CALIFORNIA COASTAL COMMISSION

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Staff:	KFS-LB
Staff Report:	July 18, 2002
Hearing Date:	August 6-9, 2002
Commission Action:	

STAFF REPORT: REGULAR CALENDAR

Application	Applicant(s)	Project Location: Trinidad Island (TI) and Humboldt Island (HI), Huntington Beach, Orange County	Tract #	Lot#
5-02-095	Westmoreland, Alex	4047 Mistral Drive, HI	5481	34
	Zimmermann, Sharon	3798 Humboldt Drive, HI	5481	167
	Jankov, Dusan	16571 Ensign Circle, HI	5481	169
	Mah, Robert	16585 Ensign Circle, HI	5481	172
	San Filippo, Vincent	16602 Ensign Circle, HI	5481	174/175
	Rieth, Rod	16592 Ensign Circle, HI	5481	175/176
	Mirand, Alex	16582 Ensign Circle, HI	5481	177
	Chang, Michael	16432 Barnstable Circle, HI	5481	218
	Hetherington, Joseph & Rosann	3681 Escapade Circle, TI	9168	51

AGENT: Tetra Tech, Inc.: Mr. Fernando Pagés, and Ms. Sarah McFadden

PROJECT DESCRIPTION: Place a total of 243 cubic yards of toe stone covering 3,663 square feet of harbor bottom to protect 611 lineal feet of an existing bulkhead. The toe stone will extend 6 feet, at a 2 to 1 slope, seaward of the existing bulkhead. Please see table in Section IV.A. of this staff report for break down of the elements of the individual project sites (i.e. linear feet of bulkhead involved and quantity of toe stone).

SUMMARY OF STAFF RECOMMENDATION:

The major issues of this staff report relate to construction and post-construction impacts of placing toe stone in the marine environment. With conditions, the project will have no adverse construction impacts on water quality or marine habitat. In addition, due to the absence of eelgrass in the project area, there will be no adverse impacts upon sensitive marine habitats, as conditioned. In addition, since the proposed toe stone will be naturally re-colonized by marine organisms there are no permanent impacts upon habitat. Therefore, staff recommends **APPROVAL** of the proposed development with the following special conditions: 1) compliance with plans submitted by the applicant; 2) conformance with specific construction responsibilities to avoid impacts upon water quality and marine resources; 3) preparation of a pre-construction eelgrass survey to confirm, prior to commencement of development, that no eelgrass will be impacted by the proposed project; 4) preparation of a survey to confirm that Caulerpa taxifolia is not present in the project area; 5) a requirement that the applicant acknowledges the Commissions approval is not a waiver of any public interest in any land; 6) a requirement for the submittal of an anchor management plan; and 7) a requirement that the applicants demonstrate their legal ability to undertake the development prior to issuance of the permit.

OTHER APPROVALS RECEIVED: City of Huntington Beach approvals-in-concept dated March 6, 2002 and May 24, 2002; Regional Water Quality Control Board approvals dated July 18, 2001 and May 28, 2002.

SUBSTANTIVE FILE DOCUMENTS: See Appendix A

I. MOTION, STAFF RECOMMENDATION, AND RESOLUTION OF APPROVAL.

MOTION: I move that the Commission approve Coastal Development Permit No. 5-02-095 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 and will not prejudice the ability of the local government having jurisdiction over the area to prepare a Local Coastal Program conforming to the provisions of Chapter 3. 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:

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 this permit is reported to the Commission. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.

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

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

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

III. SPECIAL CONDITIONS

1. **Compliance With Plans Submitted**

The permittee shall undertake development in strict conformance with the proposal and plans as set forth in the application for permit, subject to any special conditions set forth in this coastal development permit approval. Any proposed changes to or deviations from the approved plans shall be reported to the Executive Director. No changes to the approved plans shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is required.

2. **Construction Responsibilities and Debris Removal**

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

(a) No construction materials, debris, waste, oil or liquid chemicals shall be placed or stored where it may be subject to wave erosion and dispersion, stormwater, or where it may contribute to or come into contact with nuisance flow;
(b) Any and all debris resulting from construction activities shall be removed from the site within 10 days of completion of construction;
(c) No machinery or construction materials not essential for project improvements shall be allowed at any time in the intertidal zone or in the harbor;
(d) Sand from the beach or harbor, cobbles, or shoreline rocks shall not be used for construction material;
(e) In order to control turbidity a geotextile fabric shall be installed in the area where the toe stone will be placed prior to placement of the toe stone;
(f) Toe stone shall be placed, not dumped, using means to minimize disturbance to bay sediments and to minimize turbidity;
(g) If turbid conditions are generated during construction a silt curtain shall be utilized to minimize and control turbidity to the maximum extent practicable;
(h) All stock piles and construction materials shall be covered, enclosed on all sides, shall be located as far away as possible from drain inlets and any waterway, and shall not be stored in contact with the soil;
(i) A protective barrier shall be utilized to prevent concrete and other large debris from falling into the harbor;
(j) All debris and trash shall be disposed of in the proper trash and recycling receptacles at the end of each construction day;
(k) The discharge of any hazardous materials into the harbor or any receiving waters shall be prohibited;
(l) Temporary or permanent blockage or closure of any beach, public walkway, recreation facility or other accessway shall be prohibited.

3. **Pre-Construction Eelgrass Survey**

A valid pre-construction eelgrass (Zostera marina) survey shall be completed during the period of active growth of eelgrass (typically March through October). The pre-construction survey shall be completed prior to the beginning of construction and shall be valid until the next period of active growth. The survey shall be prepared in full compliance with the "Southern California Eelgrass Mitigation Policy" Revision 8 (except as modified by this special condition) adopted by the National Marine Fisheries Service and shall be prepared in consultation with the California Department of Fish and Game. The applicant shall

submit the eelgrass survey for the review and approval of the Executive Director within five (5) business days of completion of each eelgrass survey and in any event no later than fifteen (15) business days prior to commencement of any development. If the eelgrass survey identifies any eelgrass within the project area which would be impacted by the proposed project, the development shall require an amendment to this permit from the Coastal Commission or a new coastal development permit.

4. **Pre-Construction Caulerpa taxifolia Survey**

(a) Not earlier than 90 days nor later than 30 days prior to commencement or re-commencement of any development authorized under this coastal development permit (the "project"), the applicants shall undertake a survey of the project area and a buffer area at least 10 meters beyond the project area to determine the presence of the invasive alga *Caulerpa taxifolia*. The survey shall include a visual examination of the substrate.

(b) The survey protocol shall be prepared in consultation with the Regional Water Quality Control Board, the California Department of Fish and Game, and the National Marine Fisheries Service.

(c) Within five (5) business days of completion of the survey, the applicants shall submit the survey:

i. for the review and approval of the Executive Director; and

ii. to the Surveillance Subcommittee of the Southern California Caulerpa Action Team (SCCAT). The SCCAT Surveillance Subcommittee may be contacted through William Paznokas, California Department of Fish & Game (858/467-4218) or Robert Hoffman, National Marine Fisheries Service (562/980-4043).

(d) If *Caulerpa taxifolia* is found within the project or buffer areas, the applicants shall not proceed with the project until 1) the applicants provide evidence to the Executive Director that all *C. taxifolia* discovered within the project and buffer area has been eliminated in a manner that complies with all applicable governmental approval requirements, including but not limited to those of the California Coastal Act, or 2) the applicants have revised the project to avoid any contact with *C. taxifolia*. No revisions to the project shall occur without a Coastal Commission approved amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

5. **Public Rights**

The Coastal Commission's approval of this permit shall not constitute a waiver of any public rights that exist or may exist on the property. The permittee shall not use this permit as evidence of a waiver of any public rights that may exist on the property.

6. **Anchor Management Plan**

A. **PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT**, the applicant shall submit, for the review and approval of the Executive Director, a plan for the avoidance of adverse impacts upon eelgrass due to the placement of anchors utilized by barges in construction of the proposed project. The plan shall be prepared by a qualified professional and shall include the following:

1. The plan shall demonstrate that the use of anchors by barges utilized in the proposed project will avoid impacts upon eelgrass beds.

2. The plan shall include, at a minimum, the following components: a map showing the proposed location of barges and anchors with respect to existing eelgrass beds.

B. The permittee shall undertake development in accordance with the approved final 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 amendment to this coastal development permit unless the Executive Director determines that no amendment is required.

7. Legal Interest

PRIOR TO THE ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit, for the review and approval of the Executive Director, written documentation demonstrating that it has the legal ability to carry out the proposed project and all conditions of approval of this permit.

IV. FINDINGS AND DECLARATIONS:

The Commission hereby finds and declares:

A. Project Description and Location

The proposed project would occur on Trinidad Island and Humboldt Island in Huntington Harbour, City of Huntington Beach, Orange County (Exhibit 1). Trinidad and Humboldt Islands are artificial islands surrounded by a cast in place, concrete seawall/bulkhead constructed in the 1960's. The islands are developed primarily with single family residences. The proposed project includes 10 bulkheaded properties, some of which are contiguous with one another and some of which are non-contiguous. All of the bulkheads are located seaward of the first public road.

The proposed project is the placement of toe stone at the footing of the existing concrete bulkhead (Exhibits 2 & 3). The length of bulkhead involved at each property varies as does the quantity of toe stone to be placed. These details are outlined in the following table:

Site Address	Applicant	Tract	Lot Number	Bulkhead Length (ft)	Estimated Quantity of Rock (ft^3)	Estimated Extent of Rock (ft)	Estimated Rock Footprint (ft^2)
4047 Mistral Drive, HI	Westmoreland	5481	34	50	14	6	300
3798 Humboldt Drive, HI	Zimmermann	5481	167	30	8	6	180
16571 Ensign Circle, HI	Jankov	5481	169	44.6	16	6	268
16585 Ensign Circle, HI	Mah	5481	172	69	20	6	414
16602 Ensign Circle, HI	San Filippo	5481	174 (+ 5ft of lot 175)	111	66	6	666
16592 Ensign Circle, HI	Rieth	5481	175 (+ 10 ft of lot 176)	114.9	57	6	689
16582 Ensign Circle, HI	Mirand	5481	177	58	29	6	348
16432 Barnstable Circle, HI	Chang	5481	218	50	8	6	300
3681 Escapade Circle, TI	Hetherington	9168	51	83	25	6	498
Totals				611	243		3663

In total, the proposed project will involve 611 lineal feet of bulkhead. Two hundred and forty three (243) cubic yards of toe stone will be placed at a 2(h) to 1(v) slope in a 6 foot wide swath seaward

of the existing bulkhead. A layer of geotextile fabric will be placed beneath the proposed toe stone to prevent the toe stone from sinking into the bay mud.

The proposed toe stone is necessary to protect the existing bulkhead. The existing bulkhead is a reinforced concrete cast in place structure supported on vertical and battered (i.e. angled) timber piles built in the 1960's. The applicant has stated that this bulkhead was designed with toe stone placed seaward of the footing at a slope of 3(h) to 1(V). Due to the size and weight of the formerly present toe stone, the protective stones have either sunk into the bay mud or migrated away from the bulkhead. In absence of the toe stone, the unconsolidated fine silty and sandy sediments have easily eroded due to tidal currents, propeller wash from recreational boats, maintenance dredging, and the activity of burrowing fish (e.g. the specklefin midshipman). This erosion threatens to undermine the bulkhead footing, exposing the existing untreated timber piles which provide the primary vertical and lateral support for the existing bulkhead. Currently, the mud line at the subject properties has dropped 3 to 27 inches below design profile. If left unabated, continued erosion will undermine the bulkhead footing. On nearby properties this same type of erosion has undermined the bulkhead and exposed the untreated timber piles. Marine boring organisms have damaged those piles and threaten to destabilize the existing bulkhead. The Commission approved repair and reinforcement of those bulkheads (Coastal Development Permits 5-01-358, 5-01-359, 5-98-179, 5-98-201, 5-98-443, 5-98-444, 5-99-005, 5-99-006, 5-99-007, 5-99-008, 5-99-030, 5-99-031, 5-99-032, 5-99-108, 5-99-471, 5-99-472, 5-99-473, 5-00-389, 5-00-390, 5-00-401, 5-00-402). Repair and reinforcement of bulkheads where the footing has been undermined requires more extensive repairs than those proposed, including the placement of a sheetpile and concrete seaward of the existing bulkhead. The proposed toe stone is designed to restore to design elevation the protective coverage of the footing and to prevent the type of more extensive repairs and reinforcements required on nearby properties.

The proposed slope protection toe stone will consist of 8-inch diameter or less quarry waste with a mixture of particles ranging from sand to stones less than 8 inches in diameter. The coastal engineer has stated that this type of toe stone will not migrate or accrete to other areas under the hydrodynamic conditions at the subject site (see Appendix A for technical studies). Therefore, the proposed solution will not replicate the problems associated with the previous protective toe stone structure.

B. Marine Resources

1. Shoreline Protective Devices

Section 30235 of the Coastal Act states:

> *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 shoreline sand supply. Existing marine structures causing water stagnation contributing to pollution problems and fish kills should be phased out or upgraded where feasible.*

The proposed development involves structural reinforcements to protect an existing bulkhead necessary to protect 9 existing homes. Trinidad and Humboldt Islands are located in Huntington Harbour. On nearby properties the slope seaward of the bulkhead has eroded, creating a gap between the footing of the bulkhead and the bottom of the harbor floor. This has allowed water to enter behind (i.e. landward of) the bulkhead and undermine the bulkhead foundation. Further, the gap and erosion has exposed the bulkhead's supporting timber piles to deterioration from burrowing marine organisms. The mud line at the subject sites has dropped between 3 to 27 inches below the bottom of the footing of the existing bulkhead. However, at this stage, there are

minimal voids beneath the footing of the bulkhead at the subject sites. Accordingly, the applicant has stated that the placement of protective toe stone will be adequate to prevent additional erosion and the development of voids with subsequent damage to the timber piles. If protective measures are not implemented at this stage, more extensive structural reinforcements would be necessary in the future to protect the bulkhead.

The proposed project involves the fill of coastal waters with toe stone. The purpose of the proposed fill is to protect an existing structure, which is not one of the eight allowable uses enumerated under section 30233 of the Coastal Act. However, as stated above, section 30235 of the Coastal Act requires the Commission to approve revetments and other similar structures provided that such structures are for the purpose of protecting existing structures and provided that the structures are designed to eliminate or mitigate adverse impacts on local shoreline sand supply. The proposed structure is for the purpose of protecting existing structures. In addition, the proposed project is occurring within an urban harbor at a location isolated from the nearest open coastal shoreline and longshore littoral sand transport mechanisms. Furthermore, bathymetric conditions were evaluated at each individual property in order to establish the minimum amount of toe stone necessary to protect the bulkhead and to minimize the amount of soft bay bottom covered which may contribute to shoreline sand supply. Therefore, in this case, by minimizing the area of soft bay bottom covered, the proposed project mitigates adverse impacts on local shoreline sand supply. Accordingly, the proposed project is approvable under section 30235 of the Coastal Act rather than section 30233 of the Coastal Act.

The applicant's coastal engineer indicates that the proposed project is the least environmentally damaging feasible alternative. Section 30108 of the Coastal Act states that "feasible" means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors. Alternatives considered were: 1) no project; 2) soft-bottom fill; 3) placement of cement slurry to form a protective concrete shield; 4) placement of course rock; 5) installation of a deepened plastic sheet pile which would extend below the depth of scour, instead of the proposed toe stone, to prevent the formation of voids underneath the bulkhead; 6) landward placement of a sheetpile; and 7) minimizing the amount of toe stone placed in front of the bulkhead.

According to the applicant, the no project alternative would not be the least environmentally damaging feasible alternative because without the project the bulkhead at the subject site would loose structural integrity, causing the bulkhead to fail. If the bulkhead were allowed to fail, it would collapse into the harbor. Debris from the collapsed bulkhead would likely fall upon marine habitat resulting in impacts upon that habitat. In addition, sediment released from behind the collapsed bulkhead would enter the water column causing turbidity and potentially affecting marine habitat. The proposed project would have less impact than the no project alternative because the proposed project will have no impacts upon eelgrass while the no project alternative would cause impacts that are uncontrolled resulting in damage to eelgrass beds which may exist in the vicinity of the project.

The second alternative is to use soft-bottom fill to fill in the gap forming at the base of the bulkhead/seawall. Such soft-bottom fill could come from dredging projects undertaken in the harbor, similar to the routine dredging projects in Newport Bay which dispose of suitable dredge material in front of the bulkheads in Newport Bay to protect those bulkheads. In Newport Bay, the bulkheads are designed without a timber pile foundation which must be protected using toe stone. Unlike in Huntington Harbour, the bulkhead/seawalls in Newport Bay are not reliant upon a protective swath of toe stone. Therefore, the use of soft-bottom fill in Newport Bay provides adequate protection to the bulkhead. Meanwhile, the threat of damage to the bulkhead/seawall system in Huntington Harbour due to erosion and undermining is much greater at the project sites than in Newport Bay due to the differences in the design of the bulkhead systems in each harbor.

The bulkheads in Huntington Harbour were designed with timber piles which provide the foundation for the concrete bulkhead/seawall. A protective swath of toe stone at the base of the bulkhead/seawall was part of the design. The protective toe stone is necessary to ensure that soil does not erode from around the timber pilings exposing them to marine boring organisms. The applicant has stated that the soft-bottom fill alternative is not a feasible solution in Huntington Harbour because it would replicate the existing condition. Once placed against the footing, erosive forces would rapidly erode the unconsolidated fine silty and sandy sediments in the same fashion that the existing sediment has eroded. In addition, if soft-bottom fill were used to protect the subject sites, re-nourishment of the soft-bottom fill would need to occur frequently. This frequent re-nourishment would cause frequent disturbance to marine habitat and any eelgrass which may exist in the vicinity of the project site. Whereas, the use of toe stone is anticipated to provide protection for several decades, thus reducing the frequency of disturbance to the site. Therefore, the proposed solution is less environmentally damaging than the second alternative.

The third alternative, placement of cement slurry for slope protection, would not be less environmentally damaging than the proposed solution. It is anticipated that the proposed toe stone will provide a suitable substrate for colonization by marine organisms. In addition, over time it is anticipated by the applicant that sediment will settle upon the proposed toe stone. Providing that there is adequate sunlight it is also anticipated by the applicant that conditions may allow colonization of the toe stone by eelgrass. However, the use of a cement slurry for slope protection would not provide a suitable substrate for colonization by marine organisms. Therefore, the proposed solution is less environmentally damaging than the third alternative.

The fourth alternative, placement of course rock only, would also have greater environmental damage than the proposed solution. The placement of course rock, instead of the proposed mixture of 8-inch minus quarry waste, would replicate the problems associated with the previous protective structure. Due to the presence of unconsolidated fine silty bay mud and existing hydrodynamic conditions, course rock would tend to sink into the bay mud or migrate from the slope targeted for protection. Accordingly, the course rock would need to be replaced over time, with the attendant construction related impacts upon the marine environment. Therefore, the proposed solution is less environmentally damaging than the fourth alternative.

The fifth alternative, placement of a deepened sheet pile in place of the proposed toe stone, is not feasible for several reasons. First, deepened sheetpiles would intersect the existing battered timber piles which angle seaward under the bulkhead below the harbor floor, cutting into those support piles (see Exhibit 9 for view of existing bulkhead and timber pile configuration). To avoid this, the deepened sheetpile would have to be relocated seaward of the existing footing. The area between the footing and sheetpile would continue to be exposed to erosive forces in the harbor. Second, PVC sheetpiles are not long enough to extend deep enough into the harbor bottom. Steel sheetpiles, which are long enough, would be subject to corrosion. Therefore, the fifth alternative is not a feasible solution to the present problem.

The sixth alternative would involve the installation of a sheetpile landward of the face of the existing bulkhead and then removing the portion of the existing bulkhead seaward of the newly installed sheet pile. The applicant has stated that this alternative is not technically feasible because the foundation slab for the existing bulkhead extends at least 10 feet landward of the face of the existing bulkhead to a point underneath existing patios and houses which are built upon the lot. If a sheet pile were installed landward of the existing bulkhead the sheet pile would need to penetrate through the foundation slab of the existing bulkhead. First, a plastic or steel sheet pile is not strong enough to penetrate the concrete foundation slab of the bulkhead. In addition, even if a strong material could be found to penetrate the concrete foundation slab, the portion of the existing bulkhead seaward of the newly installed sheet pile would loose structural integrity and collapse into the harbor. Any methods used to temporarily stabilize the bulkhead seaward of the sheet pile

would require the placement of structures in the water, resulting in impacts similar or greater than the proposed project. Therefore, the sixth alternative is neither technically feasible or the least environmentally damaging feasible alternative.

The seventh alternative, which is the proposed project, is to minimize the impact of the proposed design by minimizing the amount of toe stone placed in front of the bulkhead. Minimizing the width of the toe stone from the bulkhead also minimizes any impacts upon eelgrass in the project vicinity. Therefore, the proposed project is the least environmentally damaging feasible alternative.

The proposed toe stone is necessary to protect an existing bulkhead and single family residences. In addition, the proposed development mitigates adverse impacts upon shoreline sand supply and is the least environmentally damaging feasible alternative. Therefore, the Commission finds that the proposed project is consistent with Section 30235 of the Coastal Act.

2. Marine Habitat

Section 30230 of the Coastal Act states:

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.

a. Soft-bottom Habitat and Eelgrass

The proposed development is occurring in the waters of Huntington Harbour. Except at extreme low tides, the development area would be underwater. The proposed project will result in the coverage of approximately 3663 square feet of unvegetated soft-bottom habitat. These soft-bottom areas contain infaunal clam beds consisting of wavy chione, California chione, and common littlenecks. Eelgrass, a sensitive marine plant that is known to grow around Trinidad and Humboldt Islands and that provides valuable, high quality habitat for a variety of sensitive species, was not present on the subject sites within the area affected by the placement of the proposed toe stone (see Exhibit 4). The applicant estimates that while the toe stone will bury the existing soft-bottom habitat and clam beds, the toe stone will be re-colonized by marine organisms within three to five years.

The California Department of Fish and Game (CDFG) has reviewed the proposed development (see letter dated February 22, 2002 in Exhibit 5). CDFG states that there are some sensitive habitats, particularly eelgrass, which must be protected if present in the project area. In this case, although eelgrass is known to grow around Trinidad and Humboldt Islands, there is no eelgrass present in the project area. Rather, the proposed toe stone would cover un-vegetated soft-bottom habitat. CDFG found that impacts to marine ecology caused by placing quarry stone on soft-bottom habitat would be temporary because marine organisms would re-colonize the quarry stone. In this case, since there are no eelgrass impacts or permanent impacts to the marine environment caused by placing quarry stone on soft-bottom habitat, no habitat mitigation is being required of the applicants. Further, the subject sites are not designated in the certified local coastal program as an environmentally sensitive habitat area.

Although there is no eelgrass growing within the immediate project area, eelgrass does grow at other locations around Trinidad and Humboldt Islands. The proposed toe stone will be placed using a 40 foot by 50 foot barge mounted crane which will retrieve the material for placement from a nearby 40 foot by 60 foot barge upon which the material is staged. Construction activity,

including barge anchoring, vessel propeller wash, and propeller contact with the harbor bottom could cause scarring to the eelgrass beds which located around Trinidad and Humboldt Islands. The applicant has stated that the anchors for the barges will be placed to avoid eelgrass. However, no anchor management plan was submitted. Therefore, Special Condition 6 requires the applicant to submit, prior to issuance of the permit, an anchor management plan for the review and approval of the Executive Director, which documents the location where anchors will be placed to avoid eelgrass beds.

Also, the applicant is proposing to construct the development in a manner which would minimize impacts upon marine habitat by limiting the amount of toe stone placed. For instance, if the applicant were to install an excessive quantity of toe stone in a wide swath adjacent to the bulkhead, a larger impact upon marine habitat could occur. Meanwhile, if too little toe stone were installed the protection required to prevent further deterioration of the bulkhead would not be provided. In this case, the applicant has designed the development with the optimal quantity of toe stone (i.e. enough to provide protection while minimizing the quantity and footprint). The applicant has provided drawings depicting the development with the minimized footprint, resulting in minimization of marine habitat impacts. If the applicant were not to construct the development in accordance with the plans submitted, additional impacts upon marine resources could occur. Therefore, the Commission imposes Special Condition 1 which requires the applicant to construct the development in accordance with the plans submitted. If any changes to the plans are necessary, Special Condition 1 requires the applicant to report the change to the Executive Director and to obtain an amendment to the coastal development permit or obtain a new coastal development permit, unless the Executive Director determines that no amendment or new permit is required.

According to eelgrass surveys conducted by the applicants, eelgrass was not present at the project sites in May and November 2001 (Exhibit 4). However, eelgrass beds are ephemeral and tend to die back or grow based upon seasonal conditions. While eelgrass may not have been present in the project area at the time of the surveys, if environmental conditions are appropriate, eelgrass could grow at the project sites. At least 9 months have elapsed since the eelgrass survey was conducted in May and November 2001. In addition, pursuant to Standard Condition 2, the coastal permit will be valid for an additional 24 months. Due to the ephemeral nature of eelgrass, the National Marine Fisheries Service, U.S. Fish and Wildlife Service, and the California Department of Fish and Game recommends that eelgrass surveys be conducted during the active growth phase of eelgrass (typically March through October in southern California). In addition, the resource agencies state that any eelgrass survey performed is only valid until the beginning of the next growing season (see Exhibit 8, "Southern California Eelgrass Mitigation Policy"). Therefore, based on this criteria, the eelgrass survey provided is outdated and no new eelgrass survey is proposed. If eelgrass is present in the project area which could be impacted, measures to avoid or minimize such impacts must be utilized in order for the project to be consistent with Section 30230 of the Coastal Act. Therefore, the Commission imposes Special Condition 3 which requires that a valid pre-construction eelgrass survey be conducted within the boundaries of the proposed project be undertaken during the period of active growth of eelgrass (typically March through October). The pre-construction survey shall be completed prior to the beginning of construction and shall be valid until the next period of active growth. The pre-construction survey will identify any eelgrass beds which could be impacted and which must be avoided. If the eelgrass survey identifies any eelgrass within the project area which would be impacted by the proposed project, the development shall require an amendment to this permit from the Coastal Commission or a new coastal development permit. An amendment or new permit is required in order to address any eelgrass impacts. The Commission previously imposed similar conditions for pre-construction eelgrass surveys on Coastal Development Permits 5-97-230 and 5-97-230-A1 (City of Newport Beach), 5-97-231 (County of Orange), 5-97-071 (County of Orange), 5-99-244 (County of Orange-Goldrich-Kest-Grau), 5-98-179 (Kompaniez), 5-98-201 (Anderson), 5-98-443 (Whyte), 5-98-444

(Barrad), 5-99-005 (Dea), 5-99-006 (Fernbach & Holland), 5-99-007 (Aranda et al.), 5-99-008 (Yacoel et. al.), 5-99-030 (Johnson), 5-99-031 (Lady Jr., et. al.), 5-99-032 (Appel et. al.), 5-99-108 (Pineda), 5-98-471 (Maginot), 5-99-472 (Bjork), and 5-99-473 (Gelbard), 5-00-389 (Ashby et. al.), 5-00-390 (Burggraf et. al.), 5-00-401 (Baghdassarian et. al.), 5-00-402 (Buettner et. al.), 5-01-358 (Rayhanabad), and 5-01-359 (Azoulay).

b. Caulerpa taxifolia

Recently, a non native and invasive aquatic plant species, *Caulerpa taxifolia* (herein C. taxifolia), has been discovered in parts of Huntington Harbor (Emergency Coastal Development Permits 5-00-403-G and 5-00-463-G) which occupies shallow sandy aquatic environments which provide plenty of sunlight similar to eelgrass. C. taxifolia is a tropical green marine alga that is popular in the aquarium trade because of its attractive appearance and hardy nature. In 1984, this seaweed was introduced into the northern Mediterranean. From an initial infestation of about 1 square yard it grew to cover about 2 acres by 1989, and by 1997 blanketed about 10,000 acres along the coasts of France and Italy. Genetic studies demonstrated that those populations were from the same clone, possibly originating from a single introduction. This seaweed spreads asexually from fragments and creates a dense monoculture displacing native plant and animal species. In the Mediterranean, it grows on sand, mud and rock surfaces from the very shallow subtidal to about 250 ft depth. Because of toxins in its tissues, C. taxifolia is not eaten by herbivores in areas where it has invaded. The infestation in the Mediterranean has had serious negative economic and social consequences because of impacts to tourism, recreational diving, and commercial fishing[1].

Because of the grave risk to native habitats, in 1999 C. taxifolia was designated a prohibited species in the United States under the Federal Noxious Weed Act. In addition, in September 2001 the Governor signed into law AB 1334 which made it illegal in California for any person to sell, possess, import, transport, transfer, release alive in the state, or give away without consideration various Caulerpa species including C. taxifolia.

In June 2000, C. taxifolia was discovered in Aqua Hedionda Lagoon in San Diego County, and in August of that year an infestation was discovered in Huntington Harbor in Orange County. Genetic studies show that this is the same clone as that released in the Mediterranean. Other infestations are likely. Although a tropical species, C. taxifolia has been shown to tolerate water temperatures down to at least 50°F. Although warmer southern California habitats are most vulnerable, until better information if available, it must be assumed that the whole California coast is at risk. All shallow marine habitats could be impacted.

In response to the threat that C. taxifolia poses to California's marine environment, the Southern

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[1] References

*Meinesz, A. (Translated by D. Simberloff) 1999. Killer Algae. University of Chicago Press

*Chisholm, J.R.M., M. Marchioretti, and J.M. Jaubert. Effect of low water temperature on metabolism and growth of a subtropical strain of Caulerpa taxifolia (Chlorophyta). Marine Ecology Progress Series 201:189-198

*Ceccherelli, G. and F. Cinelli. 1999. The role of vegetative fragmentation in dispersal of the invasive alga Caulerpa taxifolia in the Mediterranean. Marine Ecology Progress Series 182:299-303

*Smith C.M. and L.J. Walters. 1999. Fragmentation as a strategy for Caulerpa species: Fates of fragments and implications for management of an invasive weed. Marine Ecology 20:307-319.

*Jousson, O., J. Pawlowski, L. Zaninetti, A. Meinesz, and C.F. Boudouresque. 1998. Molecular evidence for the aquarium origin of the green alga Caulerpa taxifolia introduced to the Mediterranean Sea. Marine Ecology Progress Series 172:275-280.

*Komatsu, T. A. Meinesz, and D. Buckles. 1997. Temperature and light responses of the alga Caulerpa taxifolia introduced into the Mediterranean Sea. Marine Ecology Progress Series 146:145-153.

*Gacia, E. C. Rodriquez-Prieto, O. Delgado, and E. Ballesteros. 1996. Seasonal light and temperature responses of Caulerpa taxifolia from the northwestern Mediterranean. Aquatic Botany 53:215-225.

*Belsher, T. and A. Meinesz. 1995. Deep-water dispersal of the tropical alga Caulerpa taxifolia introduced into the Mediterranean. Aquatic Botany 51:163-169.

California Caulerpa Action Team, SCCAT, was established to respond quickly and effectively to the discovery of C. taxifolia infestations in Southern California. The group consists of representatives from several state, federal, local and private entities. The goal of SCCAT is to completely eradicate all C. taxifolia infestations.

If C. taxifolia is present, any project that disturbs the bottom could cause its spread by dispersing viable tissue fragments. A survey submitted by the applicant indicates that there is no C. taxifolia in the project area (Exhibit 4). However, this survey is at least 9 months old. C. taxifolia could have emerged in the project area since that time. If present in the project area, C. taxifolia could be dispersed through construction of the proposed project. The placement of rock in areas where C. taxifolia is present, could cause pieces of the plant to break off and settle elsewhere, where it can regenerate. By causing dispersal of C. taxifolia, the proposed project could have adverse impacts upon marine life, especially sensitive eelgrass habitat. In order to assure that the proposed project does not cause the dispersal of C. taxifolia, the Commission imposes Special Condition 4. Special Condition 4 requires the applicant, prior to commencement of development, to survey the project area for the presence of C. taxifolia. If C. taxifolia is present in the project area, no work may commence and the applicant shall seek an amendment or a new permit to address impacts related to the presence of the C. taxifolia, unless the Executive Director determines that no amendment or new permit is required. The RWQCB has similarly conditioned their approval of the proposed project (Exhibit 6a and 6b).

Thus, as conditioned, the Commission finds that the proposed project is consistent with Section 30230 of the Coastal Act.

3. Water Quality

Section 30231 of the Coastal Act states:

> *The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.*

The proposed project will involve the placement of toe stone consisting of 8-inch diameter or smaller quarry waste in coastal waters. If such materials are not placed in an appropriate manner, unconsolidated bay sediments may be disturbed causing turbidity in the water column. The applicant has stated that turbidity will be addressed by first installing the proposed geotextile fabric in the area where the toe stone will be placed and by placing, not dumping, the toe stone at the target location. The applicant has additionally stated that a silt curtain will be used in the event that turbid conditions are generated during construction. Since the proposed methods are required to assure compliance with Section 30231 of the Coastal Act, the Commission imposes Special Condition 2.

The proposed development will occur within and adjacent to coastal waters. Construction will require the use of heavy machinery and require the stockpiling of construction materials. In order to protect the marine environment from degradation, Special Condition 2 requires that all construction materials and machinery shall be stored away from the water. In addition, no machinery or construction materials not essential for the project improvements shall be placed in coastal waters. Local sand, cobbles, or shoreline rocks, not presently used in the existing development, shall not be used for backfill or construction material.

The proposed development has been reviewed by the California Regional Water Quality Control Board (RWQCB), Santa Ana Region. The RWQCB has approved the project (Exhibit 6a and 6b).

Therefore, as the conditioned, the Commission finds the proposed development is consistent with Section 30231 of the Coastal Act.

C. Public Access

Section 30211 of the Coastal Act 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 of the Coastal Act states in relevant part:

> *(a) Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects except where:*
>
> *(2) adequate access exists nearby, or,*
>
> *(b) For purposes of this section, "new development" does not include:*
>
> *(4) The reconstruction or repair of any seawall; provided, however, that the reconstructed or repaired seawall is not a seaward of the location of the former structure.*

The subject site is located on Trinidad Island and Humboldt Island in Huntington Harbour. Much of Huntington Harbour consists of private communities. However, both Trinidad Island and Humboldt Island are publicly accessible via a bridge from the mainland. On-street parking is the major source of public parking. In addition, the City of Huntington Beach certified LCP shows public beaches flanking Trinidad Lane at the entrance to Trinidad Island and Humboldt Drive at the entrance to Humboldt Island. There are public fishing docks at the ends of Sundancer Lane and Typhoon Lane on Trinidad Island. There are also several public parks on Trinidad Island including one which bisects Trinidad Island and extends from the Trinidad Lane bridge to the southern side of the island and one at the southwestern corner of the island and the intersection of Typhoon Lane and Venture Drive. Finally, there is a public walkway on Trinidad Island along the bulkhead on the north, west and southern sides of the island which extends from the Trinidad Lane bridge along Sagamore Drive, Typhoon Lane and Venture Drive.

As noted above, there are public walkways, parks and beaches on Trinidad and Humboldt Islands. On Humboldt Island, the proposed projects are located on the eastern side of the island which is opposite to the location of the public beach located on the northern side of the island. On Trinidad Island the proposed project is located on the eastern side of the island, opposite to the public facilities located on the north, west and south sides of the island. Therefore, the proposed project is not located in an area which would impact the existing public access resources. In addition, since the project site is submerged and is only infrequently exposed during extreme low tides, there is no beach area on-site or flanking the site that provides lateral public access. Accordingly, the proposed project would not encroach upon or otherwise adversely affect any lateral public access along any beach. However, in order to assure that the applicant is notified that temporary or permanent blockage of public access in not permitted, the Commission imposes Special Condition 2 which requires the applicant to avoid any temporary or permanent blockage of any public access facility.

Therefore, the Commission finds that the project doesn't require the provision of public access with the proposed development and, as conditioned, that the proposed project is consistent with Sections 30211 and 30212 of the Coastal Act.

D. Legal Ability to Undertake Development

Section 30601.5 of the Coastal Act requires states in part,

> *...prior to the issuance of a coastal development permit, the applicant shall demonstrate the authority to comply with all conditions of approval.*

Certain portions of submerged lands within Huntington Harbour are owned in fee by the State of California ("State") and certain portions are not owned in fee by the State but are subject to the public trust easement. Any construction of protective devices upon submerged lands in Huntington Harbour that are owned in fee interest by the state requires a Protective Works Lease (PWL) from the California State Lands Commission (CSLC). The proposed development is occurring upon submerged lands in Huntington Harbour.

The CSLC has been contacted by the applicants regarding the proposed development. A letter dated January 22, 2002, from CSLC indicates that none of the properties in this application on Trinidad or Humboldt Islands require a PWL. Although no PWL is required from CSLC, the State does retain a Public Trust Easement over much of Huntington Harbour. The letter dated January 22, 2002, states that it is CSLC staff's opinion that the proposed projects are not inconsistent with current public trust needs in the area and that CSLC does not object to the projects as proposed (Exhibit 7).

Comments provided in communications from CSLC indicate that their approval of the projects does not waive any potential public rights to the subject submerged lands. In addition, the comments provided by the CSLC were provided by their staff and not provided via a resolution or other action by the appointed members of the California State Lands Commission. While there is no indication that any further review by the CSLC is needed, it remains possible that the authorization of use of the submerged lands for the proposed purpose could be challenged. In order to assure that the subject Coastal Development Permit is not utilized to assert that any public rights to the land upon which the development is occurring have been waived, the Commission imposes Special Condition 5 which states that the Coastal Commission's approval is not a waiver of any public rights which exist or may exist on the property.

Meanwhile, some of the toe stone proposed by this project would be placed on land that the applicants do not own. For instance, those submerged lands, where the proposed development would take place, that are not owned in fee by the State are owned in fee by either another governmental entity (e.g. the City) or a private entity (e.g. homeowners association). In order to assure that the applicants have the legal ability to undertake the development and comply with the conditions, the Commission imposes Special Condition 7. Special Condition 7 requires that, prior to issuance of the permit, the applicants demonstrate their legal ability to undertake the development. The applicants would demonstrate this legal ability by providing a copy of a valid lease, easement, encroachment permit, letter of permission or similar binding agreement from the fee interest property owner which authorizes the applicants to use the property they don't own in the manner proposed in this application.

As conditioned the Commission finds the proposed project is consistent with Sections 30211 and 30601.5 of the Coastal Act.

E. Local Coastal Program

The City of Huntington Beach local coastal program ("LCP") is effectively certified. However, the proposed project is located seaward of the mean high tide line and thus is within the Coastal

Commission's original permit jurisdiction area. Therefore, pursuant to Section 30519 of the Coastal Act, the LCP does not apply to the proposed project. However, the certified LCP may be used for guidance in evaluating the proposed project for consistency with the Chapter 3 policies of the Coastal Act.

The City's LCP contains policies regarding the protection of water quality and marine resources, including equivalent policies to Sections 30230, 30231, 30233 and 30235 of the Coastal Act. In addition, the City's LCP has policies protecting environmentally sensitive habitat areas. The Commission has found that the project, as conditioned, is consistent with the Chapter 3 policies of the Coastal Act. Since equivalent policies are incorporated in the City's LCP, the project as conditioned is consistent with the LCP.

F. California Environmental Quality Act

Section 13096 of the Commission's regulations requires 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). 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 project is located in an existing harbor in an urbanized area. Development already exists on the subject site. The project site does not contain any known sensitive marine resources, therefore the impacts arising from the proposed project will be minimal. In addition, the proposed development has been conditioned to assure the proposed project is consistent with the resource protection policies of the Coastal Act. The conditions also serve to mitigate significant adverse impacts under CEQA. The conditions are: 1) a requirement that the applicant comply with plans submitted with the application; 2) a requirement that the applicant conform with specific construction responsibilities to avoid impacts upon water quality and marine resources; 3) a requirement that the applicant prepare a pre-construction eelgrass survey to confirm, prior to commencement of development, that no eelgrass will be impacted by the proposed project; 4) a requirement that the applicant prepare of a survey to confirm the absence of Caulerpa taxifolia in the project area; 5) an affirmation that this coastal development permit approval is not a waiver of any public rights that may exist on the property; 6) a requirement for the submittal of an anchor management plan; and 7) a requirement the applicants demonstrate their legal ability to undertake the development prior to issuance of the permit. There are no other feasible alternatives or mitigation measures available which will lessen any significant adverse impact the activity would have on the environment. Therefore, the Commission finds that the proposed project, as conditioned, can be found consistent with the requirements of CEQA.

Applicants Engineering Analyses and Letters

- Humboldt Island and Trinidad Island Bulkhead Repair, Project Background and Description, by Tetra Tech, Inc. dated April 2002
- Letter from Tetra Tech, Inc. to California Coastal Commission titled *Response to May 12, 1999 Letter Regarding Follow-Up Notice of Incomplete Applications* dated May 24, 1999
- Letter from Tetra Tech, Inc. to California Department of Fish and Game dated July 29, 1999
- Letter from Tetra Tech, Inc. to California Coastal Commission titled *Coastal Development Permit Applications for Humboldt Island Bulkhead Repairs* dated August 18, 1999
- Letter from Tetra Tech, Inc. to California Coastal Commission titled *Coastal Development Permit Applications for Humboldt Island Bulkhead Repairs* dated August 25, 1999

Biological Surveys and Mitigation Plans

- *Eelgrass & Caulerpa taxifolia surveys in Huntington Harbour at 3798 Humboldt Drive, 16585 Ensign Circle, 16432 Ensign Circle, 16432 Barnstable Circle, and 3681 Escapade Circle, Huntington Beach, CA*, dated May 1, 2001 prepared by Tetra Tech, Inc. of Pasadena, CA
- *Eelgrass & Caulerpa taxifolia surveys in Huntington Harbour at 4047 Mistral, 16571 Ensign Circle, 16582 Ensign Circle, 16592 Ensign Circle, 16602 Ensign Circle, Huntington Beach, California dated November 15, 2001*, prepared by Tetra Tech, Inc. of Pasadena, CA
- *Eelgrass Survey Report, Trinidad Island – Huntington Harbour* conducted October 26, 1999, and November 18 & 19, 1999 and dated August 2000 prepared by Tetra Tech, Inc. of Pasadena, CA
- *Eelgrass Mitigation and Eelgrass Transplant Report, Humboldt Island & Trinidad Island Bulkhead Repair Project, Huntington Beach, California* dated August 2000 prepared by Tetra Tech, Inc. of Pasadena, California
- *Soft Bottom Mitigation Plan, Humboldt Island and Trinidad Island Bulkhead Repair Project, Huntington Beach, California* dated April 2000 prepared by Tetra Tech, Inc. of Pasadena, California
- *Eelgrass (Zostera marina) survey, impact assessment, and mitigation plan* dated December 1999 prepared for the County of Orange by Coastal Resources Management.

Local Government Approvals

- *Negative Declaration No. 00-05 for the Humboldt Island and Trinidad Island Seawall (Bulkhead) Repairs* prepared by the City of Huntington Beach and Tetra Tech, Inc. of Pasadena, California, and approved on September 13, 2000.

California Department of Fish and Game Letters and Approvals

- Memorandum from California Department of Fish and Game to the California Coastal Commission titled *Humboldt Island Homeowners Association Bulkhead Repair* dated July 6, 1999
- Letter from California Department of Fish and Game to City of Huntington Beach dated August 31, 2000 approving the Soft Bottom Mitigation Plan and Eelgrass Mitigation and Eelgrass Transplant Report cited above

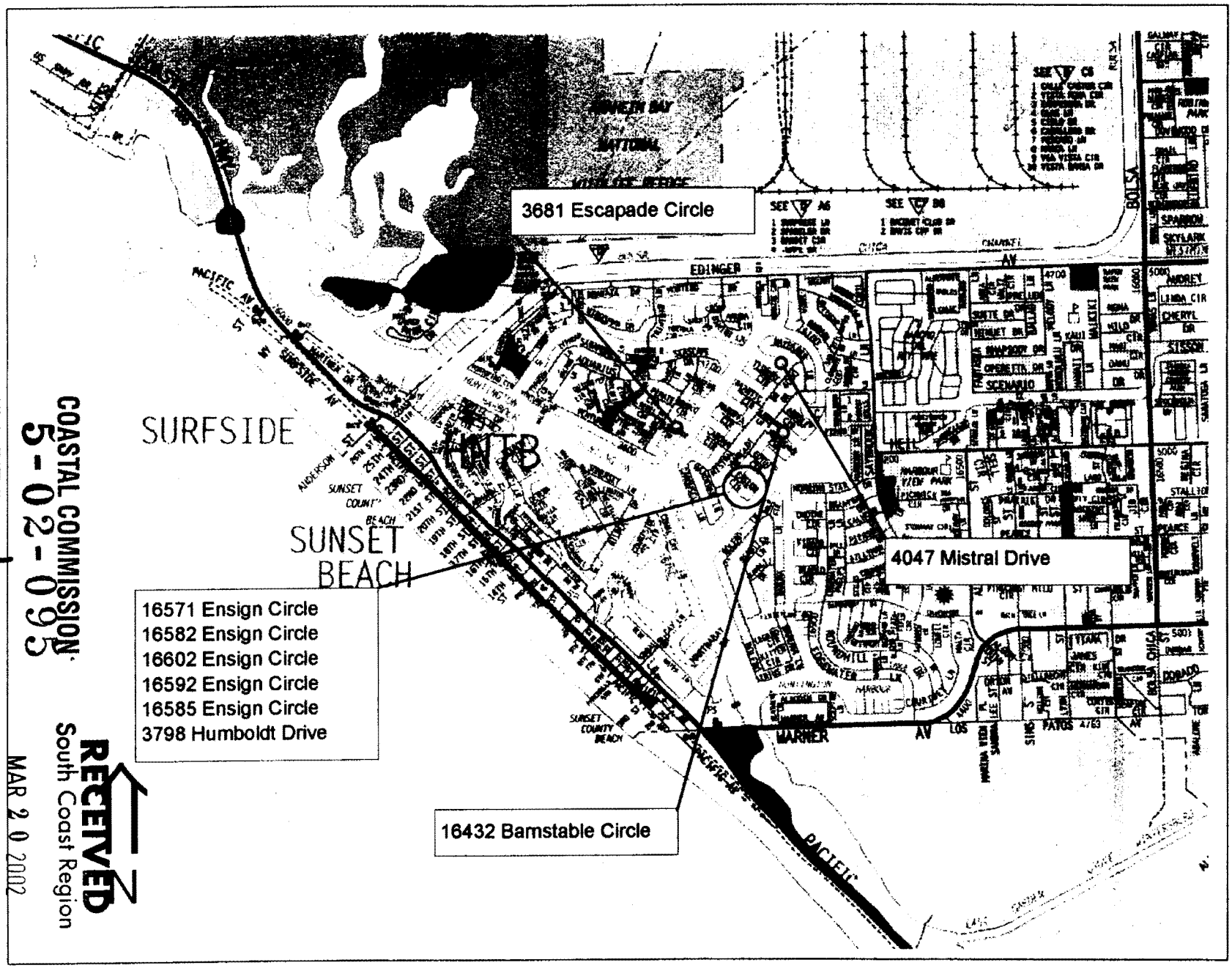
Other Agency Approvals and Correspondence

- Letter from California State Lands Commission dated April 30, 2002, regarding Trinidad Island
- Letter from California State Lands Commission dated January 22, 2002 regarding Proposed Bulkhead Repair on Nine Residential Properties on Humboldt and Trinidad Islands, Huntington Harbour, California.

- Letter from the California State Lands Commission dated March 24, 2000 regarding *Proposed Bulkhead Repairs on 62 Residential Properties at Trinidad Island, Huntington Harbour, Orange County*
- California Regional Water Quality Control Board, Santa Ana Region, Order for a Technically Conditioned Clean Water Act Section 401 Water Quality Standards Certification for the Proposed Five Bulkhead Repairs at Humboldt Island and One Bulkhead Repair at Trinidad Island, City of Huntington Beach dated May 28, 2002
- California Regional Water Quality Control Board, Santa Ana Region, Clean Water Act Section 401 Water Quality Certification for the Proposed Trinidad Island Bulkhead Repair on Properties Containing Eelgrass and Soft Bottom Habitat, City of Huntington Beach (ACOE Reference #200100038-YJC) dated December 8, 2000

Coastal Development Permits

- Eelgrass Impacts: 5-97-230 and 5-97-230-A1 (City of Newport Beach), 5-97-231 (County of Orange), 5-97-071 (County of Orange), and 5-99-244 (County of Orange-Goldrich-Kest-Grau)
- Emergency Coastal Development Permit 5-00-403-G
- Humboldt Island Bulkhead Reinforcements: 5-97-223 (Shea/Albert);5-98-179 (Kompaniez), 5-98-201 (Anderson), 5-98-443 (Whyte), 5-98-444 (Barrad), 5-99-005 (Dea), 5-99-006 (Fernbach & Holland), 5-99-007 (Aranda et al.), 5-99-008 (Yacoel et. al.), 5-99-030 (Johnson), 5-99-031 (Lady, Jr./Zlatko/Woods), 5-99-032 (Yacoel et al), 5-99-108 (Pineda), 5-98-471 (Maginot), 5-99-472 (Bjork), 5-99-473 (Gelbard); 5-01-359 (Rayhanabad)
- Trinidad Island Bulkhead Reinforcements: 5-00-389 (Ashby et. al.); 5-00-390 (Burggraf et. al.); 5-00-401 (Baghdassarian et. al.); 5-00-402 (Buettner et. al.); 5-01-359 (Azoulay)



Source: Thomas Bros. Maps

EXHIBIT # 1
PAGE 1 OF 1

COASTAL COMMISSION
5-02-095

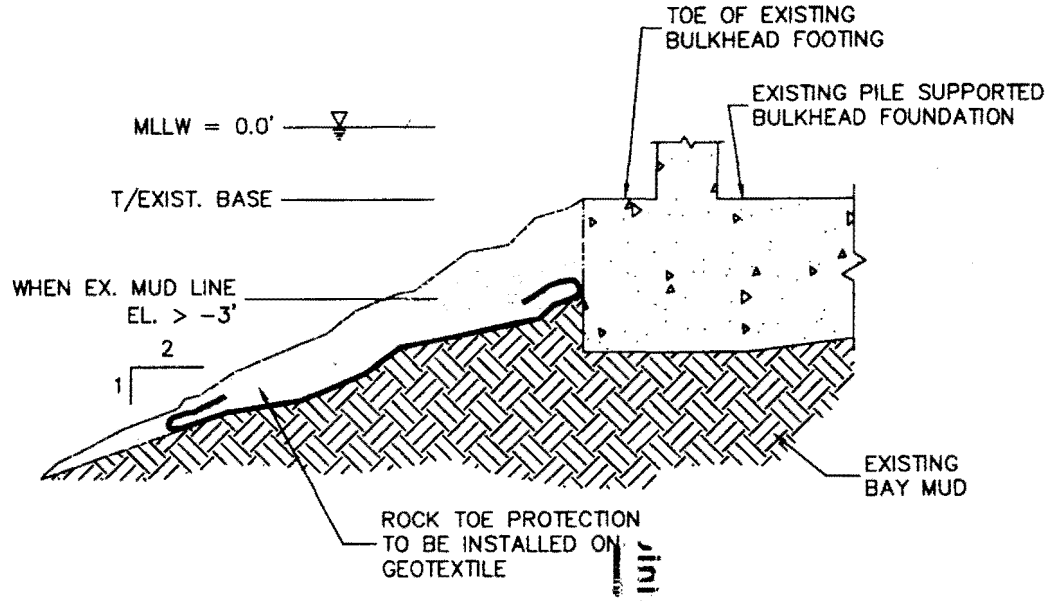
RECEIVED
South Coast Region
MAR 20 2002

CALIFORNIA
COASTAL COMMISSION

Tetra Tech
INCORPORATED

Vicinity Map
Huntington Harbour Bulkhead Repair
Nine Properties on T[illegible]dad & Humboldt Islands

November 2001
FIGURE 1



SECTION AT FOOTING TOE: CASE IV

SCALE: 3/8" = 1'- 0" **(FOR ROCK BACK FILL ONLY)**

1

COASTAL COMMISSION
5-02-095
EXHIBIT # 2
PAGE 1 OF 1

TETRA TECH
670 North Rosemead Blvd.
Pasadena, CA 91107
(626)351-4664, Fax (626)351-5291

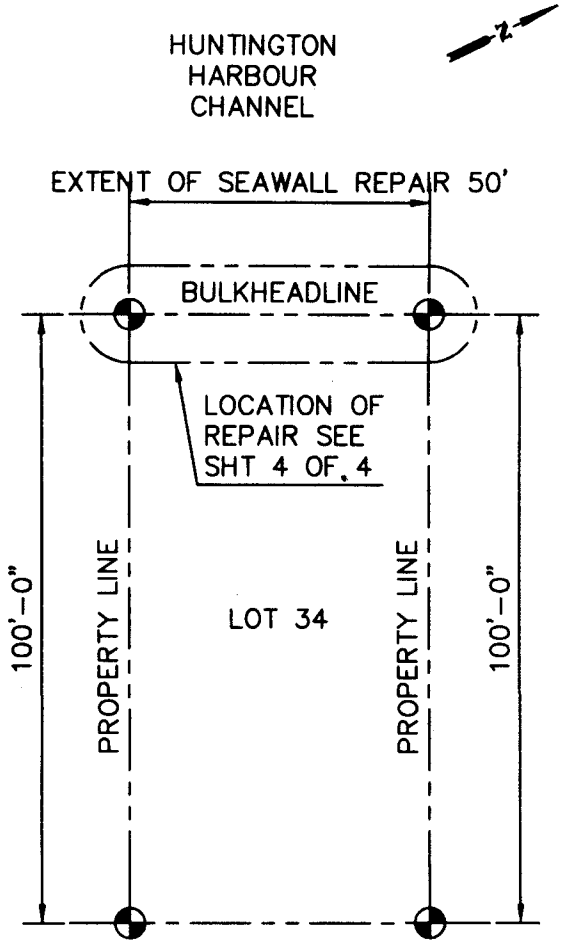
PURPOSE: Repair Existing Seawall

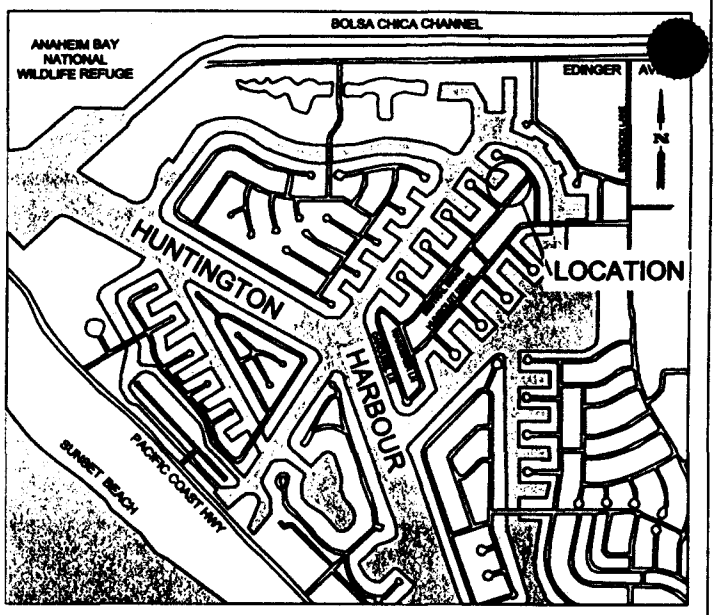
Datum: MLLW = 0
Adj. Property Owners:
1. See Attached List
2.
3.

SECTION VIEW

John Westmoreland
4047 Mistral Drive
Huntington Beach, CA 92649

Proposed Repair of Existing Seawall
IN: Huntington Harbour
AT: Humboldt Island, Huntington Beach
County of Orange State: CA
Application By: Westmoreland
Sheet 4 of 4 Date: 11/26/01





VICINITY MAP

FROM U.S.G.S. SEAL BEACH
QUADRANGLE CALIFORNIA
SCALE 1:24000

NOTE:
ALL DEPTHS BASED ON
MLLW=0.00 FT.

REGISTERED PROFESSIONAL ENGINEER
FERNANDO L. PAZ
C-56802
EXP 6-30-03
CIVIL

COASTAL COMMISSION
5-02-095
EXHIBIT # 3
PAGE 1 OF 18

TETRA TECH
670 North Rosemead Blvd.
Pasadena, CA 91107
(626)351-4664, Fax (626)351-5291

PURPOSE: Repair Existing Seawall

Datum: MLLW = 0
Adj. Property Owners:
1. See Attached List
2.
3.

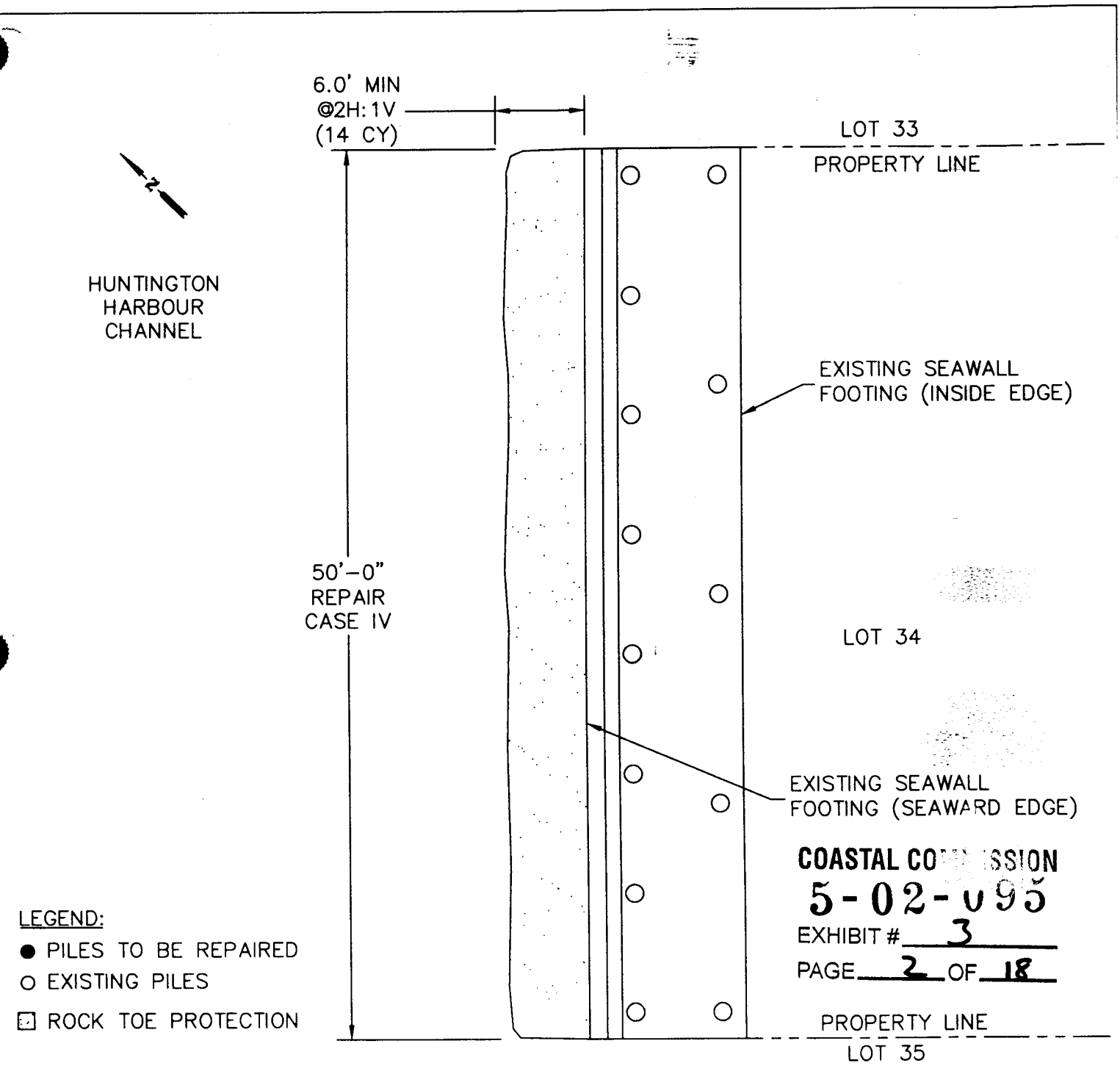
PLAN VIEW

0 32 64

1" = 32'

John Westmoreland
4047 Mistral Drive
Huntington Beach, CA 92649

Proposed Repair of Existing
Seawall
IN: Huntington Harbour
AT: Humboldt Island
Huntington Beach
County of Orange State: CA
Application By: Westmoreland
Sheet 1 of 4 Date: 11/27/01



LEGEND:

- ● PILES TO BE REPAIRED
- ○ EXISTING PILES
- ⊡ ROCK TOE PROTECTION

COASTAL COMMISSION
5-02-095
EXHIBIT # 3
PAGE 2 OF 18

TETRA TECH
670 North Rosemead Blvd.
Pasadena, CA 91107
(626)351-4664, Fax (626)351-5291

PURPOSE: Repair Existing Seawall

Datum: MLLW = 0
Adj. Property Owners:
1. See Attached List
2.
3.

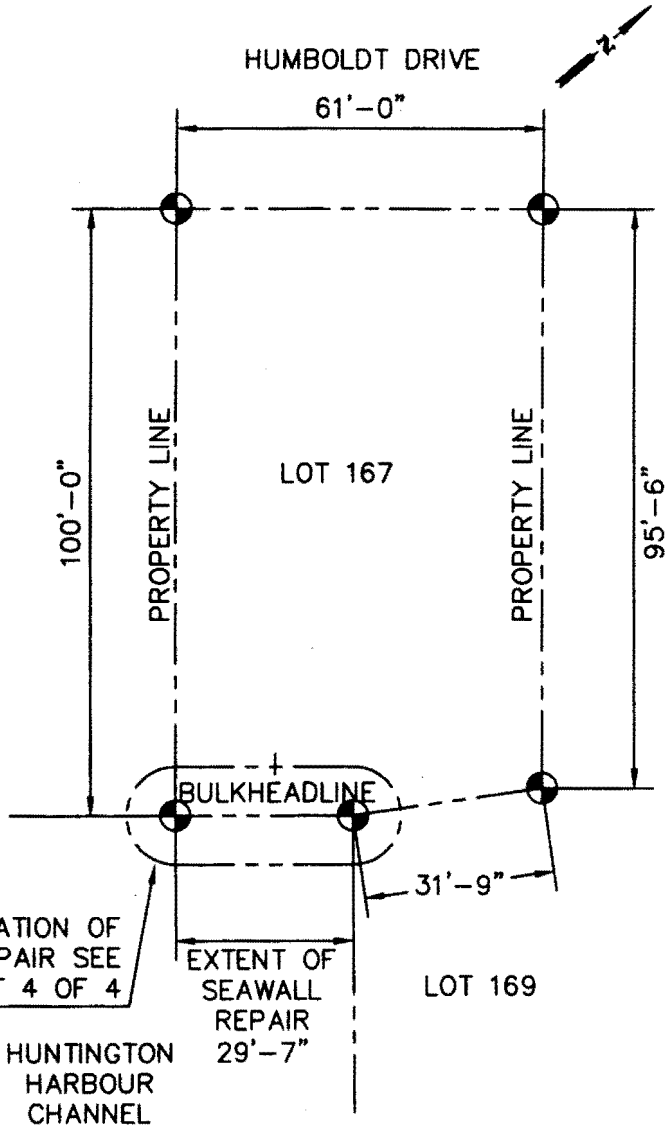
PLAN VIEW

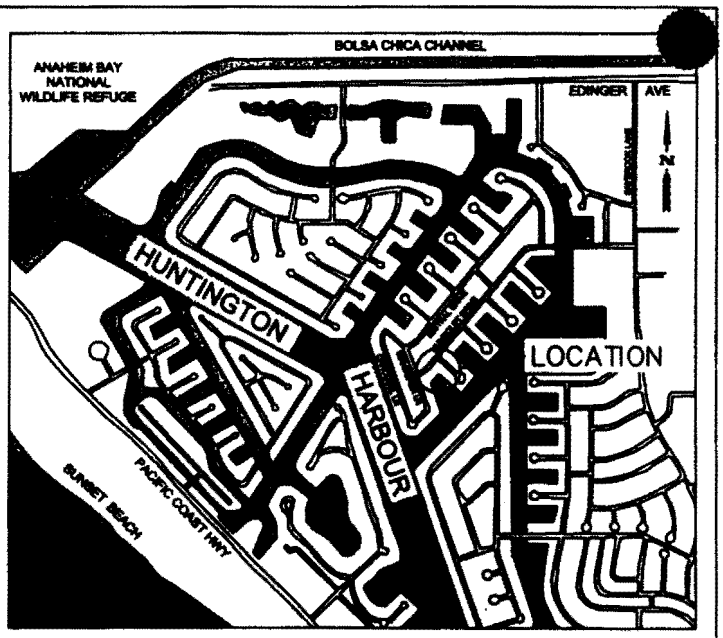
0 8 16

1/8" = 1'-0"

John Westmoreland
4047 Mistral Drive
Huntington Beach, CA 92649

Proposed Repair of Existing Seawall
IN: Huntington Harbour
AT: Humboldt Island
Huntington Beach
County of Orange State: CA
Application By: Westmoreland
Sheet 2 of 4 Date: 11/27/01





VICINITY MAP

FROM U.S.G.S. SEAL BEACH QUADRANGLE CALIFORNIA SCALE 1:24000

NOTE:
ALL DEPTHS BASED ON MLLW=0.00 FT.

COASTAL COMMISSION
5-02-095
EXHIBIT # 3
PAGE 3 OF 4

REGISTERED PROFESSIONAL ENGINEER
FERNANDO L. PAGES
C-56821
EXP 6-30-01
CIVIL
STATE OF CALIFORNIA

TETRA TECH
670 N. Rosemead Blvd.
Pasadena, CA 91107
(626)351-4664, Fax (626)351-5291

PURPOSE: Repair Existing Seawall

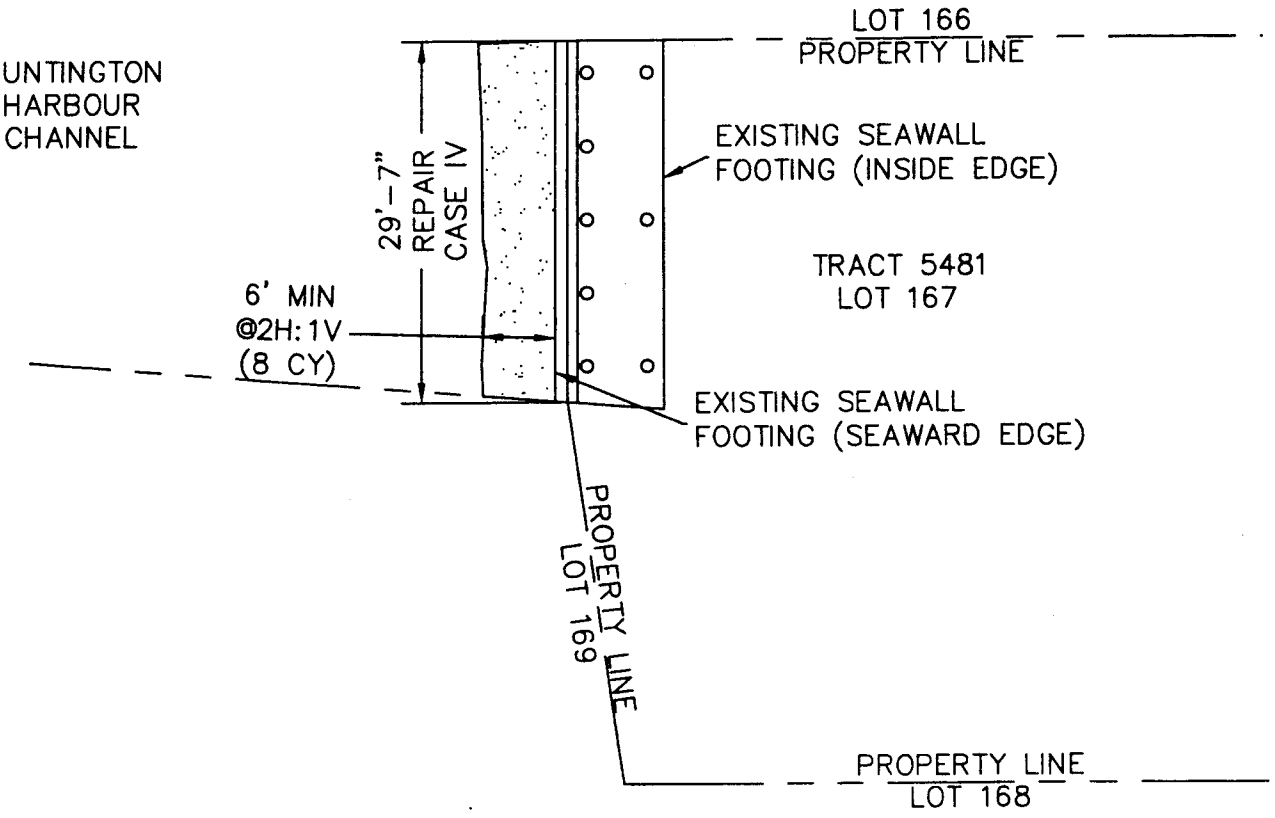
Datum: MLLW = 0
Adj. Property Owners:
1. See Attached List
2.
3.

PLAN VIEW
0 32 64
1" = 32'

Sharon Zimmerman
3798 Humboldt Drive
Huntington Beach, CA 92649

Proposed Repair of Existing Seawall

IN: Huntington Harbour
AT: Huntington Beach
County of O.C. State: CA
Application By: Zimmerman
Sheet 1 of 4 Date: 5/7/01



LEGEND:

- ● PILES TO BE REPAIRED
- ○ EXISTING PILES GROUTED VOID
- ⊡ ROCK TOE PROTECTION

COASTAL COMMISSION
5-02-095

EXHIBIT # 3

PAGE 4 OF 18

TETRA TECH
670 N. Rosemead Blvd.
Pasadena, CA 91107
(626)351-4664, Fax (626)351-5291

PURPOSE: Repair Existing Seawall

Datum: MLLW = 0
Adj. Property Owners:
1. See Attached List
2.
3.

PLAN VIEW

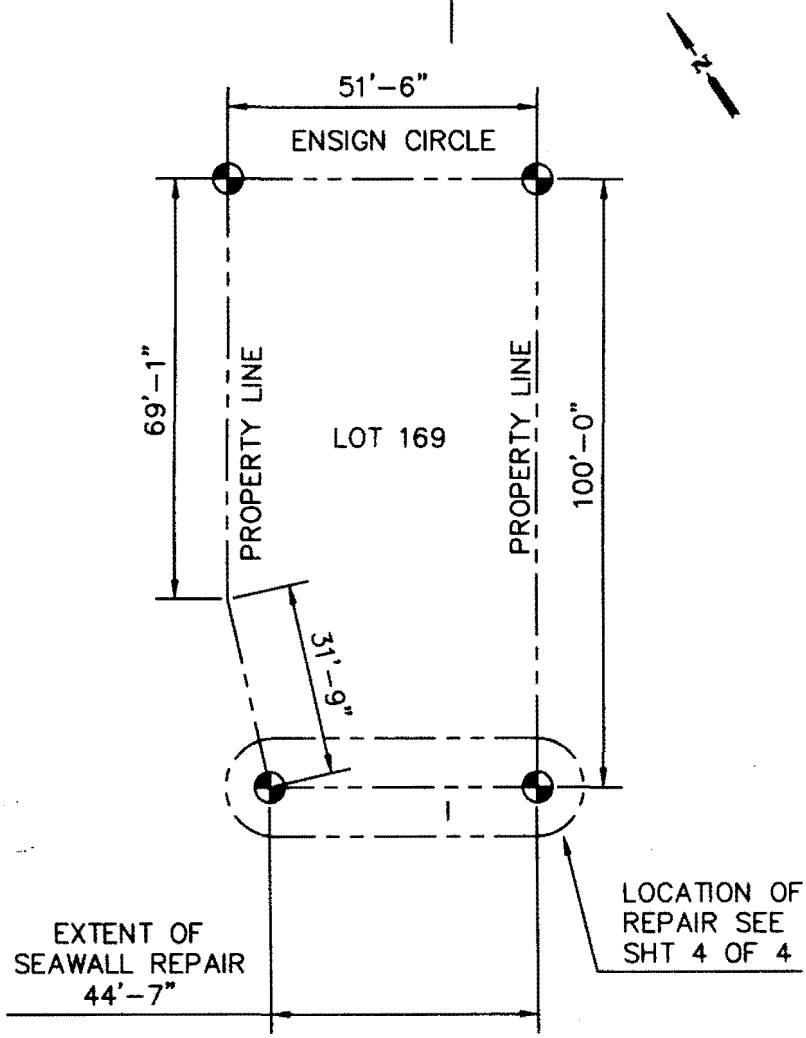
0 10 20

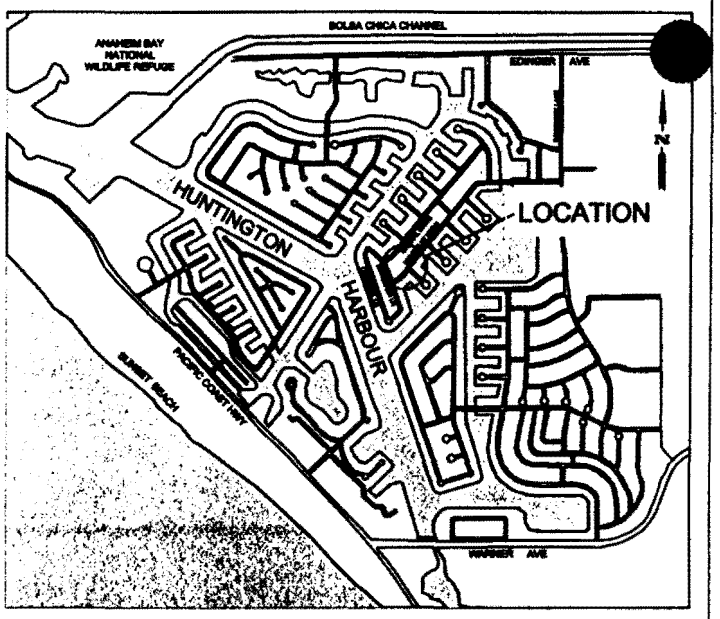
1/16" = 1'- 0"

Sharon Zimmermann
3798 Humboldt Drive
Huntington Beach, CA 92649

Proposed Repair of Existing Seawall

IN: Huntington Harbour
AT: Huntington Beach
County of Orange State: CA
Application By: Zimmermann
Sheet 2 of 4 Date: 5/7/01

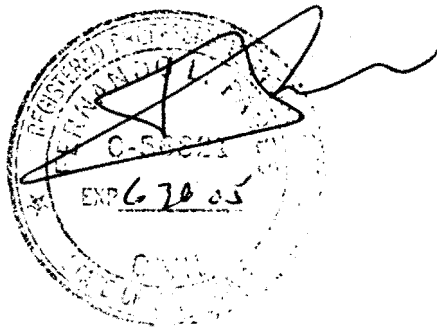




VICINITY MAP

FROM U.S.G.S. SEAL BEACH
QUADRANGLE CALIFORNIA
SCALE 1:24000

NOTE:
ALL DEPTHS BASED ON
MLLW=0.00 FT.



COASTAL COMMISSION
5-02-095
EXHIBIT # 3
PAGE 5 OF 15

TETRA TECH
670 North Rosemead Blvd.
Pasadena, CA 91107
(626)351-4664, Fax (626)351-5291

PURPOSE: Repair Existing Seawall

Datum: MLLW = 0
Adj. Property Owners:
1. See Attached List
2.
3.

PLAN VIEW

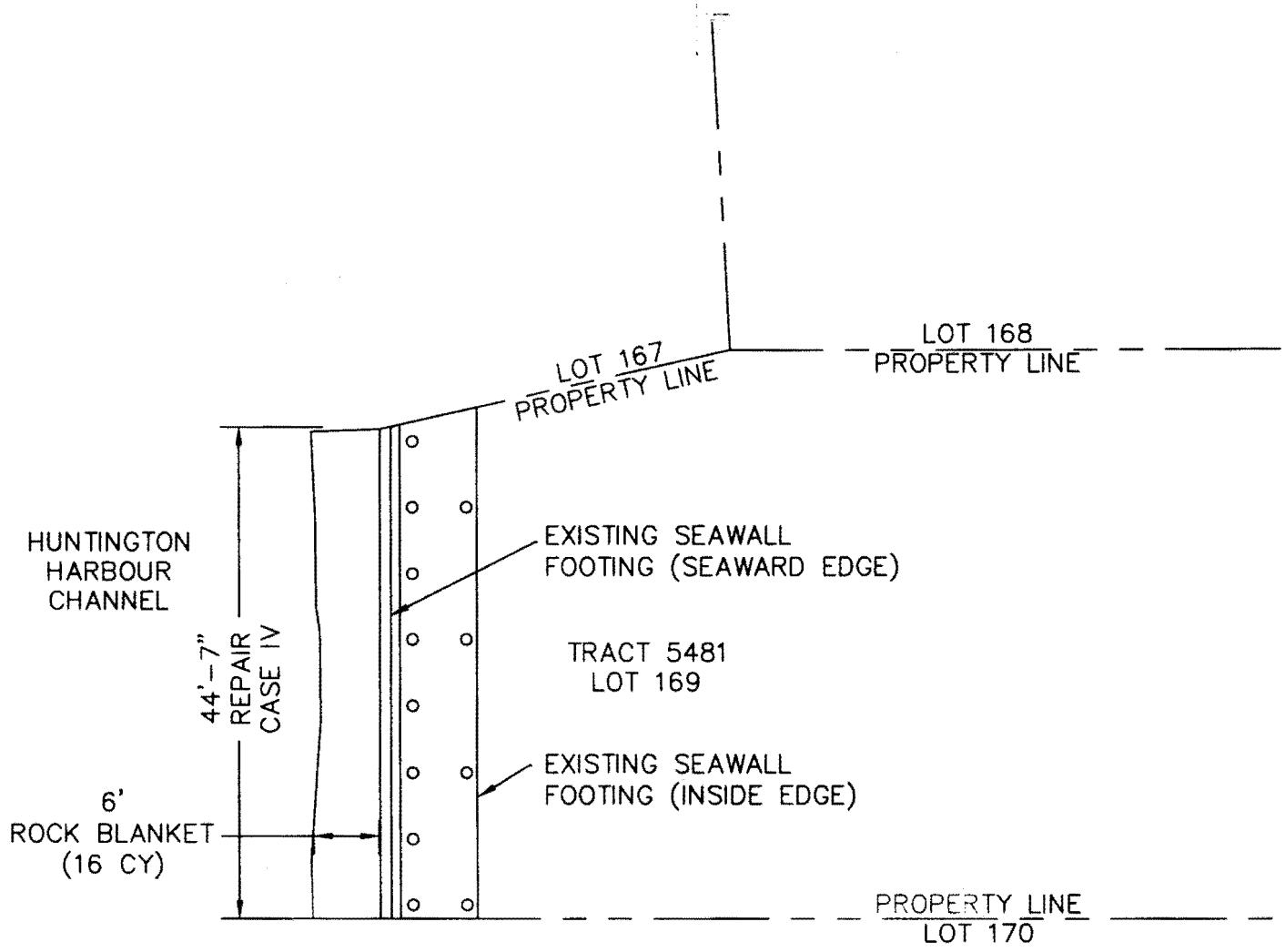
0 32 64

1" = 32'

Dusan Jankov
16571 Ensign Circle
Huntington Beach, CA 92649

Proposed Repair of Existing Seawall

IN: Huntington Harbour
AT: Huntington Beach
County of Orange State: CA
Application By: Jankov
Sheet 1 of 4 Date: 11/26/01



LEGEND:

- ● PILES TO BE REPAIRED
- ○ EXISTING PILES
- ⊡ ROCK TOE PROTECTION

COASTAL COMMISSION
5-02-095
EXHIBIT # 3
PAGE 6 OF 18

TETRA TECH
670 N. Rosemead Blvd.
Pasadena, CA 91107
(626) 351-4664, Fax (626) 351-5291

PURPOSE: Repair Existing Seawall

Datum: MLLW = 0
Adj. Property Owners:
1. See Attached List
2.
3.

PLAN VIEW

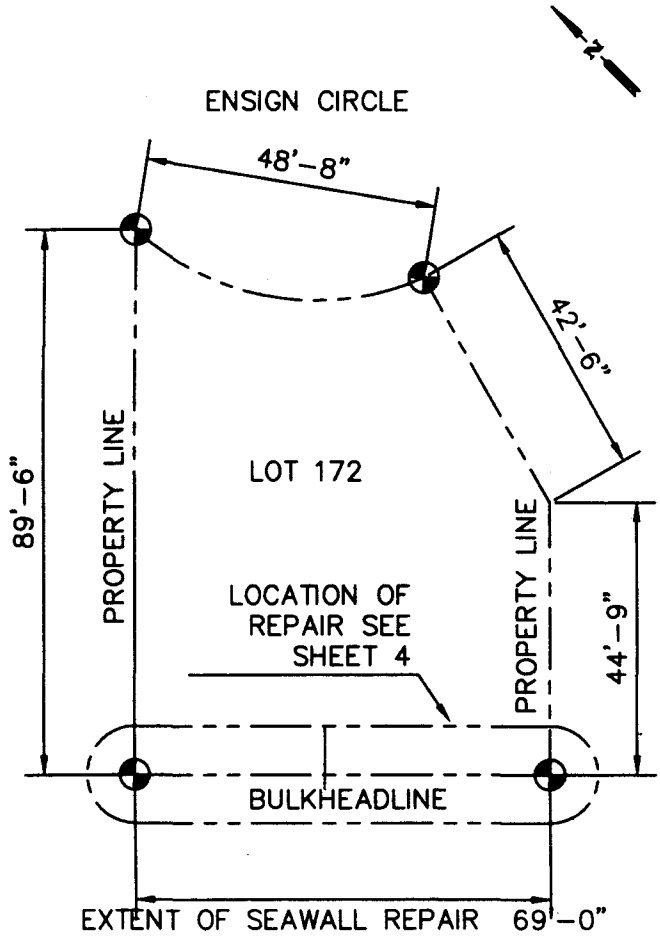
0 10 20

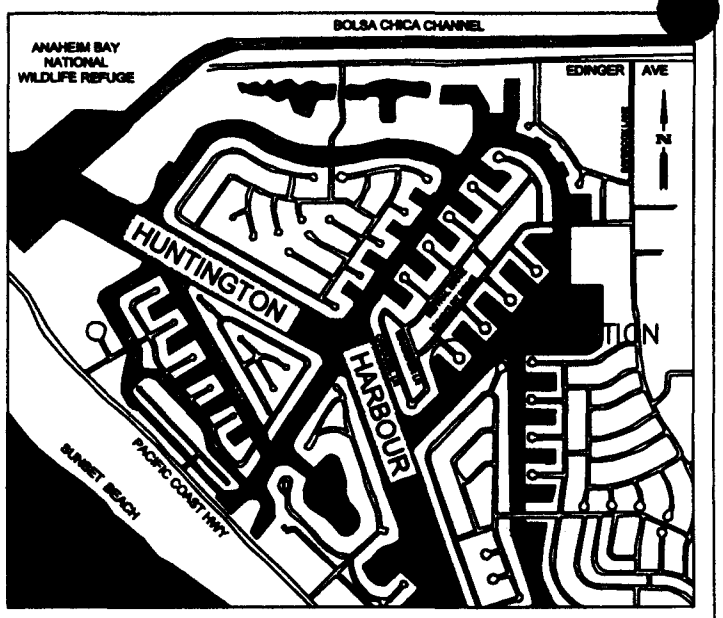
1/16" = 1'- 0"

Dusan Jankov
16571 Ensign Circle
Huntington Beach, CA 92649

Proposed Repair of Existing Seawall

IN: Huntington Harbour
AT: Huntington Beach
County of Orange State: CA
Application By: Jankov
Sheet 2 of 4 Date: 11/26/01





VICINITY MAP

FROM U.S.G.S. SEAL BEACH
QUADRANGLE CALIFORNIA
SCALE 1:24000

NOTE:
ALL DEPTHS BASED ON
MLLW=0.00 FT.

COASTAL COMMISSION
5-02-095
EXHIBIT # 3
PAGE 7 OF 16

REGISTERED PROFESSIONAL ENGINEER
FERNANDO PRIES
C-56821
EXP 6.30.01
CIVIL
STATE OF CALIFORNIA

TETRA TECH
670 N. Rosemead Blvd.
Pasadena, CA 91107
(626) 351-4664, Fax (626) 351-5291

PURPOSE: Repair Existing Seawall

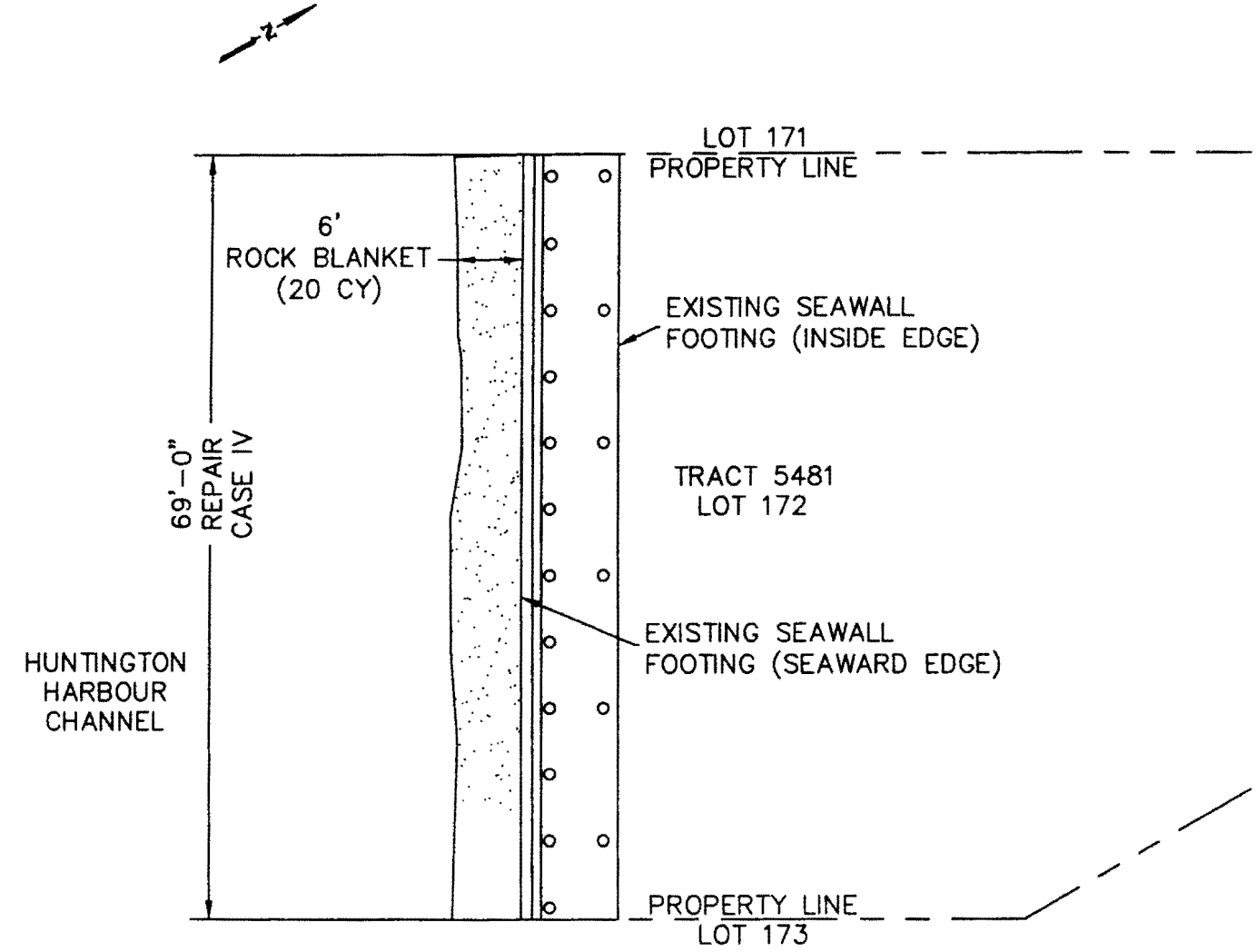
Datum: MLLW = 0
Adj. Property Owners:
1. See Attached List
2.
3.

PLAN VIEW
0 32 64
1" = 32'

Robert A. Mah
16585 Ensign Circle
Huntington Beach, CA 92649

Proposed Repair of Existing Seawall

IN: Huntington Harbour
AT: Huntington Beach
County of Orange State: CA
Application By: Mah
Sheet 1 of 4 Date: 5/7/01



LEGEND:

- ● PILES TO BE REPAIRED
- ○ EXISTING PILES GROUTED VOID
- ⊡ ROCK TOE PROTECTION

COASTAL COMMISSION
5-02-095
EXHIBIT # 3
PAGE 8 OF 18

TETRA TECH
670 N. Rosemead Blvd.
Pasadena, CA 91107
(626) 351-4664, Fax (626) 351-5291

PURPOSE: Repair Existing Seawall

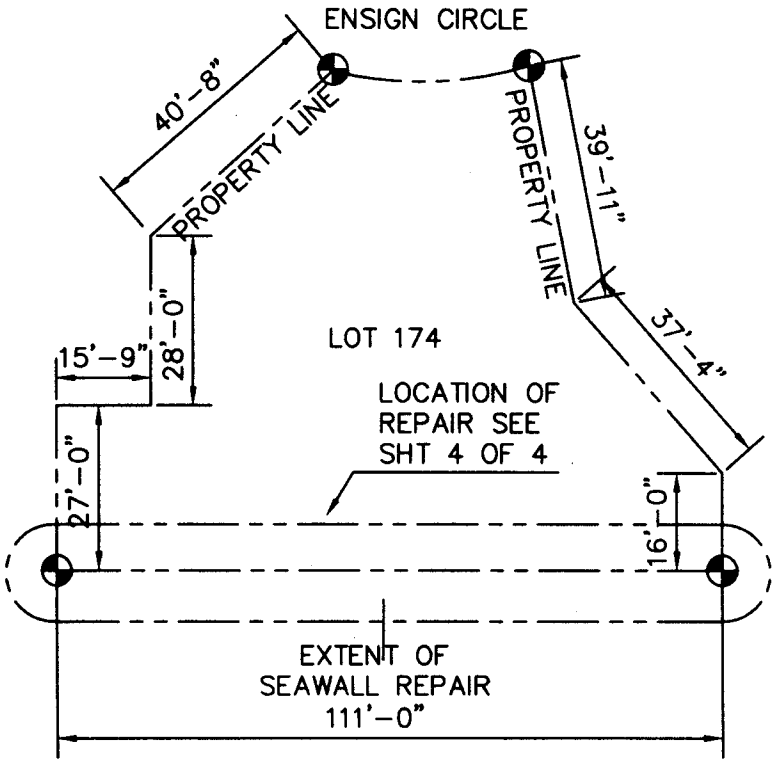
Datum: MLLW = 0
Adj. Property Owners:
1. See Attached List
2.
3.

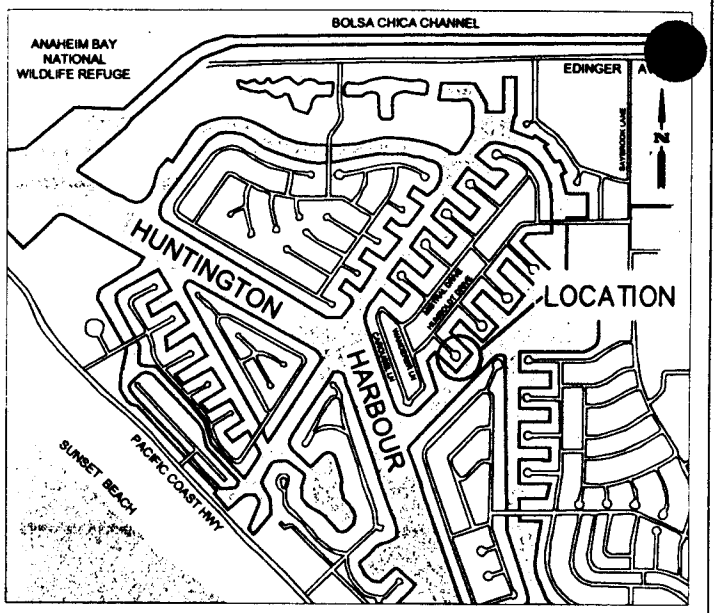
PLAN VIEW
0 10 20
1/16" = 1'- 0"

Robert A. Mah
16585 Ensign Circle
Huntington Beach, CA 92649

Proposed Repair of Existing Seawall

IN: Huntington Harbour
AT: Huntington Beach
County of Orange State: CA
Application By: Mah
Sheet 2 of 4 Date: 5/7/01





VICINITY MAP

FROM U.S.G.S. SEAL BEACH
QUADRANGLE CALIFORNIA
SCALE 1:24000

NOTE:
ALL DEPTHS BASED ON
MLLW=0.00 FT.

COASTAL COMMISSION
5-02-095
EXHIBIT # 3
PAGE 9 OF 18

TETRA TECH
670 North Rosemead Blvd.
Pasadena, CA 91107
(626)351-4664, Fax (626)351-5291

PURPOSE: Repair Existing Seawall

Datum: MLLW = 0
Adj. Property Owners:
1. See Attached List
2.
3.

PLAN VIEW
0 32 64
1" = 32'

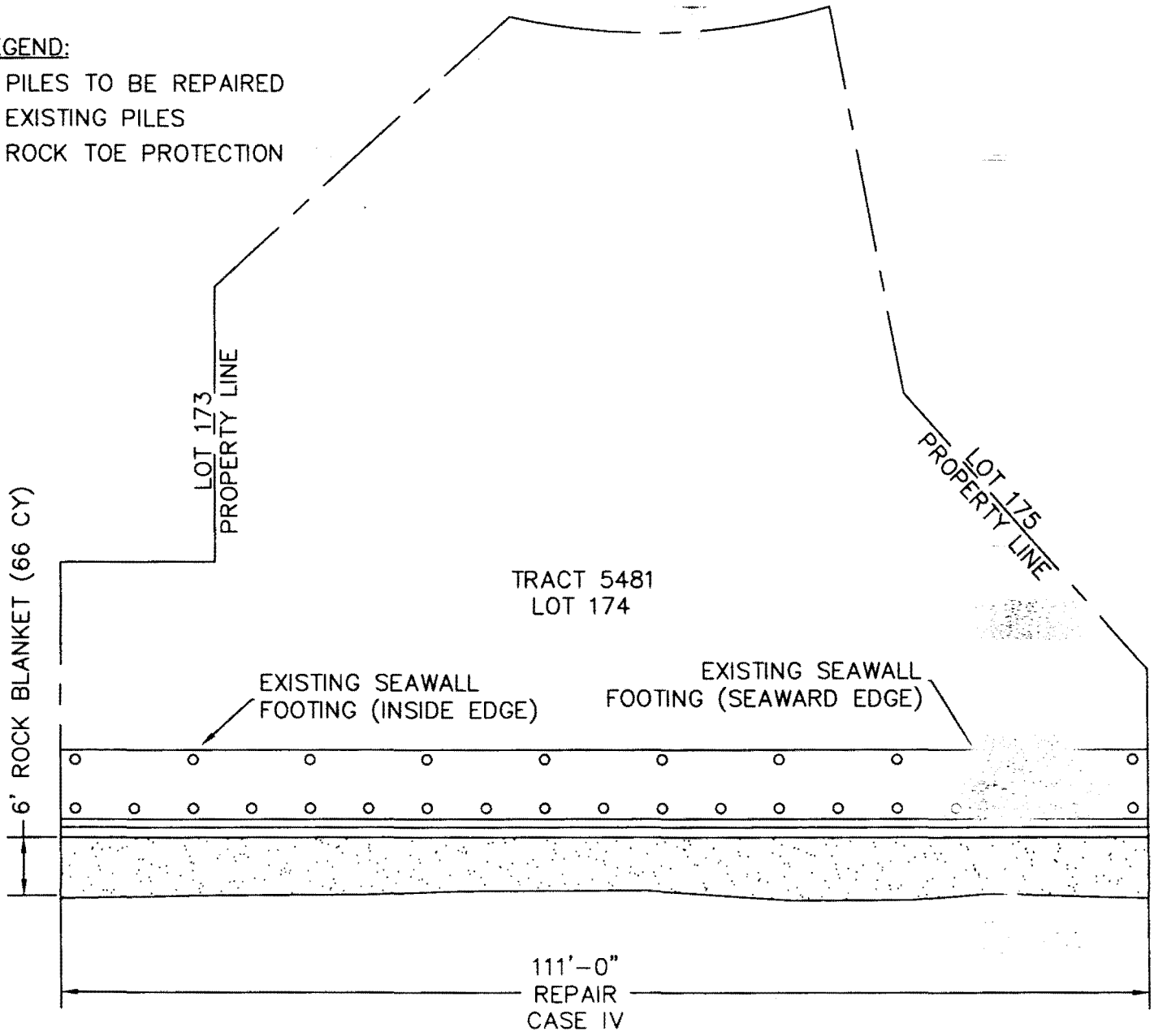
Vincent San Filippo
16602 Ensign Circle
Huntington Beach, CA 92649

Proposed Repair of Existing Seawall

IN: Huntington Harbour
AT: Huntington Beach
County of Orange State: CA
Application By: San Filippo
Sheet 1 of 4 Date: 11/26/01

LEGEND:

- ● PILES TO BE REPAIRED
- ○ EXISTING PILES
- ⊡ ROCK TOE PROTECTION



COASTAL COMMISSION
5-02-095

EXHIBIT # 3

PAGE 10 OF 18

TETRA TECH
670 N. Rosemead Blvd.
Pasadena, CA 91107
(626) 351-4664, Fax (626) 351-5291

PURPOSE: Repair Existing Seawall

Datum: MLLW = 0
Adj. Property Owners:
1. See Attached List
2.
3.

PLAN VIEW

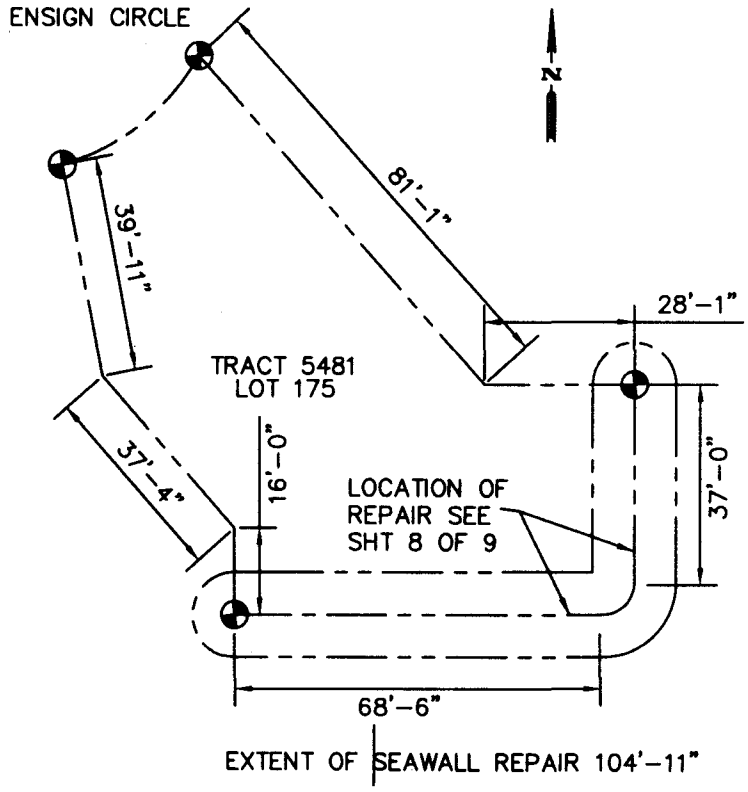
0 10 20

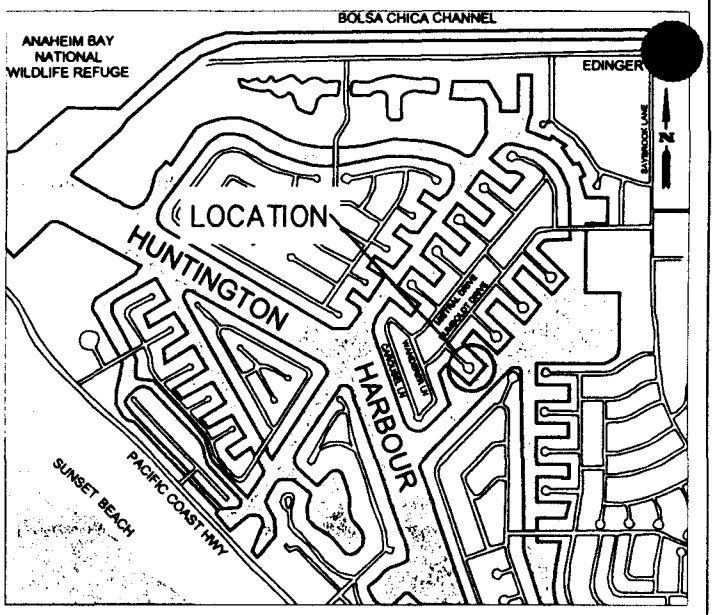
1/16" = 1'- 0"

Vincent San Filippo
16602 Ensign Circle
Huntington Beach, CA 92649

Proposed Repair of Existing Seawall

IN: Huntington Harbour
AT: Huntington Beach
County of Orange State: CA
Application By: San Filippo
Sheet 2 of 4 Date: 11/26/01

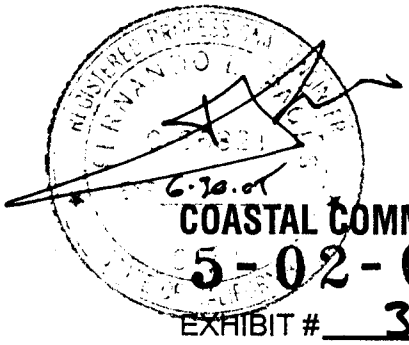




VICINITY MAP

FROM U.S.G.S. SEAL BEACH
QUADRANGLE CALIFORNIA
SCALE 1:24000

NOTE:
ALL DEPTHS BASED ON
MLLW=0.00 FT.



COASTAL COMMISSION
5-02-095
EXHIBIT # 3
PAGE 11 OF 18

TETRA TECH
670 North Rosemead Blvd.
Pasadena, CA 91107
(626)351-4664, Fax (626)351-5291

PURPOSE: Repair Existing Seawall

Datum: MLLW = 0
Adj. Property Owners:
1. See Attached List
2.
3.

PLAN VIEW

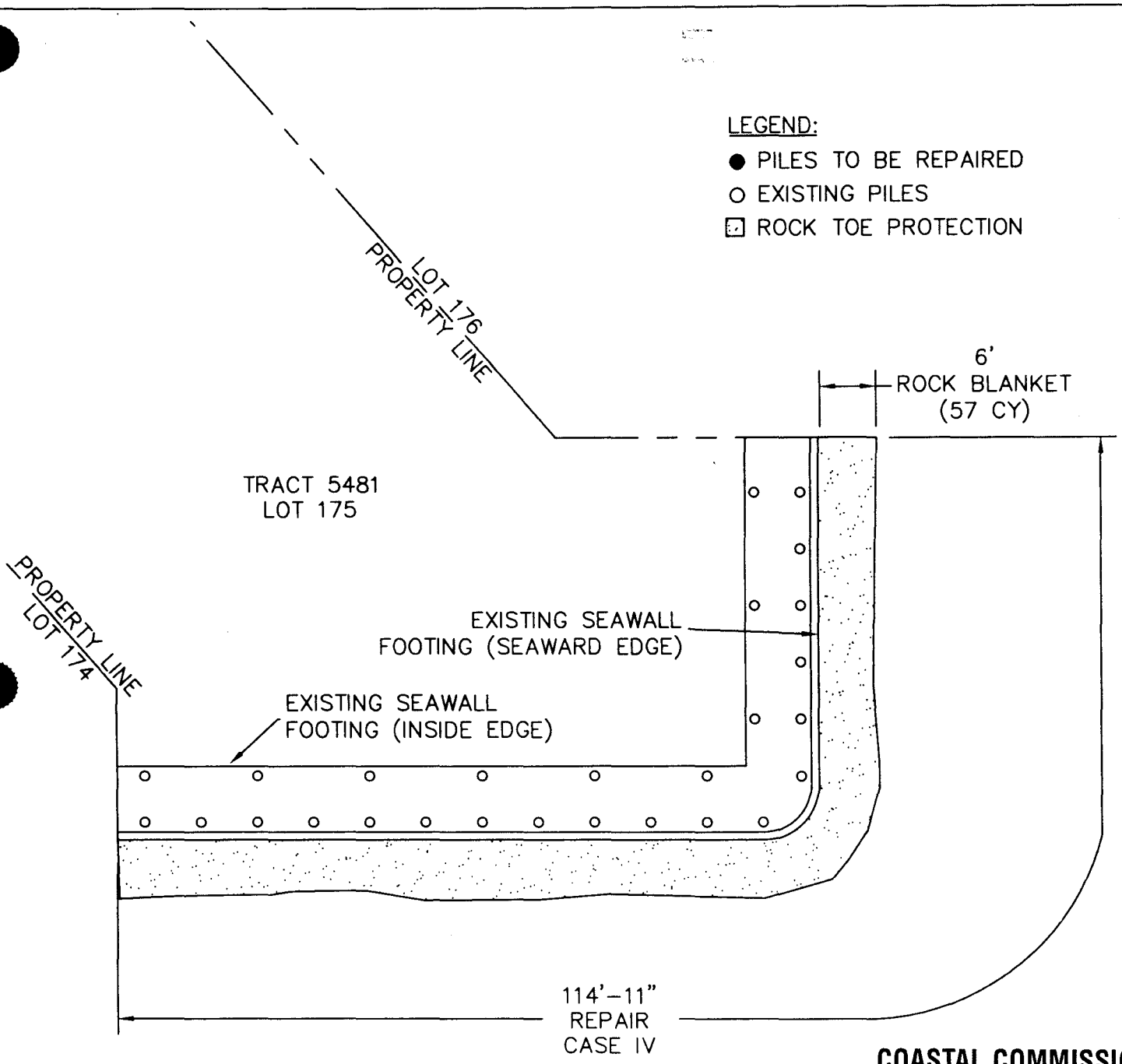
0 36 72

1" = 36'

Rod Rieth
16592 Ensign Circle
Huntington Beach, CA 92649

Proposed Repair of Existing Seawall

IN: Huntington Harbour
AT: Huntington Beach
County of Orange State: CA
Application By: Rieth
Sheet 1 of 4 Date: 11/26/01



COASTAL COMMISSION
5-02-095
EXHIBIT # 3
PAGE 12 OF 18

TETRA TECH
670 N. Rosemead Blvd.
Pasadena, CA 91107
(626) 351-4664, Fax (626) 351-5291

PURPOSE: Repair Existing Seawall

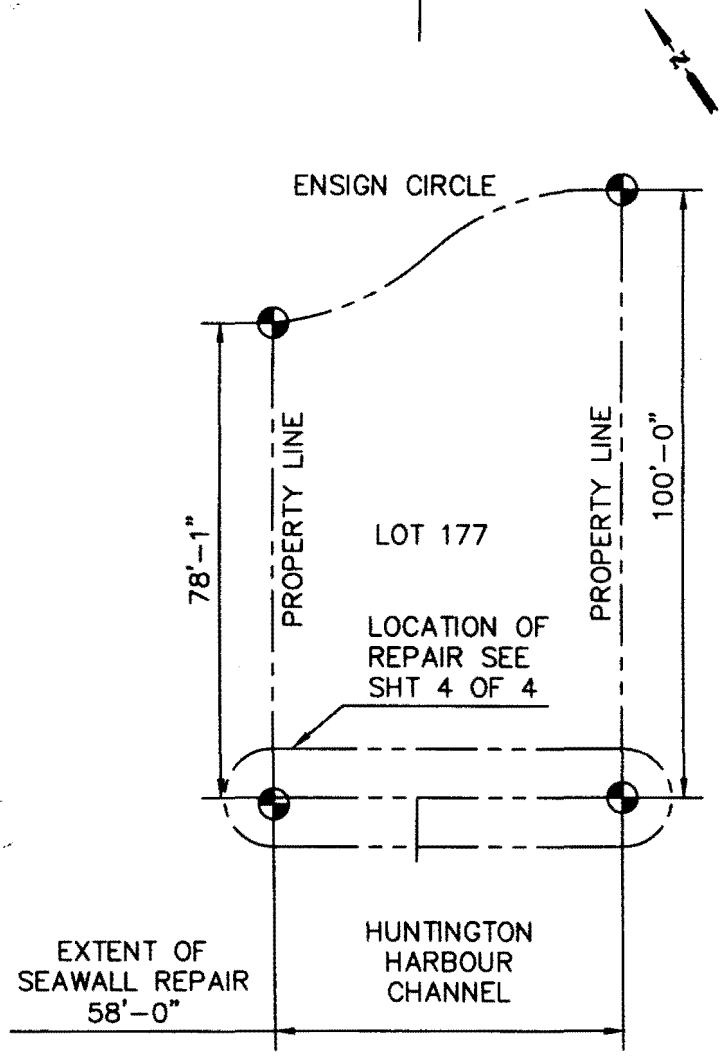
Datum: MLLW = 0
Adj. Property Owners:
1. See Attached List
2.
3.

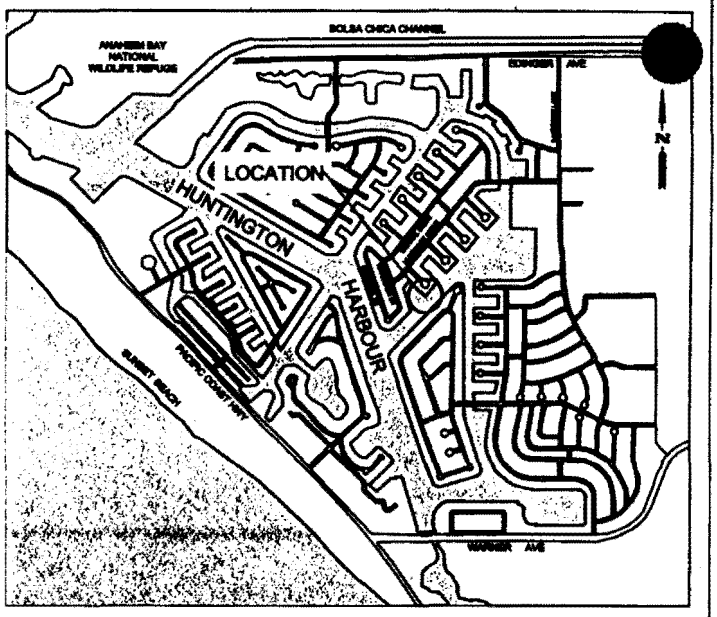
PLAN VIEW
0 10 20
1/16" = 1'- 0"

Rod Rieth
16592 Ensign Circle
Huntington Beach, CA 92649

Proposed Repair of Existing Seawall

IN: Huntington Harbour
AT: Huntington Beach
County of Orange State: CA
Application By: Rieth
Sheet 2 of 4 Date: 11/26/01

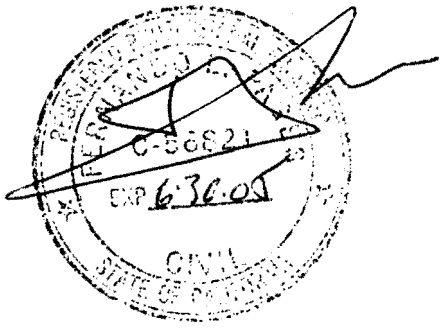




VICINITY MAP

FROM U.S.G.S. SEAL BEACH QUADRANGLE CALIFORNIA
SCALE 1:24000

NOTE:
ALL DEPTHS BASED ON MLLW=0.00 FT.



COASTAL COMMISSION
5-02-095
EXHIBIT # 3
PAGE 13 OF 18

TETRA TECH
670 North Rosemead Blvd.
Pasadena, CA 91107
(626)351-4664, Fax (626)351-5291

PURPOSE: Repair Existing Seawall

Datum: MLLW = 0
Adj. Property Owners:
1. See Attached List
2.
3.

PLAN VIEW

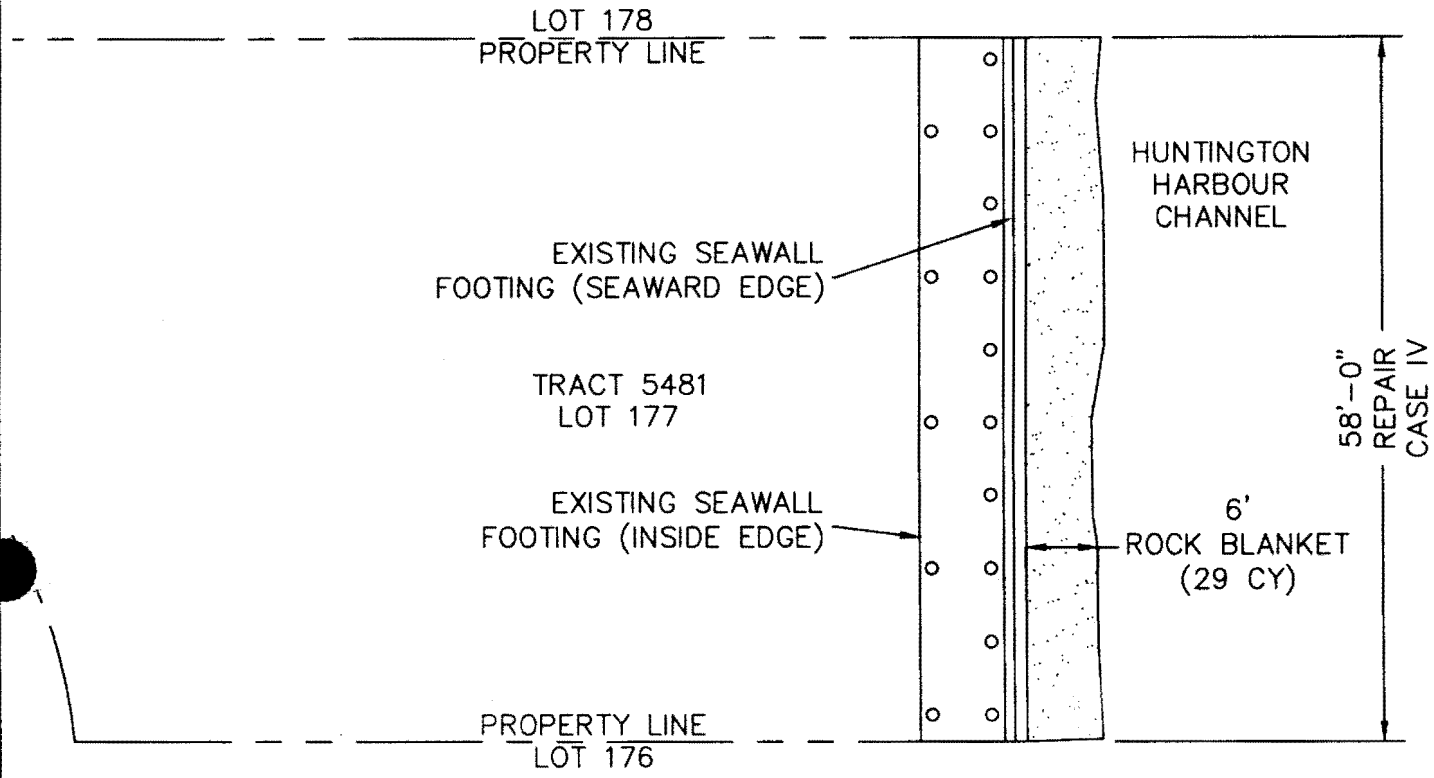
0 32 64

1" = 32'

Alex Mirand
16582 Ensign Circle
Huntington Beach, CA 92649

Proposed Repair of Existing Seawall

IN: Huntington Harbour
AT: Humboldt Island
Huntington Beach
County of Orange State: CA
Application By: Mirand
Sheet 1 of 4 Date: 11/26/00



LEGEND:

- ● PILES TO BE REPAIRED
- ○ EXISTING PILES
- ⊡ ROCK TOE PROTECTION

COASTAL COMMISSION
5-02-095
EXHIBIT # 3
PAGE 14 OF 18

TETRA TECH
670 N. Rosemead Blvd.
Pasadena, CA 91107
(626) 351-4664, Fax (626) 351-5291

PURPOSE: Repair Existing Seawall

Datum: MLLW = 0
Adj. Property Owners:
1. See Attached List
2.
3.

PLAN VIEW

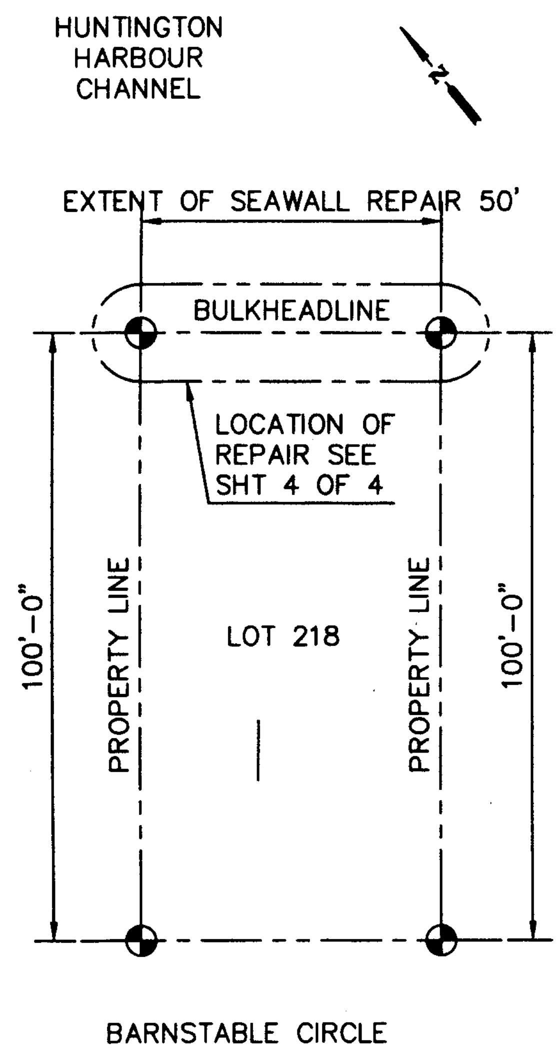
0 10 20

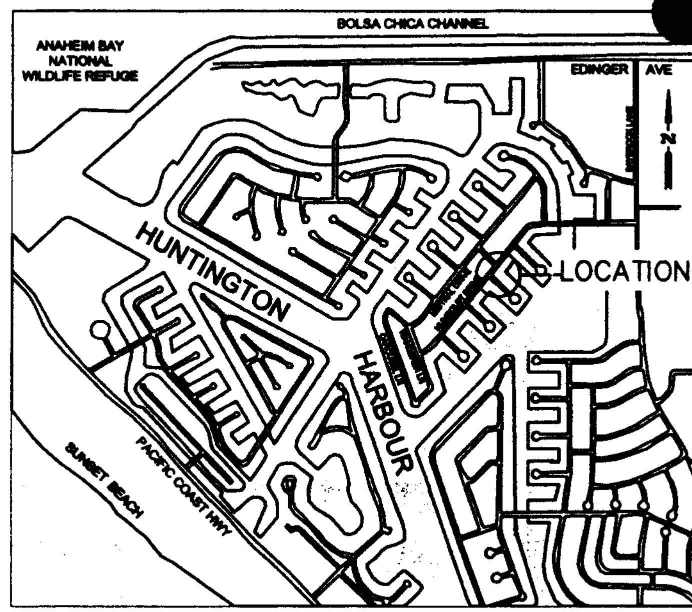
1/16" = 1'- 0"

Alex Mirand
16582 Ensign Circle
Huntington Beach, CA 92649

Proposed Repair of Existing Seawall

IN: Huntington Harbour
AT: Huntington Beach
County of Orange State: CA
Application By: Mirand
Sheet 2 of 4 Date: 11/26/01





VICINITY MAP

FROM U.S.G.S. SEAL BEACH
QUADRANGLE CALIFORNIA
SCALE 1:24000

NOTE:
ALL DEPTHS BASED ON
MLLW=0.00 FT.

COASTAL COMMISSION
5-02-095
EXHIBIT # 3
PAGE 15 OF 18

REGISTERED PROFESSIONAL ENGINEER
FERNANDO L. AGES
C-56821
EXP 6-30-01
CIVIL
STATE OF CALIFORNIA

TETRA TECH
670 North Rosemead Blvd.
Pasadena, CA 91107
(626)351-4664, Fax (626)351-5291

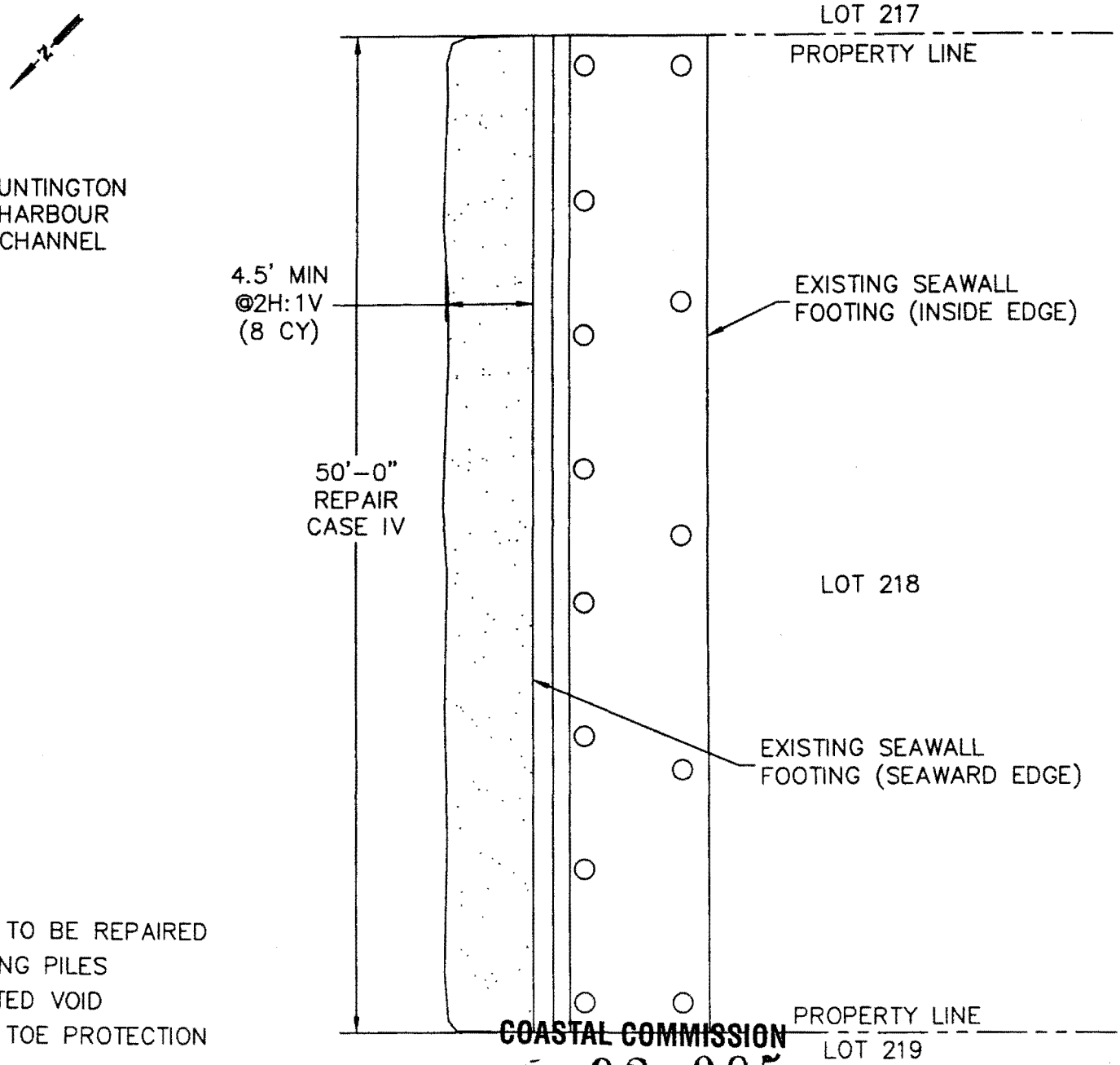
PURPOSE: Repair Existing Seawall

Datum: MLLW = 0
Adj. Property Owners:
1. See Attcched List
2.
3.

PLAN VIEW
0 32 64
1" = 32'

Michael Chang
16432 Barnstable Circle
Huntington Beach, CA 92649

Proposed Repair of Existing Seawall
IN: Huntington Harbour
AT: Humboldt Island
Huntington Beach
County of Orange State: CA
Application By: Chang
Sheet 1 of 4 Date: 5/7/01



LEGEND:

- ● PILES TO BE REPAIRED
- ○ EXISTING PILES
  GROUTED VOID
- ⊡ ROCK TOE PROTECTION

TETRA TECH
670 North Rosemead Blvd.
Pasadena, CA 91107
(626)351-4664, Fax (626)351-5291

COASTAL COMMISSION
5-02-095
EXHIBIT # 3
PAGE 16 OF 18

PURPOSE: Repair Existing Seawall

Datum: MLLW = 0
Adj. Property Owners:
1. See Attached List
2.
3.

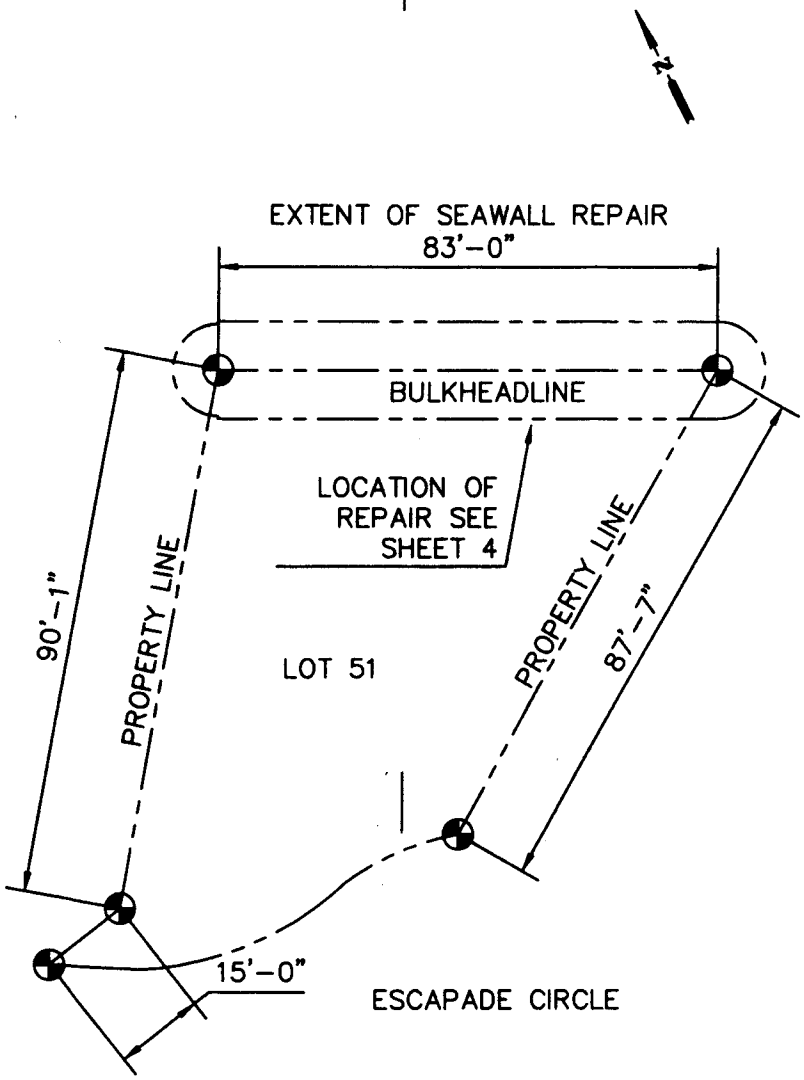
PLAN VIEW

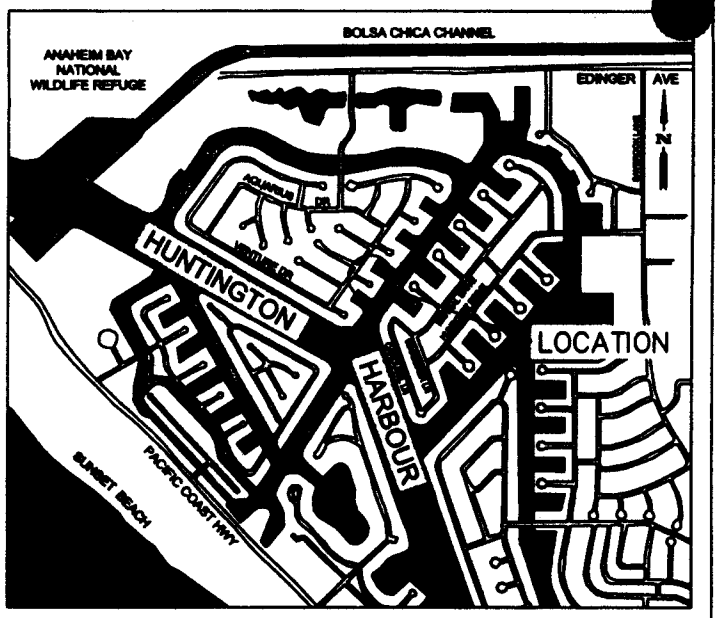
0 8 16

1/8" = 1'-0"

Michael Chang
16432 Barnstable Circle
Huntington Beach, CA 92649

Proposed Repair of Existing Seawall
IN: Huntington Harbour
AT: Humboldt Island
Huntington Beach
County of O.C. State: CA
Application By: Chang
Sheet 2 of 4 Date: 5/7/01





VICINITY MAP

FROM U.S.G.S. SEAL BEACH
QUADRANGLE CALIFORNIA
SCALE 1:24000

NOTE:
ALL DEPTHS BASED ON
MLLW=0.00 FT.

REGISTERED PROFESSIONAL ENGINEER
FERNANDO L. VARGAS
C-56821
EXP 6-30-01
CIVIL
STATE OF CALIFORNIA

COASTAL COMMISSION
5-02-095
EXHIBIT # 3
PAGE 17 OF 18

TETRA TECH
670 N. Rosemead Blvd.
Pasadena, CA 91107
(626) 351-4664, Fax (626) 351-5291

PURPOSE: Repair Existing Seawall

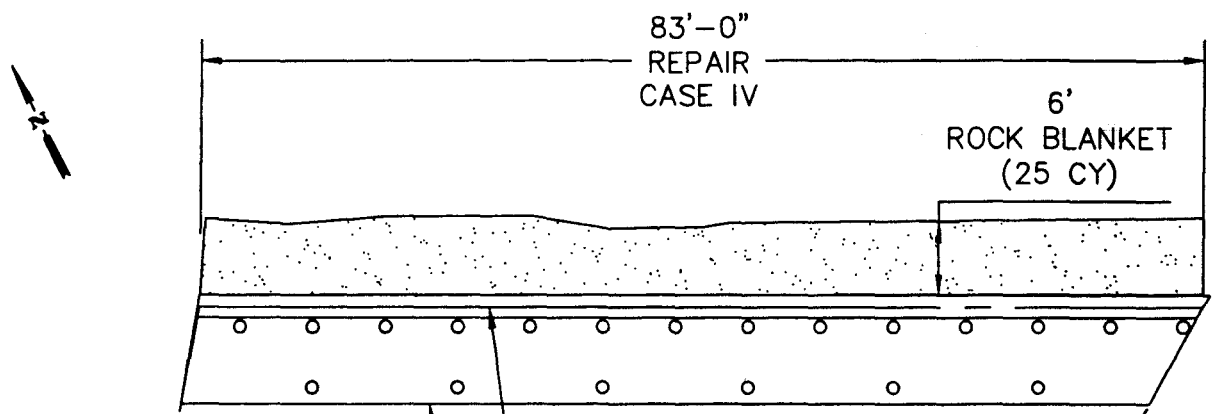
Datum: MLLW = 0
Adj. Property Owners:
1. See Attached List
2.
3.

PLAN VIEW
0 32 64
1" = 32'

Joseph & Rosann Hetherington
3681 Escapade Circle
Huntington Beach, CA 92649

Proposed Repair of Existing Seawall

IN: Huntington Harbour
AT: Huntington Beach
County of Orange State: CA
Application By: Hetherington
Sheet 1 of 4 Date: 5/7/01



LOT 49 PROPERTY LINE

LOT 50 PROPERTY LINE

PROPERTY LINE LOT 52

TRACT 9168
LOT 51

LEGEND:

- ● PILES TO BE REPAIRED
- ○ EXISTING PILES GROUTED VOID
- ▭ ROCK TOE PROTECTION

TETRA TECH
670 N. Rosemead Blvd.
Pasadena, CA 91107
(626) 351-4664, Fax (626) 351-5291

PURPOSE: Repair Existing Seawall

Datum: MLLW = 0
Adj. Property Owners:
1. See Attached List
2.
3.

PLAN VIEW

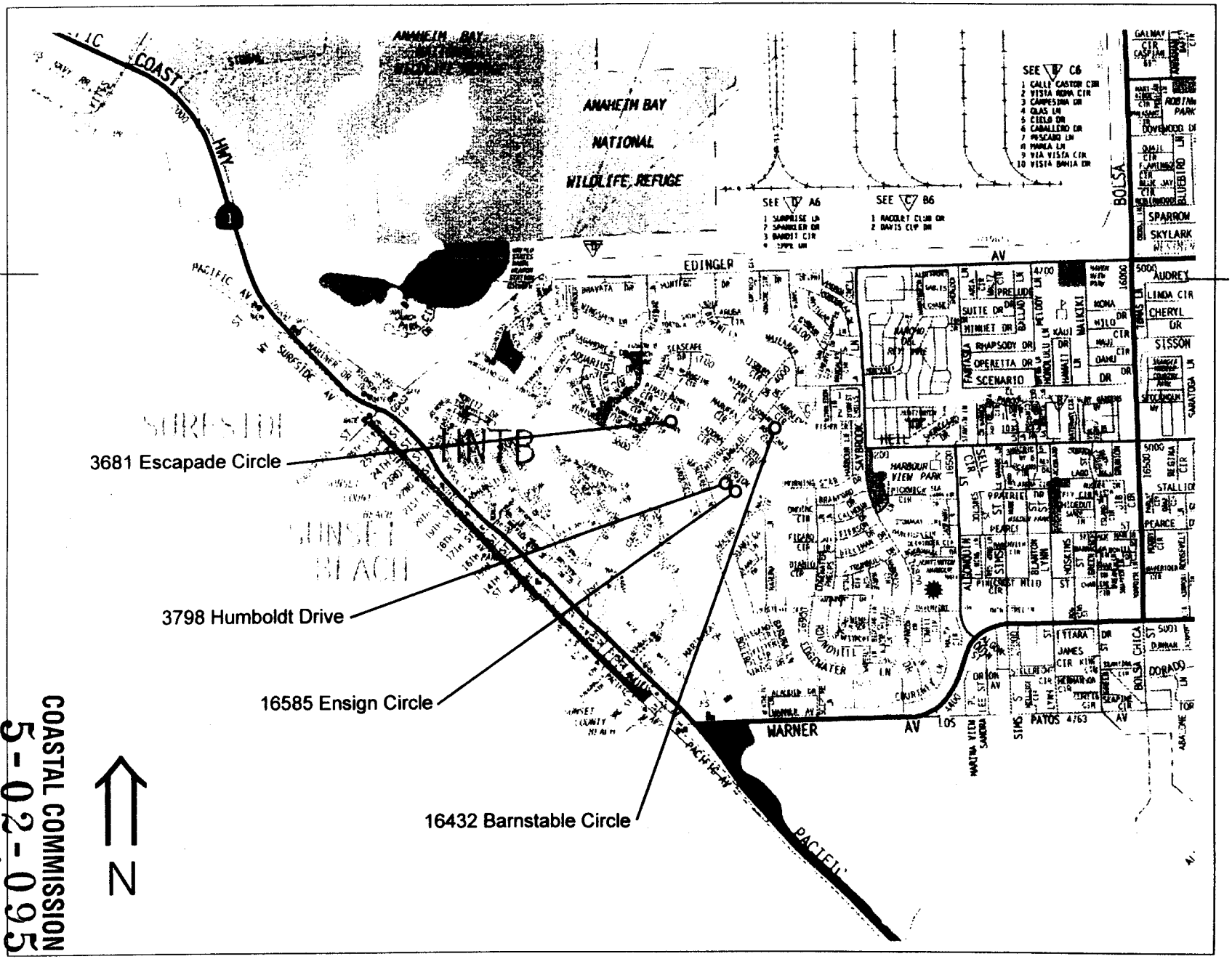
0 10 20

1/16" = 1'- 0"

Joseph & Rosann Hetherington
3681 Escapade Circle
Huntington Beach, CA 92649

Proposed Repair of Existing Seawall

IN: Huntington Harbour
AT: Huntington Beach
County of Orange State: CA
Application By: Hetherington
Sheet 2 of 4 Date: 5/7/01



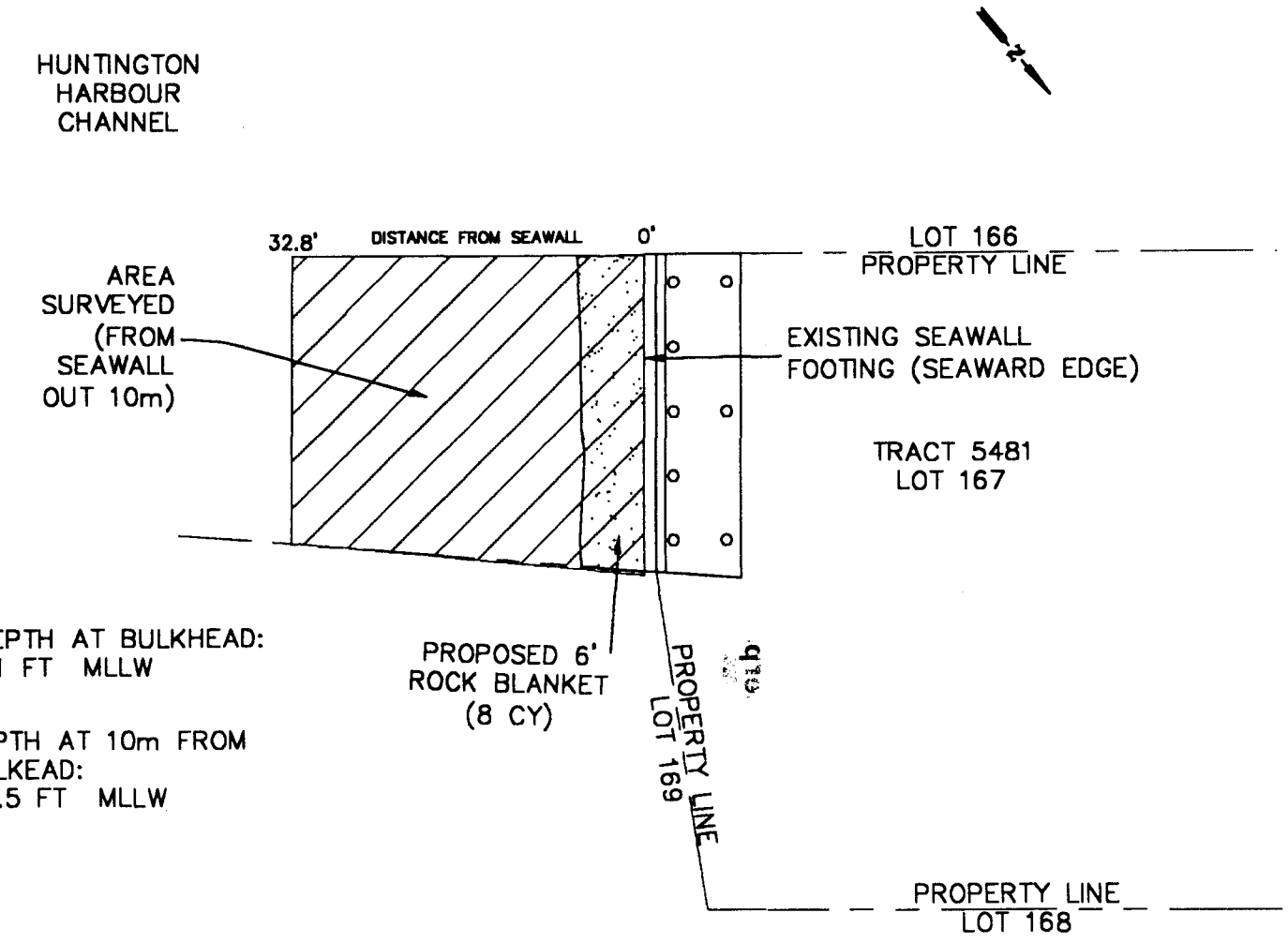
COASTAL COMMISSION
5-02-095
EXHIBIT # 4
PAGE 1 OF 3

Source: *Thomas Bros. Maps*

Tetra Tech INCORPORATED

Vicinity Map
Huntington Harbour Bulkhead Repair
Eelgrass & Caulerpa taxifolia Surveys

FIGURE 1



5481-167	Area Surveyed	Eelgrass Area		*Caulerpa taxifolia* Area	
	(m^2)	m^2	ft^2	m^2	ft^2
Within 6' of wall:	16.5	0.0	0.0	0.0	0.0
Total Area	90.2	0.0	0.0	0.0	0.0

COASTAL COMMISSION
5-02-095
EXHIBIT # 4
PAGE 2 OF 8

TETRA TECH
670 North Rosemead Blvd.
Pasadena, CA 91107
(626) 351-4664, Fax (626) 651-5291

PURPOSE: Repair Existing Seawall

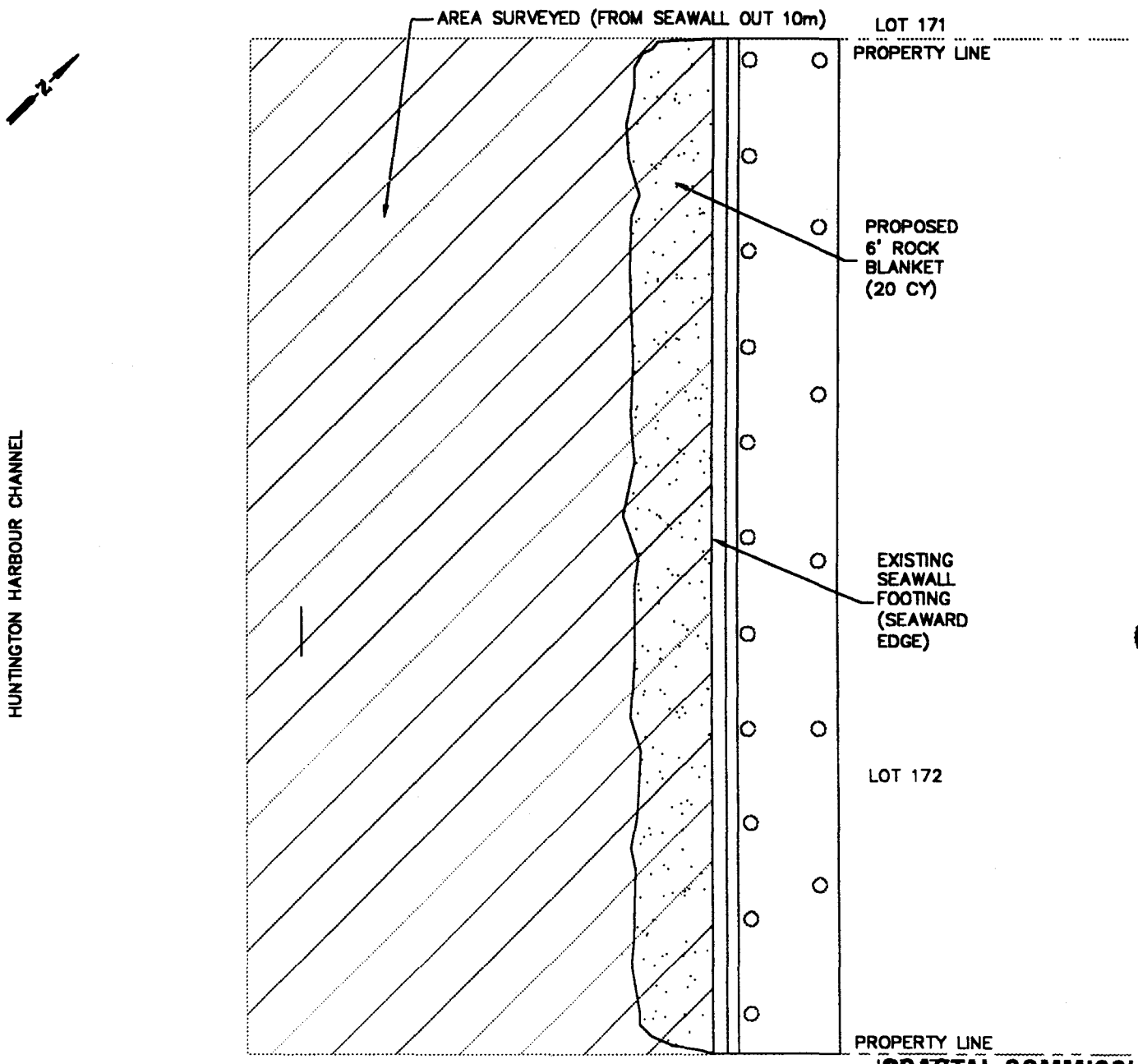
Datum: MLLW = 0

PLAN VIEW
0 10 20
1/16" = 1'- 0"

Sharon Zimmermann
3798 Humboldt Drive
Huntington Beach, CA 92649

Eelgrass & Caulerpa taxifolia
Survey Results
Survey Date: 12/29/00
IN: Huntington Harbour
AT: Huntington Beach
County of Orange State: CA

Sheet 1 of 1 FIGURE 2



5481-172	Area Surveyed (m^2)	Eelgrass Area m^2	Eelgrass Area ft^2	*Caulerpa taxifolia* Area m^2	*Caulerpa taxifolia* Area ft^2
Within 6' of wal	38.5	0.0	0.0	0.0	0.0
Total Area	210.3	0.0	0.0	0.0	0.0

TETRA TECH
670 North Rosemead Blvd.
Pasadena, CA 91107
(626) 351-4664, Fax (626) 351-5291

PURPOSE: Repair Existing Seawall

Datum: MLLW = 0

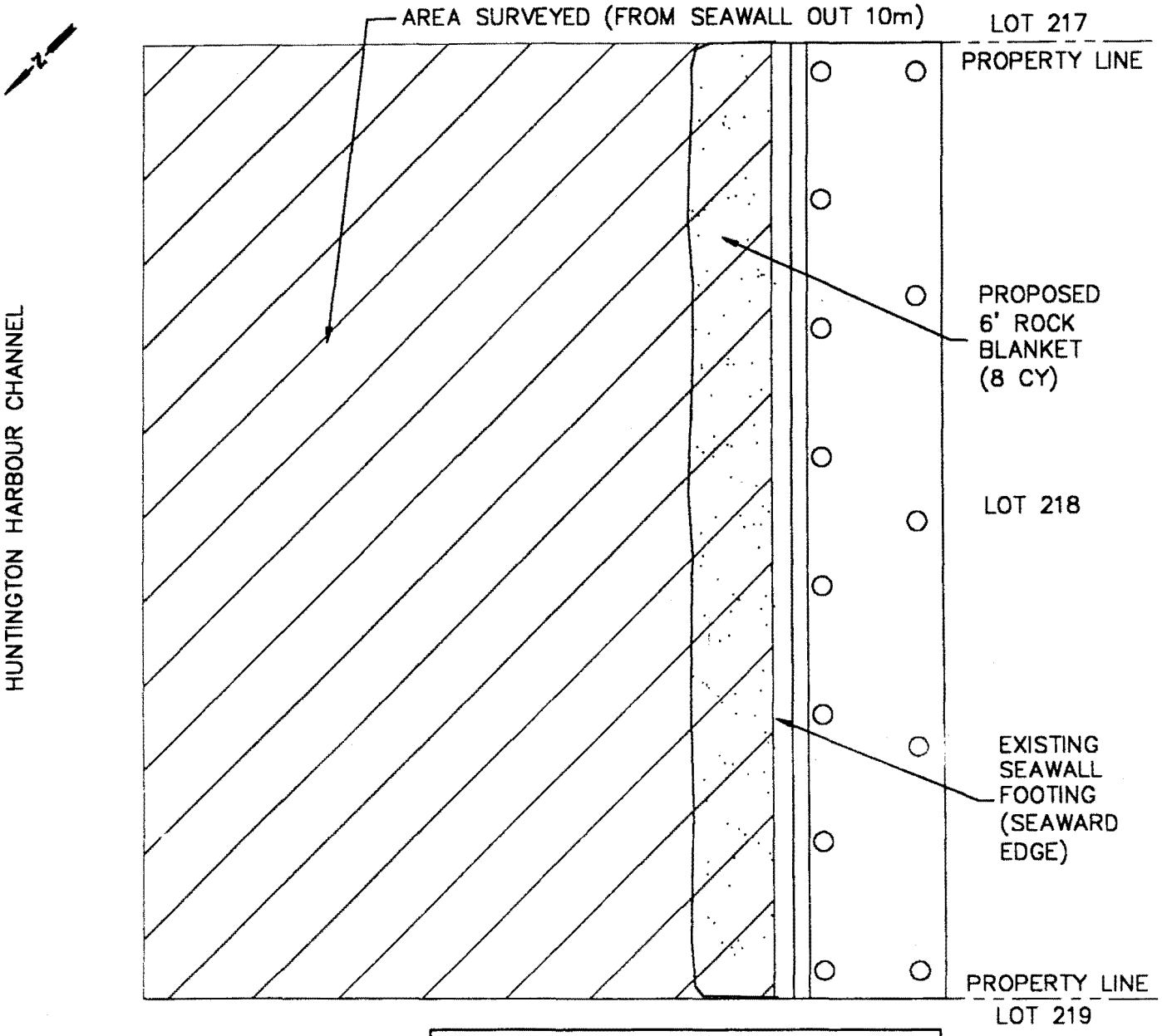
PLAN VIEW

0 8 16

Robert A. Mah
16585 Ensign Circle
Huntington Beach, CA 92649

Eelgrass & Caulerpa taxifolia Survey Results
Survey Date: 3/13/01
IN: Huntington Harbour
AT: Huntington Beach
County of Orange State: CA

Sheet 1 of 1 FIGURE 3



5481-218	Area Surveyed (m^2)	Eelgrass Area m^2	Eelgrass Area ft^2	*Caulerpa taxifolia* Area m^2	*Caulerpa taxifolia* Area ft^2
Within 6' of wall	27.9	0.0	0.0	0.0	0.0
Total Area	152.4	0.0	0.0	0.0	0.0

TETRA TECH
670 North Rosemead Blvd.
Pasadena, CA 91107
(626) 351-4664, Fax (626) 351-5291

PURPOSE: Repair Existing Seawall

Datum: MLLW = 0

PLAN VIEW

0 8 16

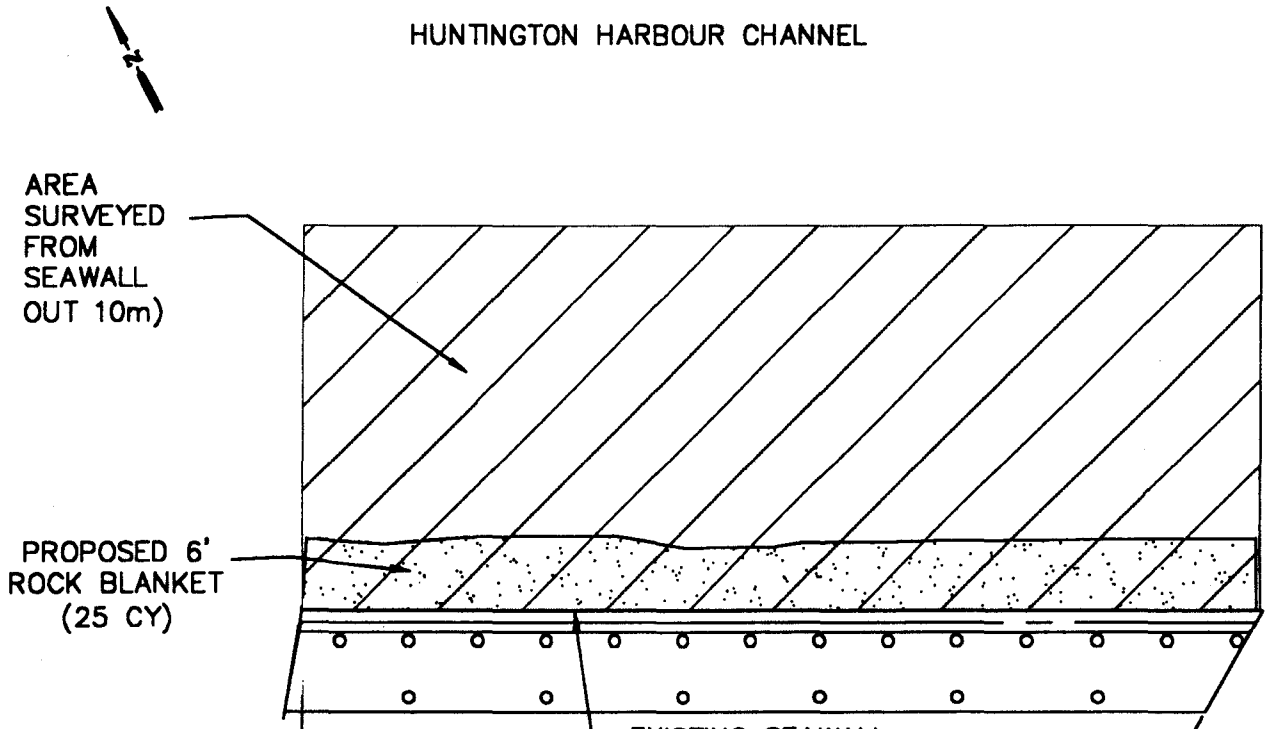
1/8" = 1'-0"

Michael Chang
16432 Barnstable Circle
Huntington Beach, CA 92649

Eelgrass & Caulerpa taxifolia Survey Results
Survey Date: 3/13/01
IN: Huntington Harbour
AT: Huntington Beach
County of Orange State: CA

Sheet 1 of 1 FIGURE 4

HUNTINGTON HARBOUR CHANNEL



COASTAL COMMISSION
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TETRA TECH
670 N. Rosemead Blvd.
Pasadena, CA 91107
(626) 351-4664, Fax (626) 351-5291

9168-51	Area Surveyed	Eelgrass Area		Caulerpa taxifolia Area	
	(m^2)	m^2	ft^2	m^2	ft^2
Within 6 of wall:	46.3	0.0	0.0	0.0	0.0
Total Area	253.0	0.0	0.0	0.0	0.0

PURPOSE: Repair Existing Seawall

Datum: MLLW = 0

PLAN VIEW

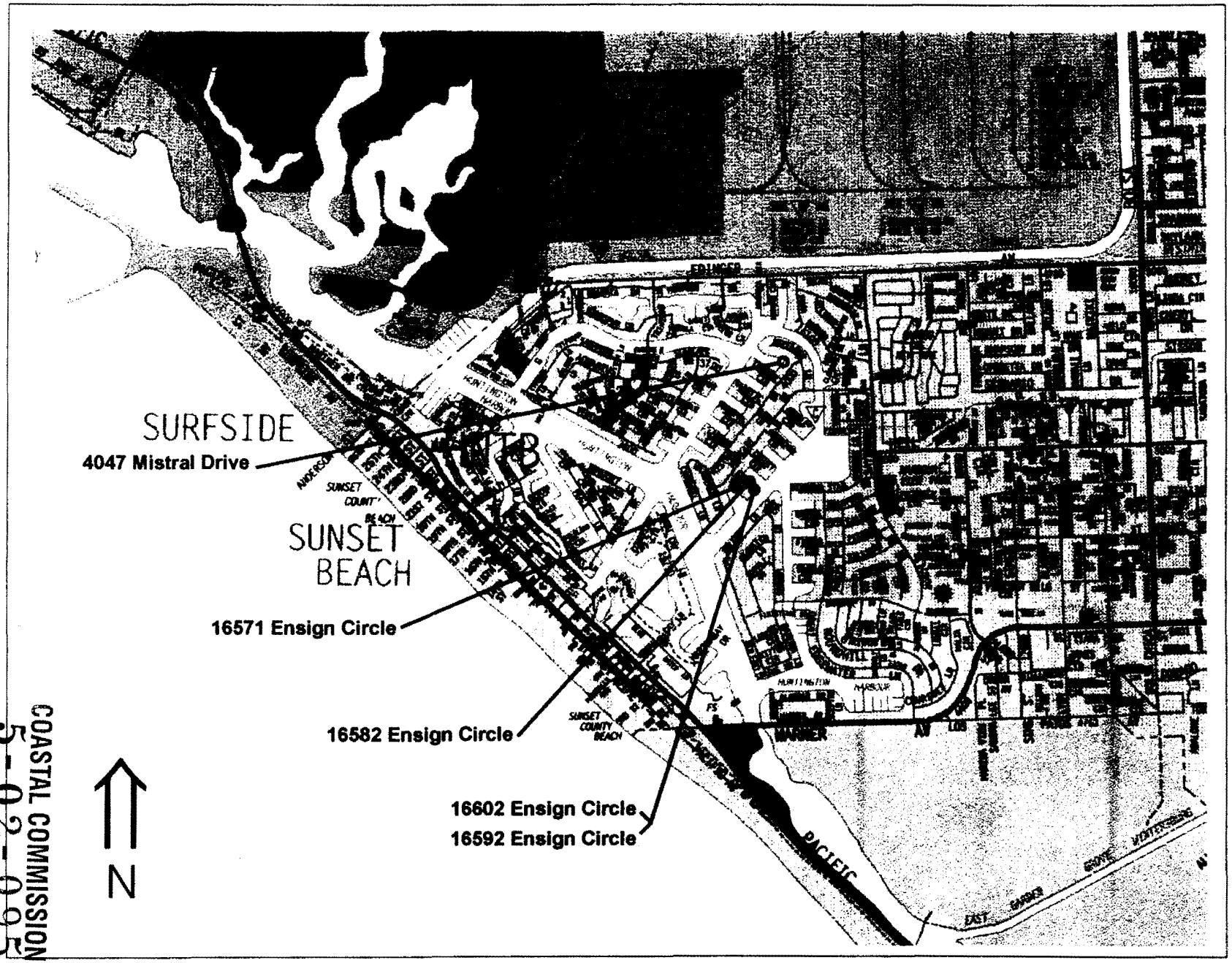
0 10 20

1/16" = 1'- 0"

Joseph & Rosann Hetherington
3681 Escapade Circle
Huntington Beach, CA 92649

Eelgrass & Caulerpa taxifolia Survey Results
Survey Date: 12/29/00
IN: Huntington Harbour
AT: Huntington Beach
County of Orange State: CA

Sheet 1 of 1 FIGURE 5



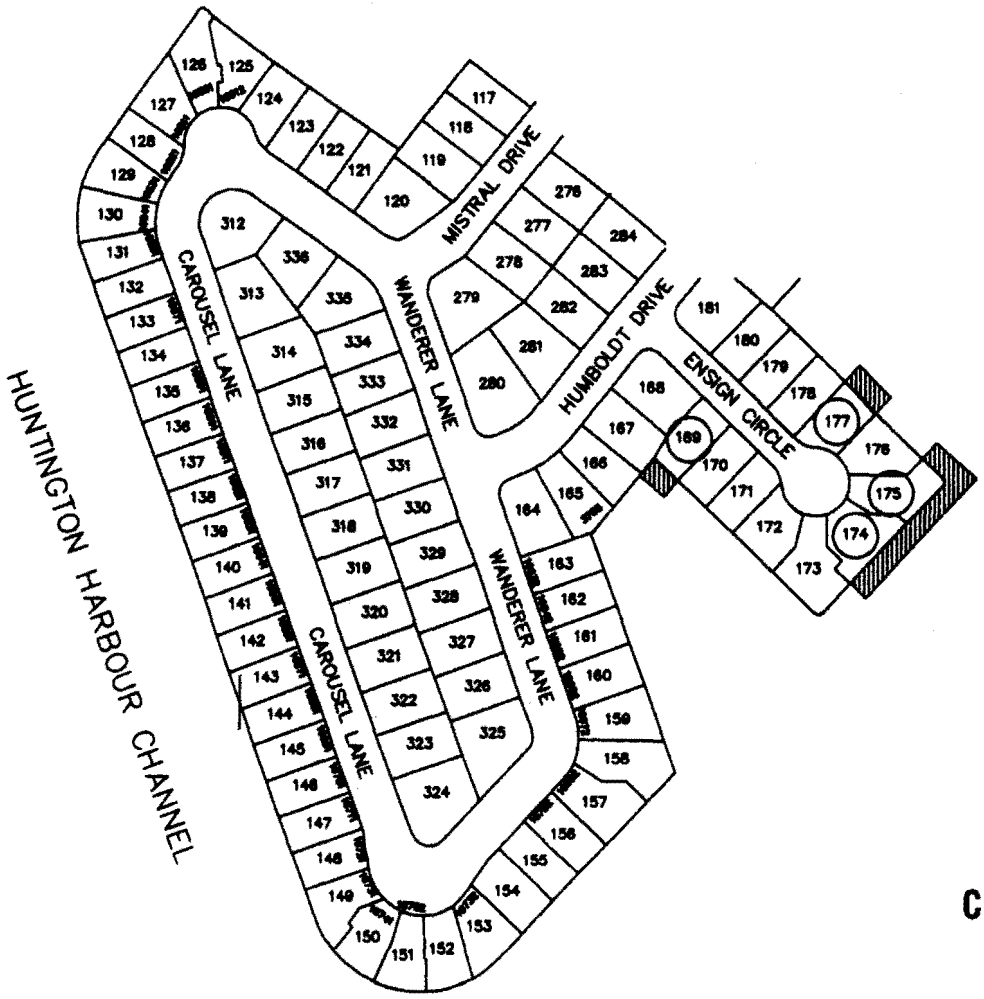
Source: *Thomas Bros. Maps*

COASTAL COMMISSION
5-02-095
EXHIBIT # 4
PAGE 6 OF 8

Vicinity Map
Huntington Harbour Bulkhead Repair Eelgrass/*Caulerpa taxifolia* Survey
Five Properties on Humboldt Island

Tetra Tech INCORPORATED

OCTOBER 2001
FIGURE 1



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5-02-095
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LEGEND:

Lot Surveyed

Area surveyed
(No eegrass (*Zostera marina*)
or *Caulerpa taxifolia* found)

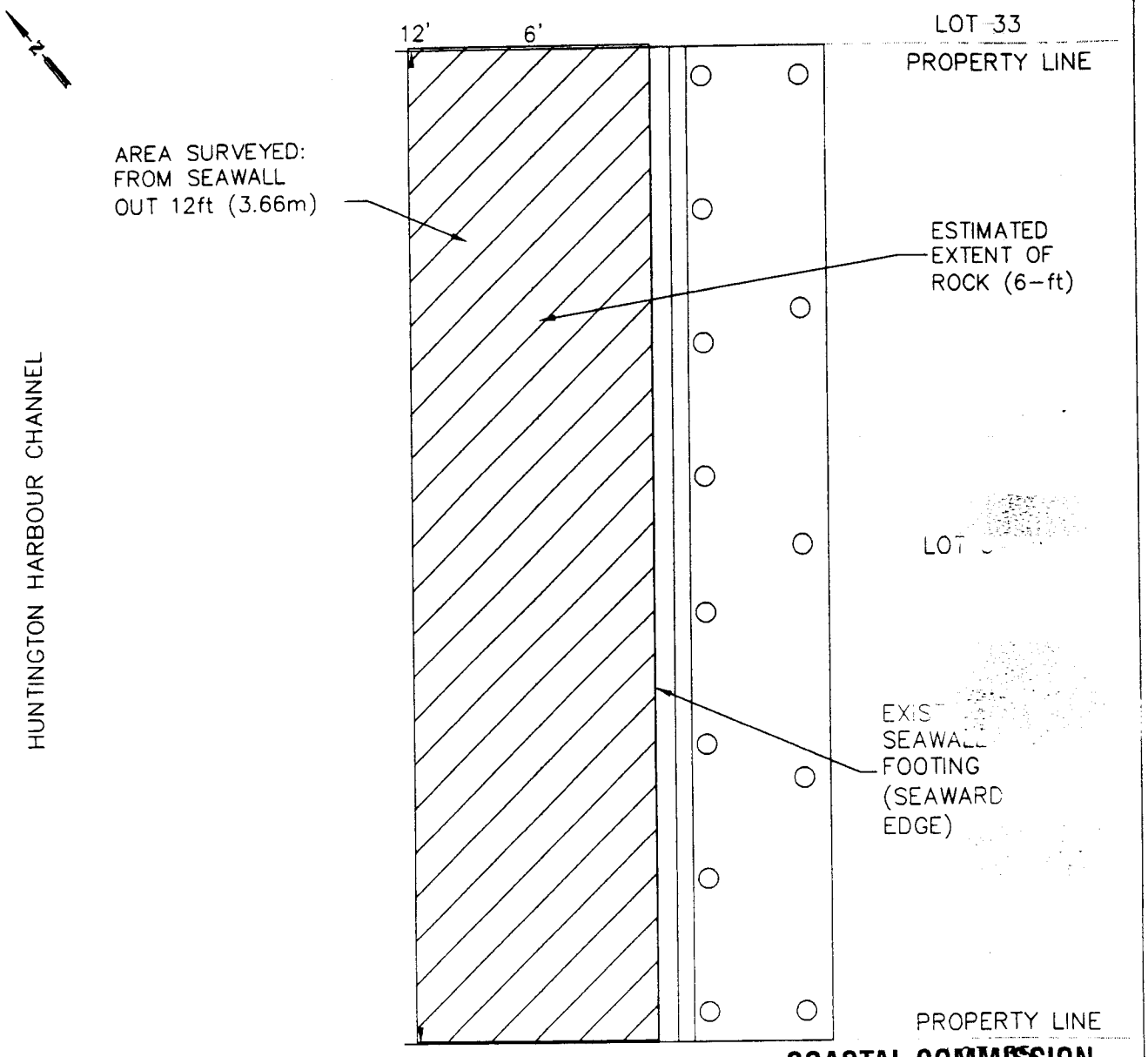
TETRA TECH
870 North Rosemead Blvd.
Pasadena, CA 91107
(626) 351-4664, Fax (626) 351-5291

Eelgrass (Zostera marina)
& Caulerpa taxifolia
Survey

Humboldt Island
Huntington Harbour
Huntington Beach, CA 92649

Jankov (Lot 169)
San Filippo (Lot 174)
Rieth (Lot 175)
Mirand (Lot 177)

Figure 2
Survey Results
Survey Conducted:
10/26/01
IN: Huntington Harbour
AT: Huntington Beach
County of Orange State: CA
Application By: Homeowners



TETRA TECH
670 North Rosemead Blvd.
Pasadena, CA 91107
(626) 351-4664, Fax (626) 351-5291

No EELGRASS (*Zostera marina*)
or *Caulerpa taxifolia* found

COASTAL COMMISSION
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EXHIBIT # 4
PAGE 8 OF 8

Figure 3. Tract 5481, Lot 34

Datum: MLLW = 0

PLAN VIEW
0 8 16
1/8" = 1'-0"

John Westmoreland
4047 Mistral Drive
Huntington Beach, CA 92649

Eelgrass & Caulerpa taxifolia
Survey Results
Survey Date 10/26/01
IN: Huntington Harbour
AT: Huntington Beach
County of Orange State: CA

Sheet 1 of 1

State of California - The Resources Agency
DEPARTMENT OF FISH AND GAME
http://www.dfg.ca.gov
Marine Region
20 Lower Ragsdale Drive, Suite #100
Monterey, CA 93940
(831) 649-2870

GRAY DAVIS, Governor

Flex your POWER

February 22, 2002

Ms. Marybeth Broeren
Senior Planner
City of Huntington Beach
2000 Main Street
Huntington Beach, CA 92648

Dear Ms. Broeren:

Department of Fish and Game (Department) personnel have reviewed the proposed bulkhead repairs to nine additional properties in Huntington Harbour, Huntington Beach, California at the request of Ms. Sarah McFadden, Tetra Tech, Inc., the property owners' authorized agent. Eight of the properties are located on Humboldt Island (Lots 34, 167, 169, 172, 174, 175, 177, and 218), and one property is on Trinidad Island (Lot 51). The nine bulkhead repairs will involve placement of a protective rip-rap footing consisting of 8-inch minus quarry rock along the bulkhead. The protective rock footings will extend approximately 6 feet out from the bulkheads and will be placed at a 2:1 slope. No sheetpile installation is planned. All of the properties have been surveyed for eelgrass (*Zostera marina*) and *Caulerpa taxifolia*. No eelgrass or *Caulerpa* was found.

The Department acknowledges the importance of toe protection in maintaining bulkhead stability, and hopes that these actions will prevent future bulkhead failure and subsequent repair in the future. We recognize that placement of quarry rock at the nine properties would result in an initial loss of ecological benefits to species associated with soft-bottom habitat. However, the soft-bottom habitat at the nine properties is un-vegetated, consequently, the loss would likely be short-term, as different organisms would re-colonize the quarry rock. Thus, we believe that placement of quarry rock on un-vegetated soft bottom habitat would not have a significant adverse impact upon the existing marine environment. In contrast, impacts to vegetated soft-bottom habitat, i.e. eelgrass, from placement of rip-rap are considered significant. It is well documented that eelgrass habitat provides forage, cover, and reproductive opportunities, and other benefits to various fish species, and may be used by these species as permanent residence or nursery habitat. Impacts to eelgrass habitat have significant impacts on the environment, and eelgrass loss must be mitigated.

Ms. McFadden's letter (dated January 24, 2002) stated that additional properties will be participating in the bulkhead repair program. According to Tetra Tech Inc., the cumulative totals for quarry rock placement (including the nine properties discussed in this letter) will result in the conversion of approximately 54,450 square feet or 1.25 acres of soft bottom habitat to quarry rock habitat. Although we do not know the total acreage of marine habitat in Huntington Harbour, we assume that 1.25 acres represents an insignificant amount of available soft-bottom habitat. Additionally, it should be mentioned that the quarry rock habitat could be improved by placement of larger rock, 16-inch, or a mixture of 8-inch and 16-inch.

As always, Department personnel are available to discuss our comments, concerns, and recommendations in greater detail. To arrange for a discussion, please contact Ms. Marilyn Fluharty, Environmental Scientist, California Department of Fish and Game, 4949 Viewridge Avenue, San Diego, CA 92123, telephone (858) 467-4231.

Sincerely,

COPY ORIGINAL SIGNED BY ROBERT N. TASTO

Robert N. Tasto, Supervisor
Project Review and Water Quality Program
Marine Region

cc: Ms. Marilyn Fluharty
Department of Fish and Game
San Diego, California

Ms. Sarah McFadden
Tetra Tech, Inc.
670 North Rosemary Blvd.
Pasadena, CA 91107

COASTAL COMMISSION
5-02-095
EXHIBIT # 5
PAGE 2 OF 2

California Regional Water Quality Control Board
Santa Ana Region

ston H. Hickox
Secretary for Environmental Protection

Internet Address: http://www.swrcb.ca.gov/rwqcb8
3737 Main Street, Suite 500, Riverside, California 92501-3348
Phone (909) 782-4130 - FAX (909) 781-6288

Gray Dav
Governo

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our website at www.swrcb.ca.gov/rwqcb8.

July 18, 2001

Sharon Zimmerman
3798 Humboldt Drive
Huntington Beach, CA 92649

Joseph & Rosann Hetherington
11532 East End Avenue
Chino, CA 91710

Michael Chang
16432 Barnstable Circle
Huntington Beach, CA 92649

Robert A. Mah
16585 Ensign Circle
Huntington Beach, CA 92649

Henry & Sook Wee
16591 Ensign Circle
Huntington Beach, CA 92649

ORDER FOR A TECHNICALLY CONDITIONED CLEAN WATER ACT SECTION 401 WATER QUALITY STANDARDS CERTIFICATION FOR THE PROPOSED FIVE BULKHEAD REPAIRS AT HUNTINGTON HARBOUR , CITY OF HUNTINGTON BEACH, ORANGE COUNTY (NO ACOE REFERENCE NUMBER)

Dear Humboldt and Trinidad Island Homeowners:

On May 29, 2001, we received a request for 401 Water Quality Standards Certification dated May 24, 2001, for the above-referenced project. We received all requested materials for a complete application as of May 29, 2001.

This letter responds to your request for certification, pursuant to Clean Water Act Section 401 that the proposed project described below will comply with State water quality standards outlined in the Basin Plan (1995):

Project Description

The bulkhead footing along five separate properties within Humboldt and Trinidad Islands in Huntington Harbour have been scoured of sediment. Further undermining of the bulkheads could result in exposing the supporting timber piles to marine organisms. This condition threatens the integrity of the protective bulkhead. The proposed project is designed to restore and protect the existing bulkhead footing and prevent future scouring and erosion. Protective riprap will be installed and extended out approximately six feet from the bulkhead toe at a 2:1 (horizontal:vertical) slope. The riprap will range from sand particle size to 8" diameter rocks. The riprap will be hauled to the construction site by barge for placement onto a geotextile fabric lain on the sediment.

- Receiving water(s) affected: Huntington Harbour, Orange County
- Fill/excavation area: Ocean: 0.05acre (2,316 square feet) permanent impact
- Dredge volume: N/A
- Federal permit: U. S. Army Corps of Engineers (USACOE) Nationwide Permit 3
- Fill/excavation and dredge mitigation: N/A

- Water quality impacts mitigation: N/A

There is no eelgrass vegetation in the project area. The proposed project is not expected to impact state- or federally-listed endangered species or their habitat.

The project's description indicates that stream diversion or dewatering will not be necessary during construction.

You have submitted an application for Nationwide Permit 3 to the U.S. Army Corps of Engineers in compliance with Section 404 of the Clean Water Act and have filed for a Coastal Development Permit with the California Coastal Commission. A Categorical Exemption (Class 1; Section 15301) for Repairing Existing Seawalls (certified May 24, 2001) was submitted with your 401 water quality certification application.

This order for 401 Certification is contingent upon the execution of the following conditions:

1. Any discharge from the above-referenced project must comply with applicable provisions of sections 301 (Effluent Limitations), 302 (Water Quality Related Effluent Limitations), 303 (Water Quality Standards and Implementation Plans), 306 (National Standards of Performance), and 307 (Toxic and Pretreatment Effluent Standards) of the Clean Water Act, and with other applicable requirements of State law.
2. Best Management Practices shall be implemented during project construction to ensure that there is not excessive erosion or turbidity, and to prevent pollutant discharges during project construction.
3. No material shall be discharged into Waters of the U.S.
4. Adhere to the requirements proposed by the ACOE and the California Coastal Commission.
5. Construction equipment shall not be stored within any waterways. There shall be no fueling, lubrication, or maintenance of construction equipment within 500 feet of waters of the State.

Regional Board staff has determined that your proposed project, if constructed in accordance with the conditions of the 401 Water Quality Standards Certification, will be in compliance with the State of California's Anti-degradation Policy.

Caulerpa taxifolia Stipulation:

In June 2000, *Caulerpa taxifolia*, an invasive marine seaweed, was reportedly found in a lagoon off Huntington Harbour. Since then, it has been located within Huntington Harbour itself. The Regional Board, California Department of Fish and Game (CDFG), and other agencies are involved in extensive efforts to eradicate this seaweed and prevent its transport to other areas. On December 20, 2000 and March 13, 2001, Tetra Tech, Inc. conducted underwater surveys for *Caulerpa taxifolia* adjacent to the proposed project sites. Tetra Tech, Inc. informed staff of the Regional Board that there were no signs of *Caulerpa* at the surveyed sites. If *Caulerpa* is found prior to, or during implementation of, the project, it is not to be disturbed, and the Regional Board must be notified immediately of the alga's location and date of discovery. No work should begin or continue at that location until authorized by Regional Board staff.

Should no *Caulerpa* be observed during the bulkhead repair, please notify the Regional Board of this fact when all property repairs at Humboldt and Trinidad Islands have been completed. Your response will help us establish a database of *Caulerpa's* occurrence or absence to prevent the spread of this invasive seaweed, which has severe adverse effects on the ecosystem.

Under California Water Code, Section 1058, and Pursuant to 23 CCR §3860, the following shall be included as conditions of all water quality certification actions:

(a) Every certification action is subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant to Section 13330 of the Water Code and Article 6 (commencing with Section 3867) of this Chapter.

(b) Certification is not intended and shall not be construed to apply to any activity involving a hydroelectric facility and requiring a FERC license or an amendment to a FERC license unless the pertinent certification application was filed pursuant to Subsection 3855(b) of this Chapter and that application specifically identified that a FERC license or amendment to a FERC license for a hydroelectric facility was being sought.

(c) Certification is conditioned upon total payment of any fee required under this Chapter and owed by the applicant.

This letter constitutes a technically conditioned water quality standards certification. Although we anticipate no further regulatory involvement, if the above stated conditions are changed, any of the criteria or conditions as previously described are not met, or new information becomes available that indicates a water quality problem, we may formulate Waste Discharge Requirements. Please notify our office five (5) days before construction begins on this project.

Should there be any questions, please contact Stephanie M. Gasca at (909) 782-3221.

Sincerely,

GERARD J. THIBEAULT
Executive Officer

CC: U.S. Environmental Protection Agency, Director of Water Division (WTR-1) – Alexis Strauss
U.S. Army Corps of Engineers, Los Angeles District – Jae Chung
State Water Resources Control Board, Division of Water Quality, Water Quality Certification Unit – Oscar Balaguer, Chief
California Coastal Commission, Long Beach Branch – Karl Schwing
Tetra Tech – Sarah McFadden

California Regional Water Quality Control Board
Santa Ana Region

Alston H. Hickox
Secretary for Environmental Protection

Internet Address: http://www.swrcb.ca.gov/rwqcb8
3737 Main Street, Suite 500, Riverside, California 92501-3348
Phone (909) 782-4130 - FAX (909) 781-6288

Gray Davis
Governor

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our website at www.swrcb.ca.gov/rwqcb8.

May 28, 2002

John Westmoreland
4047 Mistral Drive
Huntington Beach, Ca 92649

Dusan Jankov
16571 Ensign Circle
Huntington Beach, CA 92649

Vincent San Filippo
16602 Ensign Circle
Huntington Beach, CA 92649

Rod Rieth
4332 Fir Avenue
Seal Beach, CA 90740

Alex Mirand
16582 Ensign Circle
Huntington Beach, CA 92649

Isaac Azoulay
3432 Venture Drive
Huntington Beach, CA 92649

ORDER FOR A TECHNICALLY CONDITIONED CLEAN WATER ACT SECTION 401 WATER QUALITY STANDARDS CERTIFICATION FOR THE PROPOSED FIVE BULKHEAD REPAIRS AT HUMBOLDT ISLAND AND ONE BULKHEAD REPAIR AT TRINIDAD ISLAND, CITY OF HUNTINGTON BEACH, ORANGE COUNTY (NO ACOE REFERENCE NUMBER)

Dear Humboldt and Trinidad Island Homeowners:

On December 12, 2001, we received a request for 401 Water Quality Standards Certification dated December 5, 2001, from your agent Tetra Tech, Inc., for the above-referenced project. We received all requested materials for a complete application as of April 12, 2002.

This letter responds to your request for certification, pursuant to Clean Water Act Section 401 that the proposed project described below will comply with State water quality standards outlined in the Basin Plan (1995):

Project Description

The project will repair the bulkhead of five properties located in Humboldt Island and one property located in Trinidad Island within Huntington Harbour. The proposed project is designed to restore and protect the existing bulkhead footing and prevent future scouring and erosion. Protective riprap will be installed and extended out approximately six feet from the bulkhead toe at a 2:1 (horizontal:vertical) slope. The toe protection will be installed by placing 8" minus quarry waste from a barge onto a geotextile fabric lain on top of the sediment. The thickness of the toe protection varies in relation to the sediment bottom profile.

- Receiving water: Huntington Harbour, Orange County
- Fill/excavation area: Ocean: 0.06 acre permanent impact (0.006 acre soft bottom habitat; 0.0008 acre eelgrass habitat)
- Dredge volume: N/A
- Federal permit: U. S. Army Corps of Engineers (USACOE) Nationwide Permit 3

- Fill/excavation and dredge mitigation:

  One of the six properties, 3432 Venture Drive, Trinidad Island, will require extensive repairs to the bulkhead. As a result, 29.1 square feet of soft bottom habitat will be lost. The loss will be mitigated with the inclusion of this property in the *Soft Bottom Mitigation Plan* prepared by Tetra Tech, Inc. The plan has been accepted by the California Department of Fish and Game (CDFG). The mitigation will occur in the Bolsa Chica Wetlands area, 0.5 – 1.2 miles southwest of the impacted properties. Fifty-eight square feet of the designated area in the Bolsa Chica Wetlands will be used as mitigation for soft bottom impacts at this property.

  The construction of slope protection at this same property will disturb 37 square feet of eelgrass habitat. The loss will be mitigated for with the inclusion of this property in the *Eelgrass Mitigation Project* prepared by Tetra Tech, Inc. Approximately 44.4 square feet of eelgrass will be transplanted at the Bolsa Chica Wetlands as mitigation to impacts at this property.

- Water quality impacts mitigation:

  The riprap will be washed and inspected prior to being placed in the water. The riprap will be placed, not dropped, on top of a geotextile fabric to reduce siltation. An agent from Tetra Tech, Inc. will be present during construction to inspect the cleanliness of the riprap and to monitor water quality.

There is no wetland vegetation in the project area site. The proposed project is not expected to impact state- or federally-listed endangered species or their habitat.

The project's description indicates that stream diversion or dewatering will not be necessary during project implementation.

You have submitted an application for Nationwide Permit 3 to the U.S. Army Corps of Engineers in compliance with Section 404 of the Clean Water Act and have filed for a Coastal Development Permit with the California Coastal Commission. An Addendum to Mitigated Negative Declaration No. 00-05 was issued for this project on September 13, 2001.

This proposed project is contingent upon the execution of the following conditions:

1. No material shall be discharged into Waters of the U.S.
2. Best Management Practices shall be implemented during project construction to ensure that there is not excessive erosion or turbidity, and to prevent pollutant discharges during project construction.
3. Construction equipment shall not be stored within any waterways. There shall be no fueling, lubrication, or maintenance of construction equipment within 500 feet of waters of the State.
4. Adherence to the requirements proposed by the ACOE and the California Coastal Commission.
5. Adherence to the *Caulerpa taxifolia* stipulation.

Caulerpa taxifolia Stipulation:

In June 2000, *Caulerpa taxifolia*, an invasive seaweed, that has severe adverse effects on the marine ecosystem, was reportedly found in a lagoon off Huntington Harbour. Since then, it has been located within Huntington Harbour itself. The Regional Board, California Department of Fish and Game (CDFG), and other agencies are involved in extensive efforts to eradicate this seaweed and prevent its transport to other areas. Projects that entail dredging in marine waters are required to survey for *Caulerpa* to help locate and prevent its spread. If *Caulerpa* is found prior to or during implementation of the project, no work should begin or continue at that location until authorized by Regional Board staff. If the invasive seaweed is discovered, it is not to be disturbed, and the Regional Board must be notified immediately.

with report of the location and date of discovery. Should no *Caulerpa* be observed during the bulkhead repair, please notify the Regional Board of this fact when all property repairs have been completed. This will help us to establish a database on the occurrence or absence of *Caulerpa*.

Regional Board Staff has determined that your proposed project, if constructed in accordance with the conditions stated in this letter, will be in compliance with the State of California's Antidegradation Policy.

Under California Water Code, Section 1058, and Pursuant to 23 CCR §3860, the following shall be included as conditions of all water quality certification actions:

(a) Every certification action is subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant to Section 13330 of the Water Code and Article 6 (commencing with Section 3867) of this Chapter.

(b) Certification is not intended and shall not be construed to apply to any activity involving a hydroelectric facility and requiring a FERC license or an amendment to a FERC license unless the pertinent certification application was filed pursuant to Subsection 3855(b) of this Chapter and that application specifically identified that a FERC license or amendment to a FERC license for a hydroelectric facility was being sought.

(c) Certification is conditioned upon total payment of any fee required under this Chapter and owed by the applicant.

This letter constitutes a technically conditioned water quality standards certification. Although we anti[illegible] no further regulatory involvement, if the above stated conditions are changed, any of the crite[illegible] conditions as previously described are not met, or new information becomes available that indicates a wate[illegible] quality problem, we may formulate Waste Discharge Requirements.

In the event of any violation or threatened violation of the conditions of this certification, the violation [illegible] threatened violation shall be subject to any remedies, penalties, process or sanctions as provided for u[illegible] state law. For purposes of Section 401(d) of the Clean Water Act, the applicability of any stat[illegible] authorizing remedies, penalties, process or sanctions for the violation or threatened violation constitu[illegible] limitation necessary to assure compliance with the water quality standards and other pertinent requirements incorporated into this certification.

In response to a suspected violation of any condition of this certification, the Regional Board may require the holder of any permit or license subject to this certification to furnish, under penalty of perjury, any technical or monitoring reports the Regional Board deems appropriate. The burden, including costs, of the reports shall be reasonable in relation to the need for the reports and the benefits to be obtained from the reports.

In response to any violation of the conditions of this certification, the Santa Ana Regional Board may add to or modify the conditions of this certification as appropriate to ensure compliance.

Pursuant to California Code of Regulations Section 3857, we will take no further action on your application. This letter constitutes a technically conditioned water quality certification. Please notify our office five (5) days before construction begins on this project.

Should there be any questions, please contact Stephanie M. Gasca at (909) 782-3221, or Wanda Smith at (909) 782-4468.

Sincerely,

for GERARD J. THIBEAULT
Executive Officer

Cc: U.S. EPA, Manager of the Wetlands Regulatory Office (WTR-8) – Tim Vendlinski
U. S. Army Corps of Engineers, Los Angeles District – Jae Chung
State Water Resources Control Board, Division of Water Quality, Water Quality Certification Unit – Oscar Balaguer, Chief
California Coastal Commission, Long Beach Branch - Karl Schwing
Tetra Tech, Inc. – Robert Yates

STATE OF CALIFORNIA GRAY DAVIS, *Governor*

CALIFORNIA STATE LANDS COMMISSION
100 Howe Avenue, Suite 100-South
Sacramento, CA 95825-8202

PAUL D. THAYER, *Executive Officer*
(916) 574-1800 FAX (916) 574-1810
California Relay Service From TDD Phone **1-800-735-2922**
from Voice Phone **1-800-735-2929**

Contact Phone: **(916) 574-1812**
Contact FAX: **(916) 574-1925**

January 22, 2002

File Ref: SD 2001-12-26.5 – 26.13

Fernando Pages
Tetra Tech, Inc.
670 North Rosemead Blvd.
Pasadena, CA 91107

Dear Mr. Pages:

SUBJECT: Proposed Bulkhead Repair on Nine Residential Properties on Humboldt and Trinidad Islands, Huntington Harbour, Orange County

This will confirm that staff of the California State Lands Commission (CSLC) has reviewed the proposed bulkhead repair projects adjacent to the following Huntington Harbour parcels:

Lot 175, Tract 5481, 16592 Ensign Circle, Humboldt Island
Lot 174, Tract 5481, 16602 Ensign Circle, Humboldt Island
Lot 169, Tract 5481, 16571 Ensign Circle, Humboldt Island
Lot 177, Tract 5481, 16582 Ensign Circle, Humboldt Island
Lot 34, Tract 5481, 4047 Mistral Drive, Humboldt Island
Lot 167, Tract 5481, 3798 Humboldt Drive, Humboldt Island
Lot 51, Tract 9168, 3681 Escapade Circle, Trinidad Island
Lot 218, Tract 5481, 16432 Barnstable Circle, Humboldt Island
Lot 172, Tract 5481, 16585 Ensign Circle, Humboldt Island

This is to advise that the water covered areas adjacent to the above listed properties are not subject to the current leasing jurisdiction of the CSLC. The State does, however, retain a Public Trust Easement over much of the area within Huntington Harbour. It is staff's opinion that the projects are not inconsistent with the current Public Trust needs in the area and we have no objection to the projects as proposed.

Should you have any questions, please contact me at (916) 574-1812.

Sincerely,

Mary C. Hays

Mary C. Hays
Public Land Management Specialist
South California Region

COASTAL COMMISSION
5-02-095
EXHIBIT # 7
PAGE 2 OF 2

SOUTHERN CALIFORNIA EELGRASS MITIGATION POLICY

(Adopted July 31, 1991)

Eelgrass (Zostera marina) vegetated areas function as important habitat for a variety of fish and other wildlife. In order to standardize and maintain a consistent policy regarding mitigating adverse impacts to eelgrass resources, the following policy has been developed by the Federal and State resource agencies (National Marine Fisheries Service, U.S. Fish and Wildlife Service, and the California Department of Fish and Game). This policy should be cited as the Southern California Eelgrass Mitigation Policy (revision 8).

For clarity, the following definitions apply. "Project" refers to work performed on-site to accomplish the applicant's purpose. "Mitigation" refers to work performed to compensate for any adverse impacts caused by the "project". "Resource agencies" refers to National Marine Fisheries Service, U.S. Fish and Wildlife Service, and the California Department of Fish and Game.

1. **Mitigation Need.** Eelgrass transplants shall be considered only after the normal provisions and policies regarding avoidance and minimization, as addressed in the Section 404 Mitigation Memorandum of Agreement between the Corps of Engineers and Environmental Protection Agency, have been pursued to the fullest extent possible prior to the development of any mitigation program.

2. **Mitigation Map.** The project applicant shall map thoroughly the area, distribution, density and relationship to depth contours of any eelgrass beds likely to be impacted by project construction. This includes areas immediately adjacent to the project site which have the potential to be indirectly or inadvertently impacted as well as areas having the proper depth and substrate requirements for eelgrass but which currently lack vegetation.

Protocol for mapping shall consist of the following format:

1) Coordinates

Horizontal datum - Universal Transverse Mercator (UTM), NAD 83, Zone 11

Vertical datum - Mean Lower Low Water (MLLW), depth in feet.

2) Units

Transects and grids in meters.

Area measurements in square meters/hectares.

All mapping efforts must be completed during the active growth phase for the vegetation (typically March through October) and shall be valid for a period of 120 days with the exception of surveys completed in August - October.

A survey completed in August - October shall be valid until the resumption of active growth (i.e., March 1). After project construction, a post-project survey shall be completed within 30 days. The actual area of impact shall be determined from this survey.

3. **Mitigation Site.** The location of eelgrass transplant mitigation shall be in areas similar to those where the initial impact occurs. Factors such as, distance from project, depth, sediment type, distance from ocean connection, water quality, and currents are among those that should be considered in evaluating potential sites.

4. **Mitigation Size.** In the case of transplant mitigation activities that occur concurrent to the project that results in damage to the existing eelgrass resource, a ratio of 1.2 to 1 shall apply. That is, for each square meter adversely impacted, 1.2 square meters of new suitable habitat, vegetated with eelgrass, must be created. The rationale for this ratio is based on, 1) the time (i.e., generally three years) necessary for a mitigation site to reach full fishery utilization and 2) the need to offset any productivity losses during this recovery period within five years. An exception to the 1.2 to 1 requirement shall be allowed when the impact is temporary and the total area of impact is less than 100 square meters. Mitigation on a one-for-one basis shall be acceptable for projects that meet these requirements (see section 11 for projects impacting less than 10 square meters).

Transplant mitigation completed three years in advance of the impact (i.e., mitigation banks) will not incur the additional 20% requirement and, therefore, can be constructed on a one-for-one basis. However, all other annual monitoring requirements (see sections 8-9) remain the same irrespective of when the transplant is completed.

Project applicants should consider increasing the size of the required mitigation area by 20-30% to provide greater assurance that the success criteria, as specified in Section 9, will be met. In addition, alternative contingent mitigation must be specified, and included in any required permits, to address situation where performance standards (see section 9) are not met.

5. **Mitigation Technique.** Techniques for the construction and planting of the eelgrass mitigation site shall be consistent with the best available technology at the time of the project. Donor material shall be taken from the area of direct impact whenever possible, but also should include a minimum of two additional distinct sites to better ensure genetic diversity of the donor plants. No more than 10% of an existing bed shall be harvested for transplanting purposes. Plants harvested shall be taken in a manner to thin an existing bed without leaving any noticeable bare areas. Written permission to harvest donor plants must be obtained from the California Department of Fish and Game.

Plantings should consist of bare-root bundles consisting of 8-12 individual turions. Specific spacing of transplant units shall be at the discretion of the project applicant. However, it is understood that whatever techniques are employed, they must comply with the stated requirements and criteria.

6. **Mitigation Timing.** For off-site mitigation, transplanting should be started prior to or concurrent with the initiation of in-water construction resulting in the impact to the eelgrass bed. Any off-site mitigation project which fails to initiate transplanting work within 135 days following the initiation of the in-water construction resulting in impact to the eelgrass bed will be subject to additional mitigation requirements as specified in section 7. For on-site mitigation, transplanting should be postponed when construction work is likely to impact the mitigation. However, transplanting of on-site mitigation should be started no later than 135 days after

initiation of in-water construction activities. A construction schedule which includes specific starting and ending dates for all work including mitigation activities shall be provided to the resource agencies for approval at least 30 days prior to initiating in-water construction.

7. **Mitigation Delay.** If, according to the construction schedule or because of any delays, mitigation cannot be started within 135 days of initiating in-water construction, the eelgrass replacement mitigation obligation shall increase at a rate of seven percent for each month of delay. This increase is necessary to ensure that all productivity losses incurred during this period are sufficiently offset within five years.

8. **Mitigation Monitoring.** Monitoring the success of eelgrass mitigation shall be required for a period of five years for most projects. Monitoring activities shall determine the area of eelgrass and density of plants at the transplant site and shall be conducted at 3, 6, 12, 24, 36, 48, and 60 months after completion of the transplant. All monitoring work must be conducted during the active vegetative growth period and shall avoid the winter months of November through February. Sufficient flexibility in the scheduling of the 3 and 6 month surveys shall be allowed in order to ensure the work is completed during this active growth period. Additional monitoring beyond the 60 month period may be required in those instances where stability of the proposed transplant site is questionable or where other factors may influence the long-term success of transplant.

The monitoring of an adjacent or other acceptable control area (subject to the approval of the resource agencies) to account for any natural changes or fluctuations in bed width or density must be included as an element of the overall program.

A monitoring schedule that indicates when each of the required monitoring events will be completed shall be provided to the resource agencies prior to or concurrent with the initiation of the mitigation.

Monitoring reports shall be provided to the resource agencies within 30 days after the completion of each required monitoring period.

9. **Mitigation Success.** Criteria for determination of transplant success shall be based upon a comparison of vegetation coverage (area) and density (turions per square meter) between the project and mitigation sites. 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 of shoots is defined by the number of turions per area present in representative samples within the control or transplant bed. Specific criteria are as follows:

a. a minimum of 70 percent area of eelgrass bed and 30 percent density after the first year.

b. a minimum of 85 percent area of eelgrass bed and 70 percent density after the second year.

c. a sustained 100 percent area of eelgrass bed and at least 85 percent density for the third, fourth and fifth years.

Should the required eelgrass transplant fail to meet the established criteria, then a Supplementary Transplant Area (STA) shall be constructed, if necessary, and planted. The size of this STA shall be determined by the following formula:

$$STA = MTA \times (|A_t + D_t| - |A_c + D_c|)$$

MTA = mitigation transplant area.

A_t = transplant deficiency or excess in area of coverage criterion (%).

D_t = transplant deficiency in density criterion (%).

A_c = natural decline in area of control (%).

D_c = natural decline in density of control (%).

Four conditions apply:

1) For years 2-5, an excess of only up to 30% in area of coverage over the stated criterion with a density of at least 60% as compared to the project area may be used to offset any deficiencies in the density criterion.

2) Only excesses in area criterion equal to or less than the deficiencies in density shall be entered into the STA formula.

3) Densities which exceed any of the stated criteria shall not be used to offset any deficiencies in area of coverage.

4) Any required STA must be initiated within 120 days following the monitoring event that identifies a deficiency in meeting the success criteria. Any delays beyond 120 days in the implementation of the STA shall be subject to the penalties as described in Section 7.

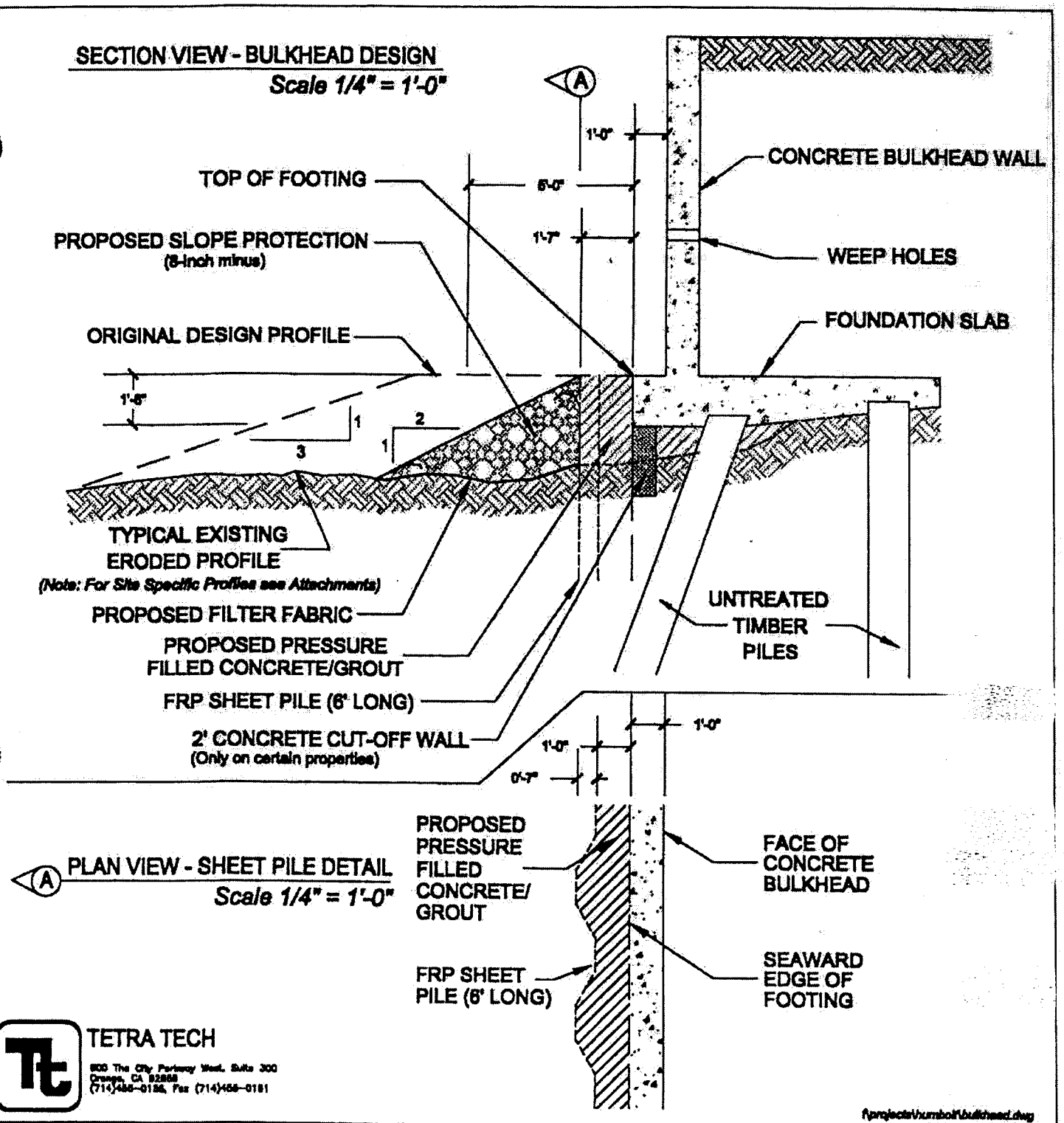
10. **Mitigation Bank.** Any mitigation transplant success that, after five years, exceeds the mitigation requirements, as defined in section 9, may be considered as credit in a "mitigation bank". Establishment of any "mitigation bank" and use of any credits accrued from such a bank must be with the approval of the resource agencies and be consistent with the provisions stated in this policy. Monitoring of any approved mitigation bank shall be conducted on an annual basis until all credits are exhausted.

11. **Exclusions.**

1) Placement of a single pipeline, cable, or other similar utility line across an existing eelgrass bed with an impact corridor of no more than ½ meter wide may be excluded from the provisions of this policy with concurrence of the resource agencies. After project construction, a post-project survey shall be completed within 30 days and the results shall be sent to the resource agencies. The actual area of impact shall be determined from this survey. An additional survey shall be completed after 12 months to insure that the project or impacts attributable to the project have not exceeded the allowed ½ meter corridor width. Should the post-project or 12 month survey demonstrate a loss of eelgrass greater than the ½ meter wide corridor, then mitigation pursuant to sections 1-11 of this policy shall be required.

2) Projects impacting less than 10 square meters. For these projects, an exemption may be requested by a project applicant from the mitigation requirements as stated in this policy, provided suitable out-of-kind mitigation is proposed. A case-by-case evaluation and determination regarding the applicability of the requested exemption shall be made by the resource agencies.

(last revised 2/2/99)



PURPOSE: Repair Existing Seawall

Datum: MLLW = 0
Adj. Property Owners:
1. See Attached List

FIGURE 4.
ORIGINAL BULKHEAD DESIGN
AND SHEET PILE DETAIL

Humbolt Island & Trinidad Island
Huntington Beach, CA 92649

Proposed Repair of Existing Seawall

Supplemental Info. Report

California Coastal Commission
Date: 3/18/99

Original Bulkhead Design with Repairs to
Bulkhead Shown when Erosion at the
Base of the Existing Bulkhead is Moderate to Severe

EXHIBIT#9
Page 1 of 1
Application Number:
5 - 0 2 - 0 9 5
California Coastal Commission