proposed maintenance project on the Chevron Eureka Terminal Pier is proposed as a result of findings made during an audit required by the State Lands Commission. The State Lands Commission requires periodic audits of piers in state waters to ensure that the structures are properly maintained for public safety. The audit was performed in 1999 and found the pier to be in relatively good overall condition, yet in need of specific maintenance repairs which are the subject of this permit application. The majority of the required repairs are a result of wood rot above the water line.

The applicant is proposing various improvements to the facility that involve structures to be permanently removed, structures to be permanently added, and structures to be replaced in kind. The project includes the following four main elements:

1. Maintenance of the existing pier;
2. Relocation of the existing north floating dock;
3. Removal of two unused mooring dolphins and causeways; and
4. Removal of an unused building along the shoreline and associated piles and debris.

Structures to be Permanently Removed:

- North mooring dolphin and causeway (22-25 creosote treated piles and timbers)
- South mooring dolphin and causeway (22-25 creosote treated piles and timbers)
- 360-square-foot building on piles over the intertidal zone (10-14 creosote treated piles, timbers, lumber, and debris in the area)

Structures to be Permanently Added:

- 3 concrete piles to relocate the existing north floating dock
- 1 Chemonite-treated pile under the main wharf

Structures to be Repaired and Replaced:

- 44-50 creosote-treated piles replaced with Chemonite-treated piles on the main pier
- miscellaneous bracing, bolts, fender lagging, protective pile caps, and pile guides

Detailed Project Description

(a) Maintenance of Existing Pier

The proposed maintenance on the existing pier ranges from simply tightening loose bolts and securing connections to replacing piles and fender lagging. Approximately 40-50 creosote treated piles would be replaced with wood piles treated with Chemonite which is currently accepted by the Department of Fish and Game for use in marine waters. One new Chemonite treated pile will be installed under the main wharf to support a rotted pile. The timber lagging bolted to the face of the fender piles would also be replaced and the mounting system for the

rubber fenders would be modified to reduce the wear of chains on the fender piles. (see Exhibit No. 4)

All pile removal would be completed from a barge by means of vibratory extraction where possible, with additional site access and work completed from the main wharf itself. It is expected that barge position would be maintained by tying the barge to the existing pier.

(b) Relocation of the Existing North Floating Dock

There are two floating docks attached to the landward side of the main wharf at the bayward end of the facility that are used for mooring spill response boats. The north floating dock is attached to three piles supporting a boathouse that holds another emergency response craft. The north floating dock is exposed to significant wave action, which causes the dock to severely wear on the piles supporting the boathouse. The wave action also causes significant impact on the boat house support piles which is loosening the overall structure. To remedy the impact to the boathouse from wave action, the north floating dock is proposed to be moved several feet landward and secured to three new concrete piles. The three piles would be driven from a floating barge. (see Exhibit No. 5)

(c) Removal of Two Mooring Dolphins and Causeways

The existing mooring dolphins and causeways that extend to the north and south of the main wharf are proposed to be removed because they are no longer used and are deteriorating. These structures include removal of approximately 44-50 creosote treated piles and approximately 425 square feet of decking. This portion of the project is located in areas of the bay where eelgrass is present. Removal of the mooring dolphins and causeways would be accomplished by vibratory extraction using equipment mounted on a floating barge. (see Exhibit No. 6)

(d) Removal of Unused Building and Cleanup of Debris

The applicant is also proposing to remove an unused, deteriorating 360-square-foot building on piles along the shoreline that extends over the intertidal zone. A total of 10-14 piles would be removed along with miscellaneous debris in the area. The removal of the building would be accomplished during low tide and tarps would be placed on the sand under the building to catch debris. Access would be through the fence bordering the facility parking lot and/or from a barge as needed to remove the piles. (see Exhibit No. 7)

(e) Proposed Eelgrass Survey, Planting, and Monitoring Methods

As part of the project description, the applicant has submitted a proposed plan for eelgrass monitoring and mitigation. The plan involves pre-construction eelgrass surveys, observation and documentation during construction activities involving the barge in areas of eelgrass, and post-construction eelgrass surveys. The plan proposes to gather pre-construction and post-construction turion density and percent cover information along designated transects as well as

photo documentation from established photo-points. Any inadvertent or unexpected impacts to eelgrass as a result of the project will be qualitatively described, located, and measured relative to the adjacent control sites. The plan proposes that if post-construction eelgrass surveys demonstrate a decrease in density of greater than 15% of pre-construction densities, then the area would be replanted from donor eelgrass beds adjacent to the site and monitored for five years or until 85% of pre-construction densities are met after two years. (see Exhibit No. 8)

2. Need for Permit

Section 30601(d) of the Coastal Act exempts certain "Repair and Maintenance" activities from coastal development permit requirements. Section 30610 states in applicable part that:

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

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

Although portions of the proposed project that involve in-kind replacement of piles without enlargement or expansion, pile caps, and other structural elements of the facility constitute a repair and maintenance activity, the development is the kind of repair and maintenance activity that the Commission, as authorized by Section 13252 of its administrative regulation, has determined should require a permit because of potential adverse impacts on coastal resources. Section 13252 of the Commission's administrative Regulations states in applicable part:

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

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

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

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

The proposed improvements are located within an environmentally sensitive habitat area, within a coastal waterway, involve the placement and removal of piles, and involve the use of mechanized equipment and construction materials. Therefore, the repair and maintenance portions of the proposed project are not exempt from permit requirements under Coastal Act Section 30610 (d) as the development involves an extraordinary method of repair involving a risk of substantial adverse environmental impact.

3. Fill in Coastal Waters and Protection of the Marine Environment

The Coastal Act defines fill as including "earth or any other substance or material... placed in a submerged area." The proposed project involves placing fill materials in coastal waters, as the piles to be replaced and the new piles will be installed within submerged areas of Humboldt Bay. The project involves the removal and replacement of 40-50 wooden piles in the same location and installation of 3 concrete piles and one wooden pile in a new location. Other development within tidal and submerged areas consisting of the removal of certain piles, causeways, dolphins, and a building are also proposed.

The proposed project could have several potential adverse impacts on the marine environment. The piles will be installed within mudflat habitat that supports a variety of benthic organisms. The proposed 4 new piles would displace approximately 4-square-feet of this mudflat habitat. In addition, the piles would be removed and installed using a crane mounted on a barge, and to perform some of this work, the barge would need to be located in areas where eelgrass beds are present. Eelgrass provides cover and foraging habitat for a variety of marine organisms including certain species of fish. The operation of the barge could result in potential impacts to eelgrass and fisheries. Furthermore, the installation of new piles and the removal of existing piles could have an adverse impact to water quality if hazardous wood preservatives were used to treat the piles, or if construction debris were to enter bay waters.

Several Coastal Act policies address protection of the marine environment from the impacts of development such as pile removal and installation. These policies include Sections 30230 and 30233. Section 30230 applies generally to any development in marine environments. Section 30233 applies to any diking, filling, or dredging project of open coastal waters. Pile installation within Humboldt Bay is form of filling open coastal waters, wetlands, or an estuary.

Section 30230 of the Coastal Act states, in applicable part:

Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will

maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.

Section 30233(a) of the Coastal Act provides as states, 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.

...

(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...

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

- a. that the purpose of the filling, diking, or dredging is for one of the eight uses allowed under Section 30233;
- b. that feasible mitigation measures have been provided to minimize adverse environmental effects;
- c. that the project has no feasible less environmentally damaging alternative; and
- d. that the biological productivity and functional capacity of the habitat shall be maintained and enhanced where feasible.

(a) Allowable Use for Dredging and Filling of Coastal Waters

The first test set forth above is that any proposed fill, diking or dredging must be for an allowable purpose as specified under Section 30233 of the Coastal Act. The proposed project involves removing and installing numerous wooden piles to improve an existing marine terminal facility.

Section 30233(a)(1) allows fill for port, energy, and coastal-dependent industrial facilities, provided there are no less environmentally damaging alternatives and that feasible mitigation

measures have been provided to minimize adverse environmental effects. The proposed fill is associated with improvements to the Chevron Eureka Marine Terminal, an existing port facility. Therefore, to the extent that the proposed project is the least environmentally damaging alternative and mitigation measures will minimize adverse environmental effects, the proposed project is consistent with the use limitations under Section 30233(a)(1).

(b) Feasible Mitigation Measures

The second test set forth by Section 30230 and 30233 is whether feasible mitigation measures have been provided to minimize adverse environmental impacts.

Depending on the manner in which the proposed improvements are conducted, the proposed project could have four potential adverse effects on the marine environment of Humboldt Bay. The project could have potential impacts to: (1) mudflat habitat; (2) fisheries; (3) eelgrass; and (4) water quality. The potential impacts and their mitigations are discussed in the following four sections:

(1) Mudflat Habitat

The applicant is proposing to remove and replace 40-50 piles, to permanently remove 54-64 piles, and to install 4 new piles. The pile work would be performed on tidal and submerged mudflats within Humboldt Bay. Such mudflats support a variety of worms, mollusks, and other benthic organisms. The replacement piles would be placed in the location of the original piles and thus would not displace any additional mudflat habitat. The new piles to be driven would displace a total of approximately 4-square-feet of new mudflat habitat. However, this displacement is not a significant adverse impact to the mudflat habitat.

The construction of dock piling in Humboldt Bay is known to have both adverse and beneficial effects on habitat values that offset each other. The primary adverse effect is the displacement of the soft bottom substrate, resulting in a loss of habitat area for invertebrates that dwell in or on the substrate within the intertidal area. On the other hand, new piles provide hard intertidal substrate habitat that is beneficial for other kinds of marine invertebrates such as barnacles and mussels. In a study of Humboldt Bay conducted in 1986, Roberts and Bott conclude that the area of soft bottom habitat in Humboldt Bay is extensive, that the area of hard intertidal substrate is relatively limited, and that substitution of the latter for the former is an acceptable effect within Humboldt Bay. In previous permit actions, the Commission has determined that piles often enhance habitat values in this manner, and the Commission has not often required mitigation for the loss of mudflat habitat due to the installation of piles.

Therefore, the Commission finds that no additional mitigation is necessary for the loss of mudflat habitat associated with the new piles.

(2) Fisheries

As noted previously, eelgrass beds exist in areas under and around the facility where proposed improvements will occur. Eelgrass beds provide important habitat to marine life, including providing cover for fish and a spawning place for herring. Information submitted by the applicant provides that herring and salmon would not be affected by the proposed project.

Anadromous fish species that may occur in Humboldt Bay include federally listed threatened and endangered species including Coho salmon, Chinook salmon, and steelhead trout. Although these species may occur in the area, staff at the Department of Fish and Game has indicated that they are not aware of anadromous fish use of eelgrass habitat in Humboldt Bay. Information submitted by the applicant indicates that monthly fish population surveys of eelgrass habitat opposite the Chevron pier in the entrance channel conducted for two years by Humboldt State University fisheries department indicated little or no salmonid presence in eelgrass.

Pacific herring occur as a commercial fishery in Humboldt Bay. According to information provided by the applicant from the Department of Fish and Game and a local herring fisherman, herring are known to spawn in eelgrass in North Bay and King Salmon areas outside the area of the proposed project. According to this information, a herring spawn at the Chevron pier would not be expected. Therefore, the Commission finds that the proposed project would not result in significant adverse impacts to fisheries and no mitigation is necessary for impacts to fisheries.

(3) Eelgrass

The proposed project involves the removal and installation of numerous piles located in areas of the bay that contain scattered eelgrass beds. Eelgrass (*Zostera marina*) is considered to be an environmentally sensitive habitat area worthy of protection because it functions as important shelter and foraging habitat. For example, eelgrass provides cover for juvenile fish and in some locations, serves as a spawning ground for herring. In addition, black brant, small migratory geese, feed almost exclusively on eelgrass. Eelgrass is a flowering plant that extends long rhizomes (roots) an average of 1.5 – 8 inches below the substrate from which the turions (stems) sprout with long, green blades (leaves) and it thrives in protected coastal waters with sandy or muddy bottoms.

The applicant proposes to remove the existing north and south mooring dolphins and causeways which includes removing approximately 44 to 50 piles and 425-square-feet of decking. Because these structures cannot be accessed from the shore, removal of these piles would be accomplished using equipment mounted on a floating barge. The barge would be tied to the existing pier in deep water as much as possible during the project. However, the applicant proposes that because some of the work area is shallow, the barge may potentially come to rest on the bottom while operating during periods of low tides. Removal of the structures is expected to proceed rapidly and it is anticipated that the barge would settle on the bottom only once or twice in the same location, if at all. The applicant has noted that it is in their best interest to avoid instances in which the barge would need to settle on the bottom, as once the barge comes

to rest, the operation essentially becomes idle until the tide is sufficient to float the barge. However, the applicant finds that to prohibit the barge from settling on the bottom entirely is not acceptable because some instances may arise where it is unavoidable.

As noted above, the area where the barge would be operating to remove the mooring dolphins and causeways contains scattered eelgrass beds. Therefore, it is possible that should the barge need to settle on the bottom, it could potentially rest directly on eelgrass. The applicant asserts that this would not result in a significant adverse impact to the eelgrass. Although there has been a significant amount of scientific research done on various aspects of eelgrass, no information has been found that addresses this issue specifically of whether a barge resting on an eelgrass bed for a short duration of time would adversely affect the eelgrass. However, the applicant has submitted an analysis from a qualified biologist dated August 21, 2000 that addresses the potential impact to eelgrass as a result of the barge settling down on it (see Exhibit No. 9). The biologist states in his analysis that he does not expect that the barge grounding for short periods of time would cause substantial damage to the eelgrass. The following is an excerpt of the written statement:

"I anticipate that a barge grounding during pier removal would settle to the bottom in place. The barge would not be moved while in contact with the bottom. This would be similar to the oyster barges. Any effect to the eelgrass would be from the physical pressure of the barge resting on the blades. The barge would cause little or no disruption of the sediment. This would allow the rhizomes to remain undisturbed, even if some blade damage occurred. Thus, I would not expect a barge grounding for one or several low tide periods to cause substantial damage to the eelgrass beneath the barge."

Staff has consulted with the Department of Fish and Game and the National Marine Fisheries Service regarding the issue of barge impacts to eelgrass. Although these consultations have indicated that an impact to eelgrass from the barge grounding on eelgrass is possible, the agency representatives indicate that there is no known evidence that demonstrates such impacts would occur. As noted above, the analysis from a qualified biologist indicates that an impact from resting the barge on eelgrass is not expected. Therefore, the Commission finds that there is no evidence that the use of barges in the project would have a significant adverse impact on eelgrass.

Although the project is not expected to result in adverse impacts to eelgrass, the applicant has proposed a monitoring and mitigation plan to address any unexpected or inadvertent impacts to eelgrass from the project. The proposed mitigation plan involves conducting a pre-construction survey to document eelgrass cover and density, monitoring the barge activity during the project, and conducting a post-construction survey to assess any damage. The proposed surveys would be performed by collecting density (turions/plot) and cover data (visual estimate) along 50m transects through the area of potential eelgrass disturbance and in "control" areas where the barge would not operate. Each transect would be photographed from a permanent photo-point. The post-construction survey would be conducted using the same survey methods utilized for the pre-construction survey. The applicant recently completed and submitted a pre-construction

eelgrass survey. The survey is dated August 2000 and is entitled, "Pre-Construction Eel Grass Survey for Chevron Eureka Terminal Maintenance and Repair Project." The survey results indicate that eelgrass cover on the north side of the pier is 82% with an average density of 59 turions/m² compared to 65% and 42 turions/m² on the south side of the pier.

The applicant proposes that if post-construction survey results show a 15% decrease in pre-construction densities, then replanting and monitoring would be implemented. If post-construction density falls below 85% of pre-construction density, the applicant proposes to replant the impacted area using donor eelgrass beds adjacent to the project area. Post-project monitoring is proposed to begin immediately upon completion of replanting and would continue for five years or until 85% pre-construction densities are met after two years. Monitoring results are proposed to be presented in a report after the first six months and each year afterward until the success densities have been met.

According to the analysis submitted by the applicant's biologist, transplanting eelgrass at the site has a high chance of success. Information provided by the biologist states:

"If damage to eelgrass did occur it is feasible to replant the area from which plants have been lost. Eelgrass transplants have been conducted a number of times in Puget Sound and other areas. Eelgrass transplants have been more successful in recent years than with the earliest attempts."

"Generally eelgrass has been transplanted to locations where it does not currently grow. Many of the early failures to transplant eelgrass have likely been due to less than desirable conditions at the transplant site. In your situation you would be transplanting eelgrass to a location where it has been growing. This would ensure a high probability of success."

As noted previously, no known research has been performed on the specific question of whether a barge resting on the eelgrass for short periods of time would have significant impacts on the eelgrass and it is not certain that the proposed barge operation would not affect the eelgrass beds at the site. The Commission finds that even though the evidence in the record indicates that the use of barges is not expected to result in a significant adverse impact to the eelgrass beds at the site, monitoring of the actual effects of the barge operation on the eelgrass beds with follow up mitigation as appropriate is necessary to ensure that impacts from the project on eelgrass beds are in fact insignificant. As discussed below, the Commission further finds that the mitigation and monitoring plan submitted by the applicant does not provide sufficient provisions to ensure that adverse impacts to eelgrass would be adequately mitigated as required by Section 30233. Therefore, to ensure that impacts to eelgrass are minimized by ensuring adequate mitigation, the Commission attaches Special Condition No. 1 that requires the applicant to submit for review and approval of the Executive Director, a revised eelgrass mitigation plan incorporating additional elements discussed below.

As noted previously, the mitigation and monitoring plan submitted by the applicant proposes to mitigate for inadvertent impacts only if post-construction surveys indicate a 15% or more decrease in pre-construction eelgrass densities. No mitigation or monitoring provisions are proposed by the applicant for any eelgrass impact other than a greater than 15% decrease in eelgrass density. The applicant further proposes that the mitigation consist of replanting the area and monitoring for five years, or until 85% post-construction densities are met. Therefore, the mitigation proposed would not ensure that eelgrass density would be restored to pre-construction levels. Furthermore, the proposal does not make it clear that if inadvertent impacts are great enough to not just reduce density of eelgrass growth, but to actually obliterate parts of the bed, that such a loss in eelgrass *area* would be mitigated. As the mitigation proposed would thus allow for some diminishment of habitat values, the plan as proposed would not include mitigation measures that would minimize adverse environmental effects, inconsistent with Section 30233(a) of the Coastal Act.

Therefore, to ensure that habitat values are fully restored, Special Condition No. 1(e) requires that if *any* post-construction decrease in density or extent of eelgrass cover is detected, the site shall be monitored for five years. Monitoring of the impacted area must occur for five years or until monitoring results indicate that eelgrass density has reestablished to a level equal to pre-construction densities. The Commission recognizes however, that transplanting eelgrass to mitigate for impacts resulting in loss of eelgrass density of less than 15% with no associated loss of actual extent of eelgrass cover may not be effective or necessary because of the associated impacts it would have on the donor eelgrass bed. For example, if post-construction surveys indicate only a 5% density decrease, requiring replanting for such minimal density impact would require that donor plants be harvested from otherwise undisturbed eelgrass beds. Under the applicant's mitigation proposal, transplanting from the donor bed would reduce densities at the donor bed by up to 15%. Thus, if only minor decreases in density occur as a result of the barge operation at the impact site, the mitigation could cause a greater degree of damage to eelgrass resources than the degree of benefit that would be derived from the mitigation. Furthermore, a 15% or less decrease in density would indicate that the rhizomes of the eelgrass bed are still intact and that the areas of minimal density impact would most likely be replenished naturally without replanting. Therefore, the Commission is not requiring replanting for a density decrease less than 15%. Special Condition No. 1(d) requires that transplanting be performed if densities at the affected eelgrass bed drop below 85% of pre-construction levels or if there is *any* loss of extent of vegetated cover. The Commission notes that if the degree of impact is less than this standard and no replanting is performed, pursuant to Special Condition Nos. 1(e) and 1(g), the applicant is still required to monitor the site and ensure that the eelgrass bed has replenished naturally.

Special Condition No. 1(c) requires the plan to be revised to incorporate criteria for determining the degree of adverse impacts. This condition requires that the extent of vegetated cover be defined as that area where eelgrass is present and where gaps in coverage are less than one meter between individual turion clusters. Density shall be defined as the average number of turions per unit area.

As noted previously, the mitigation performance standard proposed by the applicant was that 85% of pre-construction densities would be achieved after five years. The Commission finds that to ensure that habitat values are not diminished to any extent as a result of the project, the mitigation site must achieve average densities and an extent of vegetated cover equal to pre-construction levels within five years. This performance standard is required as Special Condition No. 1(g). This condition also notes that changes in density and cover of the control areas will be used to adjust the density and cover in the impact areas in the event that uncontrollable factors affect eelgrass within Humboldt Bay (i.e. disease, storm events, etc.).

As conditioned, the revised eelgrass mitigation and monitoring plan requires that adversely impacted areas be replanted and monitored if post-construction densities decrease by more than 15%, or if the post-construction survey results in any decrease in the extent of vegetated cover. The applicant has proposed planting methods using donor eelgrass beds adjacent to the project area. The donor shoots would be transplanted in approximately one cubic foot "planting units" with the sediment remaining in tact as much as possible. The "planting units" would be transported to the site and planted on 2.6 foot centers. In the recently submitted pre-construction survey, the applicant proposed a replanting ratio of 1.2:1 meaning for each square meter adversely impacted, 1.2 meters of eelgrass will be replanted. The rationale for this ratio is based on 1) the time necessary for a mitigation site to reach full fishery utilization (i.e. generally three years), and 2) the need to offset any productivity losses during this recovery period within five years. The Commission notes that although information indicates that the eelgrass in the project area does not currently provide significant herring or anadromous fish habitat as discussed in Finding 3(b)(2), the beds are utilized by other fish species and wildlife. The additional planting reflected in the ratio is required to accommodate for biological productivity loss over time. Although the applicant proposed this ratio in a later submittal, it was not included in the initial mitigation plan submitted with the application. The Commission attaches Special Condition No. 1(f) to ensure that this replanting ratio is incorporated into the requirements of the final revised mitigation and monitoring plan.

The mitigation plan proposed by the applicant does not include provisions for remediation should the required performance standard fail to be met after five years. Therefore, to ensure that additional measures would be taken to ensure adequate mitigation at the site, Special Condition No. 1(h) requires the revised plan to include provisions for remediation. This condition requires that if the performance criteria have not been met at the end of five years following the completion of the project, the applicant shall submit an amendment to the coastal development permit for additional mitigation.

To further ensure adequate mitigation of adverse impacts to eelgrass, the Commission attaches Special Condition No.1(a) and (b) which require criteria regarding the timing of pre- and post-construction surveys. As noted previously, the applicant has submitted the pre-construction eelgrass survey dated August, 2000. Special Condition No. 1(a) requires the pre-construction survey to be completed between the active eelgrass growing season (May-August) within 120 days of project commencement. If the project does not commence within 120 days following the completion of the pre-construction survey, a new survey must be completed during the active

growing season. This condition ensures that project conditions including monitoring and mitigation requirements will be based on an accurate inventory of eelgrass present at the site. Special Condition No. 1(b) requires that post-construction surveys be completed within 30 days following project completion to assess any impacts to eelgrass that occur as a direct result from the proposed project.

Special Condition No. 1 requires the additional elements discussed above be incorporated into a revised eelgrass mitigation and monitoring plan. These elements are based in part on the standards and criteria set forth in the Southern California Eelgrass Mitigation Policy. This policy was adopted in July, 1991 by state and federal agencies (National Marine Fisheries Service, U.S. Fish and Wildlife Service, and the California Department of Fish and Game) to standardize and maintain consistency regarding mitigating adverse impacts to eelgrass resources. The Commission has conditioned numerous south coast projects involving adverse impacts to eelgrass to require an eelgrass mitigation and monitoring plan that complies with the guidelines set forth in the SCEMP. The DFG and NMFS have indicated that although a similar policy for Northern California is expected to be prepared and adopted in the near future, currently an eelgrass mitigation policy specific to Northern California, including Humboldt Bay, has not been adopted. Therefore, the Commission has adopted some guidelines set forth in the policy such as the mitigation ratio and the measures of adverse impact, but notes that the attached Special Condition No. 1 requires some additional elements to find the project consistent with Section 30233. Most significantly, the performance standard of the SCEMP requires 100% sustained coverage and only 85% density be achieved after five years. The Commission finds that to ensure that the mitigation is adequate to minimize adverse impacts to eelgrass, the performance standard shall require both 100% of pre-project density and 100% of pre-project cover be achieved within five years.

To further minimize the potential for impacts to eelgrass from the barge resting on the bottom, the Commission attaches Special Condition No. 2(c). This condition requires that all grounding and direct contact of the barge with eelgrass beds shall be minimized. In addition, the Commission finds that adverse impacts to eelgrass could occur if the piles or other equipment were to be dragged over the bottom in areas of eelgrass beds. Therefore, to further minimize impacts to eelgrass, the Commission attaches Special Condition No. 2(d) which prohibits propellers, anchors, construction equipment, or piles from being dragged over the mudflats or eelgrass beds.

As conditioned, the Commission finds that feasible mitigation measures have been incorporated into the project to minimize adverse environmental effects consistent with Section 30233(a).

(4) Water Quality

The use of certain kinds of wood preservatives used to treat piles such as creosote, can lead to adverse impacts to water quality and biological productivity. Contaminants in the wood preservative can potentially leach out of the piles and into the water column where they can be absorbed by fish and other aquatic organisms with potentially adverse consequences. The

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applicant proposes to use a preservative on the wood piles known by the product name "A.C.Z.A." or Chemonite. Commission staff has consulted with the staff of the Department of Fish and Game and has indicated that although Chemonite does not prevent leaching of contaminants entirely, it is far superior to creosote.

The applicant is proposing to use three concrete piles to replace three wooden piles and relocate the north floating dock several feet landward. The use of concrete piles for the main pier as an alternative to treated wooden piles was considered, but concrete piles are not feasible for repair and maintenance purposes on the wooden pier.

This project would result in the permanent removal of 54-64 creosote treated piles and the replacement of 40-50 creosote treated piles with Chemonite treated piles, a less environmentally damaging preservative, thereby resulting in an overall improvement to the water quality of Humboldt Bay. To ensure that contamination of the marine environment from the use of certain wood preservatives is avoided as proposed by the applicant, the Commission attaches Special Condition No. 3, which prohibits the use of creosote and specifies that only Chemonite or another preservative approved by the Department of Fish and Game providing equivalent or greater protection against water contamination may be used to treat the piles to be installed.

To further ensure that the project does not result in a significant adverse impact to water quality, the Commission attaches Special Condition No. 2(a) and 2(b). These conditions require that no construction materials, equipment, debris, or waste be placed or stored where it may be subject to wave erosion and dispersion into Humboldt Bay, or that no machinery or construction materials not essential for project improvements enter the bay at any time.

As conditioned, the Commission finds that feasible mitigation measures have been incorporated into the project and the proposed project will not have significant adverse impacts on water quality.

(c) Alternatives

The third test set forth by the Commission's fill policies is that the proposed fill project must have no feasible less environmentally damaging alternative. In this case, the Commission has considered the various identified alternatives, and determines that there are no feasible less environmentally damaging alternatives to the project as conditioned. Alternatives that have been identified include: (1) the "no project" alternative; (2) modifying the proposed project to prohibit the barge from resting on the bottom; and (3) require the use of only concrete piles. As explained below, each of these alternatives are infeasible and/or do not result in a project that is less environmentally damaging than the proposed project.

(1) No Project Alternative

The no project alternative means that no improvements would occur at the Chevron Eureka Marine Terminal and the objective of the project – to repair and maintain the facility – would not

be met. Without the proposed improvements, the port facility would not comply with safety requirements set forth by the State Lands Commission and continued disrepair of the facility would result in an on-going safety hazard. In addition, as discussed under Finding 2 above, the Commission cannot deny the portion of the application involving the repair and maintenance of existing facilities rather than new development. The Commission can however regulate the methods by which repair and maintenance is conducted. Therefore, the no project alternative is not a feasible alternative to the proposed project.

(2) Prohibiting the Barge from Resting on the Bottom

As discussed previously, the applicants are proposing to remove piles from shallow areas where the barge may come to rest on the bottom during low tides. To avoid potential impacts to eelgrass as a result of the barge resting on the bottom, potentially on top of eelgrass beds, staff considered the alternative of prohibiting the barge from settling on the bottom at any time during the course of the proposed project. This alternative was discussed at length and is considered by the applicant to be an unacceptable and infeasible alternative. Although the applicant maintains that all efforts will be made to avoid resting the barge on the bottom, the applicant also maintains that instances do occur where it may be unavoidable, such as in an emergency situation.

As noted above, staff has consulted with the Department of Fish and Game and the National Marine Fisheries Service regarding the issue of barge impacts to eelgrass. Although these consultations have indicated that an impact to eelgrass from the barge grounding on eelgrass is possible, there is no known evidence that demonstrates that the short term grounding of a barge on eelgrass actually would have a significant impact to eelgrass. The only known evidence does include the above referenced analysis from a qualified biologist that indicates that impacts from resting the barge on eelgrass are not expected. Therefore, prohibiting the barge from resting on the bottom would not result in a less environmentally damaging feasible alternative than the project as proposed, as there is no evidence that allowing the barge to rest on the eelgrass as proposed only if necessary and only for short periods of time would have any significant impact. Furthermore, the applicant is required to submit a mitigation plan to mitigate for any inadvertent or unexpected impacts to eelgrass as a result of the project.

(3) Use of Concrete Piles

The applicant is proposing to replace 40-50 creosote treated piles from the main pier with Chemonite treated piles. As discussed under the Water Quality section above, Chemonite is considered to be a less environmentally damaging wood preservative than creosote. However, the use of concrete piles eliminates the need for using wood preservatives in coastal waters entirely. The applicant is proposing to replace three wooden piles on the north floating dock with concrete piles. The use of concrete piles for this structure is more practical than using wood piles because they are more resistant to abrasion created from wave action as the floating dock moves up and down with the tide.

The use of concrete piles for the entire project is an alternative that would further minimize the chances of contaminants associated with wood preservatives from leaching into the water column. However, this alternative is not feasible in this situation because the proposed project involves replacing the piles to repair and maintain the existing pier. The piles must be bolted to the existing pier and fender lagging which is not practical to do with concrete piles. If the project involved the construction of an entirely new pier facility, the use of concrete piles rather than treated wood piles would be feasible. Therefore, the use of concrete piles for the entire project is not a feasible alternative to the proposed use of Chemonite-treated piles.

As discussed previously, to ensure that impacts to water quality from the wood piles are minimized, the Commission attaches Special Condition No. 3 which prohibits the use of creosote treated piles and requires only Chemonite or another wood preservative approved by the Department of Fish and Game that would provide equivalent or greater protection against water contamination.

Therefore, the Commission finds that the proposed improvements to the port facility, as conditioned, involve the least environmentally damaging feasible alternative as required by Section 30233(a).

(d) Maintenance and Enhancement of Marine Habitat Values

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

As discussed in the section of this finding on mitigation, the conditions of the permit will ensure that the project will not have adverse impacts on mudflat habitat, fisheries, eelgrass, water quality, or other coastal resources. By avoiding impacts to coastal resources, the Commission finds that the project will maintain the biological productivity and functional capacity of the habitat consistent with the requirements of Sections 30230 and 30233 of the Coastal Act.

The Commission thus finds that the project is an allowable use, that there is no feasible less environmentally damaging alternative, that adequate mitigation is required for potential impacts associated with the filling of coastal waters, and that marine habitat values will be maintained or enhanced. Therefore, the Commission finds that the proposed development, as conditioned, is consistent with Sections 30230 and 30233 of the Coastal Act.

4. 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, Section 30240(b) of the

Coastal Act states that development in areas adjacent to parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those recreation areas.

The marine terminal facility is visible from many vantage points in and around Humboldt Bay. The Chevron facility has existed at the site for many years, and the proposed project will not result in a change to the site that would adversely impact visual resources. The site is located along the waterfront in an area surrounded by similar industrial port facilities. The proposed project will remove dilapidated structures and repair existing structures, thereby resulting in an improvement to the appearance of the facility.

Therefore, the Commission finds that the proposed development is consistent with Section 30251 of the Coastal Act as the development will not block views to and along the coast, will not involve any alteration of land forms, and the pier rehabilitation activities proposed will not result in any change to the visual character of the waterfront area.

5. Public Access

Section 30212 of the Coastal Act requires that access from the nearest public roadway to the shoreline be provided in new development projects except where it is inconsistent with public safety, military security, or protection of fragile coastal resources, or adequate access exists nearby. Section 30211 requires that development not interfere with the public's right to access gained by use or legislative authorization. In applying Section 30211 and 30212, the Commission is also 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 access.

The proposed marine terminal facility improvements would not adversely affect public access. The improvements would not displace any existing public access facilities, as the project would simply improve an existing docking facility that is located in a secured area where no public access currently exists. In addition, the project would not increase the demand for public access facilities, as it would involve no new change in use, would not increase population density in the area, and would not otherwise draw more people to the waterfront. Therefore, the Commission does not find it necessary to require that public access be provided as a result of the proposed project.

The proposed project involves the removal of numerous piles from the bay. If the piles are only partially removed, or broken off during removal and left in the water, they could pose a safety and navigation hazard to boaters and recreators on the bay. Therefore, to avoid adverse impact to public access and recreation on the bay from hazardous piles, the Commission attaches Special Condition No. 2(e) to ensure that all piles are removed in their entirety.

The Commission finds that the proposed project as conditioned, does not have any adverse effect on public access, and that the project as proposed without new public access is consistent with the requirements of Coastal Act Sections 30210, 30211, and 30212.

6. U.S. Army Corps of Engineers Review

The project is within and adjacent to a navigable waterway and is subject to review by the U.S. Army Corps of Engineers (USACE). 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 project ultimately approved by the Corps is the same as the project authorized herein, the Commission attaches Special Condition No. 5 that requires the applicant prior to the commencement of construction, to demonstrate that all necessary approvals from the USACE for the proposed project have been obtained.

7. California Environmental Quality Act

Section 13096 of the Commission's administrative regulations requires Commission approval of a coastal development permit application to be supported by findings showing that the application, as modified by any conditions of approval, is consistent with any applicable requirement of the California Environmental Quality Act (CEQA). Section 21080.5(d)(2)(A) of CEQA prohibits a proposed development from being approved if there are feasible alternatives or feasible mitigation measures available, which would substantially lessen any significant adverse effect the proposed development may have on the environment.

As discussed above, the proposed project has been conditioned to be found consistent with the policies of the Coastal Act. As specifically discussed in these above findings which are hereby incorporated by reference, mitigation measures which will minimize or avoid all significant adverse environmental impact have been required. 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 would 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 and to conform to CEQA.

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EXHIBITS:

1. Regional Location Map
2. Vicinity Map
3. Site Photos
4. Typical Pile Replacement
5. New Pile Installation
6. Removal of Mooring Dolphins and Causeways
7. Removal of Building
8. Proposed Eelgrass Mitigation Plan
9. Biologist Eelgrass Analysis

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 will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.
3. Interpretation. Any questions of intent of interpretation of any condition will be resolved by the Executive Director or the Commission.
4. Assignment. The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.
5. Terms and Conditions Run with the Land. These terms and conditions shall be perpetual, and it is the intention of the Commission and the permittee to bind all future owners and possessors of the subject property to the terms and conditions.

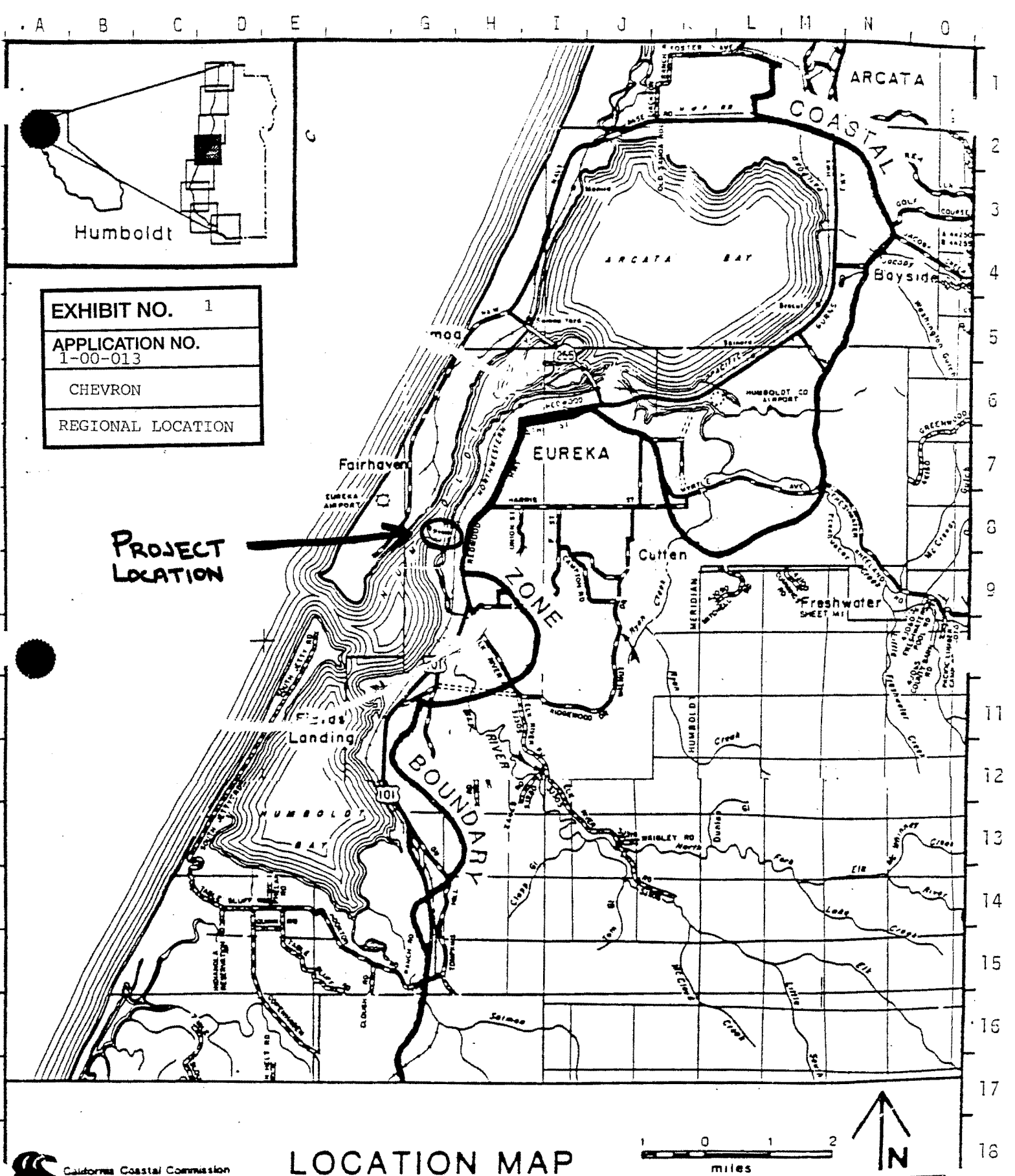


EXHIBIT NO. 1

APPLICATION NO.
1-00-013

CHEVRON

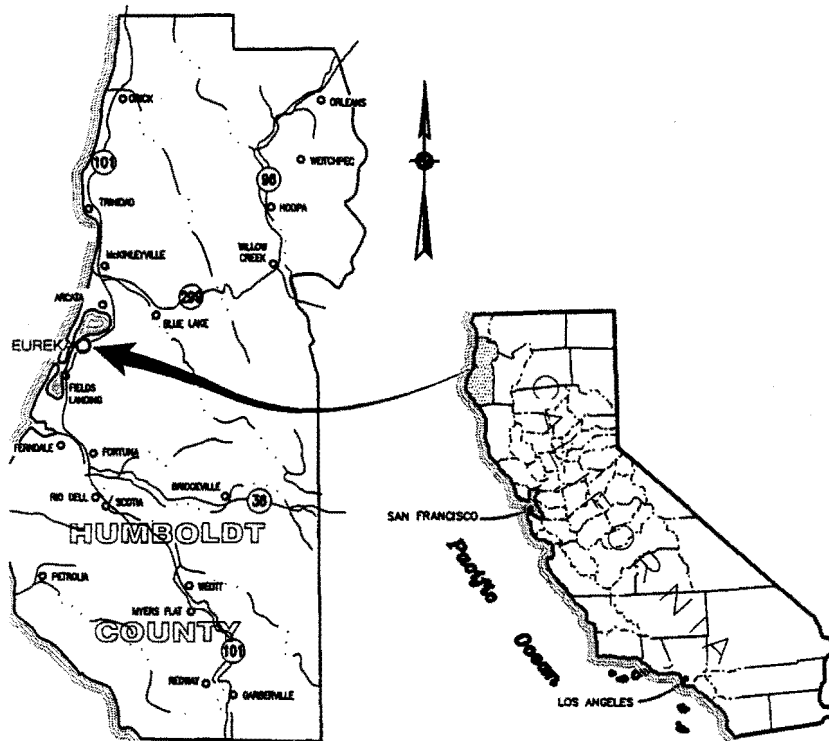
REGIONAL LOCATION

PROJECT
LOCATION

LOCATION MAP

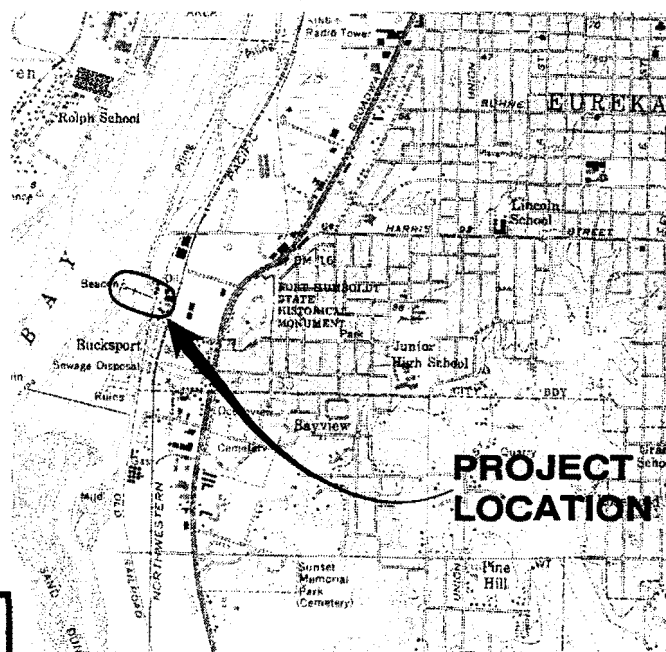
County of Humboldt

California Coastal Commission



VICINITY MAPS

N.T.S.



**PROJECT
LOCATION**

EXHIBIT NO. 2

APPLICATION NO.
1-00-013

CHEVRON

VICINITY LOCATION

FIGURE 1
VICINITY MAP

CHEVRON EUREKA TERMINAL
MAINTENANCE AND REPAIR PROJECT

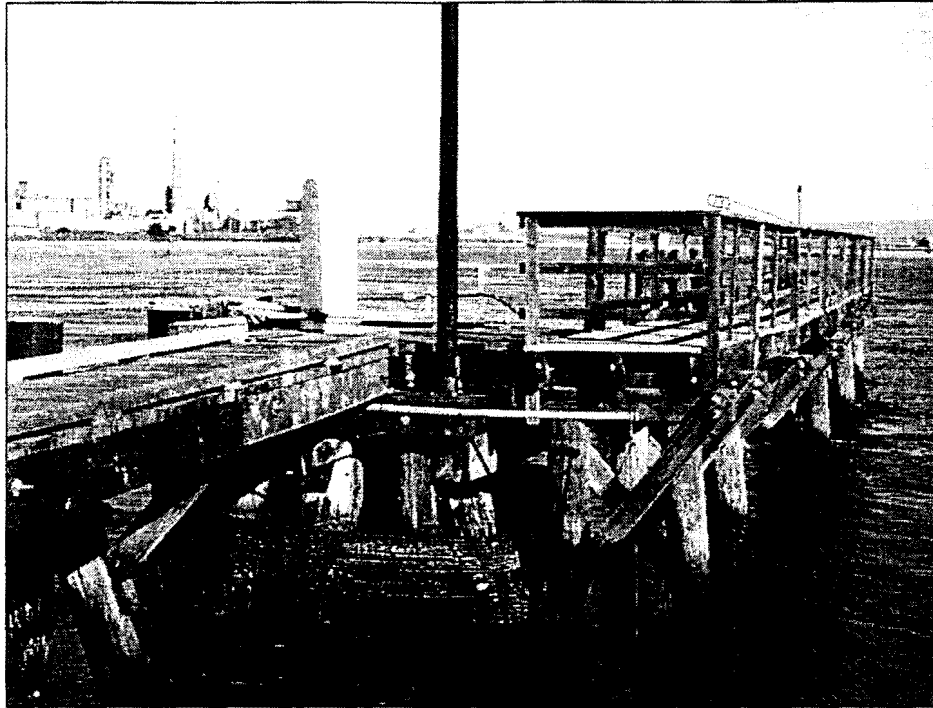


PHOTO #1

Dolphin 8 (cluster of piles around white king pile tie-down) to be rebuilt.

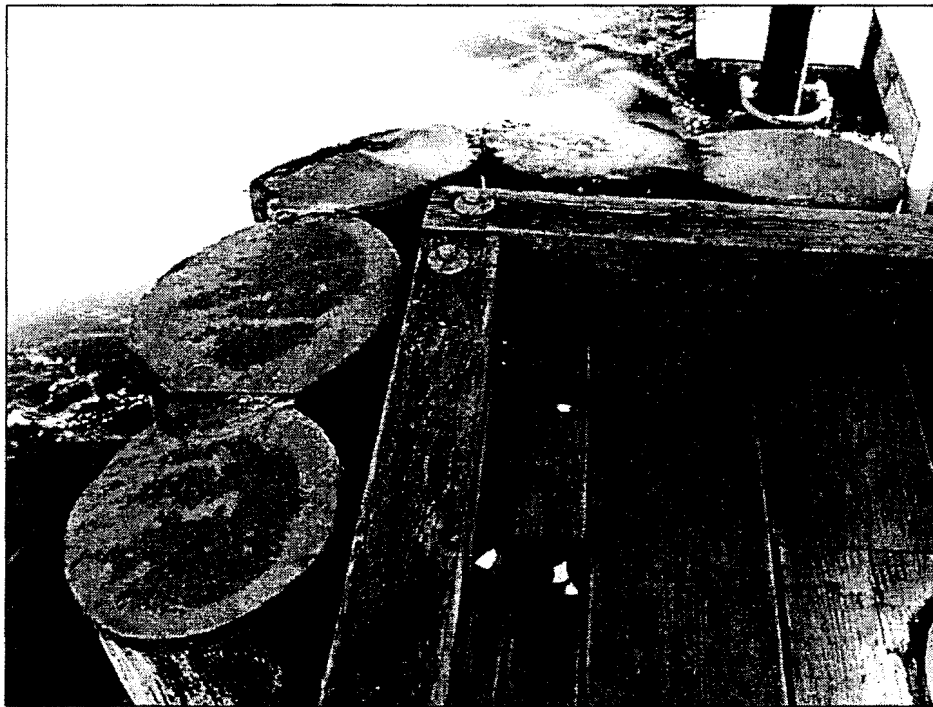


PHOTO #2

Example of deteriorating pile caps to be replaced.

EXHIBIT NO. 3
APPLICATION NO. 1-00-013
CHEVRON
SITE PHOTOS (pg. 1 of 4)

KELLY
ENGINEERS
PH (707) 443-8328
FAX (707) 444-8330

FIGURE 3
SITE PHOTOGRAPHS

CHEVRON EUREKA TERMINAL
MAINTENANCE AND REPAIR PROJECT



PHOTO #3

Rotted piles to be replaced (foreground) and
fender piles to be replaced (adjacent to barge).

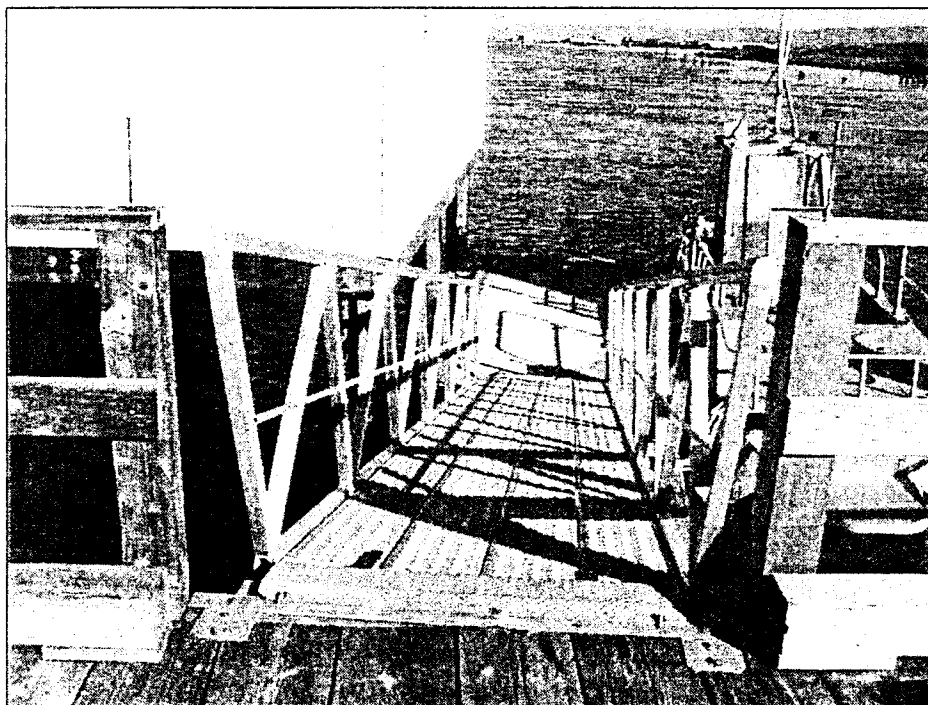


PHOTO #4

Floating dock to be moved away from boathouse
to stop ongoing boathouse pile abrasion.

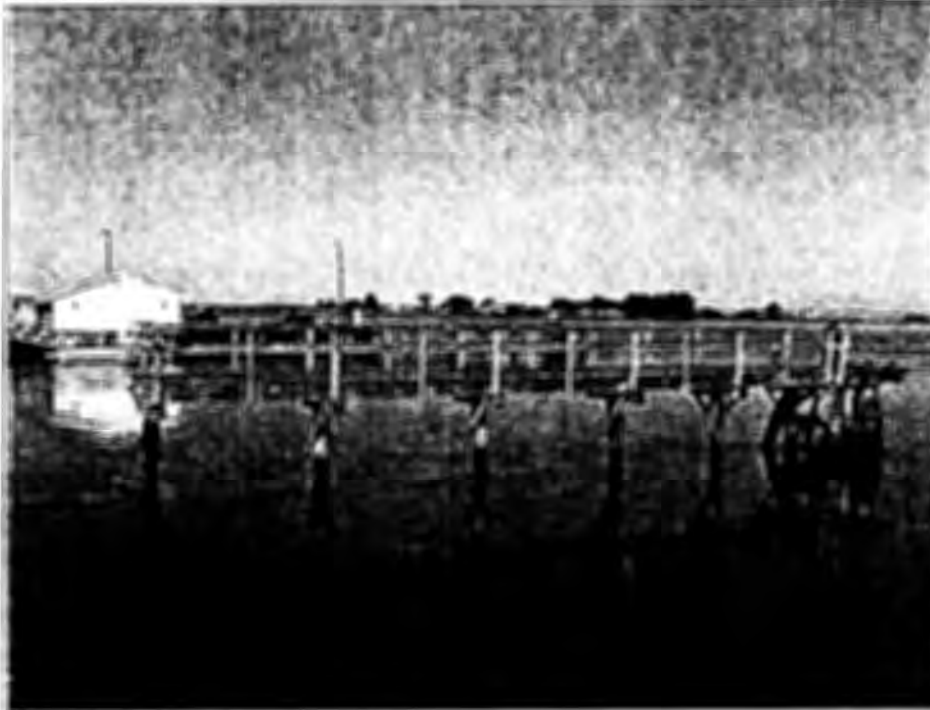


PHOTO #5

North mooring dolphin and causeway to be removed.



PHOTO #6

South mooring dolphin and causeway to be removed.

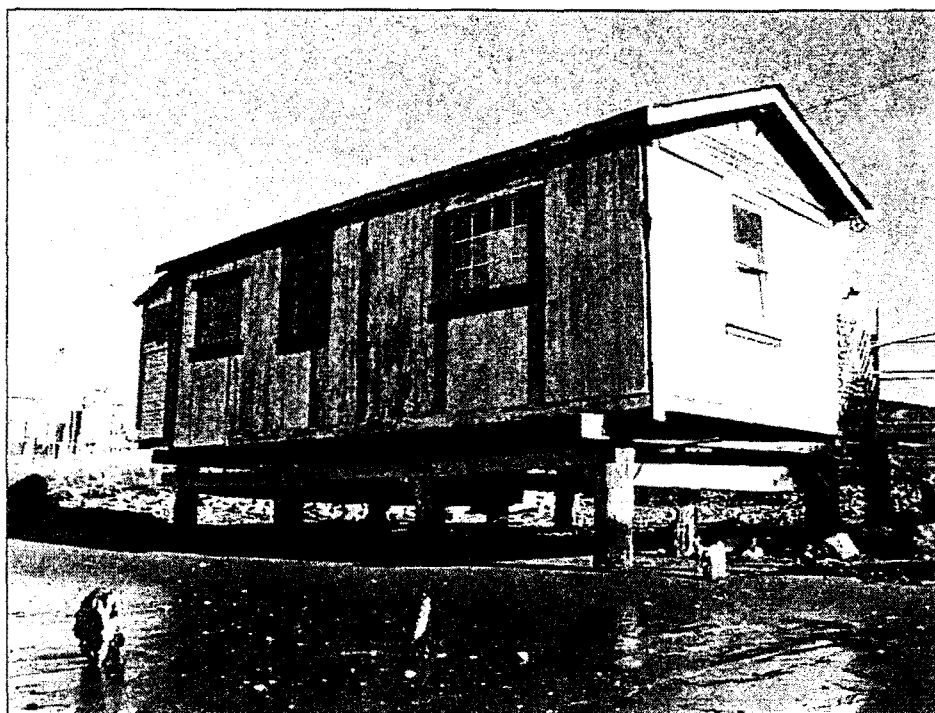


PHOTO #7

Unused building to be removed (misc. abandoned materials just out of view to right).

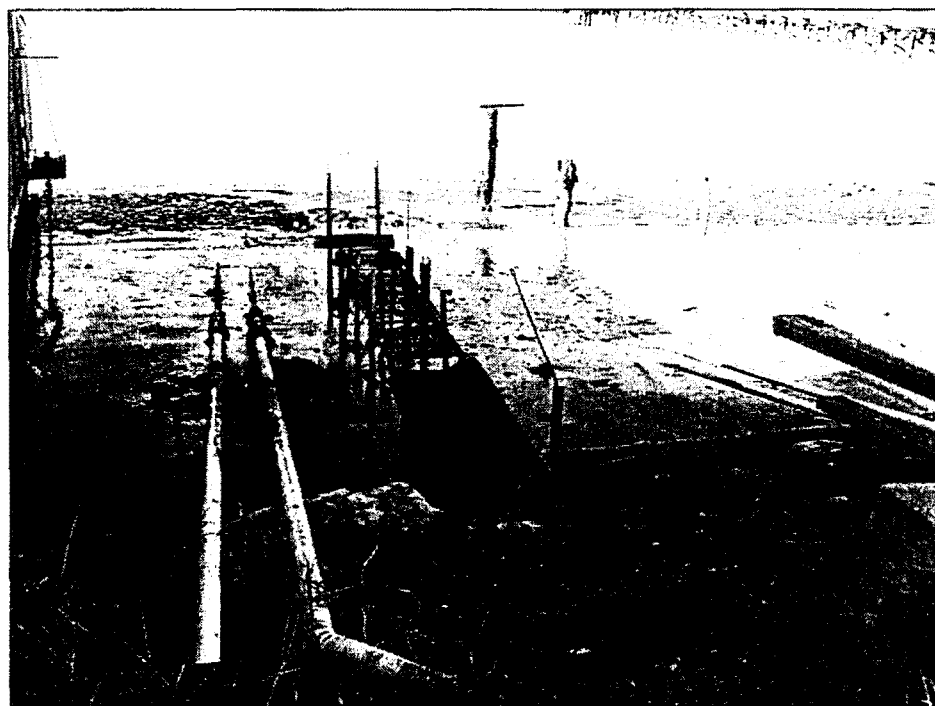
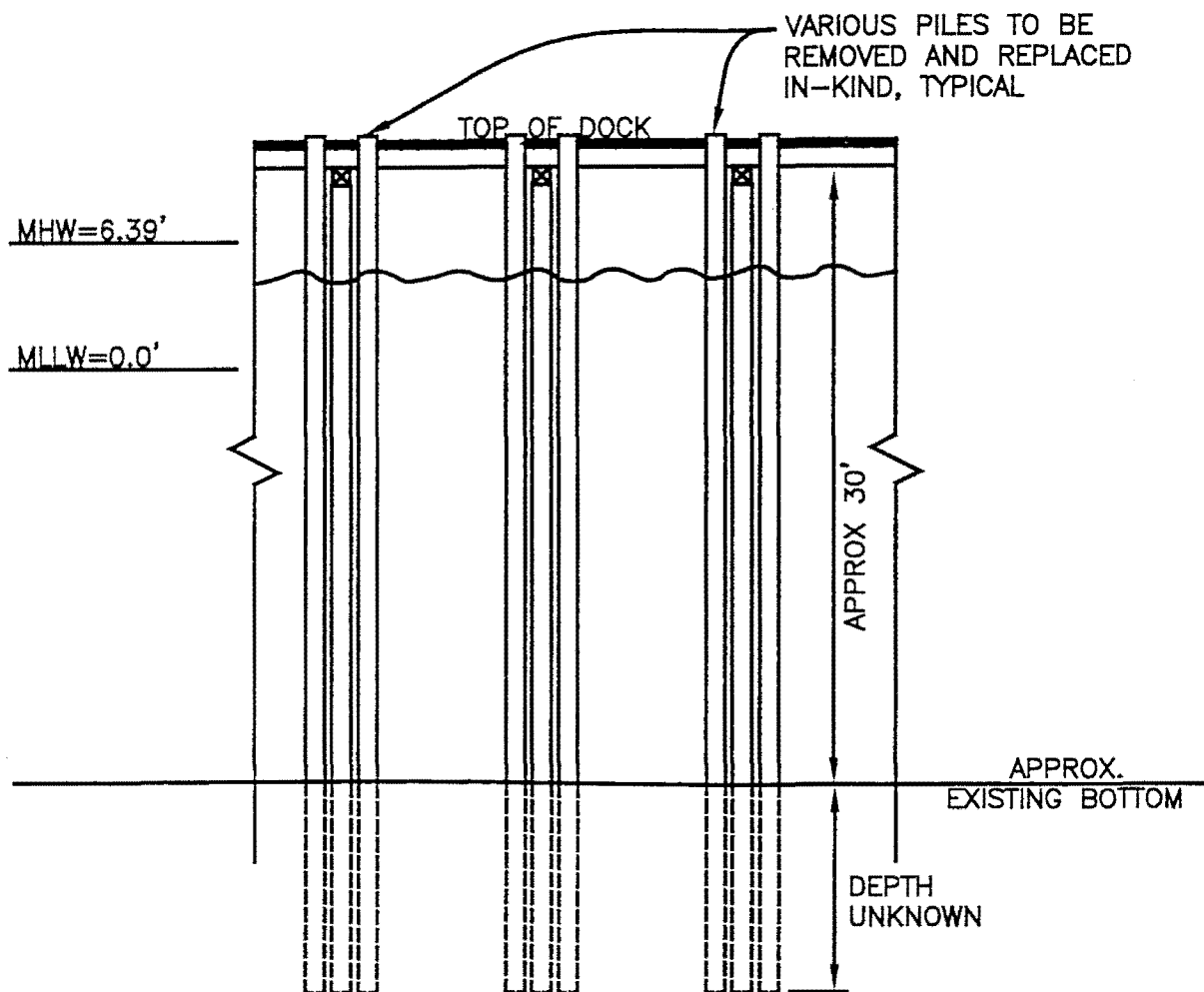


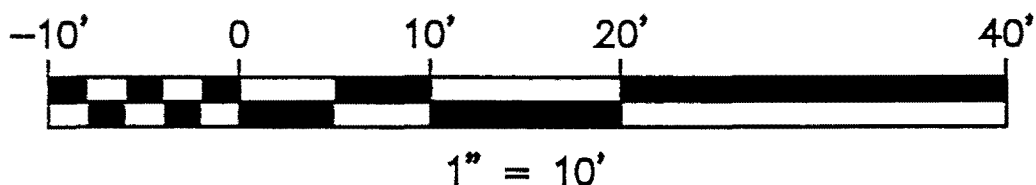
PHOTO #8

Misc. abandoned materials to be removed (Unused building just out of view to right).



SECTION A-A TYPICAL PILE REPLACEMENTS

SCALE



PURPOSE: MAKE NECESSARY REPAIRS TO
REMOVE
PILERS USED.

EXHIBIT NO. 4

APPLICATION NO.
1-00-013

CHEVRON

TYPICAL PILE
REPLACEMENT

PIERS:
St., Eureka
Eureka
Call

FIGURE 3 CROSS SECTIONS

OWNER:

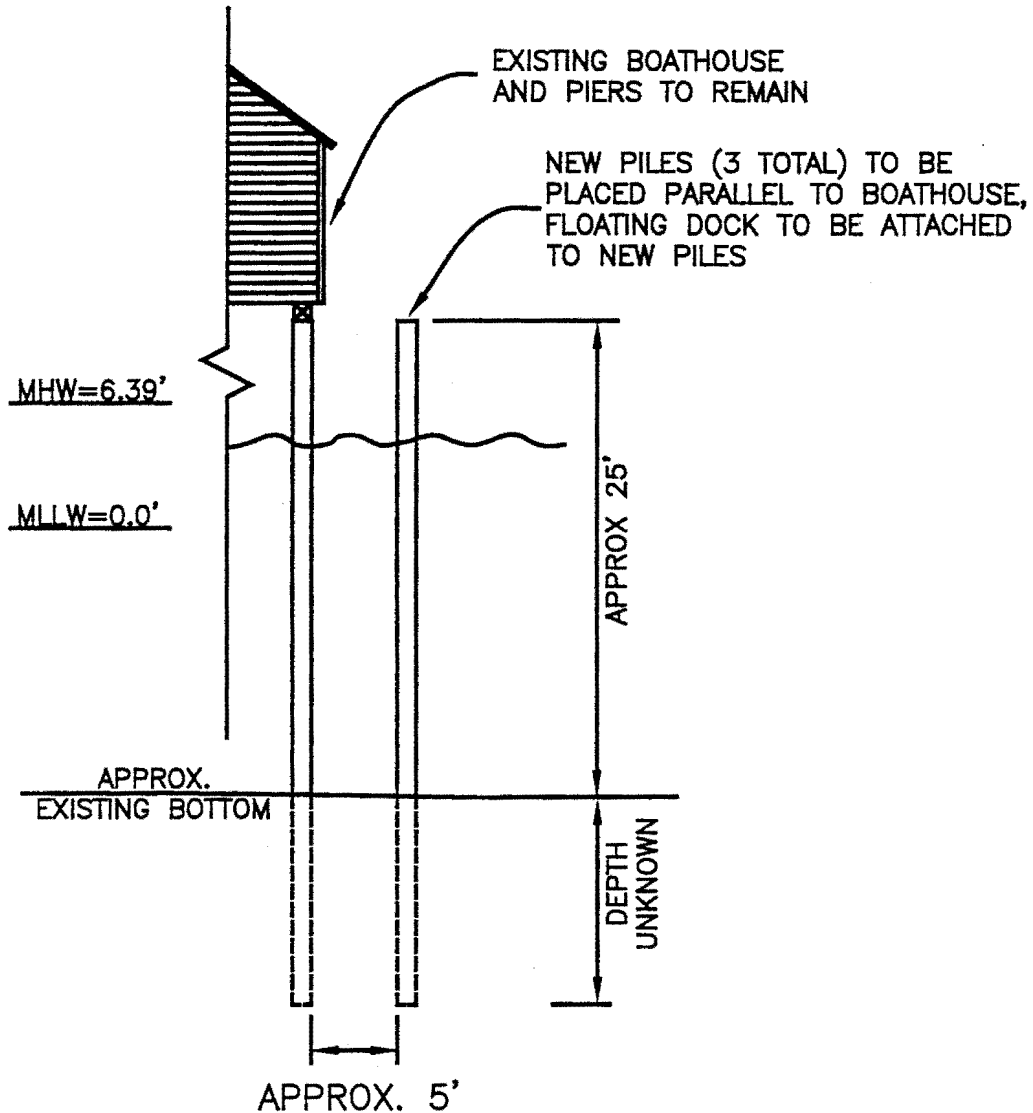
CITY OF EUREKA, C/O
CHEVRON U.S.A. INC.
3400 CHRISTIE STREET
EUREKA, CA 95501

CHEVRON EUREKA TERMINAL
MAINTENANCE AND REPAIR PROJECT

IN HUMBOLDT BAY
AT EUREKA

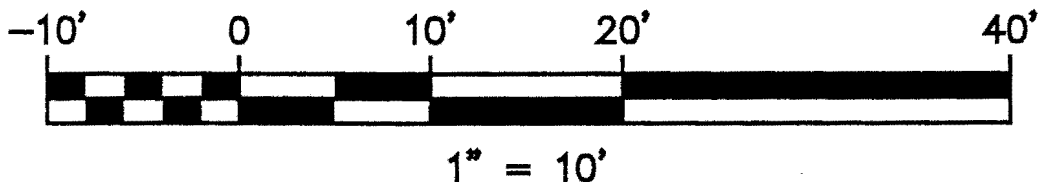
COUNTY OF HUMBOLDT STATE CA
APPLICATION BY WINZLER & KELLY
CONSULTING ENGINEERS

SHEET 3 OF 6 DATE 1/24/00



SECTION B-B NEW PILE INSTALLATION

SCALE



PURPOSE: MAKE NECESSARY REPAIRS TO
REMOVE OR USED.

EXHIBIT NO. 5

APPLICATION NO.
1-00-013

CHEVRON

NEW PILE TYPICAL

ERS:
Eureka
reka
II

FIGURE 4 CROSS SECTIONS

OWNER:

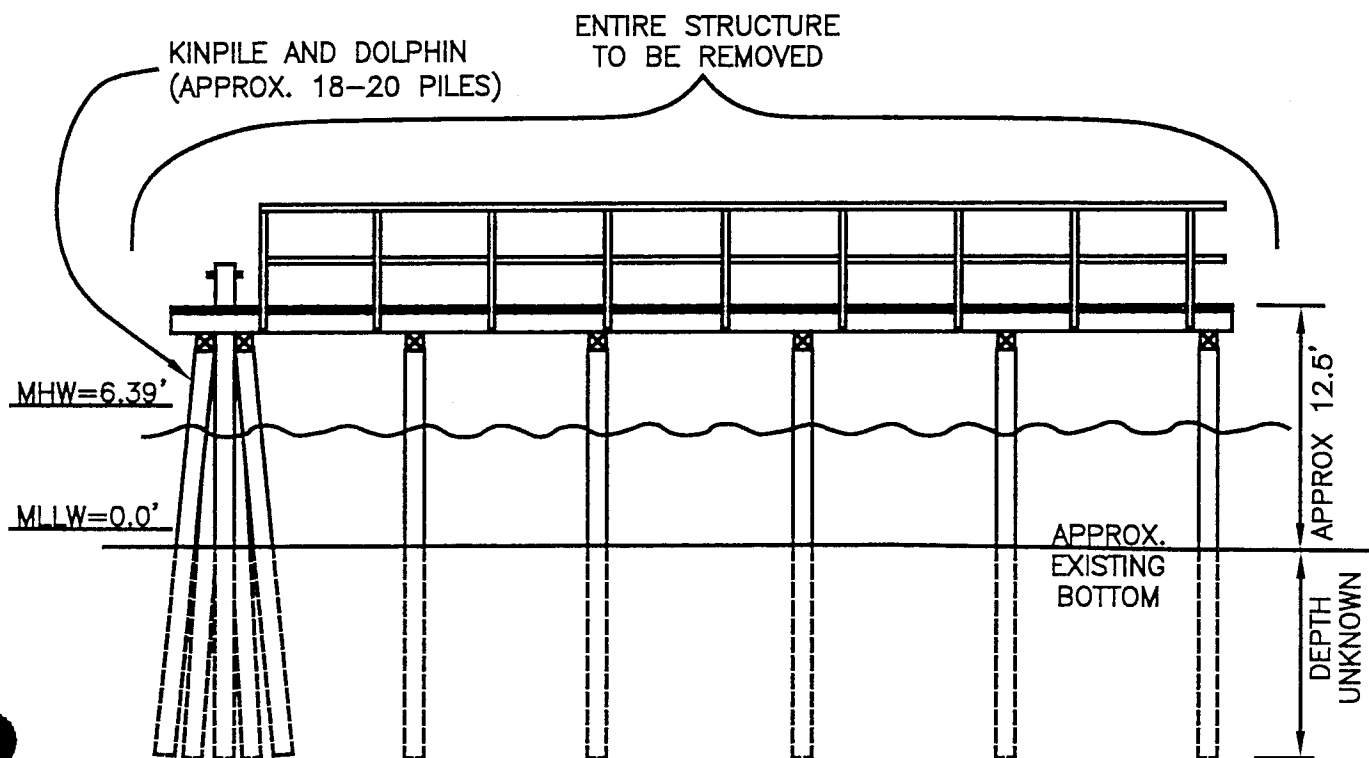
CITY OF EUREKA, C/O
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3400 CHRISTIE STREET
EUREKA, CA 95501

CHEVRON EUREKA TERMINAL
MAINTENANCE AND REPAIR PROJECT

IN HUMBOLDT BAY
AT EUREKA

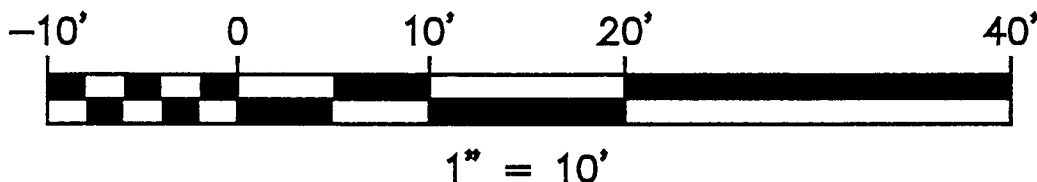
COUNTY OF HUMBOLDT STATE CA
APPLICATION BY WINZLER & KELLY
CONSULTING ENGINEERS

SHEET 4 OF 6 DATE 1/24/00



SECTION C-C
REMOVAL OF UNUSED
DOLPHINS AND CAUSEWAYS

SCALE



PURPOSE: MAKE NECESSARY REPAIRS TO
REMOVE
ER USED.

EXHIBIT NO. 6

APPLICATION NO.
1-00-013

CHEVRON

TYPICAL CAUSEWAY
REMOVAL

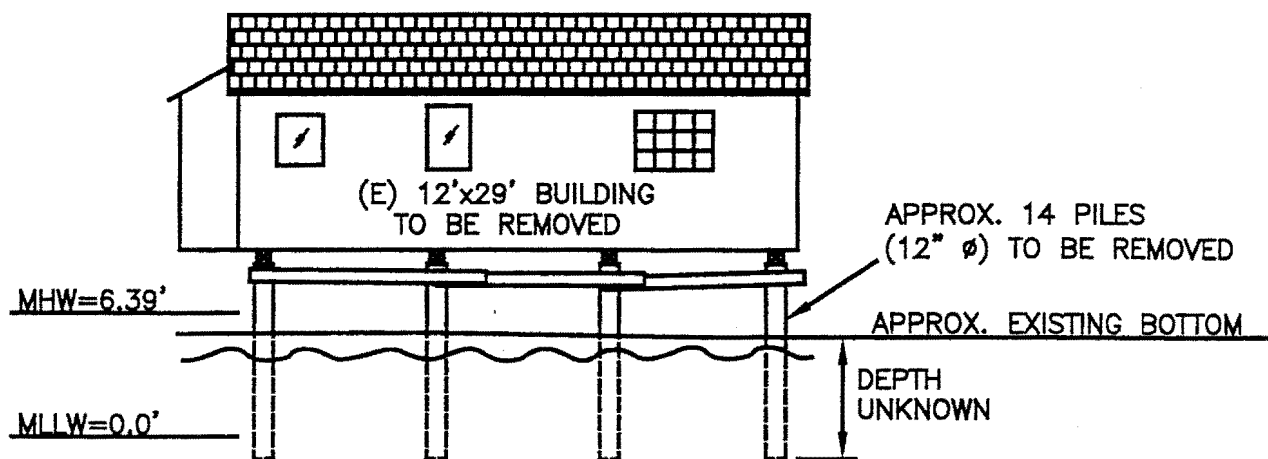
ERS:
Eureka
reka
II

FIGURE 5
CROSS SECTIONS

OWNER:

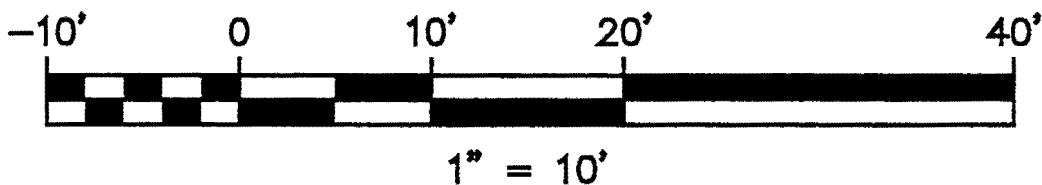
CITY OF EUREKA, C/O
CHEVRON U.S.A. INC.
3400 CHRISTIE STREET
EUREKA, CA 95501

CHEVRON EUREKA TERMINAL
MAINTENANCE AND REPAIR PROJECT
IN HUMBOLDT BAY
AT EUREKA
COUNTY OF HUMBOLDT STATE CA
APPLICATION BY WINZLER & KELLY
CONSULTING ENGINEERS
SHEET 5 OF 6 DATE 1/24/00



SECTION D-D BUILDING TO BE REMOVED

SCALE



PURPOSE: MAKE NECESSARY REPAIRS TO
REMOVE OR USED.

EXHIBIT NO. 7

APPLICATION NO.
1-00-013

CHEVRON

BUILDING REMOVAL

ERS:
Eureka
reka
II

FIGURE 6 CROSS SECTIONS

OWNER:

CHEVRON USA INC.
3400 CHRISTIE STREET
EUREKA, CA 95501

CHEVRON EUREKA TERMINAL
MAINTENANCE AND REPAIR PROJECT
IN HUMBOLDT BAY
AT EUREKA
COUNTY OF HUMBOLDT STATE CA
APPLICATION BY WINZLER & KELLY
CONSULTING ENGINEERS
SHEET 6 OF 6 DATE 1/24/00

PROPOSED EELGRASS SURVEY METHODS AT CHEVRON TERMINAL PIER

Six transects from established locations from the main pier will run parallel to the wing docks. Four transects will be placed 5 meters on either side of the 75' wing docks, and a transect will be below each dock. The transects will be 60 meters long to extend 100' beyond the wing docks.

Eelgrass density data will be collected along the established transects at 5 meter intervals. Quadrats will be 0.25 square meters. Data gathered will be number of turions/plot and a visual estimate of percent eelgrass cover. Each transect will be photographed from the pier from a permanent photo-point.

A pre-construction survey will be conducted during August 2000 at -1.0' tide or lower. during construction an observer will be present to document barge set-up and activities which may impact the eelgrass beds. Photographs will be taken from the established photo-points and other locations that may provide impact data. Any noticeable impacts will be qualitatively described for subsequent observation during the post-construction survey. Any clear impact areas will be described, measured and located. Control plots will be assumed to be those transects that were established on the side of the dock the barge did not set on. Also transects are extended beyond the length of the barge (119') to establish control at the elevations that could be impacted.

Post-construction surveys will be conducted the following August. The same transect locations will be sampled by the above survey methods and evaluation of eelgrass density data from impact and control areas will be made. A decrease in density of greater than 15% in impact areas (changes in density of the control areas will be used to adjust the densities in the impact areas) would require a combination of eelgrass planting and monitoring.

Eelgrass Planting and Monitoring Methods

If post-construction densities fall below the 85% pre-construction survey results than the following eelgrass re-planting methods will occur in the affected areas.

1. Donor eelgrass beds will be located adjacent to the Chevron dock at elevations equal to the areas to be planted. No donor areas will be mass harvested to cause over 85% loss of existing donor bed densities.
2. The eelgrass will be dug up (with a shovel) and transplanted in approximately one cubic foot, planting units, sediment intact. Care will be taken to keep the root-rhizome system intact but some losses will also occur during handling and transport.
3. Shoots will be taken from the dug-up mats and held upright to make "planting units" at the harvest site. Only healthy roots in the pre-flowering stage will be taken.
4. The planting units will be taken to the transplant sites in small containers (plastic buckets) which are filled with water from the harvest site.

1 2 2

EXHIBIT NO. 8
APPLICATION NO. 1-00-013
CHEVRON (pg. 1 of 2)
PROPOSED EELGRASS MITIGATION

5. At the transplant site, the planting units will be inserted into the sediment. A load hole will be made to make the insertion of the plants easier.
6. Plantings will be made on 2.6 foot centers. Leadlines with marked intervals will be used as planting guides to reduce planting time.

The transplanting shall be done by a team of two people.

Monitoring

The monitoring program will include both pre and post project data gathered at harvest, transplant and control sites. Monitoring will measure the shoot growth, survival and density of transplanted material, harvest site and control.

Post project monitoring will begin immediately upon completion of the transplanting and will continue for five years or until 85% pre-construction densities are met after two years.

Monitoring results will be presented in report form after six months and each year afterwards until the success densities have been met. Reports will be provided to the city of Eureka, Army Corps of Engineers, California Coastal Commission, and Humboldt Bay Recreation and Harbor District.

Parametrix, Inc.

Consultants in Engineering and Environmental Sciences

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425-322-8880 • Fax: 425-889-8808 • www.parametrix.com



RECEIVED
AUG 28 2000

Ms. Tiffany Tauber
California Coastal Commission
710 E. Street, Suite 200
Eureka, California 95501

CALIFORNIA
COASTAL COMMISSION

August 21, 2000

Dear Ms Tauber:

Winzler & Kelly has asked me to review their Mitigated Negative Declaration, and Pre-Construction Eelgrass Survey reports for the Chevron Eureka Terminal Maintenance and Repair Project. This letter provides information regarding the potential impacts of barges that might rest on adjacent eelgrass areas during removal and replacement of approximately 50 pilings as well as dock repair at the Chevron Terminal. Most of the information contained below was previously provided in a letter to you regarding the Simpson Samoa project.

Although there has been a great deal of research on eelgrass (*Zostera marina*), I am not aware of any investigations that directly address this issue. I have been dealing with eelgrass issues since my graduate research working with oysters. I have conducted surveys of eelgrass resources and developed eelgrass transplant projects in Puget Sound over the last 30 years. I will provide information that may be of value in your consideration of this issue.

The potential impacts of various human factors on eelgrass were described by Phillips (1984) in a thorough review of eelgrass prepared for the U.S. Fish and Wildlife Service. Generally eelgrass appears to be affected by activities that cause substantial disturbance of the substrate in which the plants are growing, by toxic effects such as oil, or by interruption of light for a prolonged period. Activities such as clam and oyster dredging, scallop harvest, and sediment dredging have been shown to remove eelgrass from the disturbed areas.

Regarding the effects of potential barge grounding, probably the most relevant information I am aware of is that associated with the historic harvest of oysters. Oyster harvesting and relaying has commonly been conducted in many areas from barges. These barges remain at intertidal and shallow subtidal locations for several days while they are loaded and unloaded. During these periods the barges rest on the bottom during low tide periods. It is not uncommon for eelgrass to grow adjacent to and in oyster rearing areas where the barges rest. I have never noticed any obvious impact to the adjacent eelgrass from these barges. I am not aware of any scientific investigations that address barge grounding. I doubt that this has been viewed as a sufficient problem to stimulate scientific effort.

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1 of 4

EXHIBIT NO.	9
APPLICATION NO.	1-00-013
CHEVRON	
BIOLOGIST STATEMENT	

I anticipate that a barge grounding once or twice at a location during pile removal would settle to the bottom in place. The barge would not be moved while in contact with the bottom. This would be similar to the oyster barges. Any effect to the eelgrass would be from the physical pressure of the barge resting on the blades. The barge would cause little or no disruption of the sediment. This would allow the rhizomes to remain undisturbed, even if some blade damage occurred. Thus, I would not expect a barge grounding for one or several low tide periods to cause substantial damage to the eelgrass underneath the barge.

There is some information on the basic biology of the plants that may be pertinent to your concerns. Eelgrass plants are naturally displaced by the activity of macro-invertebrates that disturb the sediment surface. Sand dollars (*Dendraster* sp.) and Dungeness crabs (*Cancer magister*) dig into the surface uprooting considerable numbers of plants (Phillips 1984, personal observation). These activities along with storm waves result in substantial changes in some eelgrass beds from one year to the next. Both the amount of area covered and the distribution of the coverage can vary substantial among years. Recently the distribution of eelgrass beds near a relocated Navy fuel pier in Puget Sound was monitored over a six-year period (Weitkamp 1998). Changes in the adjacent eelgrass beds were documented over time to assess the impacts of construction of a new pier and natural changes that occur with time. Although there were substantial changes in the boundary of the eelgrass beds among years, the same basic area tended to support eelgrass over time.

Annual defoliation of eelgrass is a natural phenomenon that should also be considered in your evaluation and monitoring. Short (1975) estimated that 70% of eelgrass experienced seasonal defoliation. Numerous waterfowl feed on eelgrass in estuarine areas such as Humboldt Bay, removing considerable quantities of the blades without any obvious impact to the beds.

Loss of blades and the upper portion of the turions does not mean the plants are lost. The rhizome grows new turions and turions grow new blades the following growing season. Generally growth of turions and their blades occurs during late spring and early summer (late May-early August). I expect eelgrass to be most sensitive to disturbance during this period of rapid growth when the plants are using energy from the rhizomes to rapidly grow the new turions and blades. Lesser growth of new blades occurs in late summer. Some growth occurs in February and March, but it is much less than during mid-summer. During rapid growth new blades reach full development within three weeks. In Puget Sound this period of maximum growth is in July. I would expect to see similar conditions in Humboldt Bay. Seed germination occurs primarily from April through July. During late summer through spring the turions have most likely returned energy to the rhizomes, making the underground portions of the plants relatively resistant to loss of blades. In late summer through spring the blades tend to gradually break down, are consumed, or are torn from the plants to become drift and detritus. The rhizomes are buried 1.5-8 inches deep in the sediment where they are generally protected from surface disturbance.

If eelgrass were damaged by a barge resting on the bottom, the evidence should be visible for some time. Eelgrass blades decompose slowly. Harding and Mann (1975) reported it takes about 50 days for eelgrass to completely break down. About 50% of the material breaks down within the

first ten days. Thus, I would anticipate damaged eelgrass to be readily visible for some time, and if an area were denuded, it would probably be visible until replaced during the following or subsequent growing seasons.

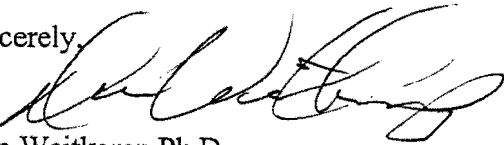
If damage to eelgrass did occur it is feasible to replant the area from which plants have been lost. Eelgrass transplants have been conducted a number of times in Puget Sound and other areas. Eelgrass transplants have been more successful in recent years than with the earliest attempts. It is necessary to hold the transplants firmly in place until they become well established. We have found that the natural activity of crabs can displace a substantial number of the transplants, requiring placing more transplants than desired to ensure adequate survival.

Generally eelgrass has been transplanted to locations where it does not currently grow. Many of the early failures to transplant eelgrass have likely been due to less than desirable conditions at the transplant site. In your situation you would be transplanting eelgrass to a location where it has been growing. This would ensure a high probability of success. One factor not considered in past eelgrass transplants is the fertility of the site. Eelgrass is a rooted vascular plant that requires nutrients in its substrate. Unlike alga, eelgrass does not derive its nutrients from the water column. Nutrient conditions at a location where eelgrass has recently been growing are likely to be favorable, while nutrient conditions at a site where it has not been growing are much less likely to be favorable.

The papers by Harding and Butler (1979) and Waddell (1964) may be of interest to you in your evaluation of eelgrass in Humboldt Bay. They provide some historic information on the density of eelgrass in Humboldt Bay. Harding and Butler mapped eelgrass beds in the northern and southern portions of the bay, but did not document any in the project vicinity. This implies the eelgrass in the vicinity of the Chevron Terminal Pier is either a minor portion of the extensive Humboldt Bay eelgrass resource or is relatively new.

I hope this information is of help to you in your deliberations. If you have any questions or desire to discuss this issue please call me at 425 822 8880.

Sincerely,



Don Weitkamp Ph.D.

c: Steve McHaney, Winzler and Kelly
Misha Schwarz, Winzler and Kelly

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