

CALIFORNIA COASTAL COMMISSION

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 Hearing Date: February 13-16, 2001
 Commission Action:

**RECORD PACKET COPY****STAFF REPORT: REGULAR CALENDAR**

Application	Applicant(s)	Project Location: Trinidad Island (TI) and Humboldt Island (HI), Huntington Beach, Orange County	Tract #	Lot#
5-00-402	Weaver, Ralph & Marlene	16262 Typhoon Lane, TI	8636	25
	Taddeo, Lena	16251 Typhoon Lane, TI	8636	26
	Bryne, Jr., Paul C.	3811 Seascap Drive, TI	9168	15
	Ross, Harry	3831 Seascap Drive, TI	9168	17
	Newhall, William & Beverly	3841 Seascap Drive, TI	9168	18
	Grace, James & Bobbe	3842 Seascap Drive, TI	9168	19
	Buettner, Brad & Lynn	3832 Seascap Drive, TI	9168	20
	Pratto, John M. & Patricia	3822 Seascap Drive, TI	9168	21
	Riddet, James	3812 Seascap Drive, TI	9168	22
	Call, Robert L.	3802 Seascap Drive, TI	9168	23
	Pazornik, Gary	16262 Sundancer Lane, TI	9168	26
	Green, Vern	16272 Sundancer Lane, TI	9168	27
	McCune, William M.	3791 Ragtime Circle, TI	9168	30
	Yaryan, Kenneth & Kuelli	3782 Ragtime Circle, TI	9168	32
	Yee, Lincoln S.	3761 Nimble Circle, TI	9168	42
	Hirsch, H. Henry	3732 Nimble Circle, TI	9168	44
	Shaffer, R. James	16412 Sundancer Lane, TI	9168	49
	Navarre, Lamonte G.	3691 Escapade Circle, TI	9168	52
	Meadows, Elizabeth	3692 Escapade Circle, TI	9168	54
	Morley, James P.	3651 Venture Drive, TI	9168	62
	McKnew, Thomas	3661 Venture Drive, TI	9168	63
	Davidson, William & Christine	3401 Sagamore Drive, TI	9347	70
	Tseng, Stanley S.	3411 Sagamore Drive, TI	9347	71
	Denietolis, Mark & Regina	3491 Sagamore Drive, TI	9347	78
	Stein, Howard E.	3541 Sagamore Drive, TI	9347	83
	Saylin, Brian & Rose	3561 Sagamore Drive, TI	9347	84
	Slusser, Steve	16305 Niantic Circle, HI	Hum Isl.	70

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

PROJECT DESCRIPTION: Place a total of 988 cubic yards of toe stone covering 14,081 square feet of harbor bottom to protect 2,403 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 operation phase impacts of placing toe stone in the marine environment. With conditions, the project will have no adverse construction phase 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 soft bottom habitat. Therefore, staff recommends **APPROVAL** of the proposed development with six 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 the absence of *Caulerpa taxifolia* 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; and 6) a requirement for the submittal of an anchor management plan.

LOCAL APPROVALS RECEIVED: City of Huntington Beach approvals-in-concept dated August 10, 2000; Negative Declaration No. 00-05 approved by the City of Huntington Beach Zoning Administrator on September 13, 2000.

SUBSTANTIVE FILE DOCUMENTS: See Appendix A

STAFF NOTE:

The proposed project is part of a group of applications which have been submitted by various property owners for approval of bulkhead reinforcements in Huntington Harbour. These applications have grouped together those properties which have the same types of impacts. There are four such groups, as follows: 1) projects with no impact on eelgrass and no permanent impact upon soft bottom habitat (i.e. this application, 5-00-402); 2) projects with impacts upon eelgrass, but no permanent impact upon softbottom habitat (i.e. 5-00-401); 3) projects with no impact on eelgrass, but do have permanent impacts upon softbottom habitat (i.e. 5-00-389); and 4) projects having both impacts upon eelgrass and permanent impacts upon softbottom habitat (i.e. 5-00-390). Any projects involving impacts to eelgrass or softbottom habitat include mitigation. The eelgrass mitigation has already been undertaken under Coastal Development Permit 5-97-231. Meanwhile, a separate coastal development permit will be processed for the softbottom mitigation at a subsequent hearing.

It should also be noted that Commission staff anticipate a large number of applications in the future for similar repairs to bulkheads throughout Huntington Harbour. For instance, the Commission has already processed at least 15 applications covering 40 properties on Humboldt Island (another bulkheaded island in Huntington Harbour) for repairs to the bulkhead. The existing bulkhead system in Huntington Harbour was constructed at approximately the same time using a similar design. Therefore, the problems with the bulkheads encountered on Trinidad Island are similar to those experienced on Humboldt Island, therefore the proposed solution is similar to those repairs previously approved by the Commission.

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

MOTION: I move that the Commission approve Coastal Development Permit No. 5-00-402 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, or oils and liquid chemicals shall be placed or stored where it may be subject to wave erosion and dispersion;
- (b) Any and all debris resulting from construction activities shall be removed from the 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;
- (d) Sand from the beach, 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 control turbidity.

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

Prior to commencement or re-commencement of any development authorized under this coastal development permit, the applicant shall undertake a survey of the project area to determine the existence of *Caulerpa taxifolia*. The survey shall be prepared in consultation with the Regional Water Quality Control Board and the California Department of Fish and Game. The applicant shall submit the survey for the review and approval of the Executive Director within five (5) business days of completion of each survey and in any event no later than fifteen (15) business days prior to commencement of any development. If the survey identifies any *Caulerpa taxifolia* within the project area, the development shall require an amendment to this permit from the Coastal Commission or a new coastal development permit to implement measures to avoid or mitigate impacts that the proposed development would have upon dispersal of *Caulerpa taxifolia* in the project area, unless the Executive Director determines that no amendment or new permit is 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.

IV. FINDINGS AND DECLARATIONS:

The Commission hereby finds and declares:

A. Project Description and Location

The proposed project sites are located on Trinidad Island and Humboldt Island in Huntington Harbour, City of Huntington Beach, Orange County (Exhibits 1 and 2). 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 27 bulkheaded properties, some of which are contiguous with one another and some of which are non-contiguous, which 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 (Exhibit 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	Tract Number	Lot Number	Bulkhead Length (ft)	Estimated Quantity of Rock (CY)	Estimated Extent of Rock (ft)	Estimated Rock Footprint (ft ²)
16262 Typhoon Lane	8636	25	60	14	6	360
16251 Typhoon Lane	8636	26	60	13	6	342
3811 Seascape Drive	9168	15	64.38	28	6	350
3831 Seascape Drive	9168	17	103.7	49	6	604
3841 Seascape Drive	9168	18	115.86	57	6	695
3842 Seascape Drive	9168	19	142.2	59	6	853
3832 Seascape Drive	9168	20	149.31	69	6	896
3822 Seascape Drive	9168	21	89.85	34	6	539
3812 Seascape Drive	9168	22	48.09	10	6	289
3802 Seascape Drive	9168	23	20	9	6	120
16262 Sundancer Lane	9168	26	80.88	33	6	485
16272 Sundancer Lane	9168	27	46	16	6	258
3791 Ragtime Circle	9168	30	126.77	53	6	743
3782 Ragtime Circle	9168	32	165.9	75	6	977
3761 Nimble Circle	9168	42	162.15	52	6	973
3732 Nimble Circle	9168	44	98.72	49	6	574
16412 Sundancer Lane	9168	49	25	4	6	114
3691 Escapade Circle	9168	52	123.96	54	6	708
3692 Escapade Circle	9168	54	152	50	6	894
3651 Venture Drive	9168	62	33	10	6	180
3661 Venture Drive	9168	63	94.44	47	6	567
3401 Sagamore Drive	9347	70	76.66	35	6	424
3411 Sagamore Drive	9347	71	80.78	31	6	467
3491 Sagamore Drive	9347	78	58.86	30	6	335
3541 Sagamore Drive	9347	83	59.12	29	6	355
3561 Sagamore Drive	9347	84	59.12	28	6	337
16305 Niantic Circle	Hum Isl.	70	107	50	6	642
Total			2403.75	988		14080.54

In total, the proposed project will involve 2,403.75 lineal feet of bulkhead. Nine hundred and eighty eight (988) 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. Several applications have been received for repair and reinforcement of those bulkheads, and are on the February 2001 Commission agenda with these applications. 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 27 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 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 lose 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 sensitive marine habitat, including eelgrass which may exist in the vicinity, resulting in impacts upon that habitat. In addition, sediment released from behind the collapsed bulkhead would enter the water column causing turbidity and potentially smothering eelgrass beds. 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 softbottom 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 softbottom 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 softbottom 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 softbottom fill were used to protect the subject sites, re-nourishment of the softbottom 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 lose 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. In addition, the applicant is proposing to mitigate for the loss of impacts to eelgrass. 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.

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 14,080 square feet of unvegetated soft bottom habitat. These softbottom areas contain infaunal clam beds consisting of wavy chione, California chione, and common littlenecks. Eelgrass, a sensitive marine plant which 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 softbottom 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. In their memorandum to Commission staff dated July 6, 1999 regarding the similar project at Humboldt Island, CDFG stated that the proposed impact upon unvegetated soft bottom habitat will be short term and will not be significant (see Exhibit 5). Another letter from CDFG dated August 31, 2000, states that the proposed eelgrass and softbottom habitat mitigation plans for impacts to eelgrass and softbottom habitat will be adequate to address project impacts. However, in this case, there are no eelgrass or permanent softbottom impacts, therefore no mitigation is being required of the applicants in this case. Further, the subject sites are not designated in the certified local coastal program as an environmentally sensitive habitat area.

The proposed development will occur in areas adjacent to existing eelgrass beds. 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 eelgrass beds. 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 minimizes impacts upon eelgrass 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, impacts to eelgrass could occur. Meanwhile, if too little toe stone were installed the needed protection would not be achieved. 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 avoidance of eelgrass 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 October and November 1999 (Exhibit 4). At least 14 months have elapsed since the eelgrass survey was conducted in October and November 1999. 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).

Also, as noted above, eelgrass is a sensitive aquatic plant species which provides important habitat for marine life. Eelgrass grows in shallow sandy aquatic environments which provide plenty of sunlight. Recently, a non native and invasive aquatic plant species, *Caulerpa taxifolia*, has been discovered in parts of Huntington Harbour (Emergency Coastal Development Permits 5-00-403-G and 5-00-463-G). *Caulerpa taxifolia* is a type of seaweed which has been identified as a threat to California's coastal marine environment because it

has the ability to displace native aquatic plant species and habitats. Information available from the National Marine Fisheries Service indicates that *Caulerpa taxifolia* can grow in large monotypic stands within which no native aquatic plant species can co-exist. Therefore, native seaweeds, seagrasses, and kelp forests can be displaced by the invasive *Caulerpa taxifolia*. This displacement of native aquatic plant species can adversely impact marine biodiversity with associated impacts upon fishing, recreational diving, and tourism. *Caulerpa taxifolia* is known to grow on rock, sand, or mud substrates in both shallow and deep water areas. Since eelgrass grows in shallow sandy areas, *Caulerpa taxifolia* could displace eelgrass in Huntington Harbour.

If present in the project area, *Caulerpa taxifolia* could be dispersed through construction of the proposed project. The placement of rock in areas where *Caulerpa taxifolia* is present, could cause pieces of the plant to break off and settle elsewhere, where it can regenerate. By causing dispersal of *Caulerpa 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 *Caulerpa 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 *Caulerpa taxifolia*. If *Caulerpa 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 *Caulerpa 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 6, page 5).

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 waived waste discharge requirements for the project (Exhibit 6).

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

C. Public Access

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. In addition there are public fishing docks at the ends of Sundancer Lane and Typhoon Lane on Trinidad Island.

The proposed development involves structural reinforcements to an existing bulkhead which would result in seaward encroachment of the structure. Therefore, the proposed project is considered new development for the purposes of Coastal Act section 30212. However, the proposed project would be underwater. There is no beach area which provides lateral public access on-site upon which the proposed project would encroach. Further, there is no beach area off-site which provides public access that could be eroded as a result of changes in shoreline processes due to the proposed project.

Therefore, the Commission finds that no public access is necessary with the proposed development and that the proposed project is consistent with section 30212 of the Coastal Act.

D. Legal Ability to Undertake Development

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 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 March 29, 2000 from the CSLC indicates that only the lots within Tracts 8636 and 9335 located on the Main Channel along Venture Drive require a protective works lease (Exhibit 7). Since there are no properties in this application which are within Tract 8636 or 9335 and along Venture Drive, no PWL from CSLC required. Another letter from CSLC, dated September 12, 2000, further indicates that no PWL is required for any of the properties that are the subject of this application (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.

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 incorporation of 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 the same 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; and 6) a requirement for the submittal of an anchor management plan. 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.

Appendix A
Substantive File Documents
Page 17 of 18

Applicants Engineering Analyses and Letters

- 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 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

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

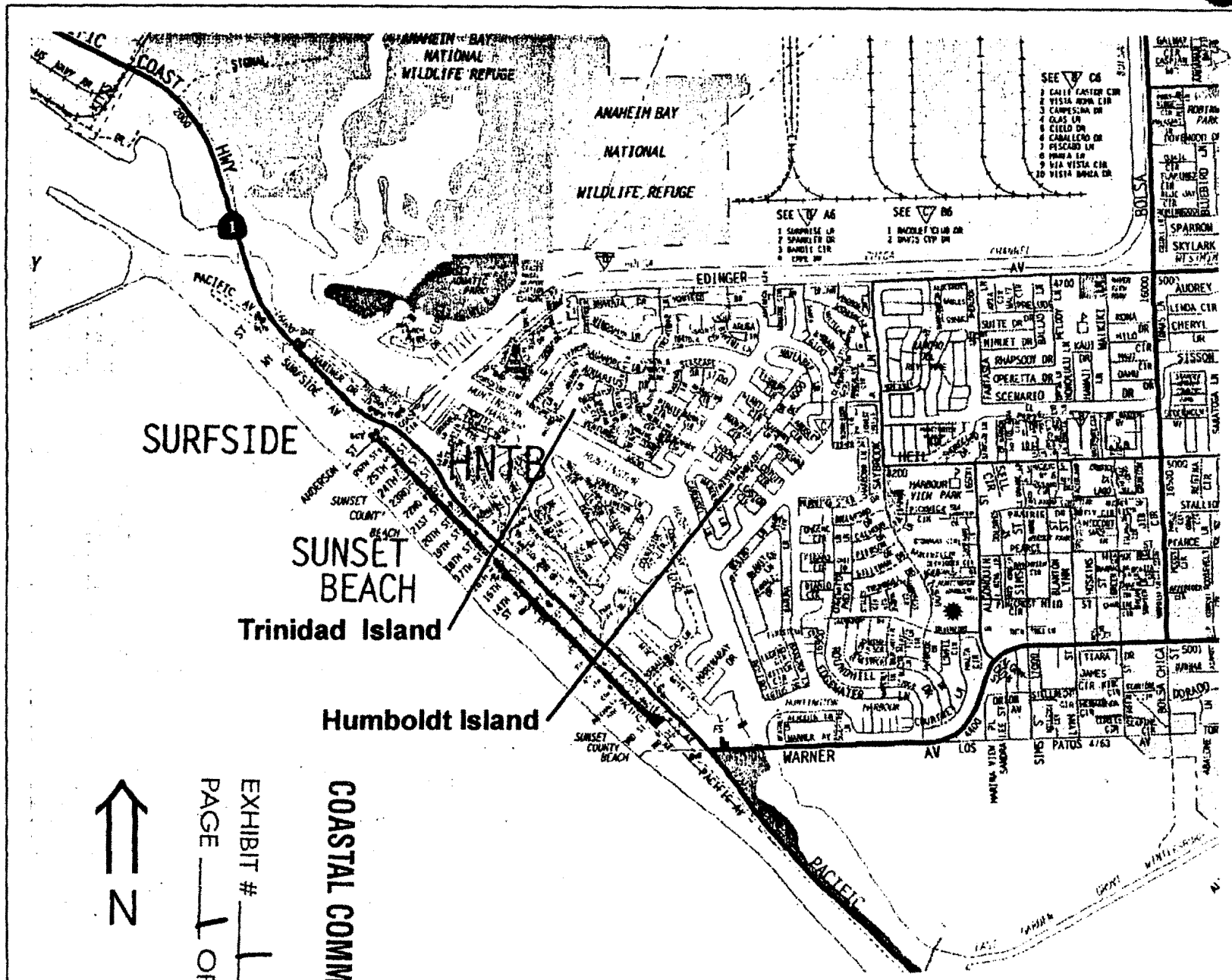
- Letter from the California State Lands Commission dated March 24, 2000 regarding *Proposed Bulkhead Repairs on 62 Residential Properties at Trinidad Island, Huntington Harbour, Orange County*
- California Regional Water Quality Control Board, Santa Ana Region, Clean Water Act Section 401 Water Quality 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)

Pending Coastal Development Permit Applications

- Trinidad Island: 5-00-389 (Ashby et. al.); 5-00-390 (Burggraf et. al.); 5-00-401 (Baghdassarian et. al.); 5-00-402 (Buettner et. al.)



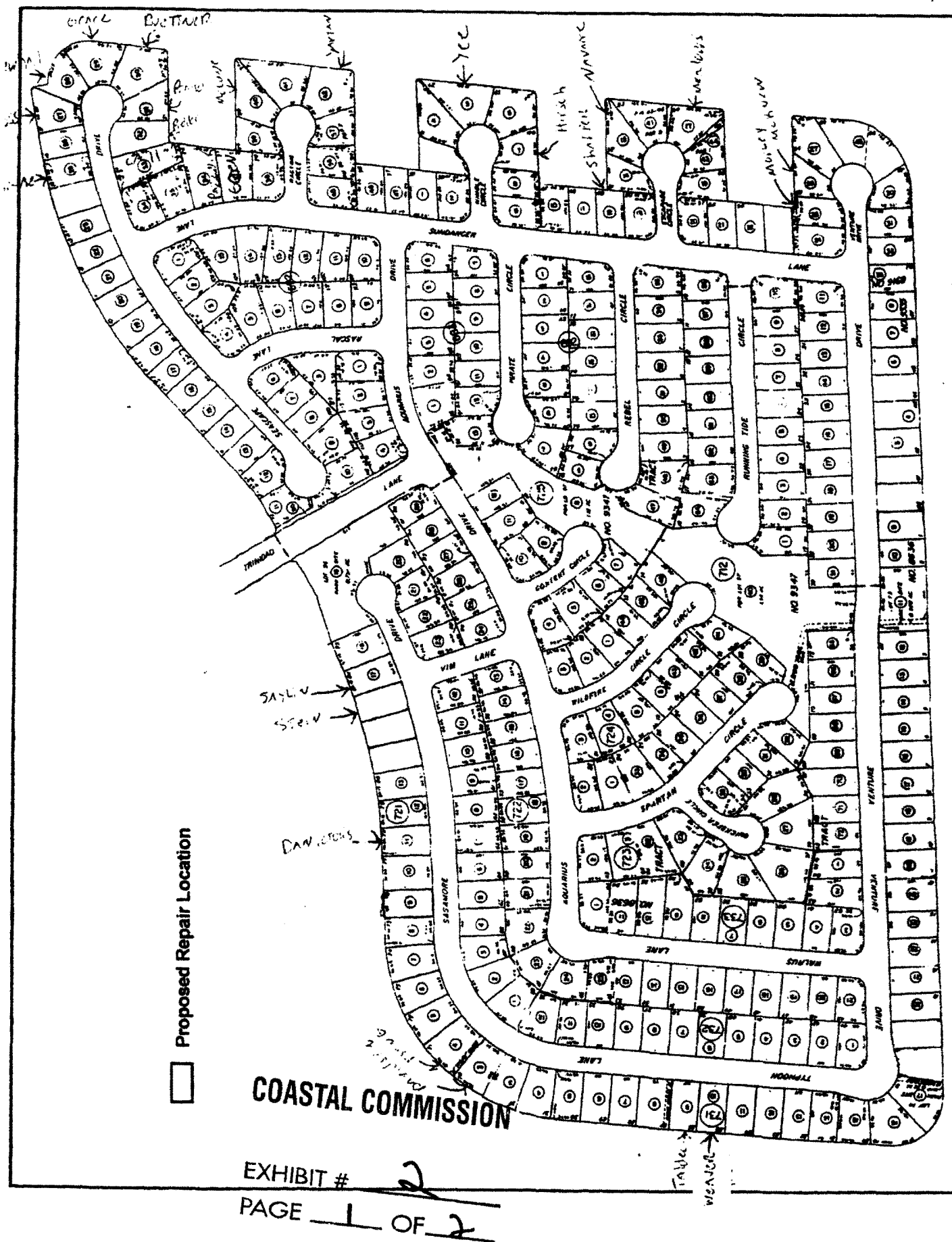


Figure 3. Location of Properties with Proposed Repairs, Trinidad Island, Huntington Beach, California, July 2000.

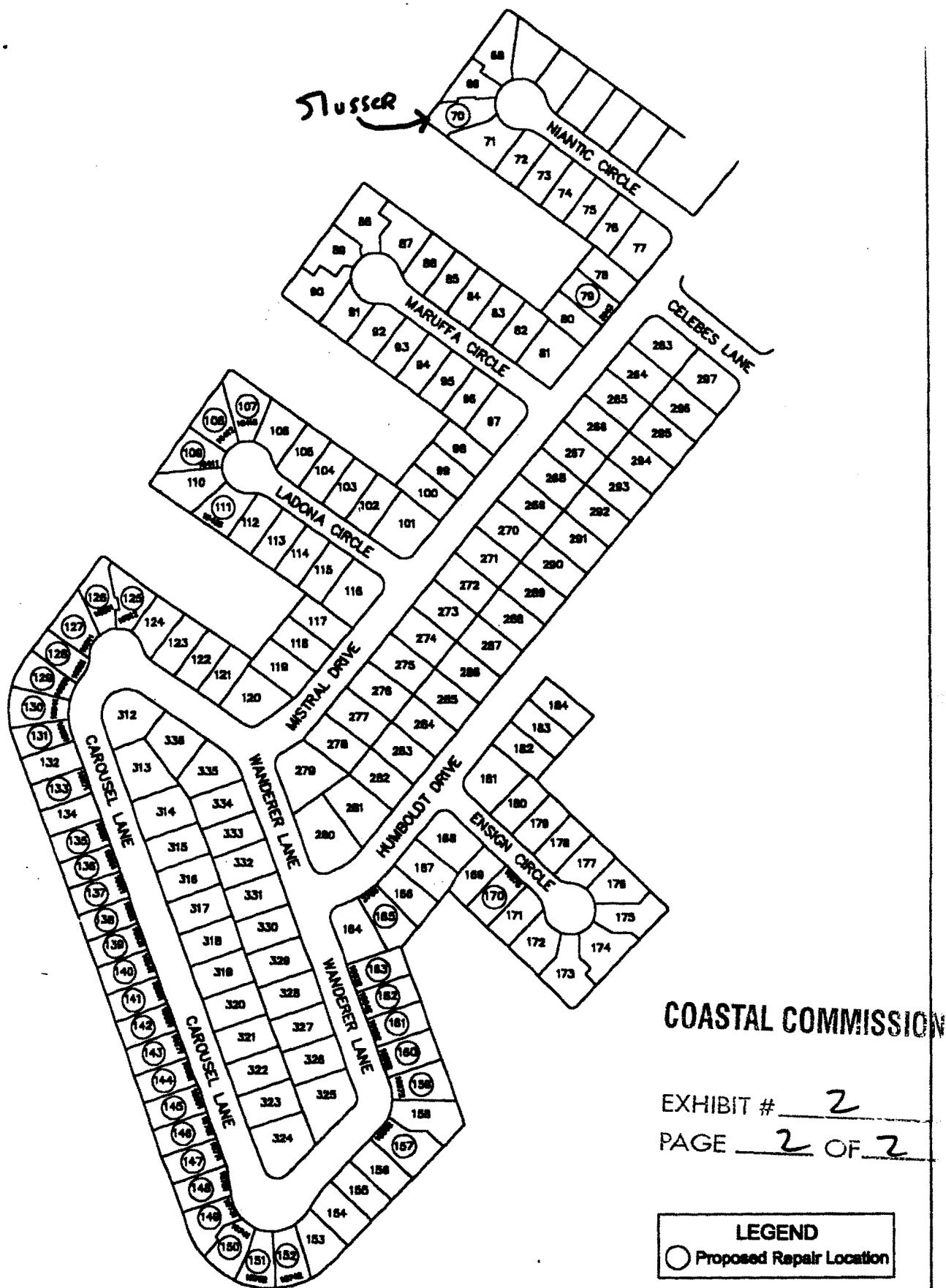
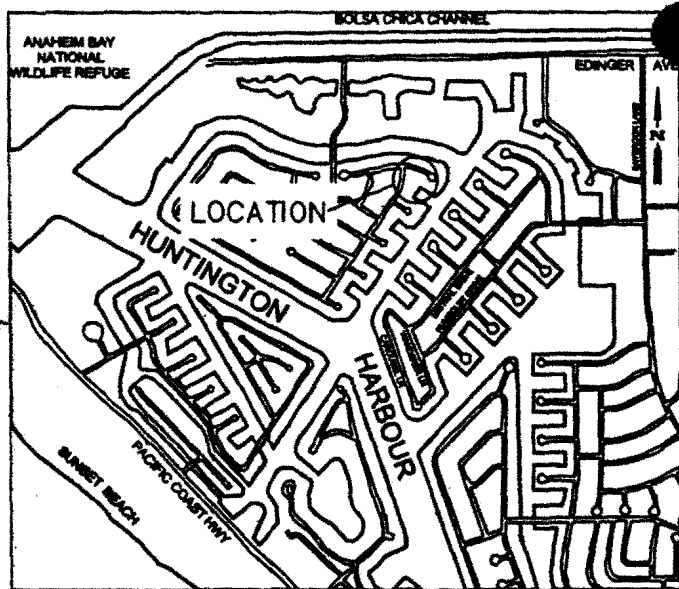
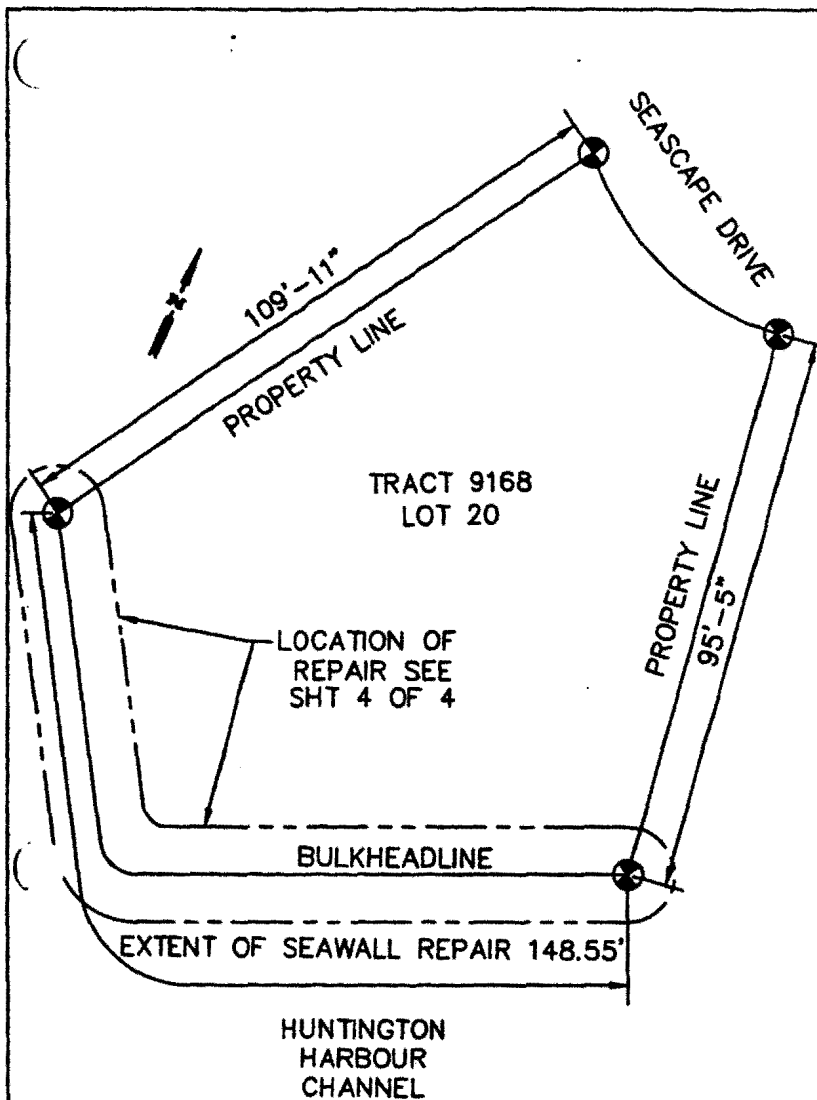


Figure 2. Location of Properties with Proposed Repairs, Humboldt Island, Huntington Beach, California, July 2000.



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

EXHIBIT # 3
PAGE 1 OF 56



TETRA TECH

670 North Rosemead Blvd.
Pasadena, CA 91107
(826)351-4664, Fax (826)351-5291

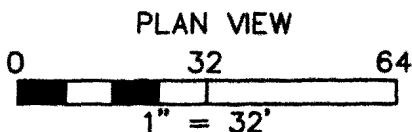
**APPROVED
IN CONCEPT**

PP 8/10/00
PLANNING DIVISION DATE
CITY OF HUNTINGTON BEACH



PURPOSE: Repair Existing Seawall

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



Brad & Lynn Buettner
3832 Seascape Drive
Huntington Beach, CA 92649

Proposed Repair of Existing Seawall

IN: Huntington Harbour
AT: Trinidad Island
Huntington Beach
County of Orange State: CA
Application By: Buettner
Sheet 1 of 4 Date: 8/4/00

6' MIN
@2H:1V
(69 CY)

148'-7"
REPAIR
CASE IV

EXISTING SEAWALL
FOOTING (INSIDE EDGE)

TRACT 9168
LOT 20

HUNTINGTON
HARBOUR
CHANNEL

EXISTING SEAWALL
FOOTING (SEAWARD EDGE)

LEGEND:

- PILES TO BE REPAIRED
- EXISTING PILES
- GROUTED VOID
- ROCK TOE PROTECTION

COASTAL COMMISSION

EXHIBIT # 3
PAGE 2 OF 56



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
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3.

PLAN VIEW

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

Brad & Lynn Buettner
3832 Seascape Drive
Huntington Beach, CA 92649

Proposed Repair of Existing
Seawall

IN: Huntington Harbour
AT: Trinidad Island
Huntington Beach
County of Orange State: CA
Application By: Buettner
Sheet 2 of 4 Date: 8/4/00

1. GENERAL CONDITIONS & EXISTING CONSTRUCTION: Contractor shall verify the existing conditions shown on the drawings prior to installation of the work and shall notify the owner immediately of any discrepancies between the existing conditions and the conditions shown on the drawings.

Dimensions of the existing construction shown on the drawings are for information and estimating purposes only. Contractor is responsible for field verification of all dimensions relating to the existing construction prior to the installation of the work. Existing construction shall not be drilled, cut, or altered in any way except as specifically shown on the drawings. Contractor shall protect the existing construction from damage during the installation of the work shown. Contractor shall be responsible for the repair of any damage to the existing construction which may occur during the installation of the work shown, and shall restore any damaged area, at his expense, to its original condition.

It shall be the Contractor's responsibility to obtain and pay for all necessary permits and approvals prior to commencement of the work. The Contractor shall comply with all applicable requirements of the State Safety Orders and OSHA, and all work shall conform to the applicable requirements of the current edition of the Uniform Building Code (UBC).

Contractor shall supply, transport to the site, and install all items required for completion of the work shown in accordance with the drawings and the manufacturer's written recommendations.

2. SLOPE PROTECTION: Slope protection shall be 8 inch minus quarry waste placed as shown. Contractor shall submit certified gradation curves from material supplier. Slope protection shall be installed in accordance with CALTRANS placement method B (section 72) from a distance not exceeding 2 ft.

3. GEOTEXTILE: Shall be MIRAFI 700X woven polypropylene fabric with 135lb. or better puncture rating or approved equivalent

4. CONSTRUCTION SEQUENCE: Construction shall be completed and inspected in accordance with the following:

1. Prior to start of construction, a diver certified in the state of California will inspect the existing foundation and piles and determine repair requirements.

2. Contractor shall place the appropriate width of geotextile for the slope protection with an additional 2ft. min. overhang at each side. Overhang to be folded back over 1st layer of rock and covered by subsequent layers or rock until specified slope is achieved. All sheet splices shall have a min. 18 inches of overlap and shall be secured together by staples or other approved means.

3. Contractor shall locate all existing weep holes in bulkhead walls, remove marine growth and clean out weep holes from the water side to the earth side of the wall.

In order to avoid construction delays, Contractor shall coordinate activities and schedule diver inspections. Divers shall be certified and approved by Tetra Tech. **COASTAL COMMISSION** Tetra Tech, Inc.) © (626) 351-4664.



TETRA TECH

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

EXHIBIT # 3
PAGE 3 OF 51

PURPOSE: Repair Existing Seawall

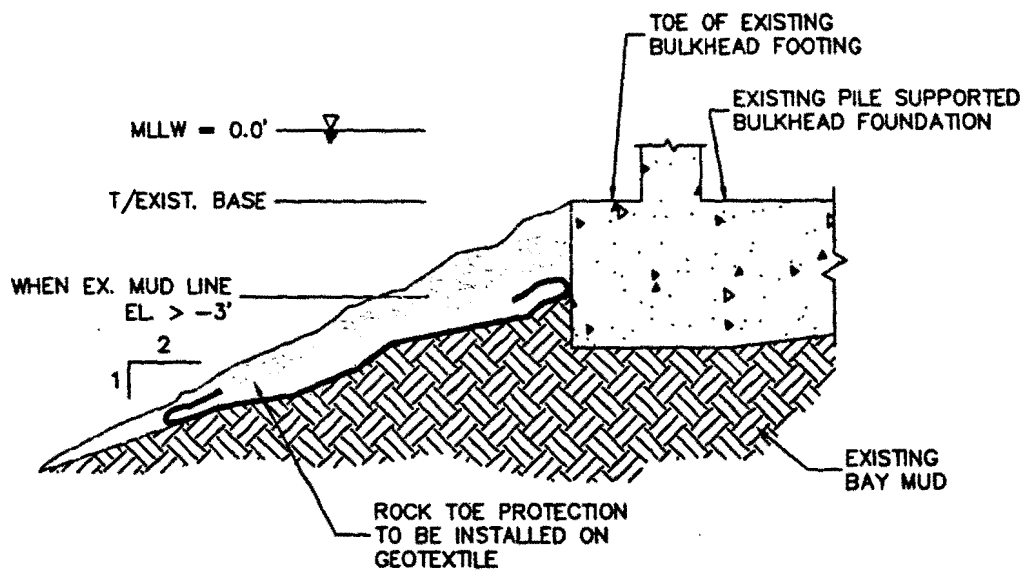
SPECIFICATIONS

Proposed Repair of Existing Seawall

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

Brad & Lynn Buettner
3832 Seascapes Drive
Huntington Beach, CA 92649

IN: Huntington Harbour
AT: Trinidad Island,
Huntington Beach
County of O.C. State: CA
Application By: Buettner
Sheet 3 of 4 Date: 8/4/00



SECTION AT FOOTING TOE: CASE IV
 SCALE: 3/8" = 1'-0" (FOR ROCK BACK FILL ONLY)

1

COASTAL COMMISSION

EXHIBIT # 3
 PAGE 4 OF 56



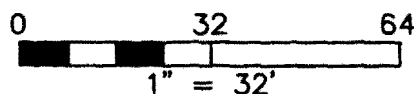
TETRA TECH

670 North Rosemead Blvd.
 Pasadena, CA 91107
 (626)351-4864, Fax (626)351-5291

PURPOSE: Repair Existing Seawall

Datum: MLLW = 0
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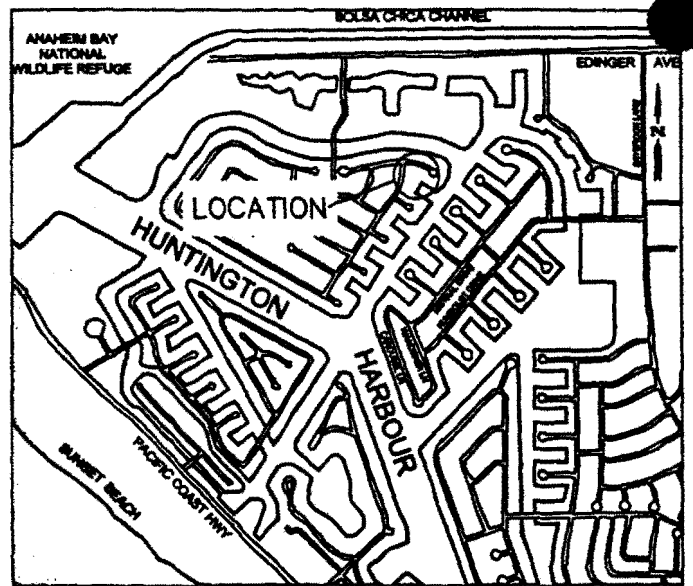
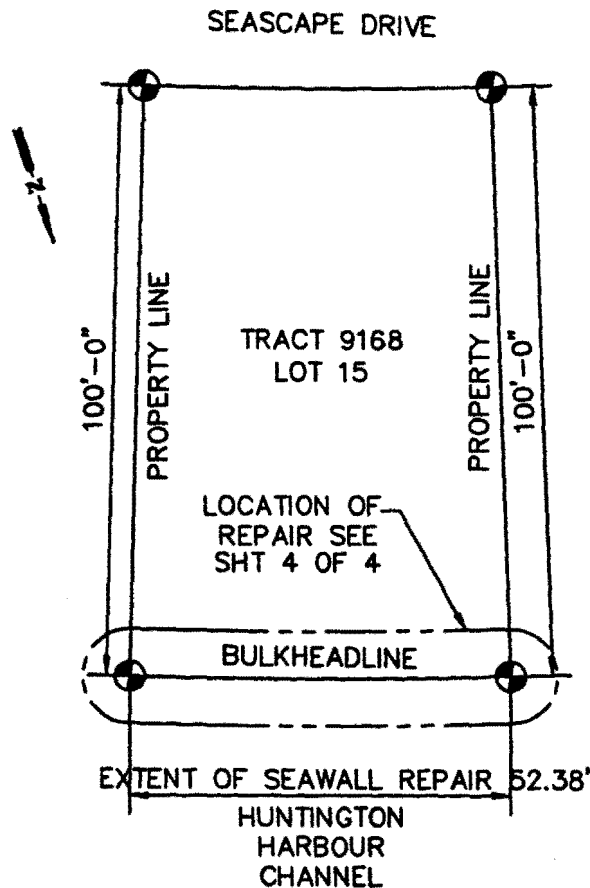
PLAN VIEW



Brad & Lynn Buettner
 3832 Seascape Dr.
 Huntington Beach, CA 92649

Proposed Repair of Existing Seawall

IN: Huntington Harbour
 AT: Trinidad Island,
 Huntington Beach
 County of Orange State: CA
 Application By: Buettner
 Sheet 4 of 4 Date: 8/4/00



VICINITY MAP

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

NOTE:
ALL DEPTHS BASED ON
MLLW=0.00 **COASTAL COMMISSION**

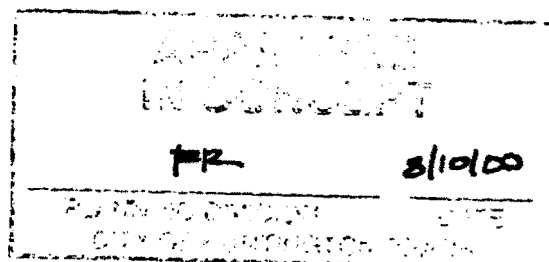


EXHIBIT # 3
PAGE 5 OF 56



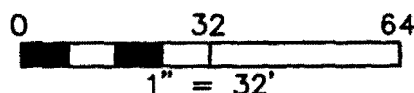
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PURPOSE: Repair Existing Seawall

Datum: MLLW = 0
Adj. Property Owners:
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PLAN VIEW

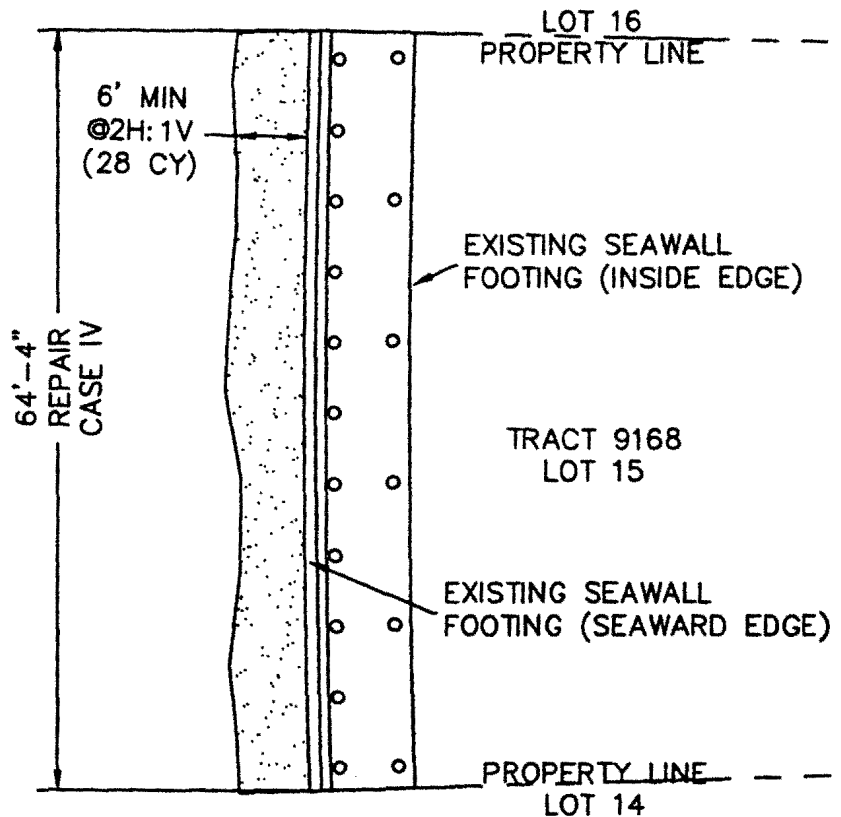


Paul C. Bryne, Jr.
3811 Seascape Drive
Huntington Beach, CA 92649

Proposed Repair of Existing
Seawall

IN: Huntington Harbour
AT: Trinidad Island
Huntington Beach
County of Orange State: CA
Application By: Bryne
Sheet 1 of 4 Date: 8/4/00

HUNTINGTON
HARBOUR
CHANNEL



LEGEND:

- PILES TO BE REPAIRED
- EXISTING PILES
- ⊠ GROUTED VOID
- ⊠ ROCK TOE PROTECTION

COASTAL COMMISSION

EXHIBIT # 3
PAGE 6 OF 56

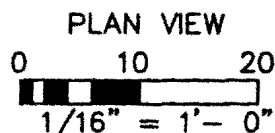


TETRA TECH

670 North Rosemead Blvd.
Pasadena, CA 91107
(826)351-4664, Fax (826)351-5291

PURPOSE: Repair Existing Seawall

Datum: MLLW = 0
Adj. Property Owners:
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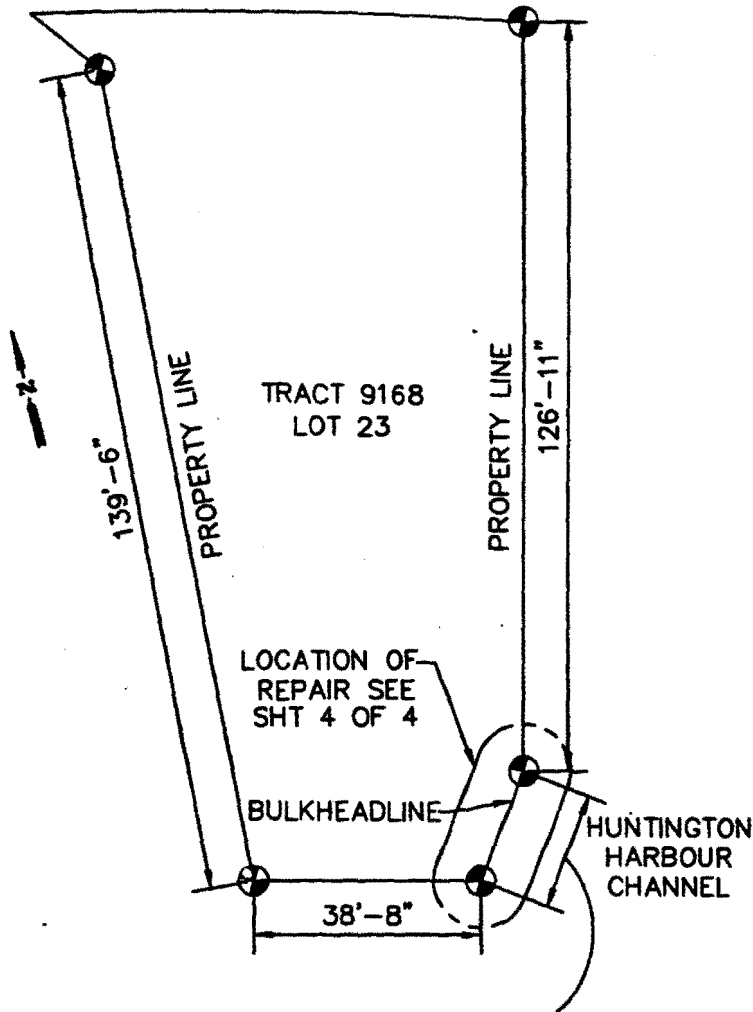


Paul C. Bryne, Jr.
3811 Seascape Drive
Huntington Beach, CA 92649

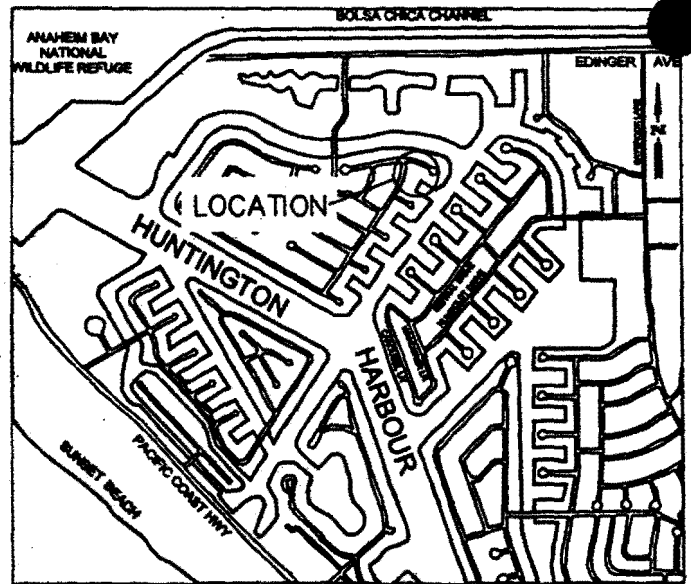
Proposed Repair of Existing Seawall

IN: Huntington Harbour
AT: Trinidad Island
Huntington Beach
County of Orange State: CA
Application By: Bryne
Sheet 2 of 4 Date: 8/4/00

SEASCAPE DRIVE



EXTENT OF SEAWALL REPAIR 20.00'



VICINITY MAP

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

NOTE:
ALL DEPTHS BASED ON
MLLW = 0.00 FT

EXHIBIT # 3
PAGE 7 OF 56

APPROVED
IN CONCEPT

PP

8/10/00

PLANNING DIVISION DATE
CITY OF HUNTINGTON BEACH



TETRA TECH

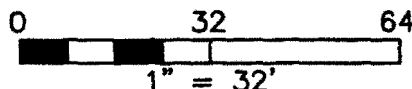
670 North Rosemead Blvd.
Pasadena, CA 91107
(826)351-4664, Fax (826)351-5291



PURPOSE: Repair Existing Seawall

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

PLAN VIEW

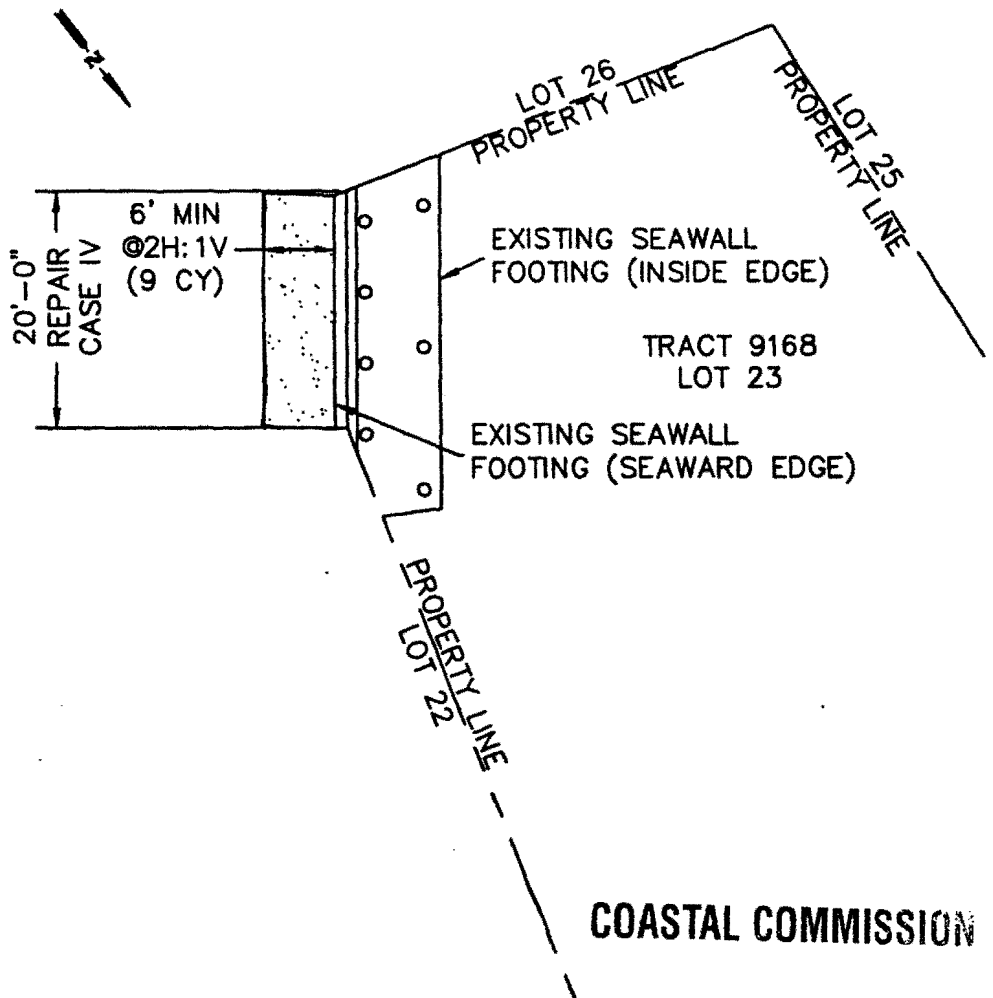


Robert L. Call
3802 Seascape Drive
Huntington Beach, CA 92649

Proposed Repair of Existing
Seawall

IN: Huntington Harbour
AT: Trinidad Island
Huntington Beach
County of Orange State: CA
Application By: Call
Sheet 1 of 4 Date: 8/4/00

HUNTINGTON
HARBOUR
CHANNEL



LEGEND:

- PILES TO BE REPAIRED
- EXISTING PILES
- GROUTED VOID
- ROCK TOE PROTECTION



TETRA TECH

670 North Rosemead Blvd.
Pasadena, CA 91107
(826)351-4664, Fax (826)351-5291

COASTAL COMMISSION

EXHIBIT # 3
PAGE 8 OF 56

PURPOSE: Repair Existing Seawall

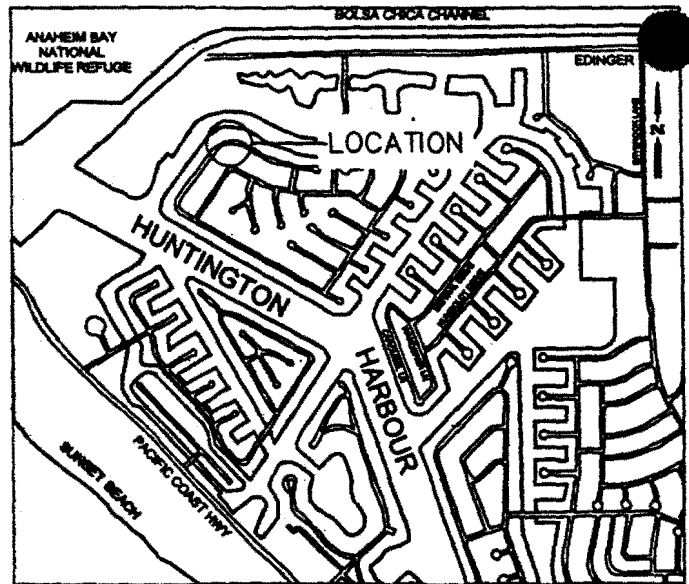
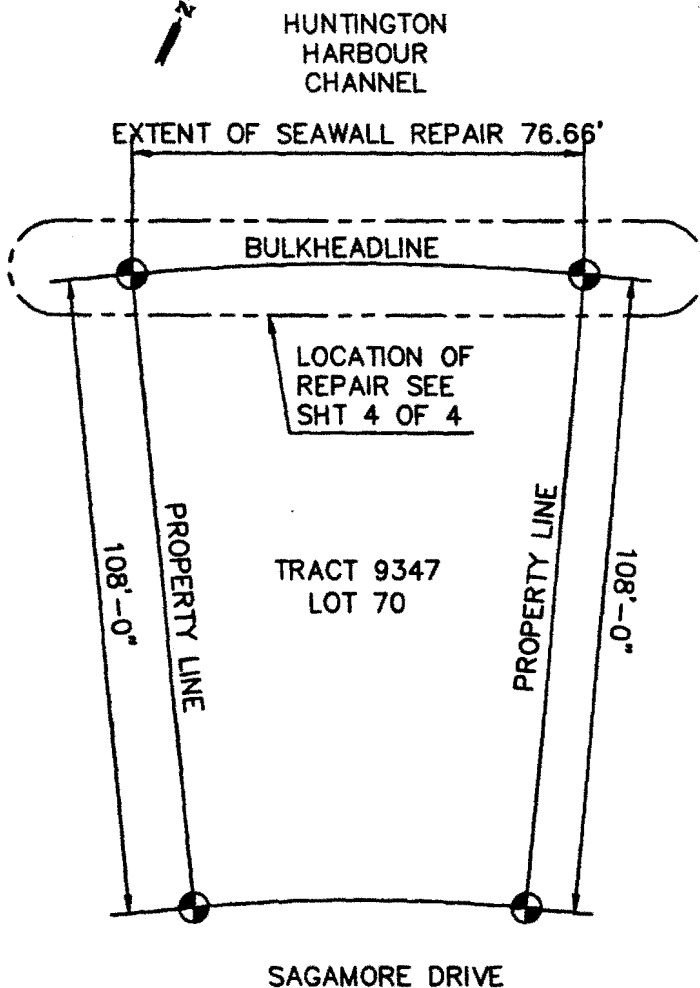
Datum: MLLW = 0
Adj. Property Owners:
1. See Attached List
2.
3.

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

Robert L. Call
3802 Seascape Drive
Huntington Beach, CA 92649

Proposed Repair of Existing Seawall

IN: Huntington Harbour
AT: Trinidad Island
Huntington Beach
County of Orange State: CA
Application By: Call
Sheet 2 of 4 Date: 8/4/00



VICINITY MAP

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

NOTE:
ALL DEPTHS BASED ON
MLLW= **COASTAL COMMISSION**

EXHIBIT # 3
PAGE 9 OF 56



TETRA TECH

670 North Rosemead Blvd.
Pasadena, CA 91107
(826)351-4884, Fax (826)351-5291

**APPROVED
IN CONCEPT**

PR

8/10/00

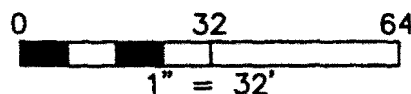
PLANNING DIVISION DATE
CITY OF HUNTINGTON BEACH



PURPOSE: Repair Existing Seawall

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

PLAN VIEW



William & Christine Davidson
3401 Sagamore Drive
Huntington Beach, CA 92649

Proposed Repair of Existing Seawall

IN: Huntington Harbour
AT: Trinidad Island
Huntington Beach
County of Orange State: CA
Application By: Davidson
Sheet 1 of 4 Date: 8/4/00



HUNTINGTON
HARBOUR
CHANNEL

76'-7"
REPAIR
CASE IV

6' MIN
@2H:1V
(35 CY)

LOT 71
PROPERTY LINE

EXISTING SEAWALL
FOOTING (INSIDE EDGE)

TRACT 9347
LOT 70

EXISTING SEAWALL
FOOTING (SEAWARD EDGE)

PROPERTY LINE
TRACT 8636 LOT 32

LEGEND:

- PILES TO BE REPAIRED
- EXISTING PILES
- GROUTED VOID
- ▣ ROCK TOE PROTECTION

COASTAL COMMISSION



TETRA TECH

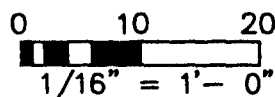
670 North Rosemead Blvd.
Pasadena, CA 91107
(626)351-4664, Fax (626)351-5291

EXHIBIT # 3
PAGE 10 OF 56

PURPOSE: Repair Existing Seawall

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

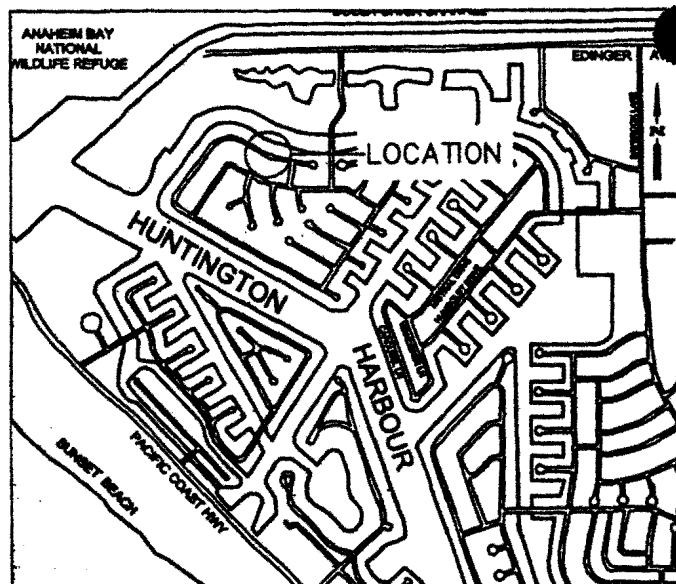
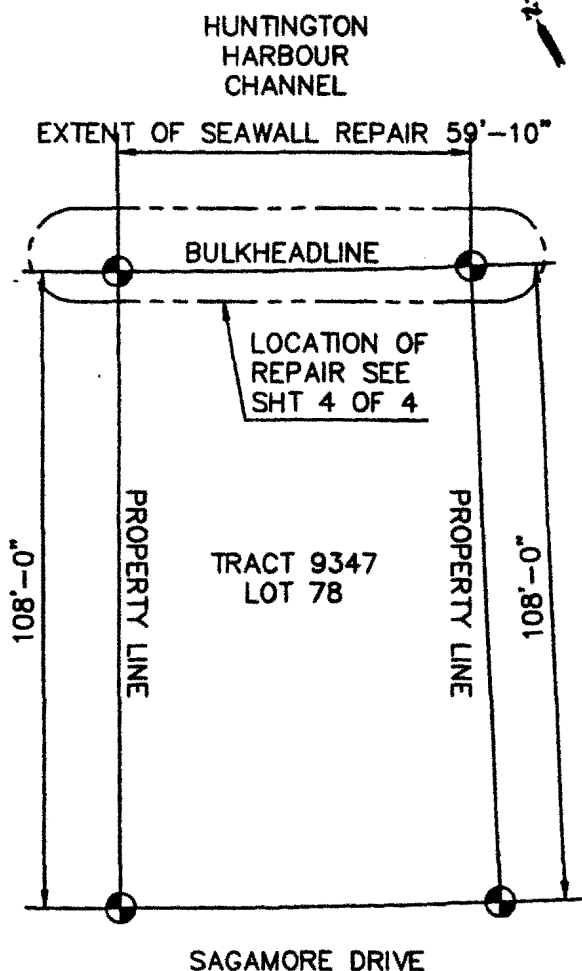
PLAN VIEW



William & Christine Davidson
3401 Sagamore Drive
Huntington Beach, CA 92649

Proposed Repair of Existing
Seawall

IN: Huntington Harbour
AT: Trinidad Island
Huntington Beach
County of Orange State: CA
Application By: Davidson
Sheet 2 of 4 Date: 8/4/00



VICINITY MAP

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

OWNER HAS CHANGED TO:
Mark & Regina Denietolis

NOTE:
ALL DEPTHS BASED ON
MLLW—COASTAL COMMISSION

EXHIBIT # 3
PAGE 11 OF 56



TETRA TECH

570 North Rosemead Blvd.
Pasadena, CA 91107
(826)351-4664, Fax (826)351-5291

**APPROVED
IN CONCEPT**

pp

8/10/00

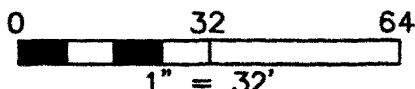
PLANNING DIVISION DATE
CITY OF HUNTINGTON BEACH



PURPOSE: Repair Existing Seawall

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

PLAN VIEW

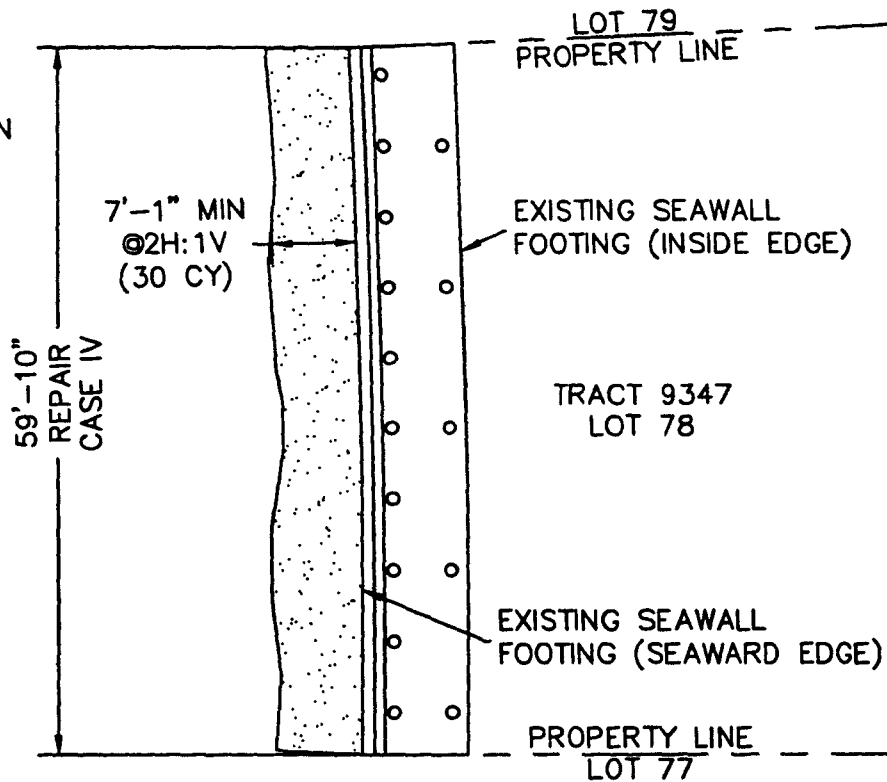


Loren Gustafson
3491 Sagamore Drive
Huntington Beach, CA 92649

Proposed Repair of Existing Seawall

IN: Huntington Harbour
AT: Trinidad Island
Huntington Beach
County of Orange State: CA
Application By: Gustafson
Sheet 1 of 4 Date: 8/4/00

HUNTINGTON
HARBOUR
CHANNEL



LEGEND:

- PILES TO BE REPAIRED
- EXISTING PILES
- GROUTED VOID
- ROCK TOE PROTECTION



TETRA TECH

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

COASTAL COMMISSION

EXHIBIT # 3
PAGE 12 OF 56

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"

Loren Gustafson
3491 Sagamore Drive
Huntington Beach, CA 92649

Proposed Repair of Existing Seawall

IN: Huntington Harbour
AT: Trinidad Island
Huntington Beach
County of Orange State: CA
Application By: Gustafson
Sheet 2 of 4 Date: 8/4/00

SEASCAPE DRIVE

100'-8"

PROPERTY LINE

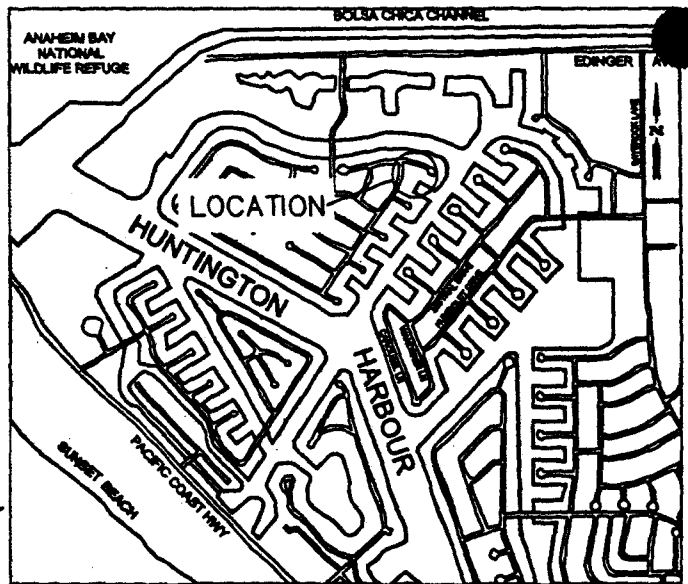
TRACT 9168
LOT 19

LOCATION OF
REPAIR SEE
SHT 4 OF 4

BULKHEADLINE

EXTENT OF SEAWALL REPAIR 142.20'

HUNTINGTON
HARBOUR
CHANNEL



VICINITY MAP

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

NOTE:

ALL DEPTHS BASED ON
MLLW=0.00 FT.

EXHIBIT #

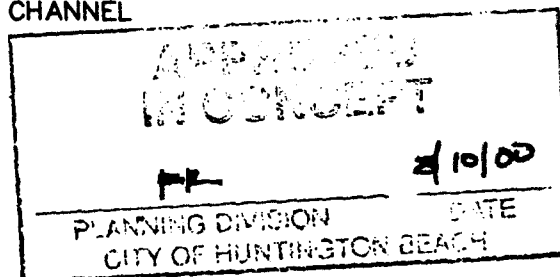
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PAGE 13 OF 56



TETRA TECH

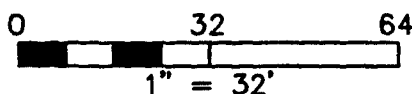
670 North Rosemead Blvd.
Pasadena, CA 91107
(626)351-4664, Fax (626)351-5291



PURPOSE: Repair Existing Seawall

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

PLAN VIEW



James & Bobbe Grace
3842 Seascape Drive
Huntington Beach, CA 92649

Proposed Repair of Existing
Seawall

IN: Huntington Harbour
AT: Trinidad Island
Huntington Beach
County of Orange State: CA
Application By: Grace
Sheet 1 of 4 Date: 8/4/00

LOT 20
PROPERTY LINE

6' MIN
@2H:1V
(59 CY)

EXISTING SEAWALL
FOOTING (INSIDE EDGE)

HUNTINGTON
HARBOUR
CHANNEL

TRACT 9168
LOT 19

142'-2"
REPAIR
CASE IV

EXISTING SEAWALL
FOOTING (SEAWARD EDGE)

COASTAL COMMISSION

EXHIBIT # 3
PAGE 14 OF 56

PROPERTY LINE
LOT 18

LEGEND:

- PILES TO BE REPAIRED
- EXISTING PILES
- GROUTED VOID
- ROCK TOE PROTECTION



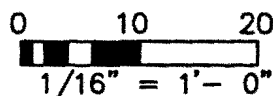
TETRA TECH

670 North Rosemead Blvd.
Pasadena, CA 91107
(826)351-4664, Fax (826)351-5291

PURPOSE: Repair Existing Seawall

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

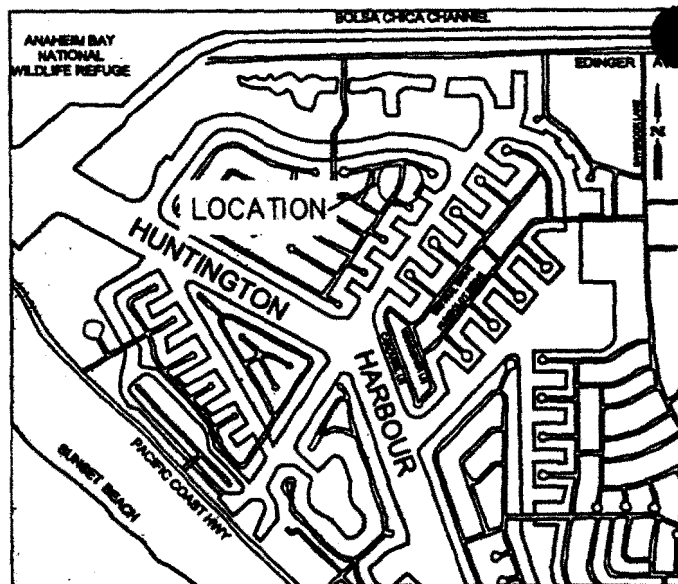
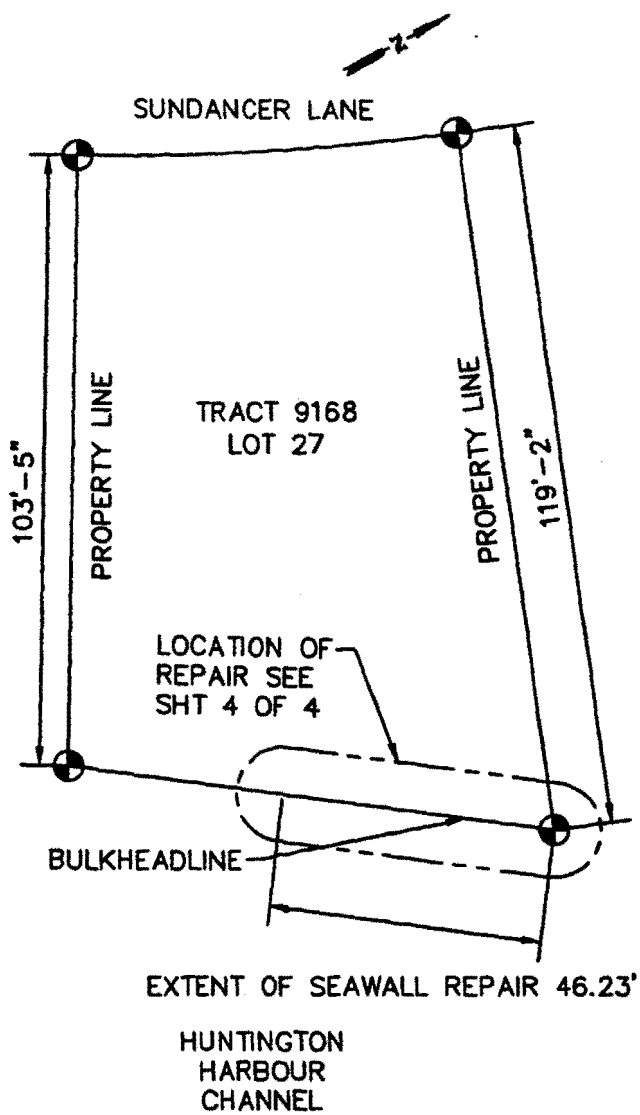
PLAN VIEW



James & Bobbe Grace
3842 Seascape Drive
Huntington Beach, CA 92649

Proposed Repair of Existing Seawall

IN: Huntington Harbour
AT: Trinidad Island
Huntington Beach
County of Orange State: CA
Application By: Grace
Sheet 2 of 4 Date: 8/4/00



VICINITY MAP

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

NOTE:
ALL DEPT. OF COASTAL COMMISSION
MLLW=0.00 FT.

EXHIBIT # 3
PAGE 15 OF 56

**APPROVED
IN CONCEPT**

FP

2/10/00

PLANNING DIVISION DATE
CITY OF HUNTINGTON BEACH



TETRA TECH

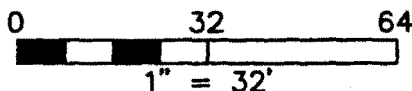
670 North Rosemead Blvd.
Pasadena, CA 91107
(826)351-4864, Fax (826)351-5291



PURPOSE: Repair Existing Seawall

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

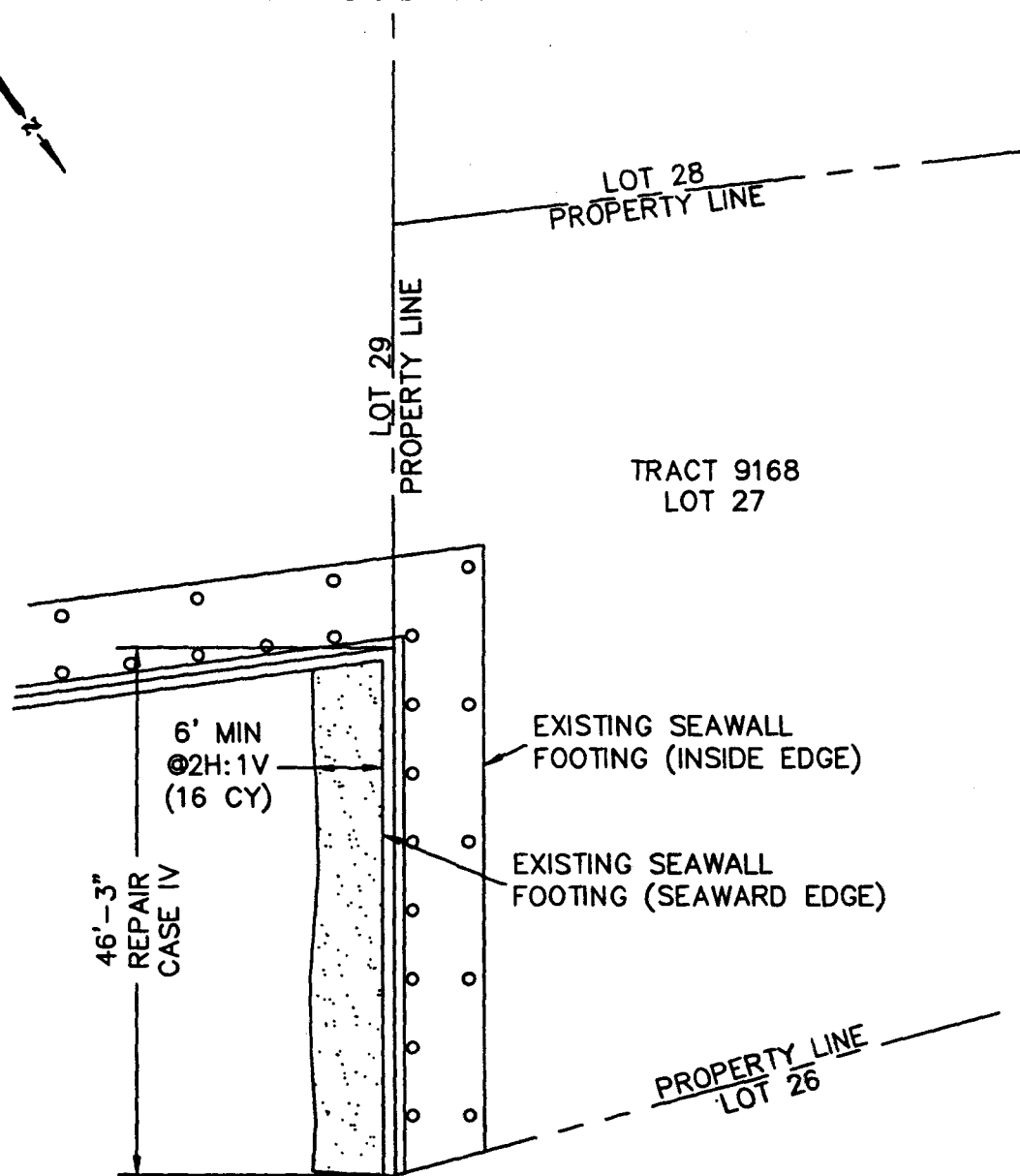
PLAN VIEW



Vern Green
16272 Sundancer Lane
Huntington Beach, CA 92649

Proposed Repair of Existing
Seawall

IN: Huntington Harbour
AT: Trinidad Island
Huntington Beach
County of Orange State: CA
Application By: Green
Sheet 1 of 4 Date: 8/4/00



LEGEND:

- PILES TO BE REPAIRED
- EXISTING PILES
- ⊗ GROUTED VOID
- ◻ ROCK TOE PROTECTION



TETRA TECH

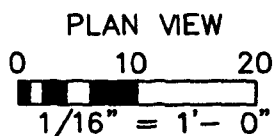
570 North Rosemead Blvd.
Pasadena, CA 91107
(626)351-4664, Fax (626)351-5291

COASTAL COMMISSION

EXHIBIT # 3
PAGE 16 OF 56

PURPOSE: Repair Existing Seawall

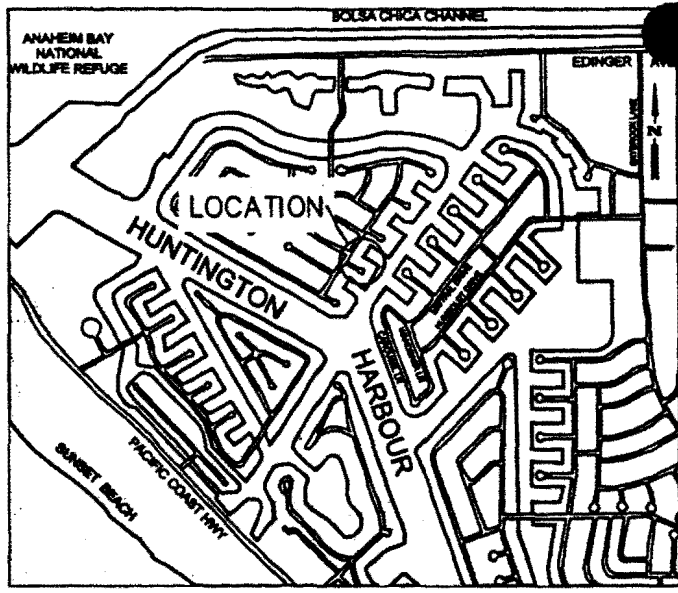
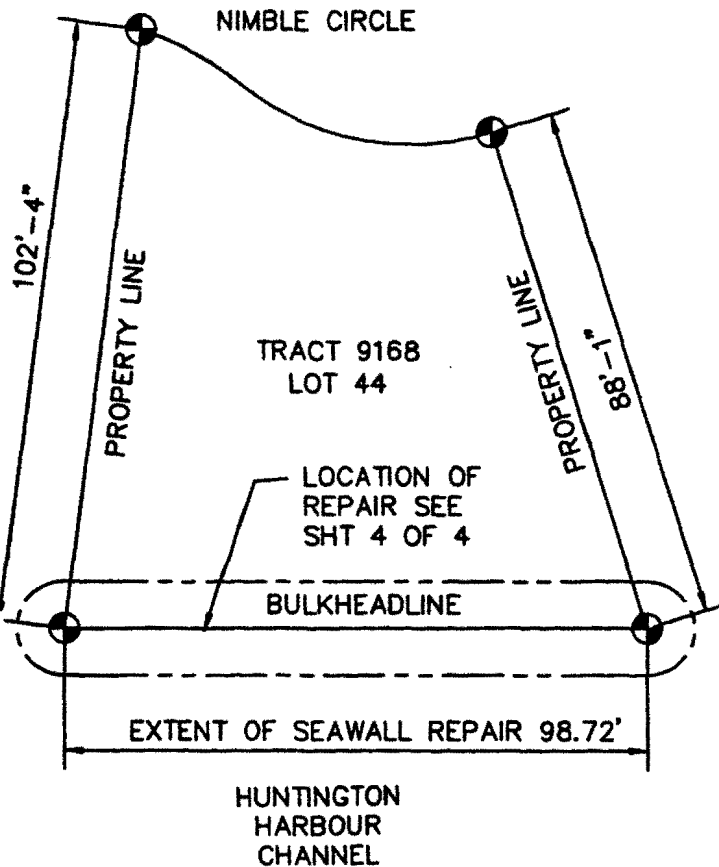
Datum: MLLW = 0
Adj. Property Owners:
1. See Attached List
2.
3.



Vern Green
16272 Sundancer Lane
Huntington Beach, CA 92649

Proposed Repair of Existing Seawall

IN: Huntington Harbour
AT: Trinidad Island
Huntington Beach
County of Orange State: CA
Application By: Green
Sheet 2 of 4 Date: 8/4/00



VICINITY MAP

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

NOTE:
ALL DEPTHS BASED ON
MLLW=0.00 **COASTAL COMMISSION**

EXHIBIT # 3
PAGE 17 OF 56

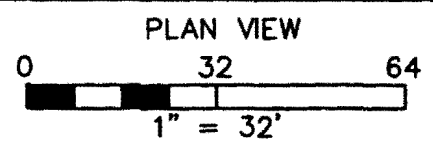
Tt TETRA TECH
670 North Rosemead Blvd.
Pasadena, CA 91107
(826)351-4864, Fax (826)351-5291

APPROVED
PROJECT
PR **8/10/00**
PLANNING DIVISION DATE
CITY OF HUNTINGTON BEACH



PURPOSE: Repair Existing Seawall

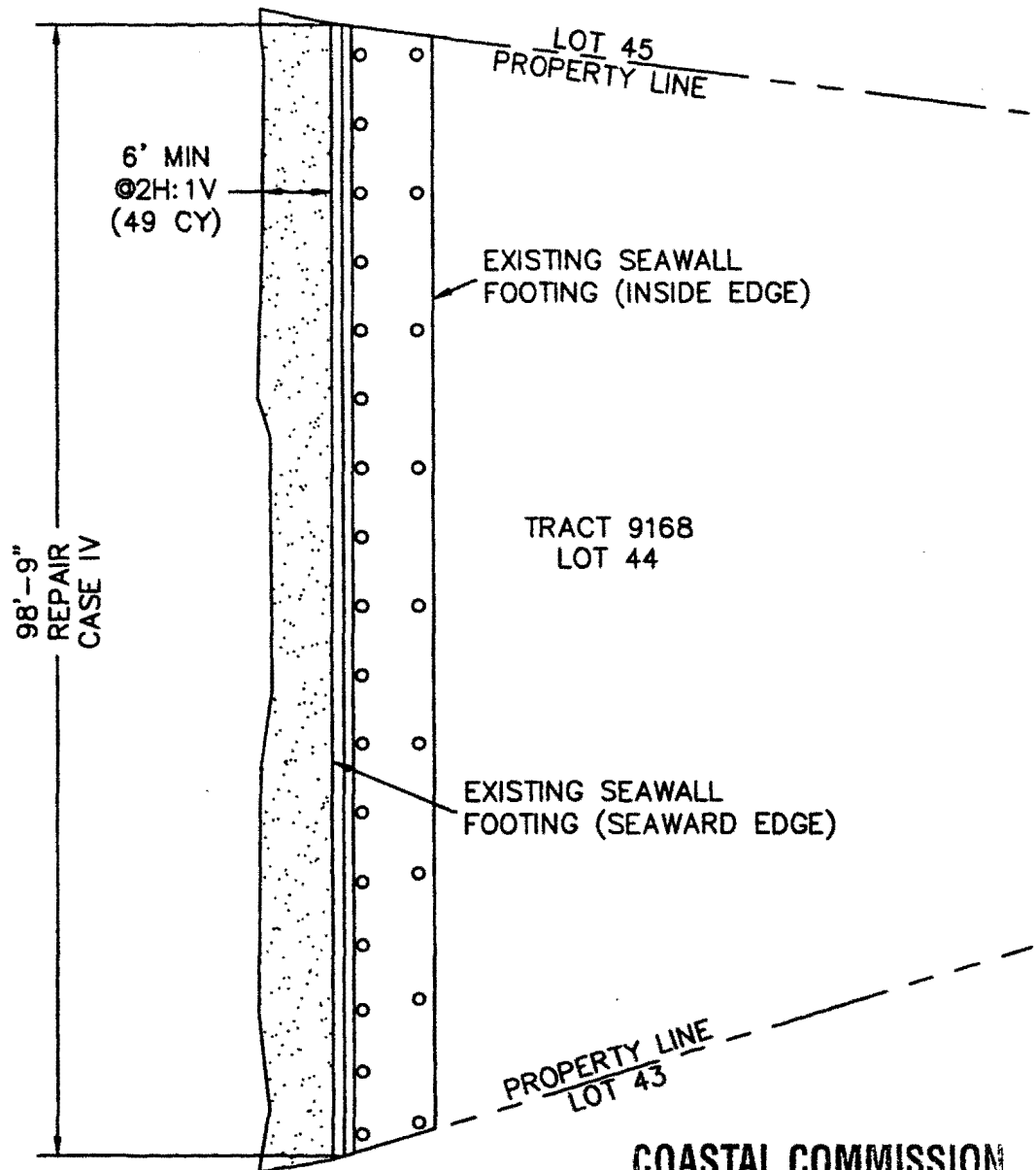
Datum: MLLW = 0
Adj. Property Owners:
1. See Attached List
2.
3.



H. Henry Hirsch
3732 Nimble Circle
Huntington Beach, CA 92649

Proposed Repair of Existing Seawall

IN: Huntington Harbour
AT: Trinidad Island
Huntington Beach
County of Orange State: CA
Application By: Hirsch
Sheet 1 of 4 Date: 8/4/00



LEGEND:

- PILES TO BE REPAIRED
- EXISTING PILES
- ▨ GROUTED VOID
- ▣ ROCK TOE PROTECTION



TETRA TECH

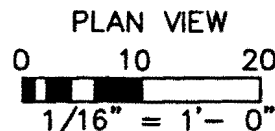
670 North Rosemead Blvd.
Pasadena, CA 91107
(626)351-4664, Fax (626)351-5291

COASTAL COMMISSION

EXHIBIT # 3
PAGE 18 OF 86

PURPOSE: Repair Existing Seawall

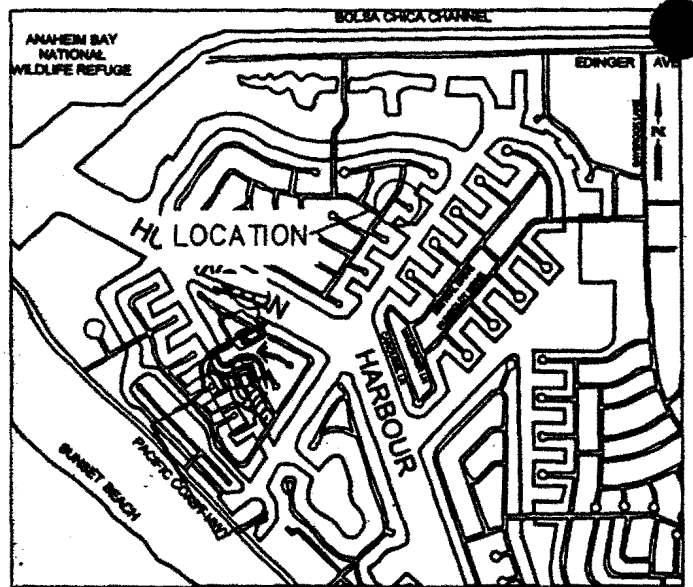
Datum: MLLW = 0
Adj. Property Owners:
1. See Attached List
2.
3.



H. Henry Hirsch
3732 Nimble Circle
Huntington Beach, CA 92649

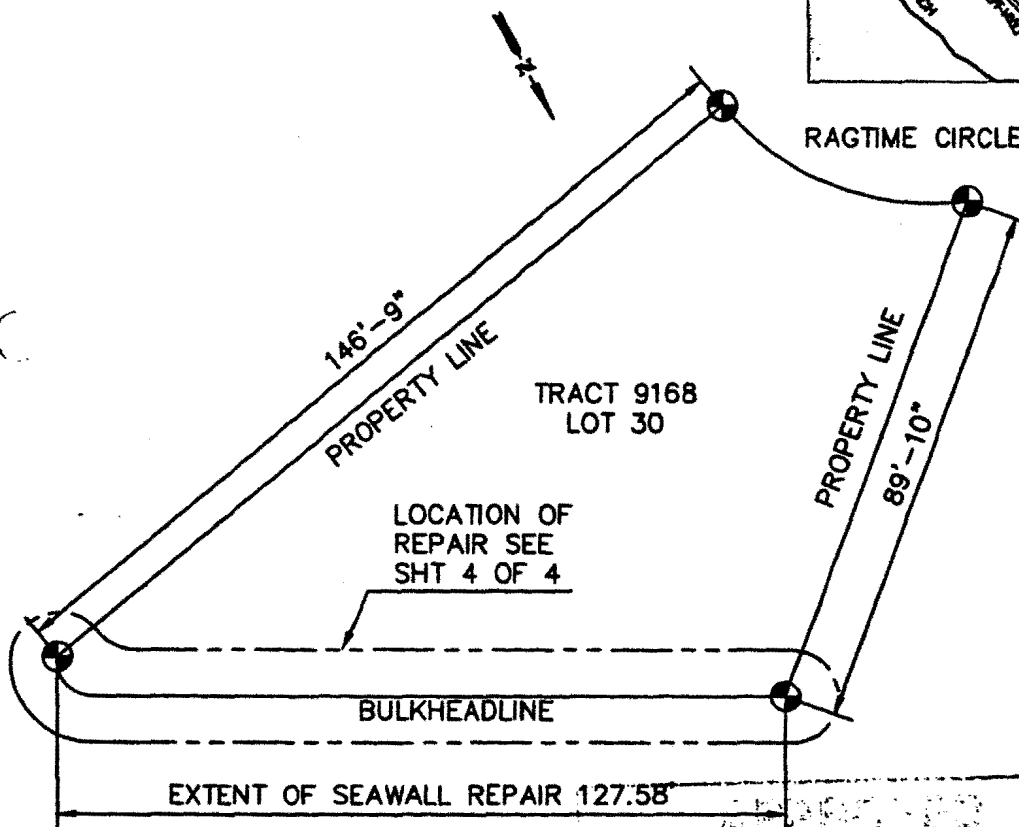
Proposed Repair of Existing Seawall

IN: Huntington Harbour
AT: Trinidad Island
Huntington Beach
County of Orange State: CA
Application By: Hirsch
Sheet 2 of 4 Date: 8/4/00



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

EXHIBIT # 3
PAGE 19 OF 56



TETRA TECH

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

HUNTINGTON
HARBOUR
CHANNEL

IN CONCEPT

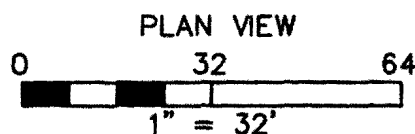
PR

8/10/00

PLANNING DIVISION
CITY OF HUNTINGTON BEACH

PURPOSE: Repair Existing Seawall

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



William M. McCune
3791 Ragtime Circle
Huntington Beach, CA 92649

Proposed Repair of Existing
Seawall

IN: Huntington Harbour
AT: Trinidad Island
Huntington Beach
County of Orange State: CA
Application By: McCune
Sheet 1 of 4 Date: 8/4/00

HUNTINGTON
HARBOUR
CHANNEL

127'-7"
REPAIR
CASE IV

6' MIN
@2H:1V
(53 CY)

LOT 31
PROPERTY LINE

EXISTING SEAWALL
FOOTING (INSIDE EDGE)

TRACT 9168
LOT 30

EXISTING SEAWALL
FOOTING (SEAWARD EDGE)

COASTAL COMMISSION

EXHIBIT # 3
PAGE 20 OF 66

PROPERTY LINE
LOT 29

LEGEND:

- PILES TO BE REPAIRED
- EXISTING PILES
- △ GROUTED VOID
- ▣ ROCK TOE PROTECTION

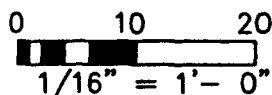


TETRA TECH

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

PURPOSE: Repair Existing Seawall

PLAN VIEW

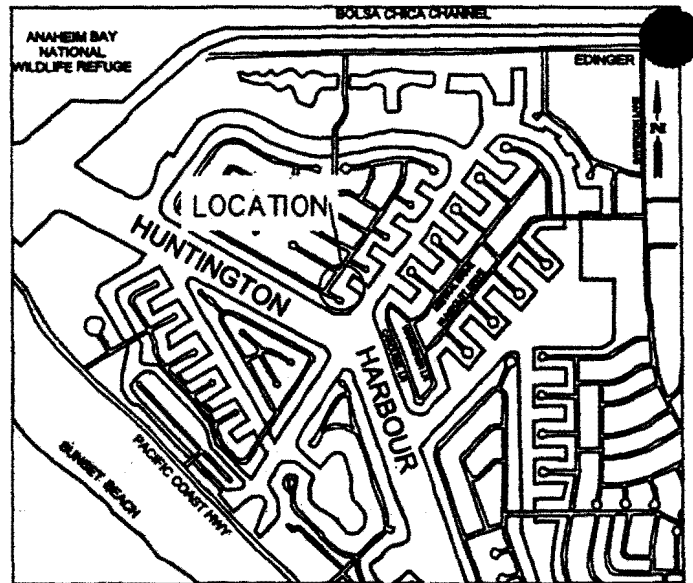
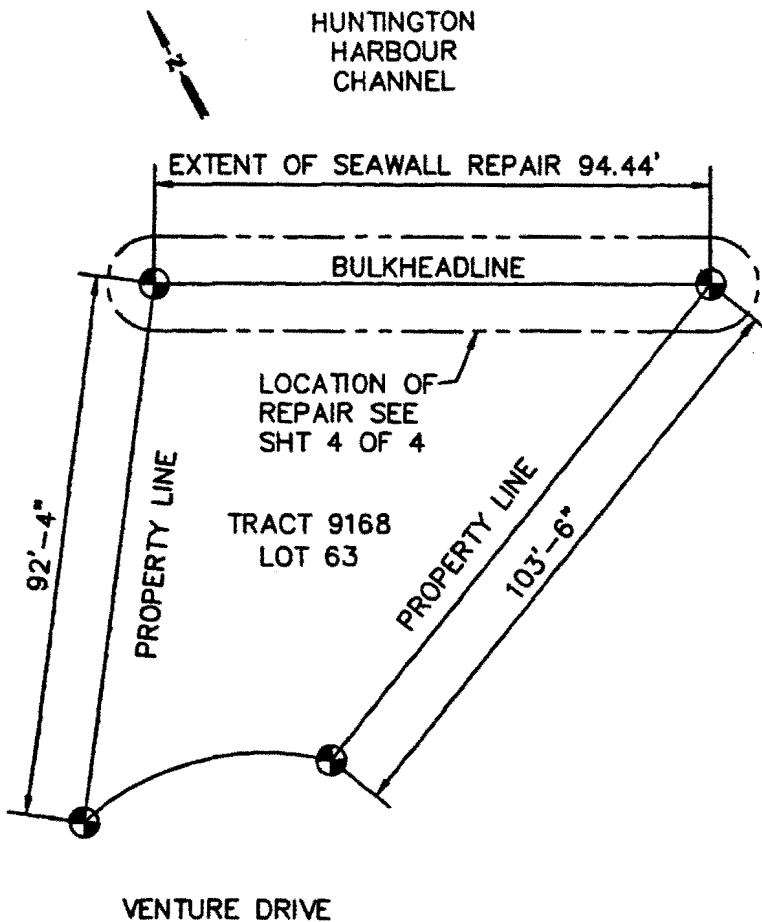


Datum: MLLW = 0
Adj. Property Owners:
1. See Attached List
2.
3.

William M. McCune
3791 Ragtime Circle
Huntington Beach, CA 92649

Proposed Repair of Existing
Seawall

IN: Huntington Harbour
AT: Trinidad Island
Huntington Beach
County of Orange State: CA
Application By: McCune
Sheet 2 of 4 Date: 8/4/00

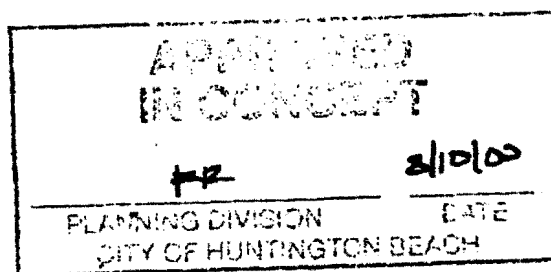


VICINITY MAP

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

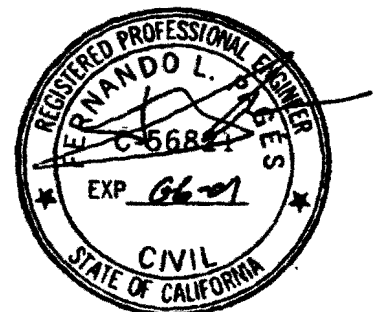
NOTE:
ALL DEALT **COASTAL COMMISSION**
MLLW=0.00 FT.

EXHIBIT # 3
PAGE 21 OF 56



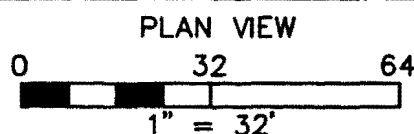
TETRA TECH

670 North Rosemead Blvd.
Pasadena, CA 91107
(826)351-4664, Fax (826)351-5291



PURPOSE: Repair Existing Seawall

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

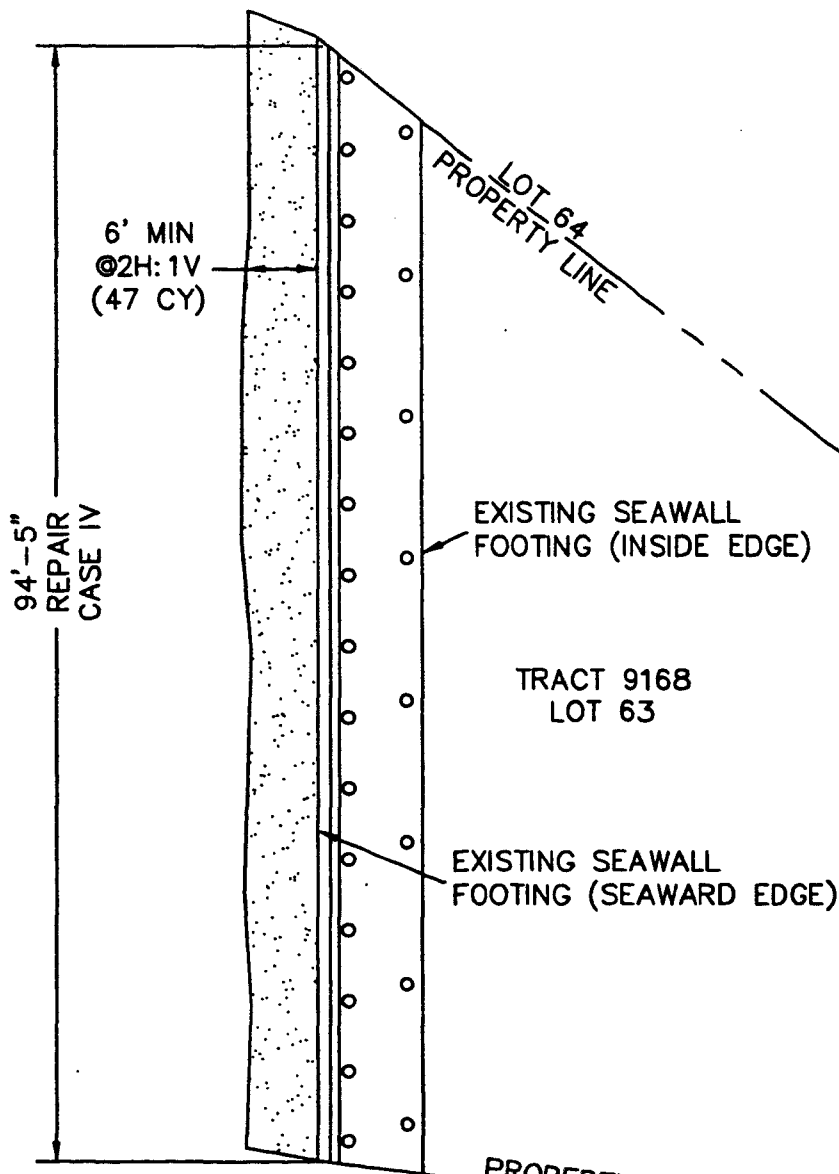


Thomas McKnew
3661 Venture Drive
Huntington Beach, CA 92649

Proposed Repair of Existing Seawall

IN: Huntington Harbour
AT: Trinidad Island
Huntington Beach
County of Orange State: CA
Application By: McKnew
Sheet 1 of 4 Date: 8/4/00

HUNTINGTON
HARBOUR
CHANNEL



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

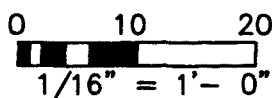
PROPERTY LINE
LOT 62
COASTAL COMMISSION

EXHIBIT # 3
PAGE 22 OF 56

PURPOSE: Repair Existing Seawall

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

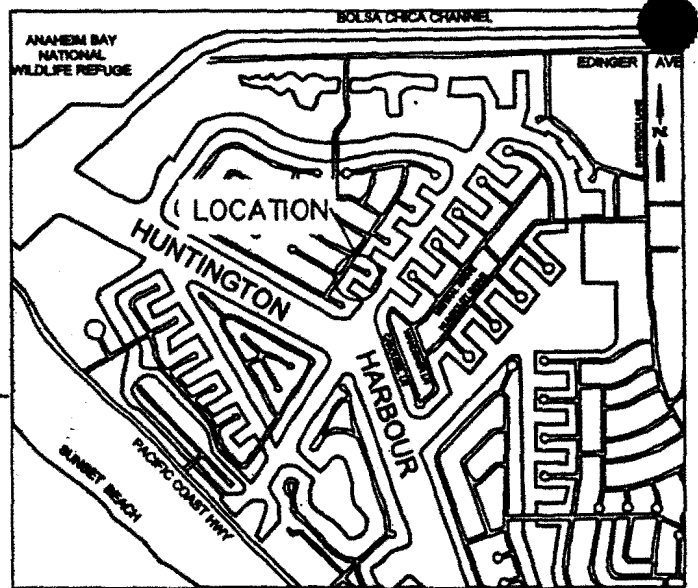
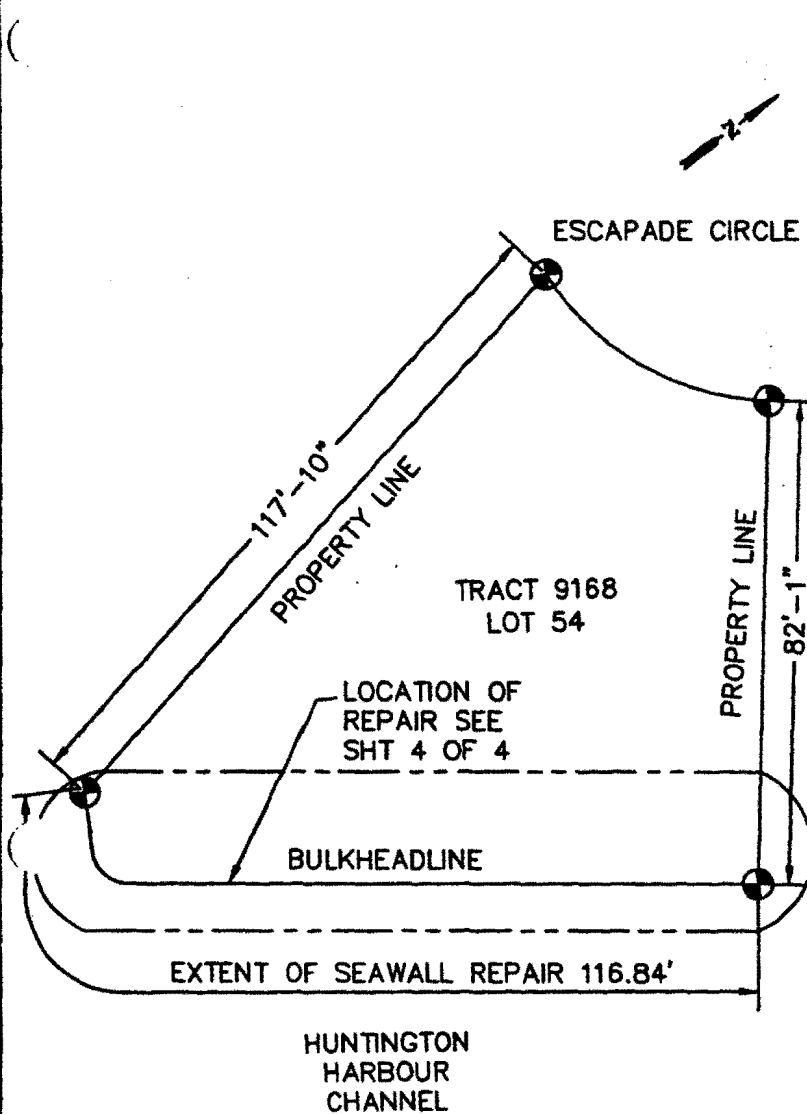
PLAN VIEW



Thomas McKnew
3661 Venture Drive
Huntington Beach, CA 92649

Proposed Repair of Existing Seawall

IN: Huntington Harbour
AT: Trinidad Island
Huntington Beach
County of Orange State: CA
Application By: McKnew
Sheet 2 of 4 Date: 8/4/00



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

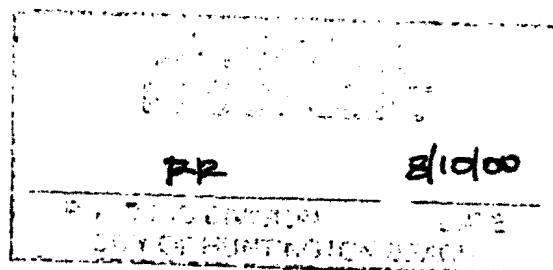
NOTE:
ALL DEPTHS BASED ON
MLLW=0.00 FT
COASTAL COMMISSION

EXHIBIT # 3
PAGE 23 OF 56



TETRA TECH

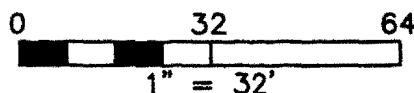
670 North Rosemead Blvd.
Pasadena, CA 91107
(826)351-4864, Fax (826)351-5291



PURPOSE: Repair Existing Seawall

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

PLAN VIEW



Elizabeth Meadows
3692 Escapade Circle
Huntington Beach, CA 92649

Proposed Repair of Existing
Seawall

IN: Huntington Harbour
AT: Trinidad Island
Huntington Beach
County of Orange State: CA
Application By: Meadows
Sheet 1 of 4 Date: 8/4/00



6' MIN
@2H:1V
(50 CY)

125'-6"
REPAIR
CASE IV

EXISTING SEAWALL
FOOTING (INSIDE EDGE)

TRACT 9168
LOT 54

EXISTING SEAWALL
FOOTING (SEAWARD EDGE)

LOT 55
PROPERTY LINE

PROPERTY LINE
LOT 53

LEGEND:

- PILES TO BE REPAIRED
- EXISTING PILES
- ▨ GROUTED VOID
- ROCK TOE PROTECTION

HUNTINGTON
HARBOUR
CHANNEL

COASTAL COMMISSION

EXHIBIT # 3
PAGE 24 OF 56

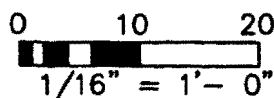


TETRA TECH

670 North Rosemead Blvd.
Pasadena, CA 91107
(828)351-4864, Fax (828)351-5291

PURPOSE: Repair Existing Seawall

PLAN VIEW

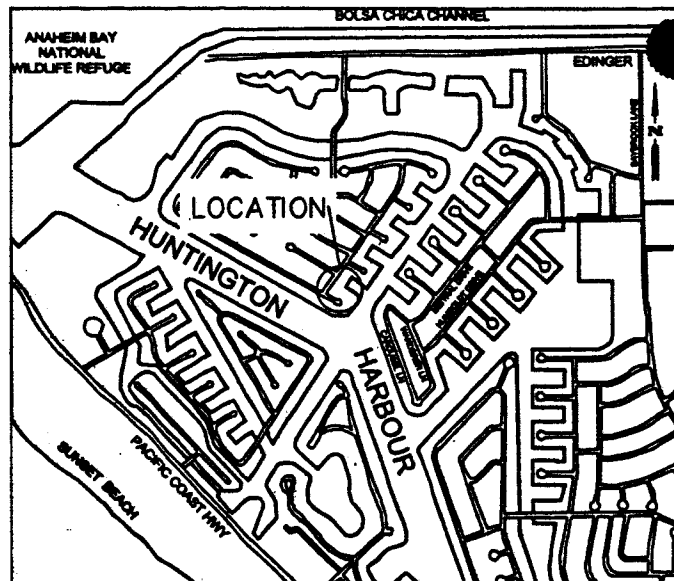
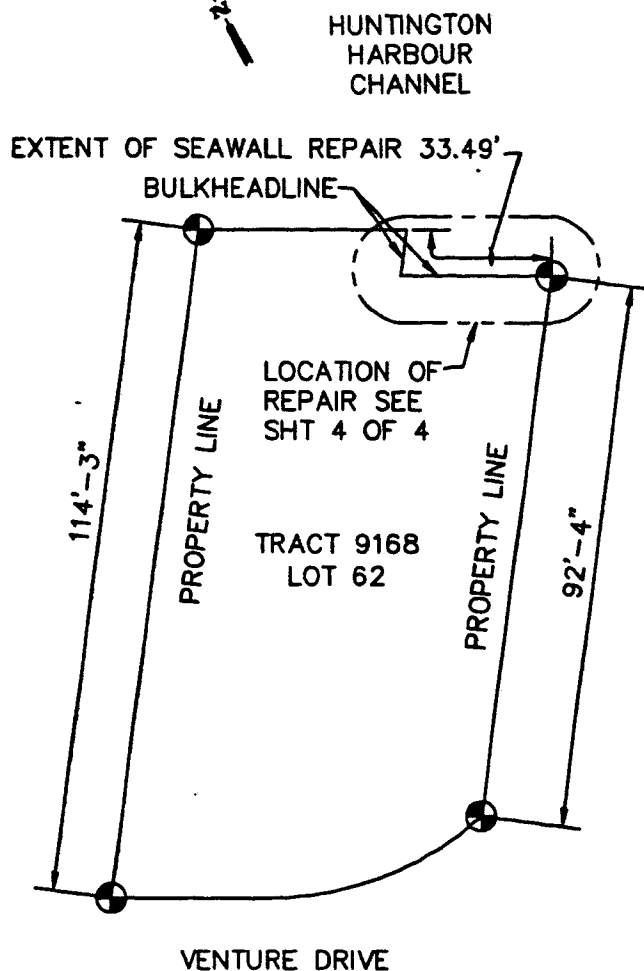


Datum: MLLW = 0
Adj. Property Owners:
1. See Attached List
2.
3.

Elizabeth Meadows
3692 Escapade Circle
Huntington Beach, CA 92649

**Proposed Repair of Existing
Seawall**

IN: Huntington Harbour
AT: Trinidad Island
Huntington Beach
County of Orange State: CA
Application By: Meadows
Sheet 2 of 4 Date: 8/4/00



VICINITY MAP

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

NOTE:
ALL DEPTHS BASED ON
MLLW=0
COASTAL COMMISSION

EXHIBIT # 3
PAGE 25 OF 56

**APPROVED
IN CONCEPT**

PR

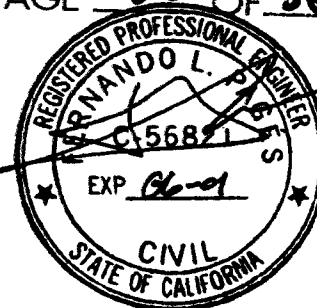
8/10/00

PLANNING DIVISION DATE
CITY OF HUNTINGTON BEACH



TETRA TECH

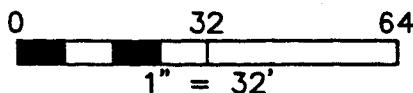
670 North Rosemead Blvd.
Pasadena, CA 91107
(826)351-4664, Fax (826)351-5291



PURPOSE: Repair Existing Seawall

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

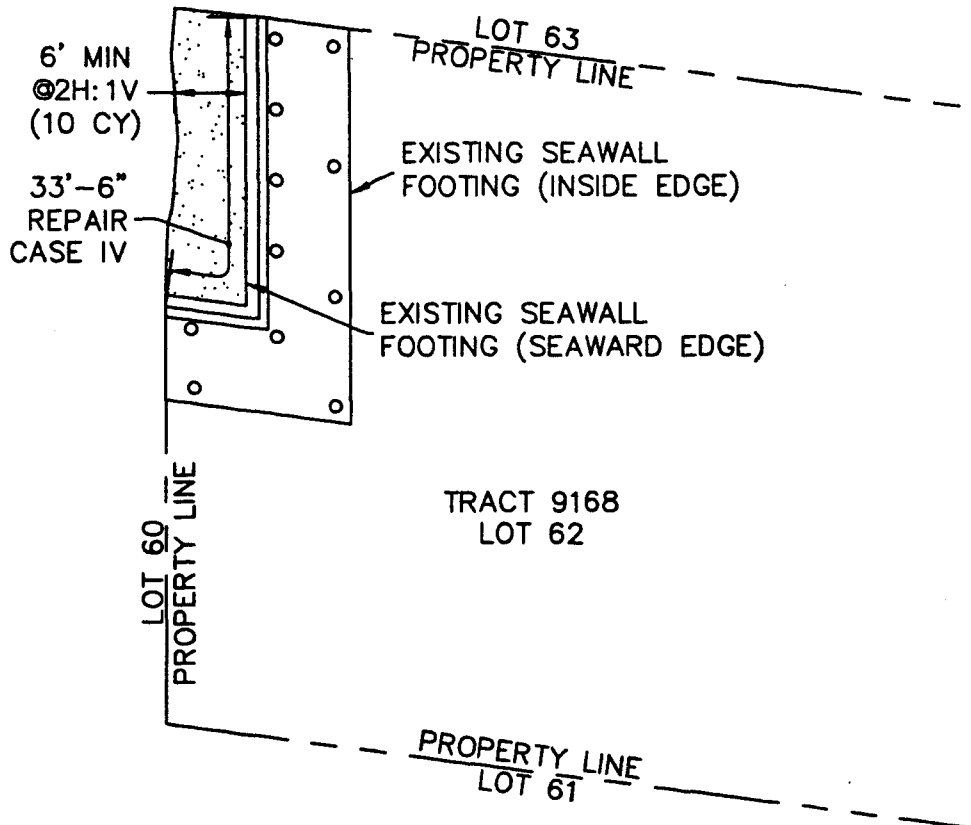
PLAN VIEW



James P. Morley
3651 Venture Drive
Huntington Beach, CA 92649

Proposed Repair of Existing Seawall

IN: Huntington Harbour
AT: Trinidad Island
Huntington Beach
County of Orange State: CA
Application By: Morley
Sheet 1 of 4 Date: 8/4/00



LEGEND:

- PILES TO BE REPAIRED
- EXISTING PILES
- GROUTED VOID
- ROCK TOE PROTECTION



TETRA TECH

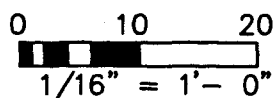
670 North Rosemead Blvd.
Pasadena, CA 91107
(826)351-4864, Fax (826)351-5291

COASTAL COMMISSION

EXHIBIT # 3
PAGE 26 OF 56

PURPOSE: Repair Existing Seawall

PLAN VIEW

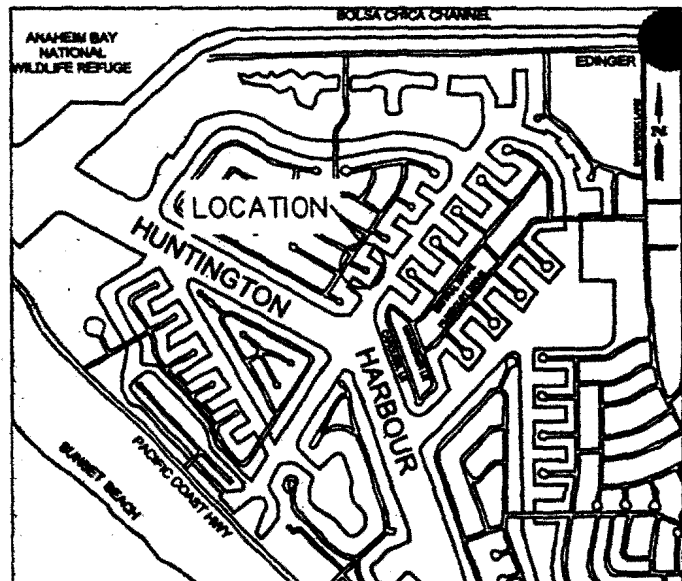
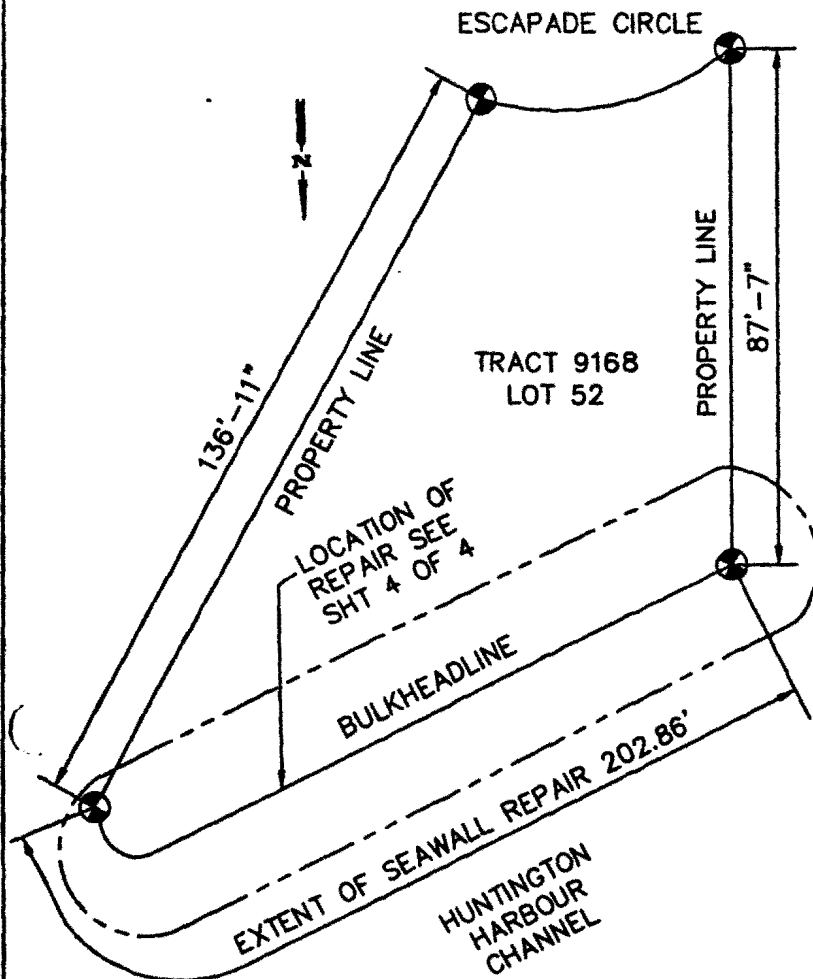


James P. Morley
3651 Venture Drive
Huntington Beach, CA 92649

Proposed Repair of Existing Seawall

IN: Huntington Harbour
AT: Trinidad Island
Huntington Beach
County of Orange State: CA
Application By: Morley
Sheet 2 of 4 Date: 8/4/00

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



VICINITY MAP

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

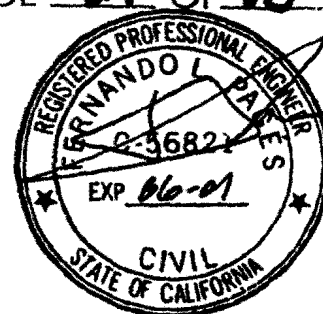
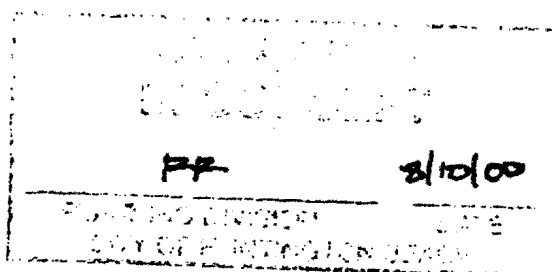
NOTE:
ALL DEPTHS BASED ON
MLLW= **COASTAL COMMISSION**

EXHIBIT # 3
PAGE 27 OF 56



TETRA TECH

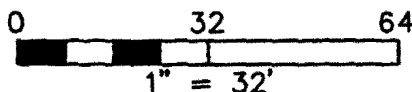
670 North Rosemead Blvd.
Pasadena, CA 91107
(826)351-4664, Fax (826)351-5291



PURPOSE: Repair Existing Seawall

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

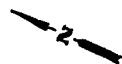
PLAN VIEW



Lamonte G. Navarre
3691 Escapade Circle
Huntington Beach, CA 92649

Proposed Repair of Existing
Seawall

IN: Huntington Harbour
AT: Trinidad Island
Huntington Beach
County of Orange State: CA
Application By: Navarre
Sheet 1 of 4 Date: 8/4/00



6' MIN
@2H:1V
(54 CY)

124'-7"
REPAIR
CASE IV

LOT 53
PROPERTY LINE

EXISTING SEAWALL
FOOTING (INSIDE EDGE)

TRACT 9168
LOT 52

EXISTING SEAWALL
FOOTING (SEAWARD EDGE)

COASTAL COMMISSION

EXHIBIT # 3

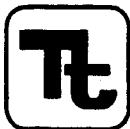
PAGE 28 OF 56

PROPERTY LINE
LOT 51

HUNTINGTON
HARBOUR
CHANNEL

LEGEND:

- PILES TO BE REPAIRED
- EXISTING PILES
- GROUTED VOID
- ▣ ROCK TOE PROTECTION

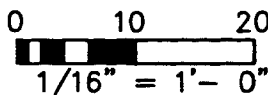


TETRA TECH

670 North Rosemead Blvd.
Pasadena, CA 91107
(826)351-4664, Fax (826)351-5291

PURPOSE: Repair Existing Seawall

PLAN VIEW

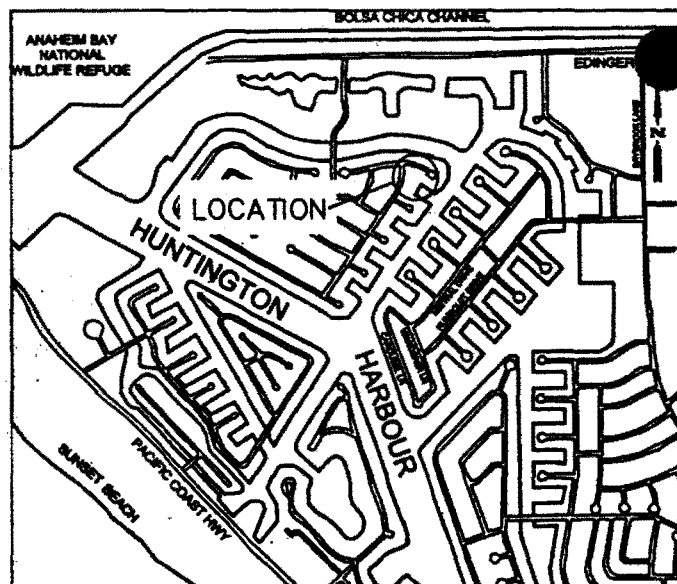
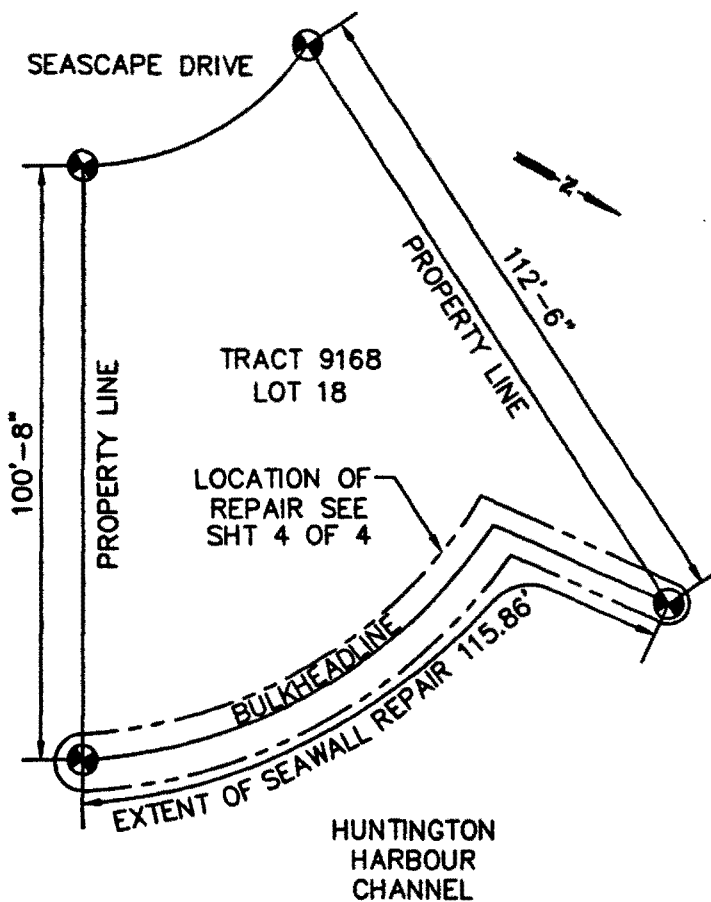


Proposed Repair of Existing
Seawall

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

Lamonte G. Navarre
3691 Escapade Circle
Huntington Beach, CA 92649

IN: Huntington Harbour
AT: Trinidad Island
Huntington Beach
County of Orange State: CA
Application By: Navarre
Sheet 2 of 4 Date: 8/4/00



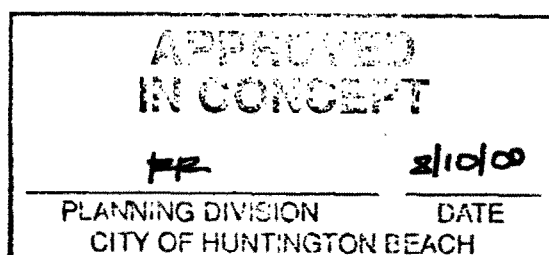
VICINITY MAP

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

NOTE:
ALL DEPTHS BASED ON
MLLW=0.00 FT.

COASTAL COMMISSION

EXHIBIT # 3
PAGE 29 OF 86



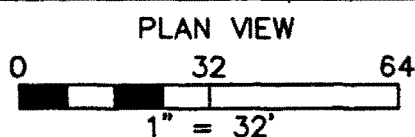
TETRA TECH

670 North Rosemead Blvd.
Pasadena, CA 91107
(826)351-4864, Fax (826)351-5291



PURPOSE: Repair Existing Seawall

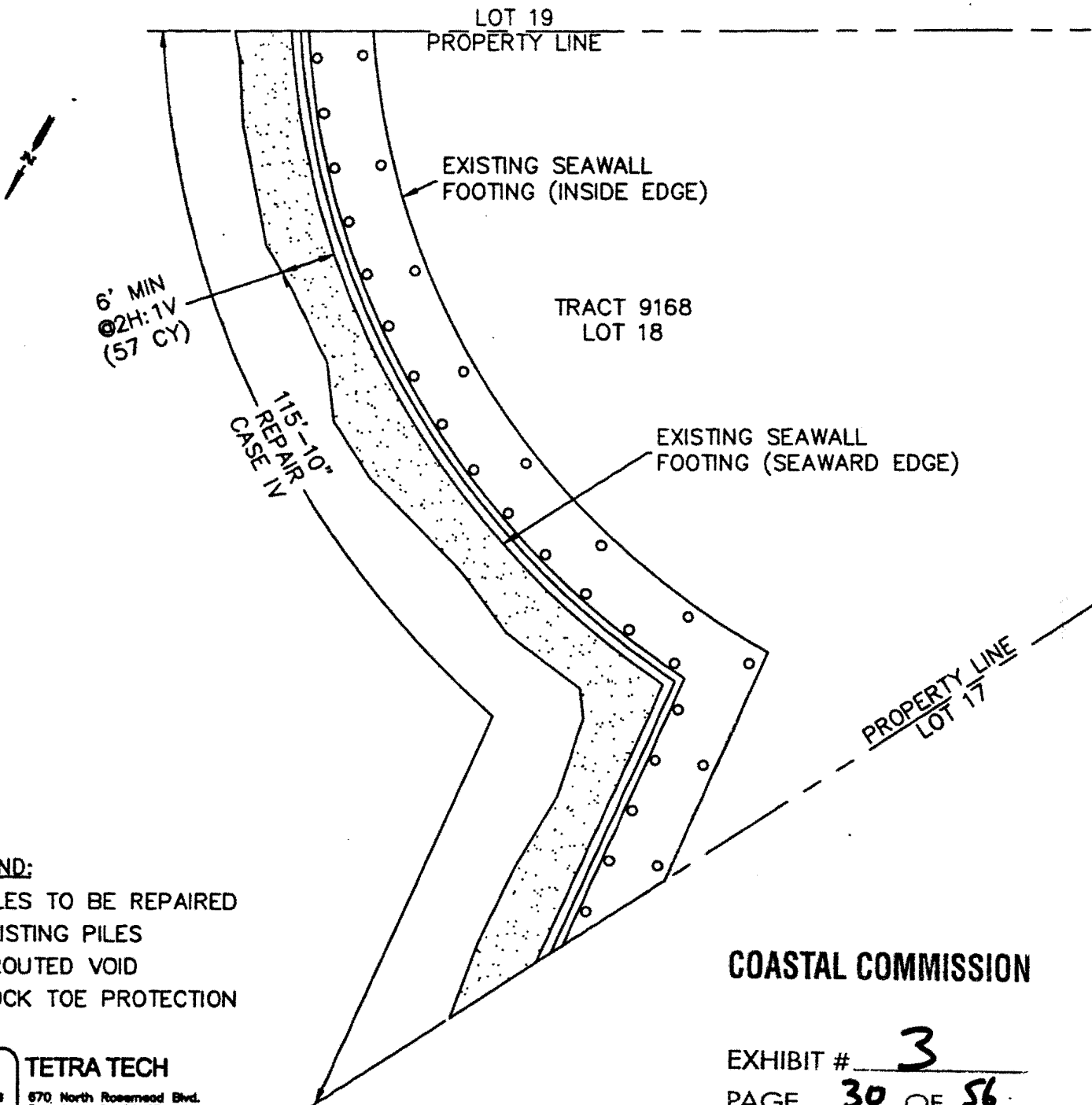
Datum: MLLW = 0
Adj. Property Owners:
1. See Attached List
2.
3.



William & Beverly Newhall
3841 Seascape Drive
Huntington Beach, CA 92649

Proposed Repair of Existing
Seawall

IN: Huntington Harbour
AT: Trinidad Island
Huntington Beach
County of Orange State: CA
Application By: Newhall
Sheet 1 of 4 Date: 8/4/00



LEGEND:

- PILES TO BE REPAIRED
- EXISTING PILES
- GROUTED VOID
- ▣ ROCK TOE PROTECTION



TETRA TECH

670 North Rosemead Blvd.
Pasadena, CA 91107
(826)351-4664, Fax (826)351-5291

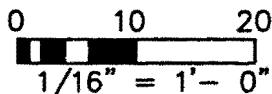
COASTAL COMMISSION

EXHIBIT # 3
PAGE 30 OF 56

PURPOSE: Repair Existing Seawall

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

PLAN VIEW



William & Beverly Newhall
3841 Seascape Drive
Huntington Beach, CA 92649

Proposed Repair of Existing Seawall

IN: Huntington Harbour
AT: Trinidad Island
Huntington Beach
County of Orange State: CA
Application By: Newhall
Sheet 2 of 4 Date: 8/4/00

SUNDANCER LANE

PROPERTY LINE
119'-2"

TRACT 9168
LOT 26

PROPERTY LINE
145'-10"

LOCATION OF
REPAIR SEE
SHT 4 OF 4

BULKHEADLINE

EXTENT OF SEAWALL REPAIR 80'-1"

HUNTINGTON
HARBOUR
CHANNEL

COASTAL COMMISSION

EXHIBIT # 3
PAGE 31 OF 56



TETRA TECH

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

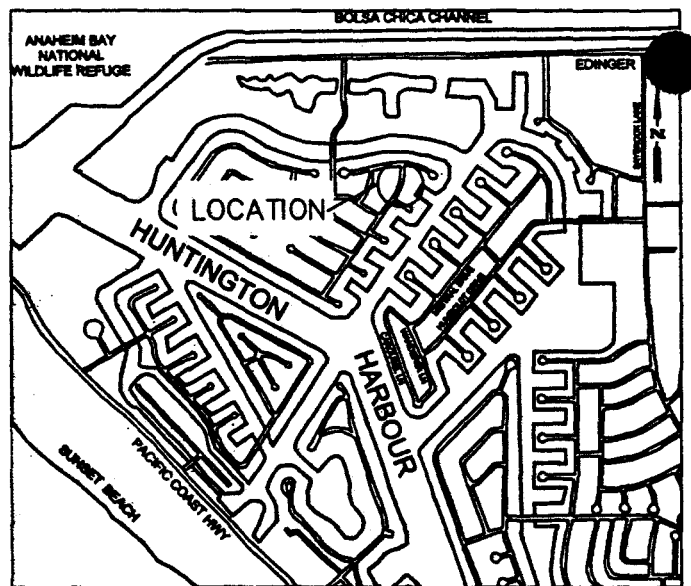
**APPROVED
IN CONCEPT**

PR

8/10/00

PLANNING DIVISION
CITY OF HUNTINGTON BEACH

NOTE:
ALL DEPTHS BASED ON
MLLW=0.00 FT.



VICINITY MAP

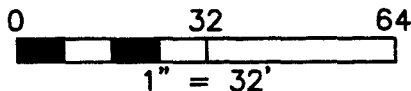
FROM U.S.G.S. SEAL BEACH
QUADRANGLE CALIFORNIA
SCALE 1:24000



PURPOSE: Repair Existing Seawall

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

PLAN VIEW



Gary Pazornik
16262 Sundancer Lane
Huntington Beach, CA 92649

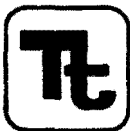
Proposed Repair of Existing
Seawall

IN: Huntington Harbour
AT: Trinidad Island
Huntington Beach
County of Orange State: CA
Application By: Pazornik
Sheet 1 of 4 Date: 8/4/00

HUNTINGTON
HARBOUR
CHANNEL

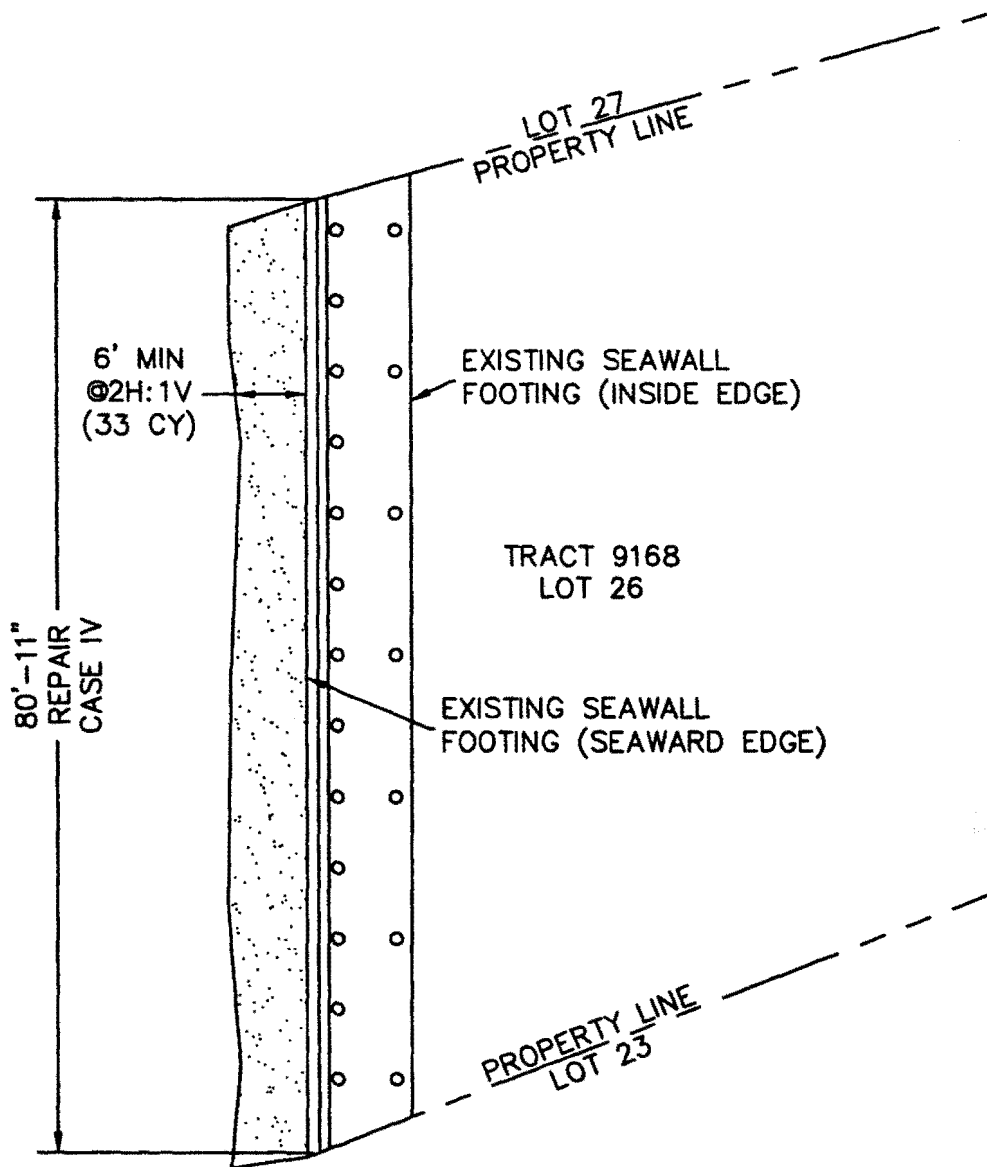
LEGEND:

- PILES TO BE REPAIRED
- EXISTING PILES
- GROUTED VOID
- ▣ ROCK TOE PROTECTION



TETRA TECH

670 North Rosemead Blvd.
Pasadena, CA 91107
(826)351-4664, Fax (826)351-5291

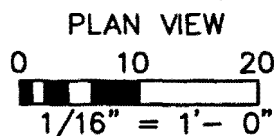


COASTAL COMMISSION

EXHIBIT # 3
PAGE 32 OF 56

PURPOSE: Repair Existing Seawall

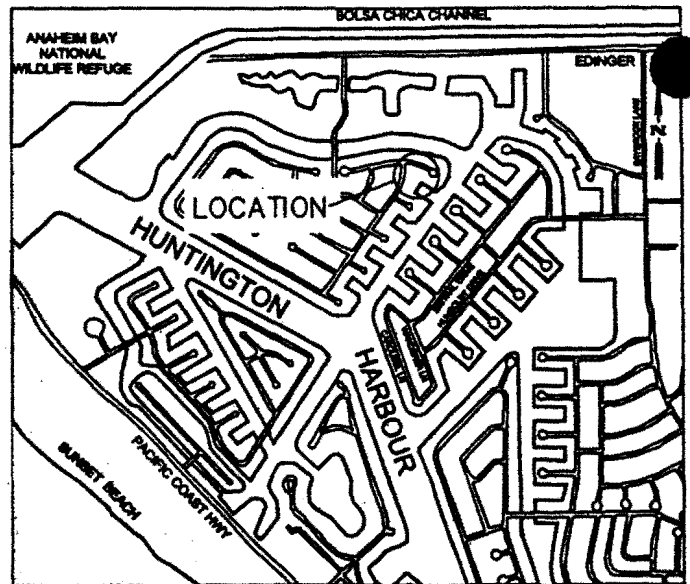
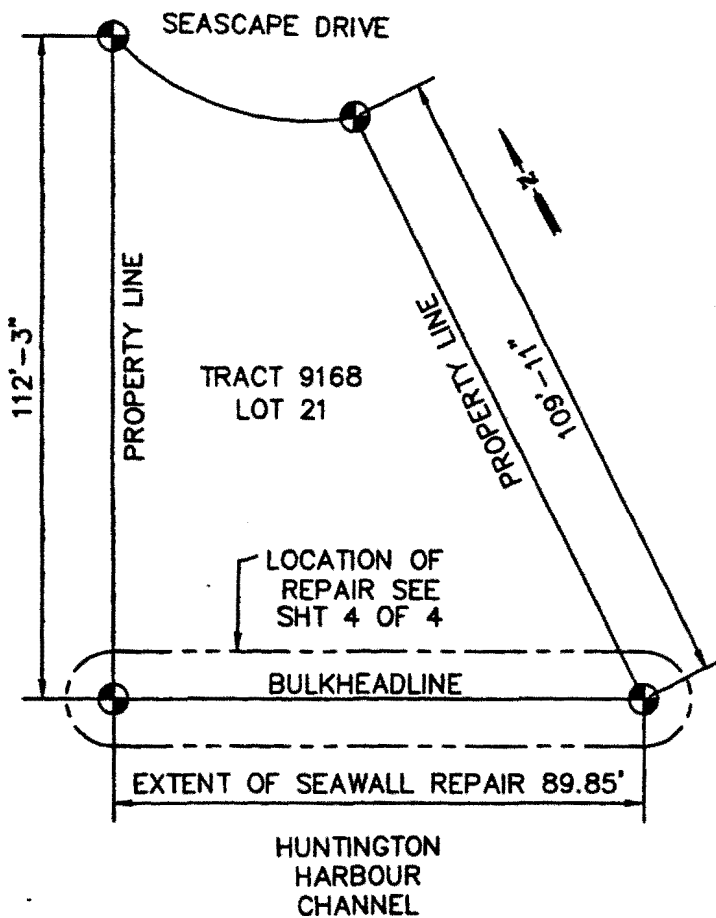
Datum: MLLW = 0
Adj. Property Owners:
1. See Attached List
2.
3.



Gary Pazornik
16262 Sundancer Lane
Huntington Beach, CA 92649

Proposed Repair of Existing Seawall

IN: Huntington Harbour
AT: Trinidad Island
Huntington Beach
County of Orange State: CA
Application By: Pazornik
Sheet 2 of 4 Date: 8/4/00



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

EXHIBIT # 3
PAGE 33 OF 66



TETRA TECH

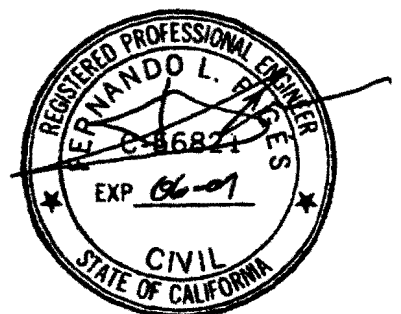
670 North Rosemead Blvd.
Pasadena, CA 91107
(626)351-4664, Fax (626)351-5291

**APPROVED
IN CONCEPT**

PR

8/10/00

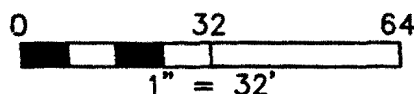
PLANNING DIVISION DATE
CITY OF HUNTINGTON BEACH



PURPOSE: Repair Existing Seawall

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

PLAN VIEW

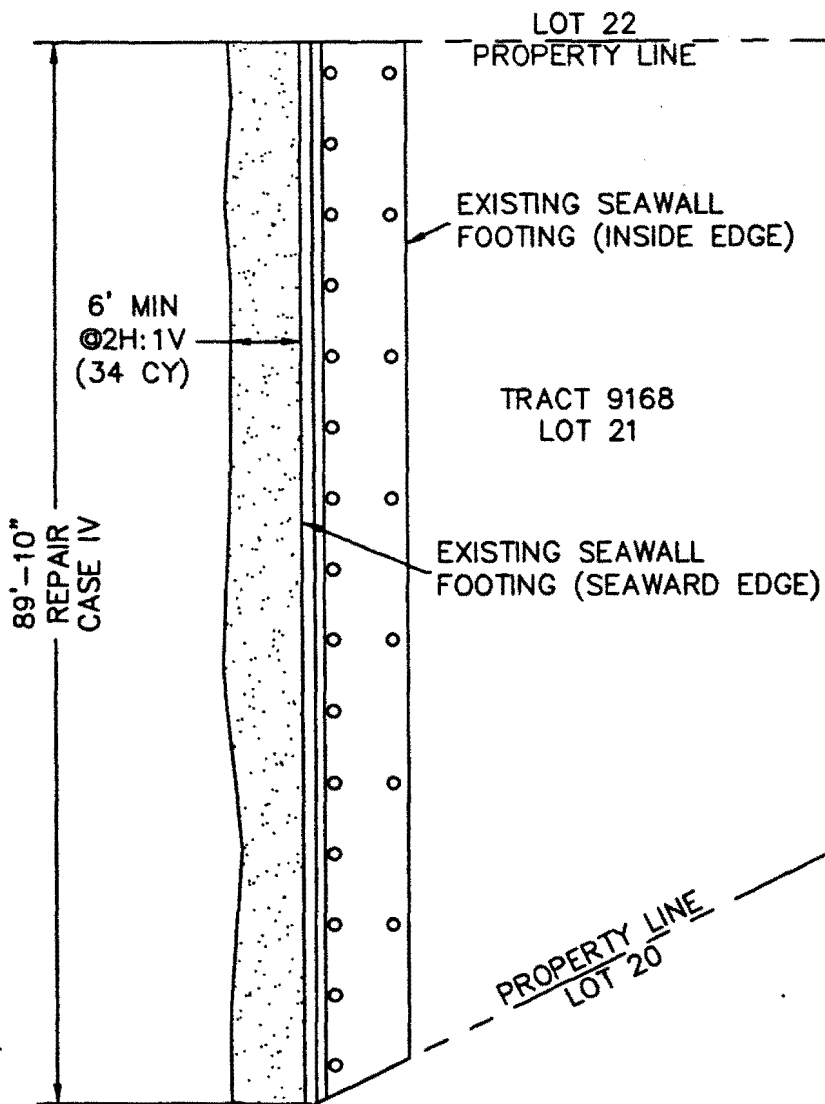


John M. & Patricia Pratto
3822 Seascape Drive
Huntington Beach, CA 92649

Proposed Repair of Existing
Seawall

IN: Huntington Harbour
AT: Trinidad Island
Huntington Beach
County of Orange State: CA
Application By: Pratto
Sheet 1 of 4 Date: 8/4/00

HUNTINGTON
HARBOUR
CHANNEL



LEGEND:

- PILES TO BE REPAIRED
- EXISTING PILES
- ◐ GROUTED VOID
- ▣ ROCK TOE PROTECTION



TETRA TECH

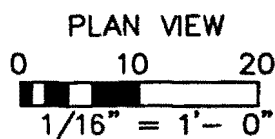
670 North Rosemead Blvd.
Pasadena, CA 91107
(626)351-4664, Fax (626)351-5291

COASTAL COMMISSION

EXHIBIT # 3
PAGE 34 OF 56

PURPOSE: Repair Existing Seawall

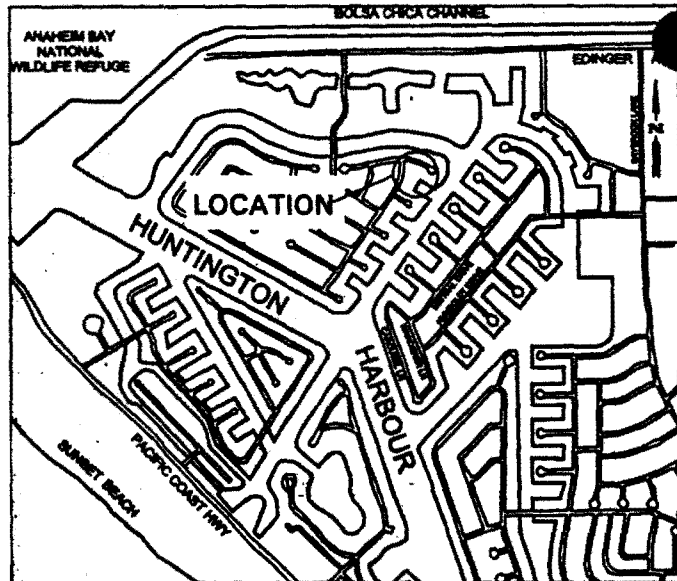
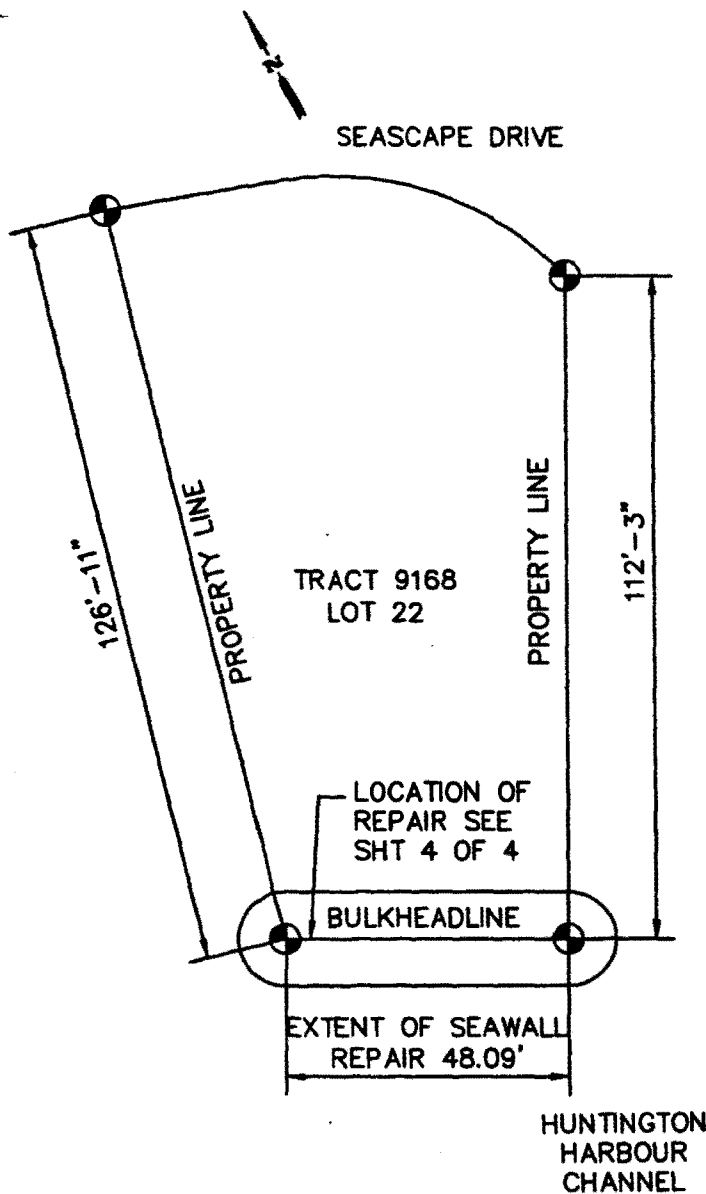
Datum: MLLW = 0
Adj. Property Owners:
1. See Attached List
2.
3.



John M. & Patricia Pratto
3822 Seascape Drive
Huntington Beach, CA 92649

Proposed Repair of Existing Seawall

IN: Huntington Harbour
AT: Trinidad Island
Huntington Beach
County of Orange State: CA
Application By: Pratto
Sheet 2 of 4 Date: 8/4/00



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

EXHIBIT # 3
PAGE 35 OF 56

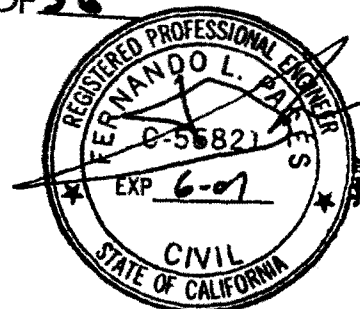


TETRA TECH

670 North Rosemead Blvd.
Pasadena, CA 91107
(826)351-4664, Fax (826)351-5291

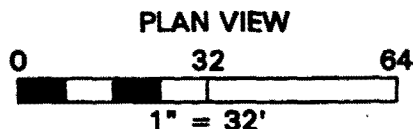
**APPROVED
IN CONCEPT**

99 8-18-00
PLANNING DIVISION DATE
CITY OF HUNTINGTON BEACH



PURPOSE: Repair Existing Seawall

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



James Riddet
3812 Seascape Drive
Huntington Beach, CA 92649

Proposed Repair of Existing Seawall

IN: Huntington Harbour
AT: Trinidad Island
Huntington Beach
County of Orange State: CA
Application By: Riddet
Sheet 1 of 4 Date: 8/4/00

HUNTINGTON
HARBOUR
CHANNEL

48'-1"
REPAIR
CASE IV

6' MIN
@2H:1V
(10 CY)

EXISTING SEAWALL
FOOTING (INSIDE EDGE)

TRACT 9168
LOT 22

EXISTING SEAWALL
FOOTING (SEAWARD EDGE)

PROPERTY LINE
LOT 21

LOT 23
PROPERTY LINE

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

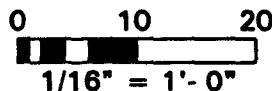
COASTAL COMMISSION

EXHIBIT # 3

PAGE 36 OF 56

PURPOSE: Repair Existing Seawall

PLAN VIEW

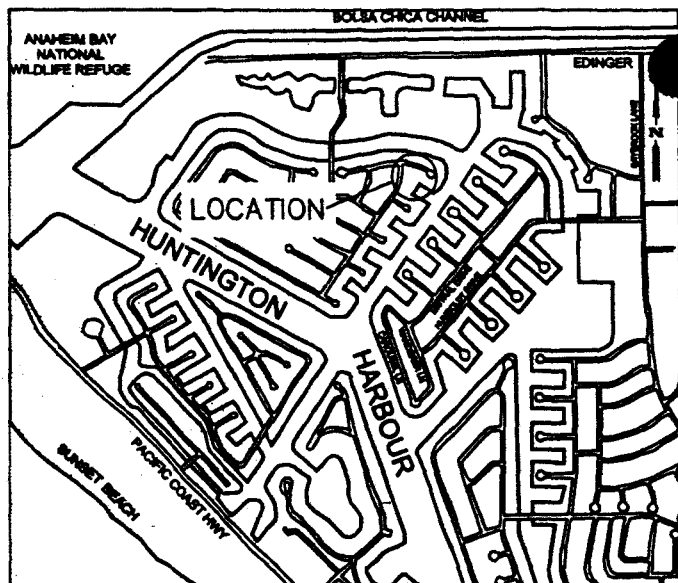
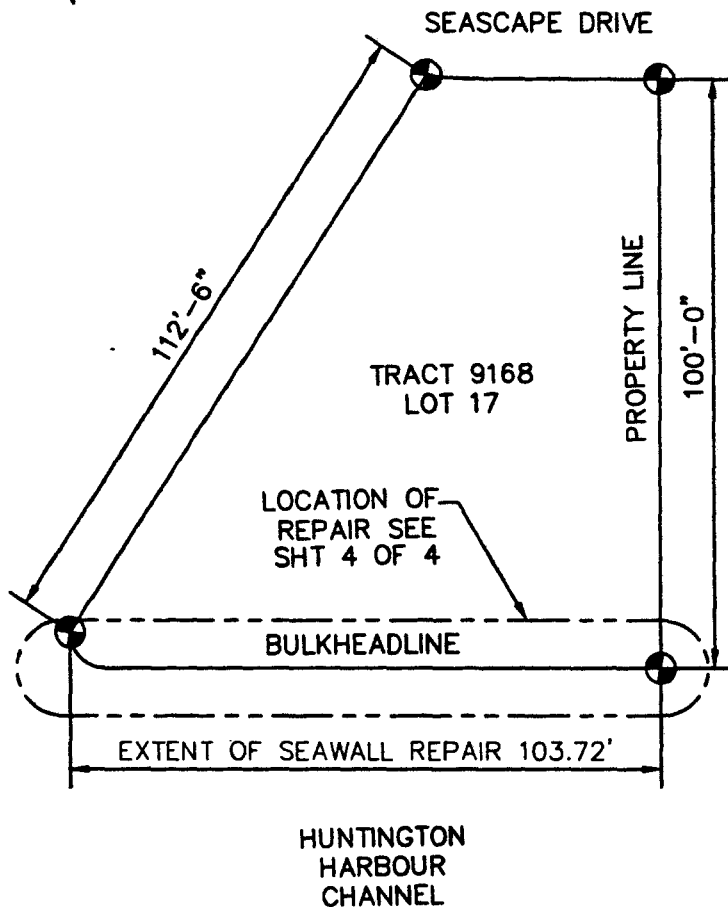


Datum: MLLW = 0
Adj. Property Owners:
1. See Attached List
2.
3.

James Riddet
3812 Seascapes Drive
Huntington Beach, CA 92649

**Proposed Repair of Existing
Seawall**

IN: Huntington Harbour
AT: Trinidad Island
Huntington Beach
County of Orange State: CA
Application By: Riddet
Sheet 2 of 4 Date: 8/4/00



VICINITY MAP

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

NOTE:
ALL DEPTHS BASED ON
MLLW **COASTAL COMMISSION**

EXHIBIT # 3
PAGE 37 OF 56



TETRA TECH

670 North Rosemead Blvd.
Pasadena, CA 91107
(626)351-4864, Fax (626)351-5291

**APPROVED
IN CONCEPT**

PP

8/10/00

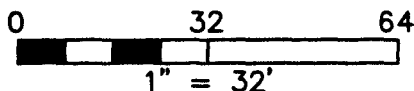
PLANNING DIVISION
CITY OF HUNTINGTON BEACH



PURPOSE: Repair Existing Seawall

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

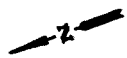
PLAN VIEW



Harry Ross
3831 Seascape Drive
Huntington Beach, CA 92649

Proposed Repair of Existing
Seawall

IN: Huntington Harbour
AT: Trinidad Island
Huntington Beach
County of Orange State: CA
Application By: Ross
Sheet 1 of 4 Date: 8/4/00



HUNTINGTON
HARBOUR
CHANNEL

COASTAL COMMISSION

EXHIBIT # 3
PAGE 38 OF 56

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

103'-9"
REPAIR
CASE IV

6' MIN
@2H:1V
(49 CY)

EXISTING SEAWALL
FOOTING (INSIDE EDGE)

TRACT 9168
LOT 17

EXISTING SEAWALL
FOOTING (SEAWARD EDGE)

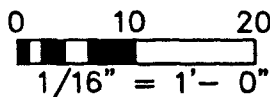
PROPERTY LINE
LOT 16

LOT 18
PROPERTY LINE

PURPOSE: Repair Existing Seawall

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

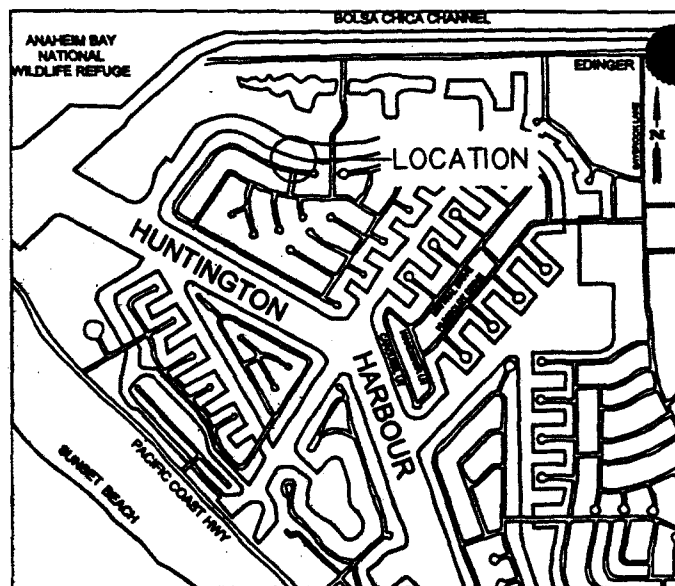
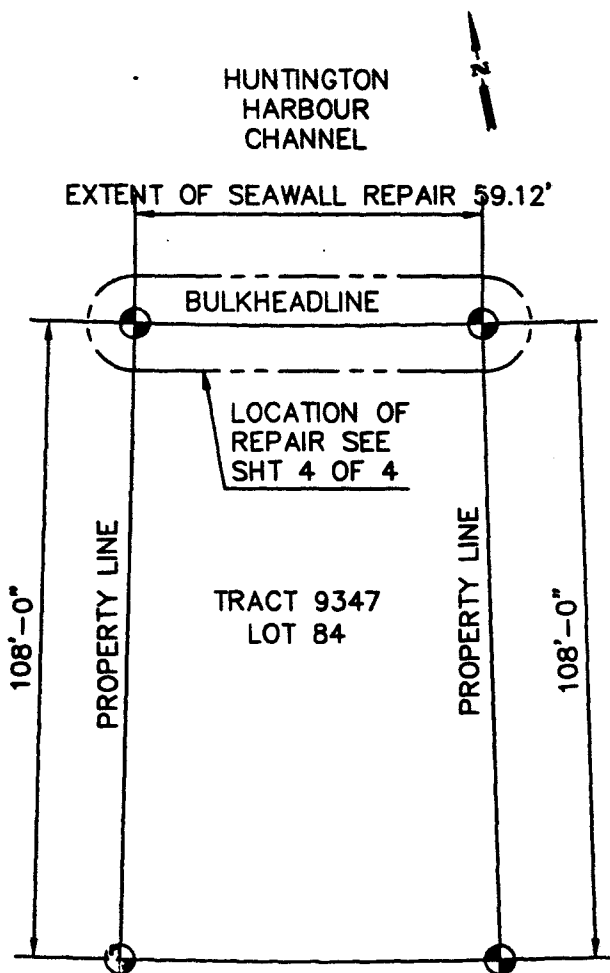
PLAN VIEW



Harry Ross
3831 Seascape Drive
Huntington Beach, CA 92649

Proposed Repair of Existing
Seawall

IN: Huntington Harbour
AT: Trinidad Island
Huntington Beach
County of Orange State: CA
Application By: Ross
Sheet 2 of 4 Date: 8/4/00



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

EXHIBIT # 3
PAGE 39 OF 56



TETRA TECH

570 North Rosemead Blvd.
Pasadena, CA 91107
(826)351-4664, Fax (826)351-5291

**APPROVED
IN CONCEPT**

RT

8/10/00

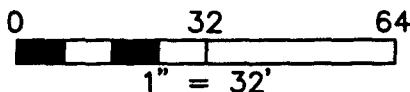
PLANNING DIVISION DATE
CITY OF HUNTINGTON BEACH



PURPOSE: Repair Existing Seawall

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

PLAN VIEW

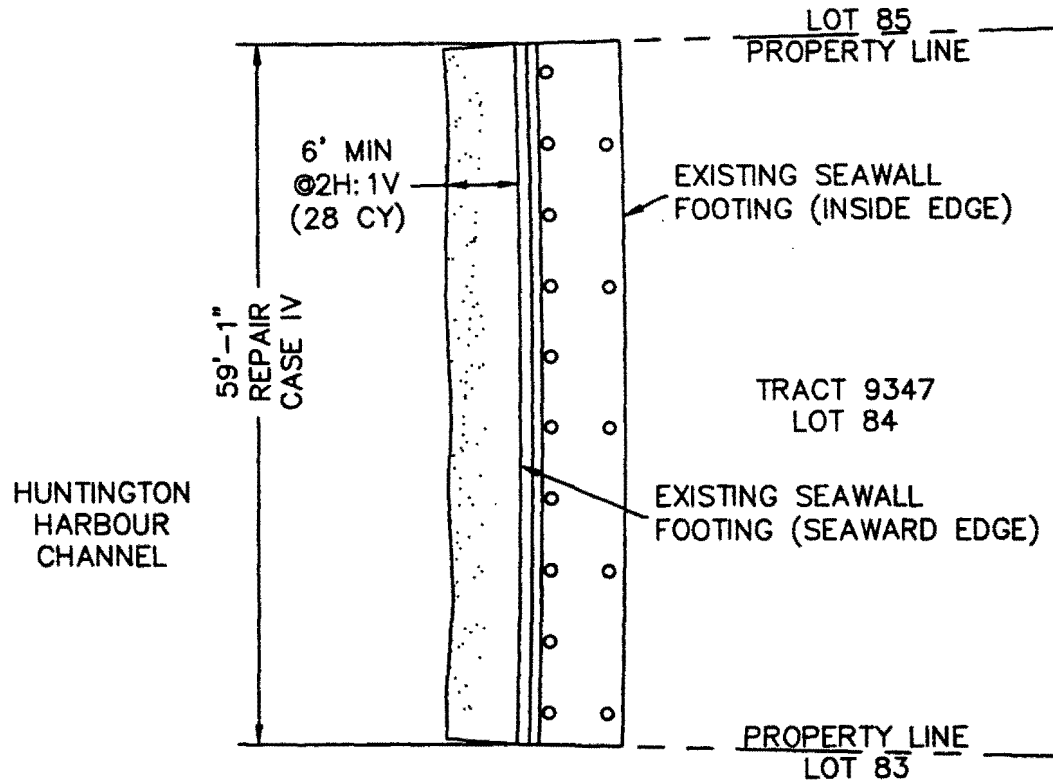


Brian & Rose Saylin
3561 Sagamore Drive
Huntington Beach, CA 92649

Proposed Repair of Existing
Seawall

IN: Huntington Harbour
AT: Trinidad Island
Huntington Beach
County of Orange State: CA
Application By: Saylin
Sheet 1 of 4 Date: 8/4/00

2



LEGEND:

- PILES TO BE REPAIRED
- EXISTING PILES
- GROUTED VOID
- ROCK TOE PROTECTION

COASTAL COMMISSION

EXHIBIT # 3
PAGE 40 OF 56

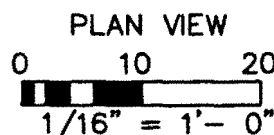


TETRA TECH

570 North Rosemead Blvd.
Pasadena, CA 91107
(826)351-4664, Fax (826)351-5291

PURPOSE: Repair Existing Seawall

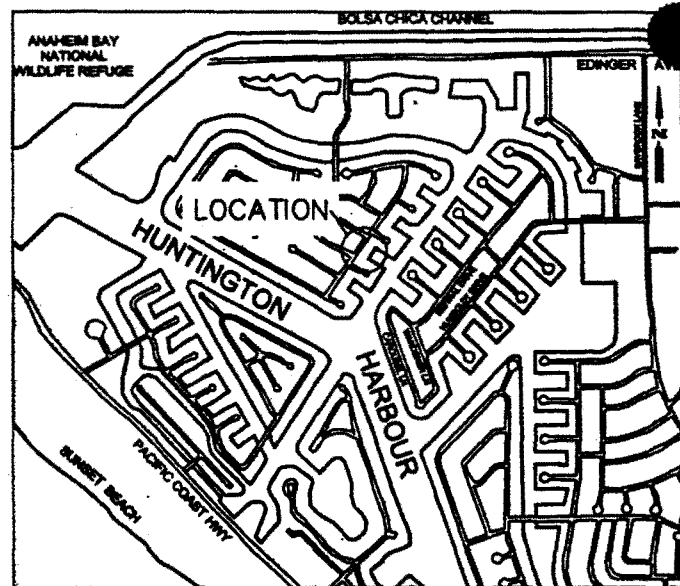
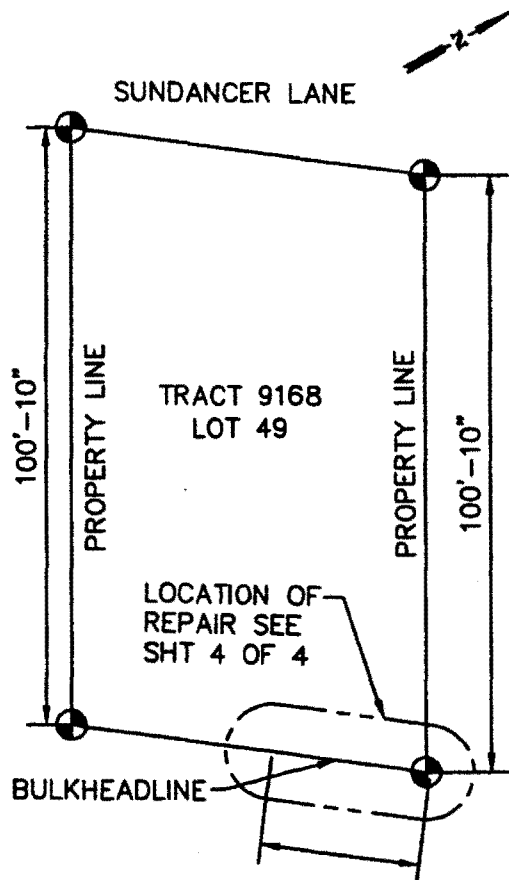
Datum: MLLW = 0
Adj. Property Owners:
1. See Attached List
2.
3.



Brian & Rose Saylin
3561 Sagamore Drive
Huntington Beach, CA 92649

Proposed Repair of Existing Seawall

IN: Huntington Harbour
AT: Trinidad Island
Huntington Beach
County of Orange State: CA
Application By: Saylin
Sheet 2 of 4 Date: 8/4/00



VICINITY MAP

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

EXTENT OF SEAWALL REPAIR 26.01'

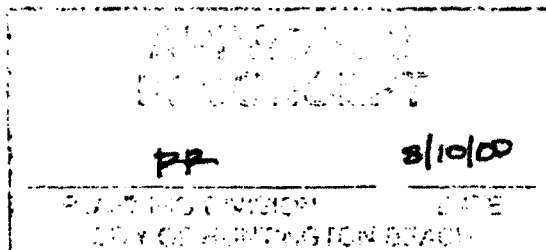
HUNTINGTON
HARBOUR
CHANNEL

COASTAL COMMISSION

NOTE:
ALL DEPTHS BASED ON
MLLW=0.00 FT.

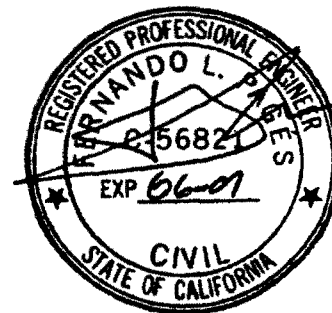
EXHIBIT # 3

PAGE 41 OF 56



TETRA TECH

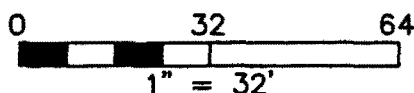
670 North Rosemead Blvd.
Pasadena, CA 91107
(826)351-4864, Fax (826)351-5291



PURPOSE: Repair Existing Seawall

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

PLAN VIEW

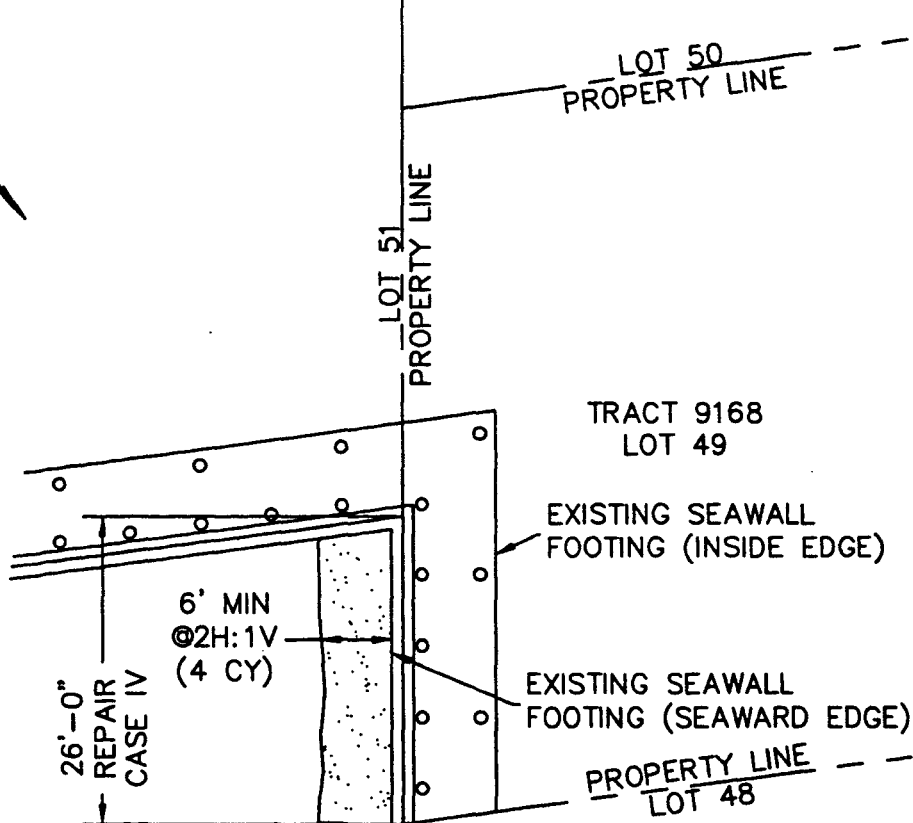


R. James Shaffer
16412 Sundancer Lane
Huntington Beach, CA 92649

Proposed Repair of Existing
Seawall

IN: Huntington Harbour
AT: Trinidad Island
Huntington Beach
County of Orange State: CA
Application By: Shaffer
Sheet 1 of 4 Date: 8/4/00

HUNTINGTON
HARBOUR
CHANNEL



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

EXHIBIT # 3
PAGE 42 OF 66

PURPOSE: Repair Existing Seawall

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

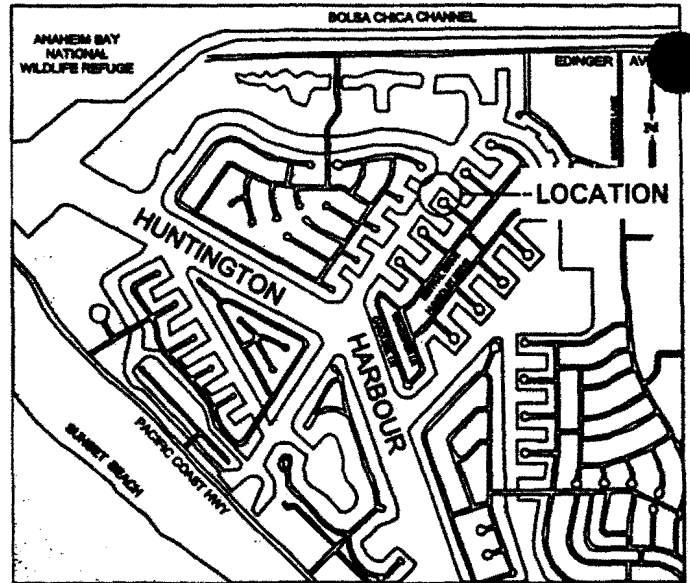
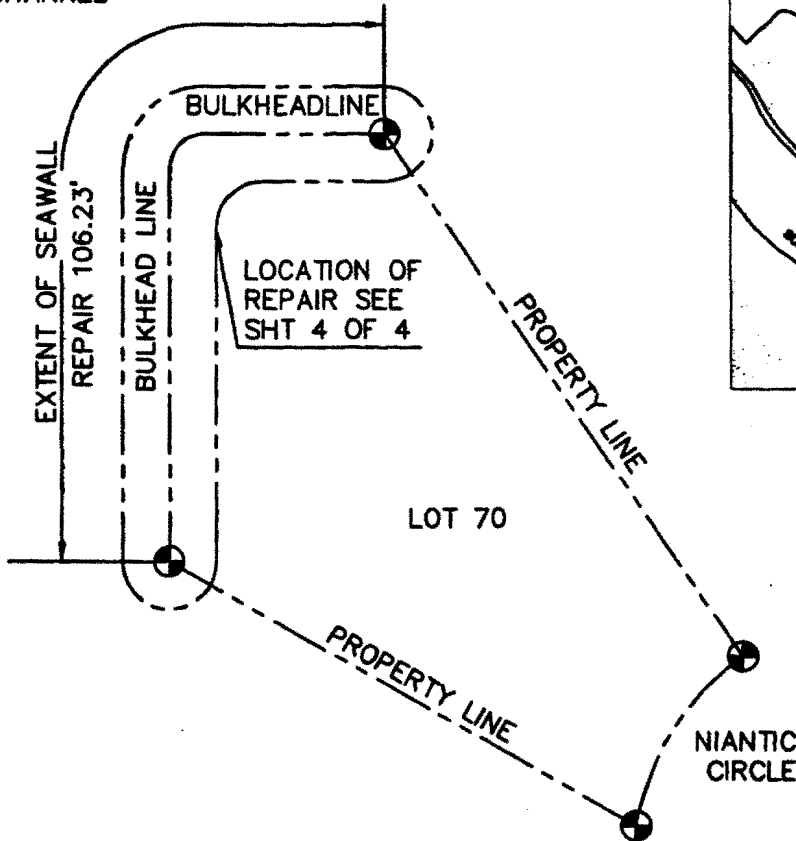
PLAN VIEW
0 10 20
1/16" = 1'-0"

R. James Shaffer
16412 Sundancer Lane
Huntington Beach, CA 92649

Proposed Repair of Existing Seawall

IN: Huntington Harbour
AT: Trinidad Island
Huntington Beach
County of Orange State: CA
Application By: Shaffer
Sheet 2 of 4 Date: 8/4/00

HUNTINGTON
HARBOUR
CHANNEL



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

EXHIBIT # 3
PAGE 43 OF 86

**APPROVED
IN CONCEPT**

9/8 8-18-00
PLANNING DIVISION DATE
CITY OF HUNTINGTON BEACH



TETRA TECH

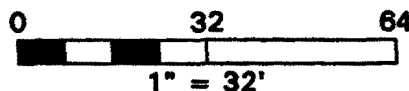
670 North Rosemead Blvd.
Pasadena, CA 91107
(828)351-4664, Fax (828)351-5291



PURPOSE: Repair Existing Seawall

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

PLAN VIEW



Steve Slusser
16305 Niantic 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: Slusser
Sheet 1 of 4 Date: 8/4/00

HUNTINGTON
HARBOUR
CHANNEL

102'-10"
REPAIR
CASE IV

6' MIN
@2H:1V
(50 CY)

EXISTING SEAWALL
FOOTING (INSIDE EDGE)

EXISTING SEAWALL
FOOTING (SEAWARD EDGE)

LOT 69
PROPERTY LINE

LOT 70

LEGEND:

- PILES TO BE REPAIRED
- EXISTING PILES
- GROUTED VOID
- ▣ ROCK TOE PROTECTION

COASTAL COMMISSION

EXHIBIT # 3
PAGE 44 OF 56



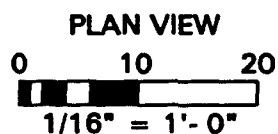
TETRA TECH

670 North Rosemead Blvd.
Pasadena, CA 91107
(826)351-4664, Fax (826)351-5291

LOT 71
PROPERTY LINE

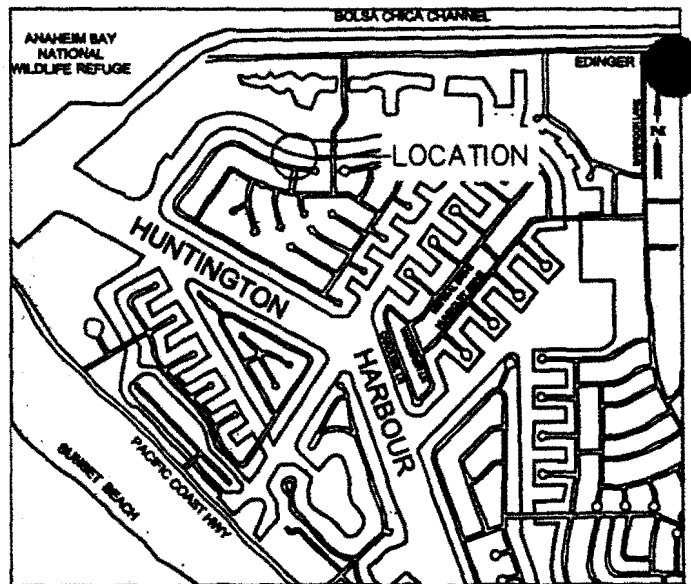
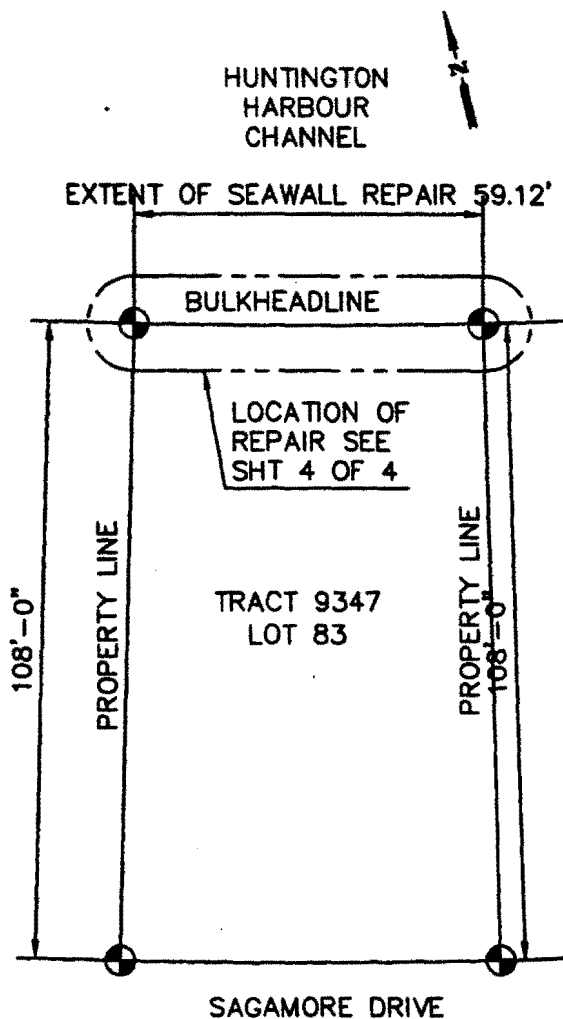
PURPOSE: Repair Existing Seawall

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



Steve Slusser
16305 Niantic 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: Slusser
Sheet 2 of 4 Date: 8/4/00



VICINITY MAP

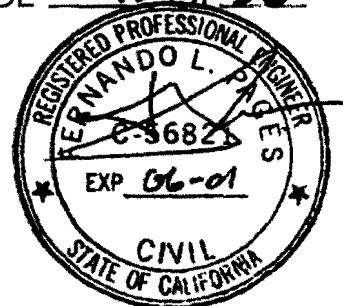
FROM U.S.G.S. SEAL BEACH
QUADRANGLE CALIFORNIA
SCALE 1:24000

NOTE:
ALL DEPTHS BASED ON
MLLW=0.00 FT
COASTAL COMMISSION

EXHIBIT # 3
PAGE 45 OF 56

TETRA TECH
670 North Rosemead Blvd.
Pasadena, CA 91107
(826)351-4864, Fax (826)351-5291

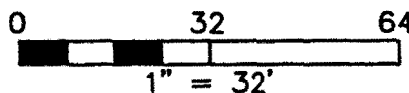
APPROVED
BY
DATE
8/10/00
PLANNING DIVISION
CITY OF HUNTINGTON BEACH



PURPOSE: Repair Existing Seawall

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

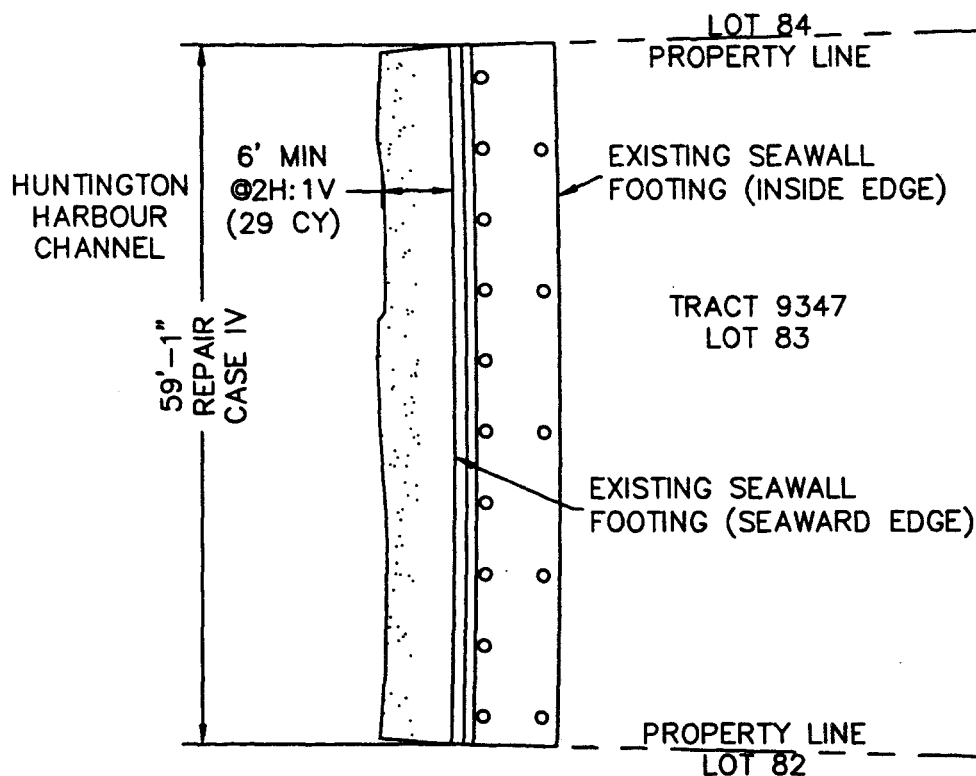
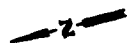
PLAN VIEW



Howard E. Stein
3541 Sagamore Drive
Huntington Beach, CA 92649

Proposed Repair of Existing Seawall

IN: Huntington Harbour
AT: Trinidad Island
Huntington Beach
County of Orange State: CA
Application By: Stein
Sheet 1 of 4 Date: 8/4/00



LEGEND:

- PILES TO BE REPAIRED
- EXISTING PILES
- GROUTED VOID
- ROCK TOE PROTECTION



TETRA TECH

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

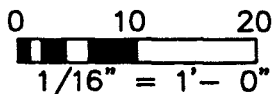
COASTAL COMMISSION

EXHIBIT # 3
PAGE 46 OF 56

PURPOSE: Repair Existing Seawall

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

PLAN VIEW



Howard E. Stein
3541 Sagamore Drive
Huntington Beach, CA 92649

Proposed Repair of Existing Seawall

IN: Huntington Harbour
AT: Trinidad Island
Huntington Beach
County of Orange State: CA
Application By: Stein
Sheet 2 of 4 Date: 8/4/00

HUNTINGTON
HARBOUR
CHANNEL

EXTENT OF SEAWALL
REPAIR 60.00'

BULKHEADLINE

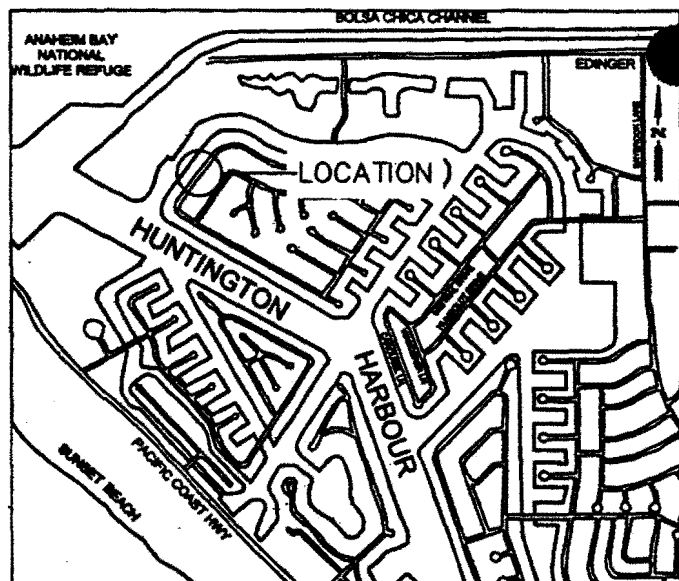
LOCATION OF
REPAIR SEE
SHT 4 OF 4

TRACT 8636
LOT 26

PROPERTY LINE
108'-0"

PROPERTY LINE
108'-0"

TYPHOON LANE



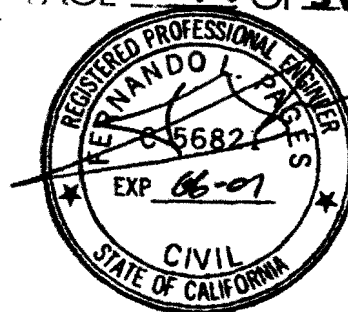
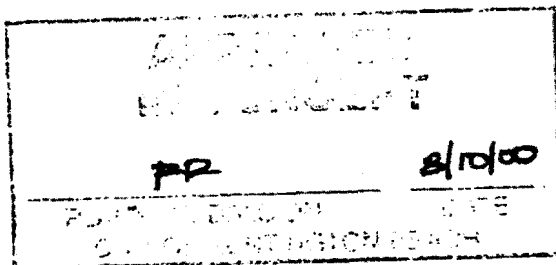
VICINITY MAP

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

NOTE:
ALL DEPTHS BASED ON
MLLW=0.00 FT.

COASTAL COMMISSION

EXHIBIT # 3
PAGE 47 OF 56



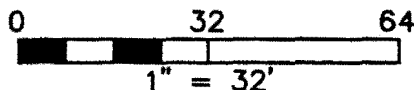
TETRA TECH

570 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

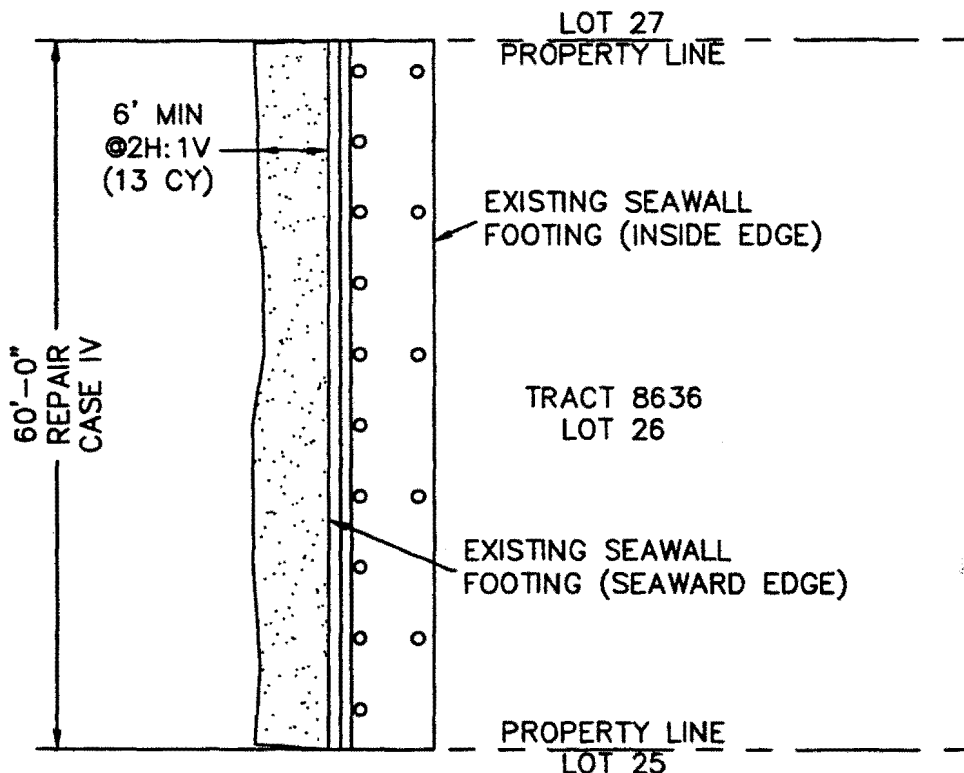


Lena Taddeo
16251 Typhoon Lane
Huntington Beach, CA 92649

Proposed Repair of Existing
Seawall

IN: Huntington Harbour
AT: Trinidad Island
Huntington Beach
County of Orange State: CA
Application By: Taddeo
Sheet 1 of 4 Date: 8/4/00

HUNTINGTON
HARBOUR
CHANNEL



LEGEND:

- PILES TO BE REPAIRED
- EXISTING PILES
- GROUTED VOID
- ▣ ROCK TOE PROTECTION



TETRA TECH

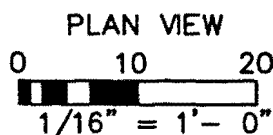
670 North Rosemead Blvd.
Pasadena, CA 91107
(626)351-4664, Fax (626)351-3291

COASTAL COMMISSION

EXHIBIT # 3
PAGE 48 OF 56

PURPOSE: Repair Existing Seawall

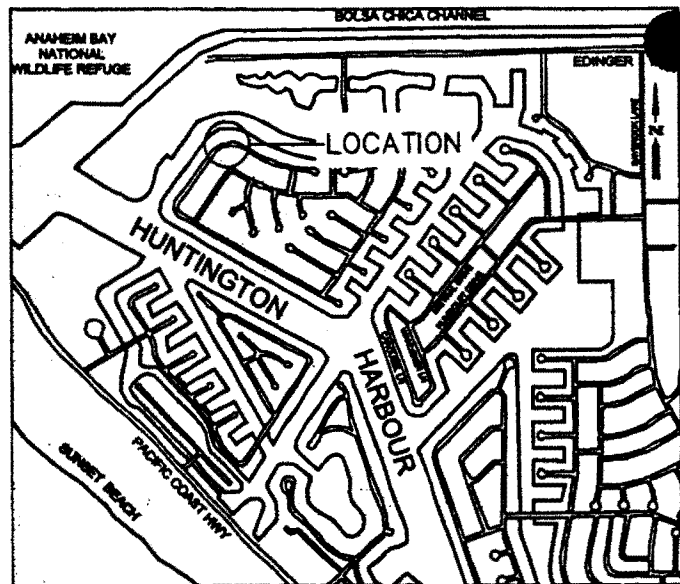
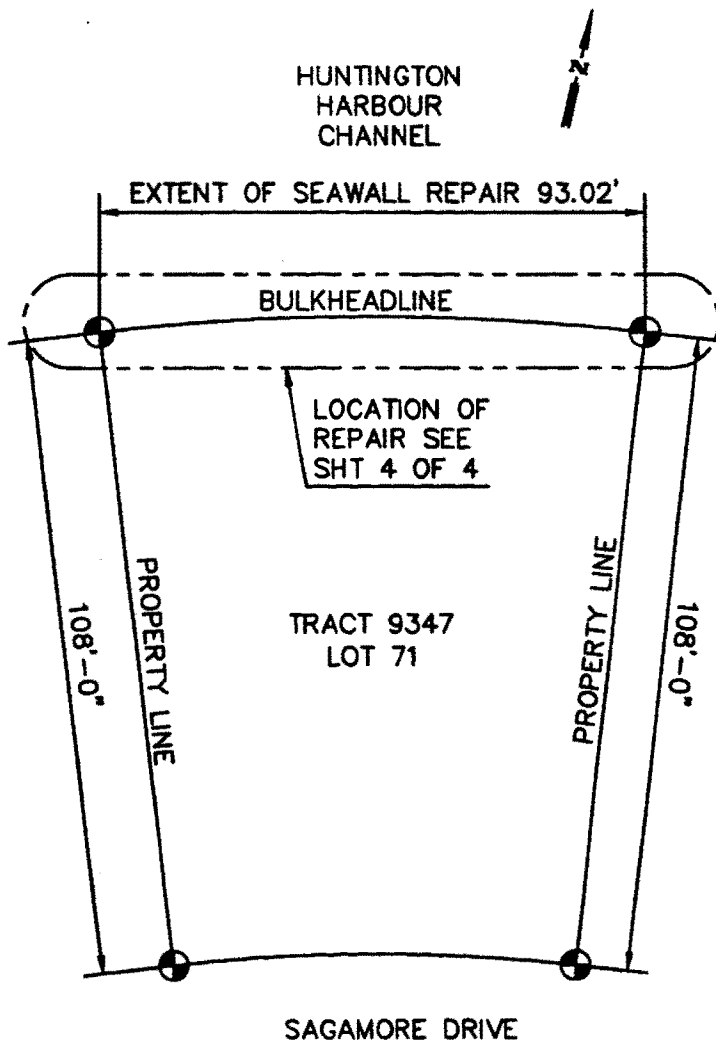
Datum: MLLW = 0
Adj. Property Owners:
1. See Attached List
2.
3.



Lena Taddeo
16251 Typhoon Lane
Huntington Beach, CA 92649

Proposed Repair of Existing Seawall

IN: Huntington Harbour
AT: Trinidad Island
Huntington Beach
County of Orange State: CA
Application By: Taddeo
Sheet 2 of 4 Date: 8/4/00



VICINITY MAP

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

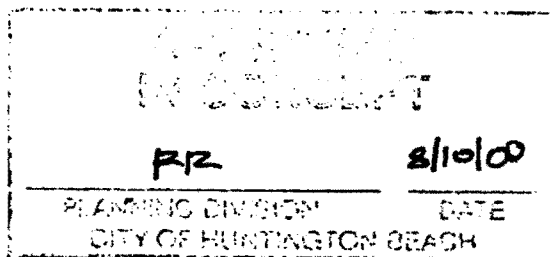
NOTE:
ALL DEPTHS BASED ON
MLLW=0.00 FT
COASTAL COMMISSION

EXHIBIT # 3
PAGE 49 OF 86



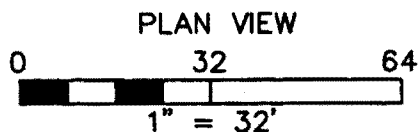
TETRA TECH

670 North Rosemead Blvd.
Pasadena, CA 91107
(826)351-4664, Fax (826)351-5291



PURPOSE: Repair Existing Seawall

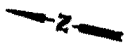
Datum: MLLW = 0
Adj. Property Owners:
1. See Attached List
2.
3.



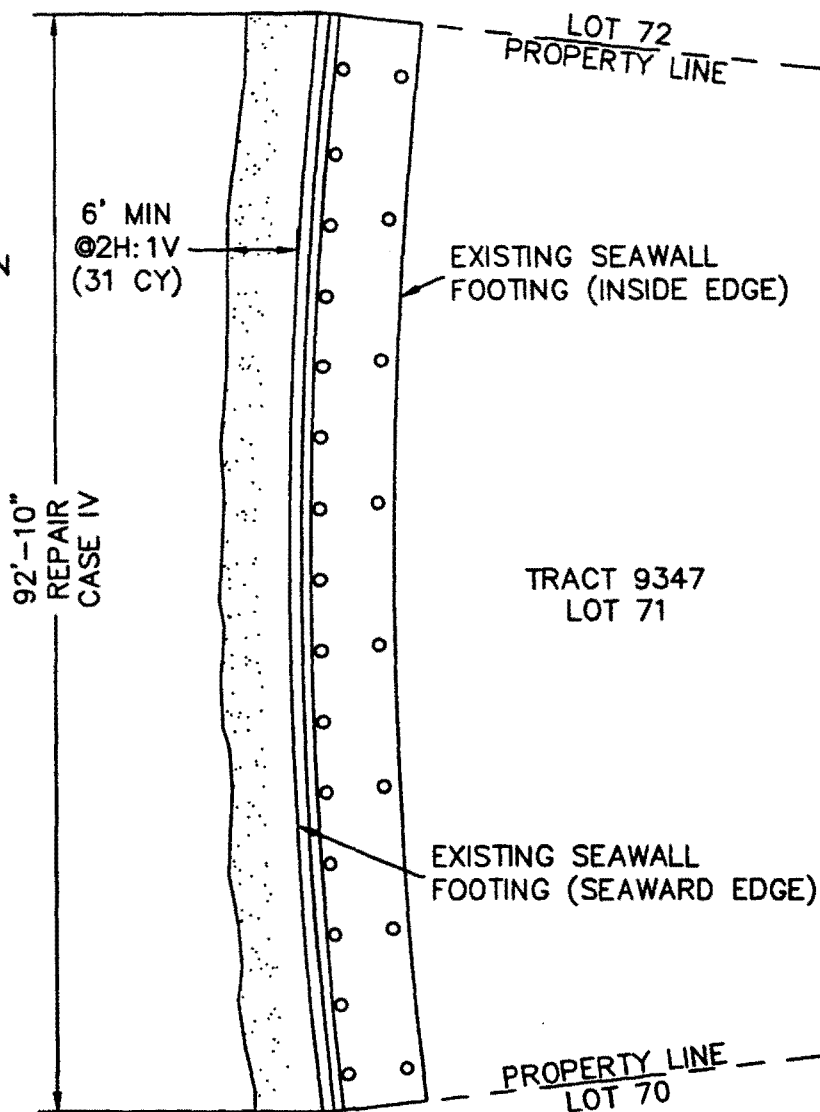
Stanley S. Tseng
3411 Sagamore Drive
Huntington Beach, CA 92649

Proposed Repair of Existing Seawall

IN: Huntington Harbour
AT: Trinidad Island
Huntington Beach
County of Orange State: CA
Application By: Tseng
Sheet 1 of 4 Date: 8/4/00



HUNTINGTON
HARBOUR
CHANNEL



LEGEND:

- PILES TO BE REPAIRED
- EXISTING PILES
- GROUTED VOID
- ROCK TOE PROTECTION

COASTAL COMMISSION

EXHIBIT # 3
PAGE 50 OF 56



TETRA TECH

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

PURPOSE: Repair Existing Seawall

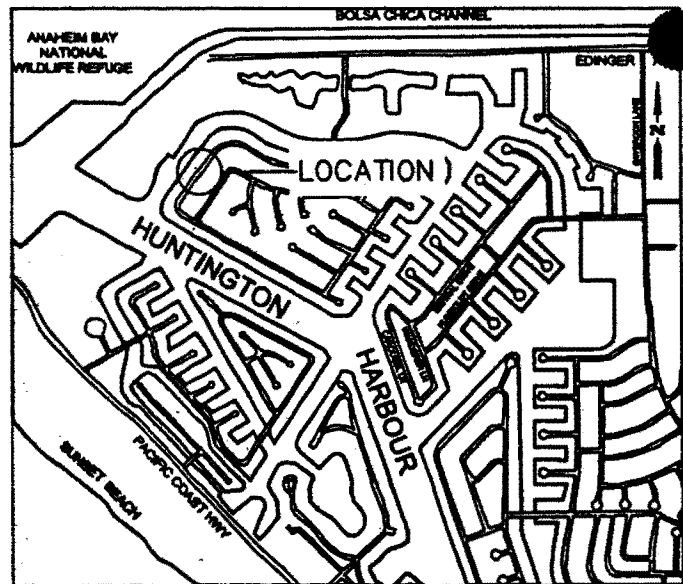
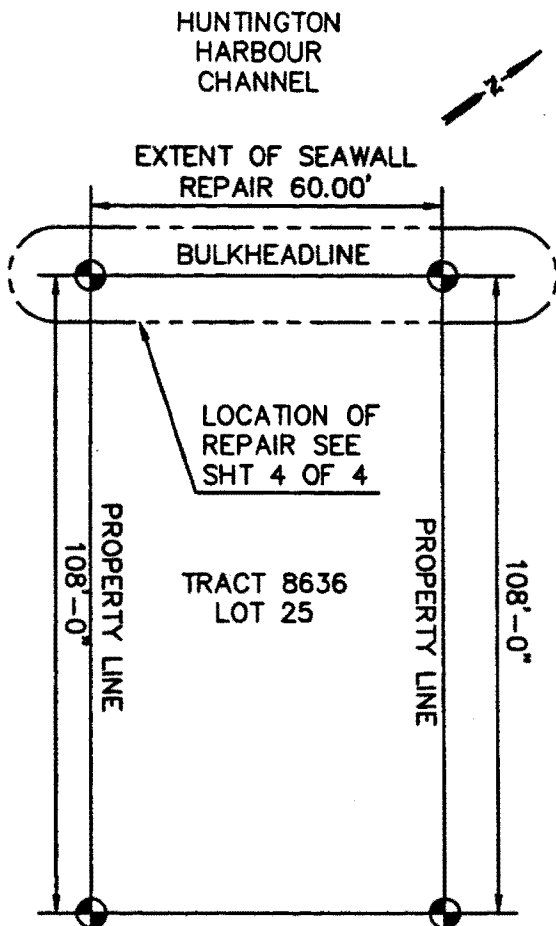
Datum: MLLW = 0
Adj. Property Owners:
1. See Attached List
2.
3.

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

Stanley S. Tseng
3411 Sagamore Drive
Huntington Beach, CA 92649

Proposed Repair of Existing Seawall

IN: Huntington Harbour
AT: Trinidad Island
Huntington Beach
County of Orange State: CA
Application By: Tseng
Sheet 2 of 4 Date: 8/4/00

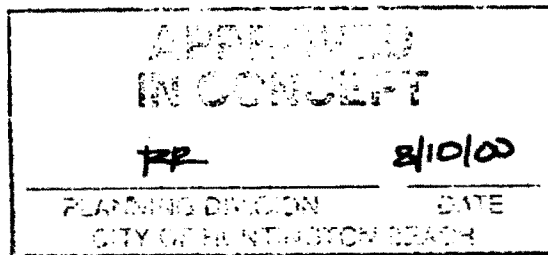


VICINITY MAP

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

NOTE:
ALL DEPTHS BASED ON
MLLW=0.00' FTL
SEAL BEACH COMMISSION

EXHIBIT # 3
PAGE 51 OF 56



TETRA TECH

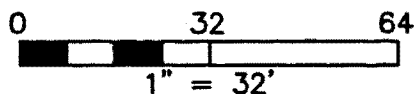
670 North Rosemead Blvd.
Pasadena, CA 91107
(626)351-4664, Fax (626)351-5291



PURPOSE: Repair Existing Seawall

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

PLAN VIEW



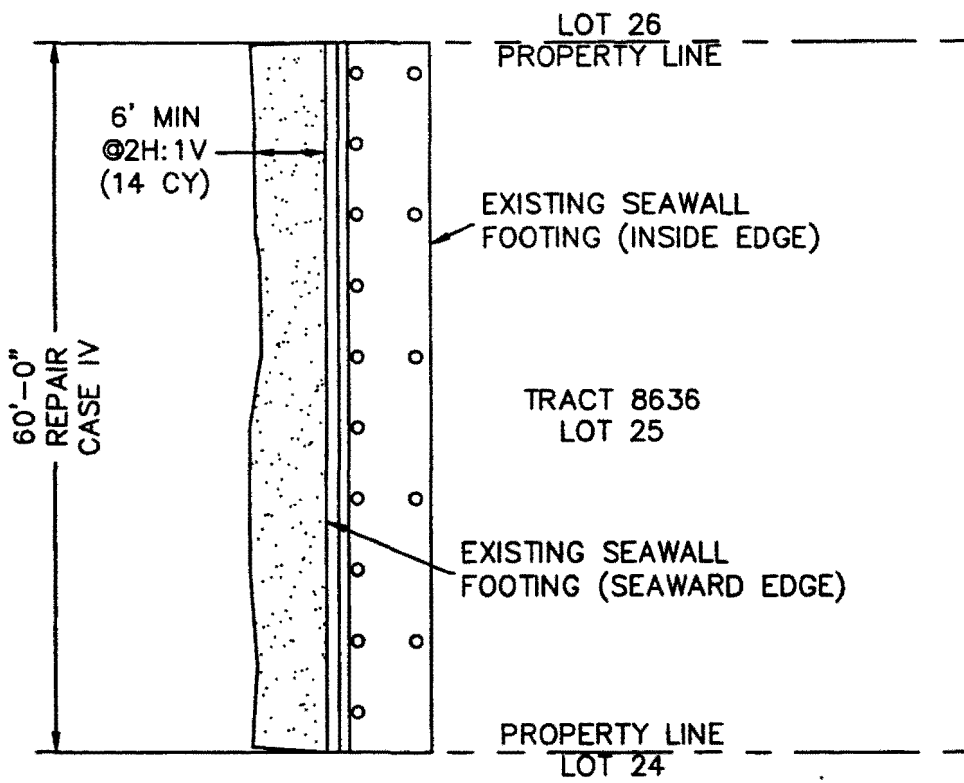
Ralph & Marlene Weaver
16261 Typhoon Lane
Huntington Beach, CA 92649

Proposed Repair of Existing Seawall

IN: Huntington Harbour
AT: Trinidad Island
Huntington Beach
County of Orange State: CA
Application By: Weaver
Sheet 1 of 4 Date: 8/4/00



HUNTINGTON
HARBOUR
CHANNEL



LEGEND:

- PILES TO BE REPAIRED
- EXISTING PILES
- GROUTED VOID
- ▣ ROCK TOE PROTECTION



TETRA TECH

670 North Rosemead Blvd.
Pasadena, CA 91107
(626)351-4864, Fax (626)351-5291

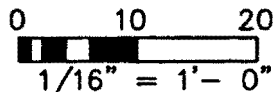
COASTAL COMMISSION

EXHIBIT # 3
PAGE 52 OF 56

PURPOSE: Repair Existing Seawall

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

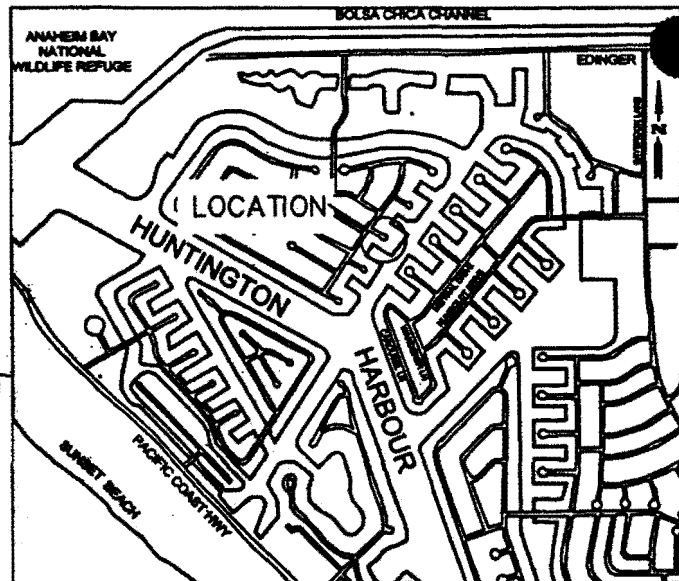
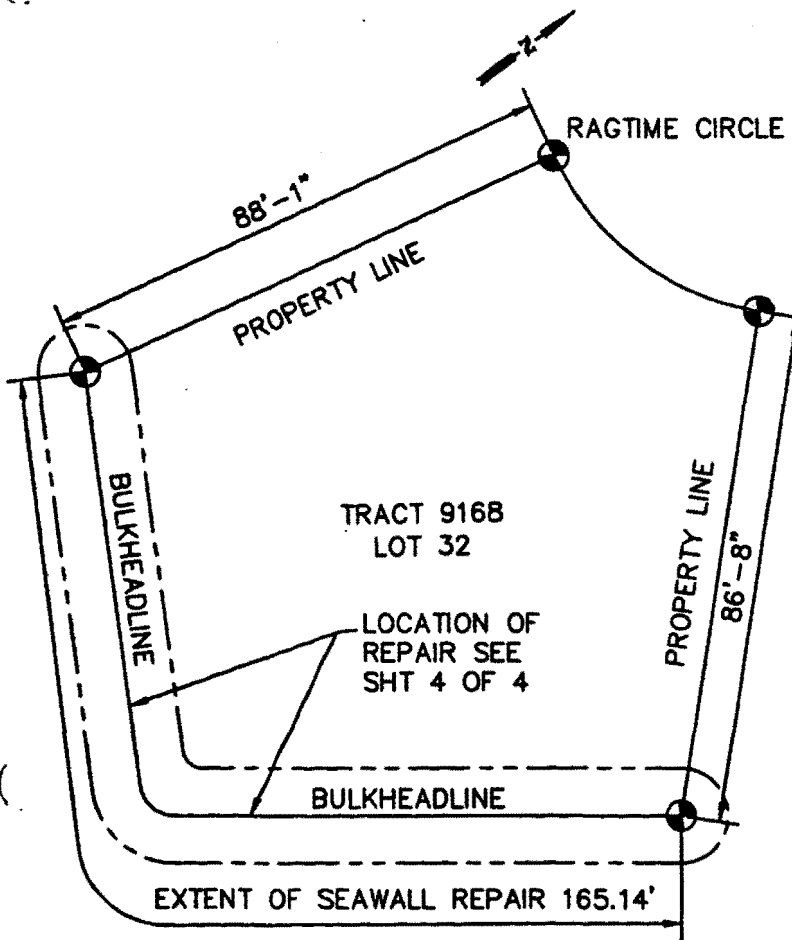
PLAN VIEW



Ralph & Marlene Weaver
16261 Typhoon Lane
Huntington Beach, CA 92649

Proposed Repair of Existing Seawall

IN: Huntington Harbour
AT: Trinidad Island
Huntington Beach
County of Orange State: CA
Application By: Weaver
Sheet 2 of 4 Date: 8/4/00



VICINITY MAP

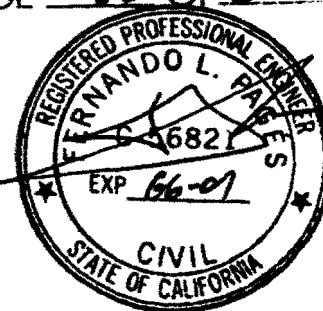
FROM U.S.G.S. SEAL BEACH
QUADRANGLE CALIFORNIA
SCALE 1:24000

NOTE:
ALL DEPTHS BASED ON
MLLW = 0.00 FT.
COASTAL COMMISSION

HUNTINGTON
HARBOR
CHANNEL

PR 8/10/00
PLANNING DIVISION DATE
CITY OF HUNTINGTON BEACH

EXHIBIT # 3
PAGE 53 OF 56

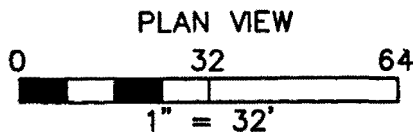


TETRA TECH

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.



Kenneth & Kuelli Yaryan
3782 Ragtime Circle
Huntington Beach, CA 92649

Proposed Repair of Existing
Seawall

IN: Huntington Harbour
AT: Trinidad Island
Huntington Beach
County of Orange State: CA
Application By: Yaryan
Sheet 1 of 4 Date: 8/4/00

LOT 33
PROPERTY LINE

6' MIN
@2H:1V
(75 CY)

EXISTING SEAWALL
FOOTING (INSIDE EDGE)

TRACT 9168
LOT 32

165'-2"
REPAIR
CASE IV

EXISTING SEAWALL
FOOTING (SEAWARD EDGE)

HUNTINGTON
HARBOUR
CHANNEL

PROPERTY LINE
LOT 31

LEGEND:

- PILES TO BE REPAIRED
- EXISTING PILES
- GROUTED VOID
- ROCK TOE PROTECTION

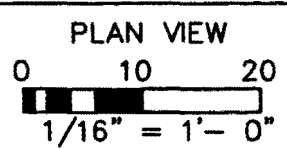
COASTAL COMMISSION



TETRA TECH
670 North Rosemead Blvd.
Pasadena, CA 91107
(826)351-4664, Fax (826)351-5291

EXHIBIT # 3
PAGE 54 OF 56

PURPOSE: Repair Existing Seawall

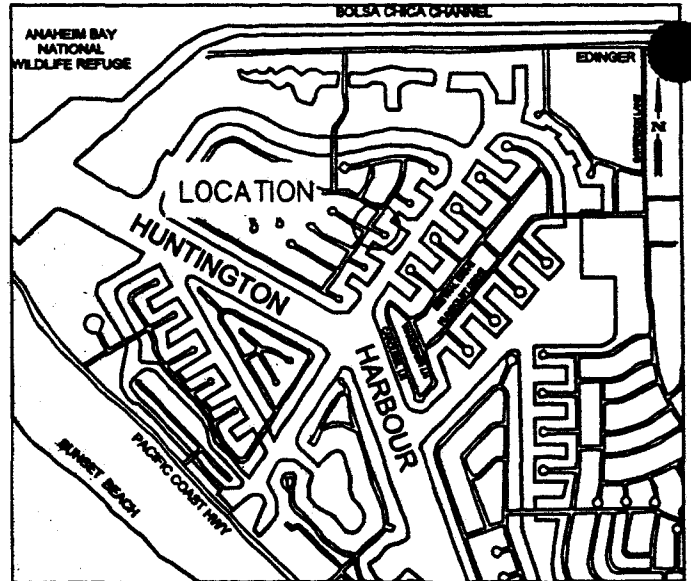


datum: MLLW = 0
Adj. Property Owners:
1. See Attached List
2.
3.

Kenneth & Kuelli Yaryan
3782 Ragtime Circle
Huntington Beach, CA 92649

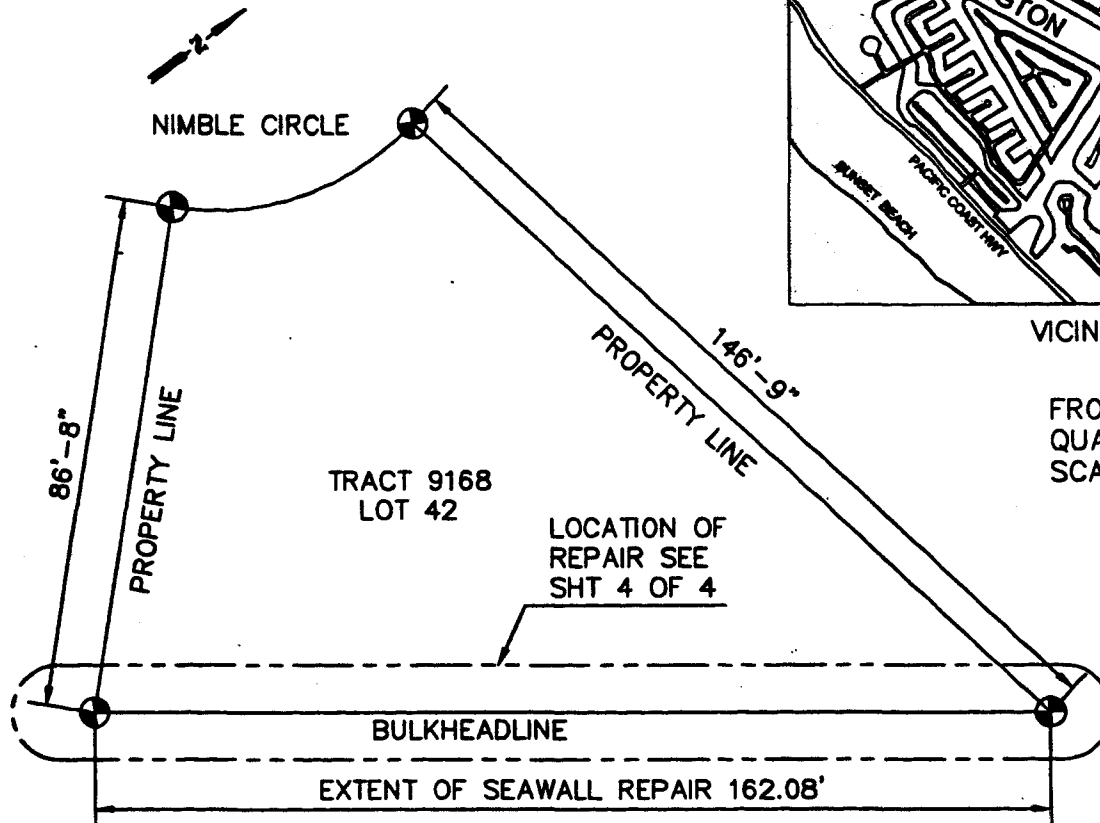
Proposed Repair of Existing Seawall

IN: Huntington Harbour
AT: Trinidad Island
Huntington Beach
County of Orange State: CA
Application By: Yaryan
Sheet 2 of 4 Date: 8/4/00



VICINITY MAP

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



**APPROVED
IN CONCEPT**

7/2

8/10/00

PLANNING DIVISION
CITY OF HUNTINGTON BEACH

HUNTINGTON
HARBOUR
CHANNEL

NOTE:
ALL DEPTHS BASED ON
MLLW=0.00 FT.
COASTAL COMMISSION

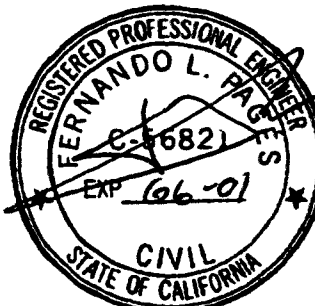


EXHIBIT # 3
PAGE 55 OF 56



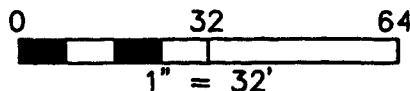
TETRA TECH

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.

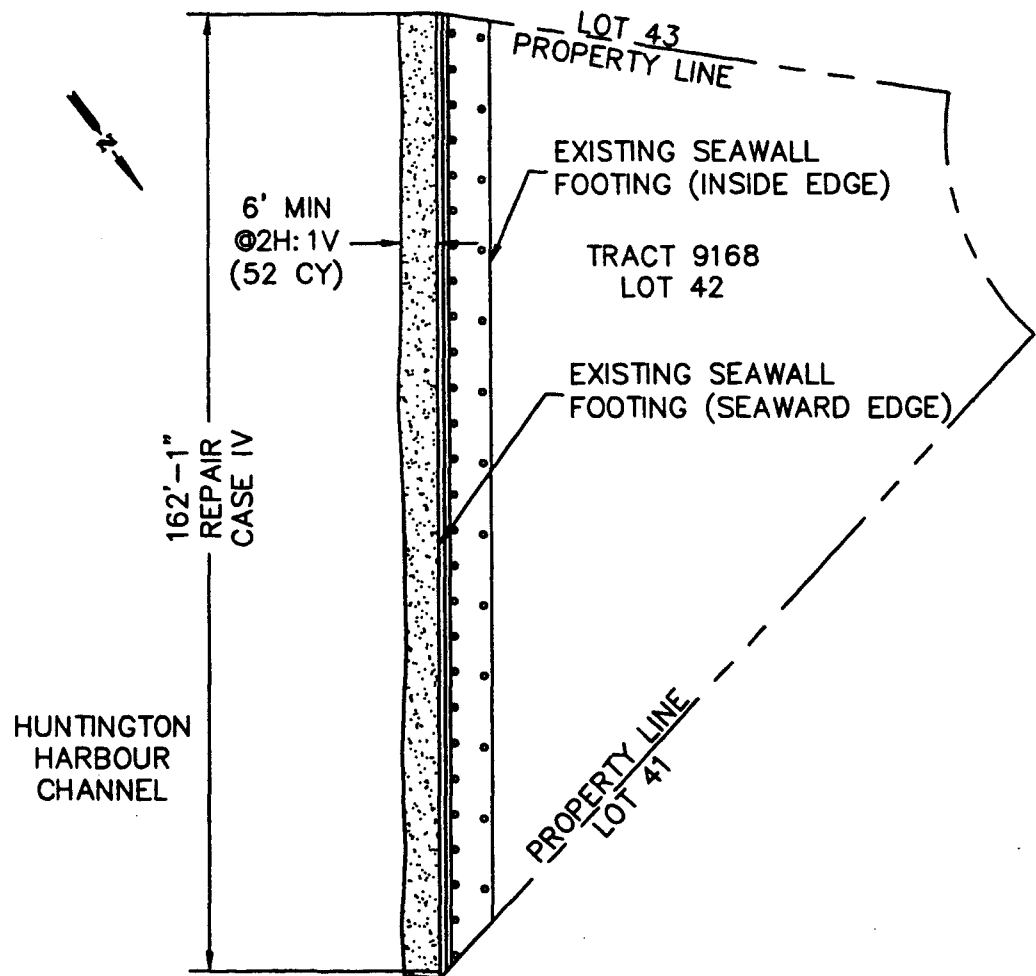
PLAN VIEW



Lincoln S. Yee
3761 Nimble Circle
Huntington Beach, CA 92649

**Proposed Repair of Existing
Seawall**

IN: Huntington Harbour
AT: Trinidad Island
Huntington Beach
County of Orange State: CA
Application By: Yee
Sheet 1 of 4 Date: 8/4/00



LEGEND:

- PILES TO BE REPAIRED
- EXISTING PILES
- ◐ GROUTED VOID
- ▣ ROCK TOE PROTECTION



TETRA TECH

670 North Rosemead Blvd.
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(626)351-4664, Fax (626)351-5291

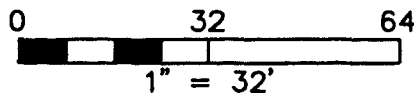
COASTAL COMMISSION

EXHIBIT # 3
PAGE 56 OF 56

PURPOSE: Repair Existing Seawall

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

PLAN VIEW



Lincoln S. Yee
3761 Nimble Circle
Huntington Beach, CA 92649

Proposed Repair of Existing Seawall

IN: Huntington Harbour
AT: Trinidad Island
Huntington Beach
County of Orange State: CA
Application By: Yee
Sheet 2 of 4 Date: 8/4/00

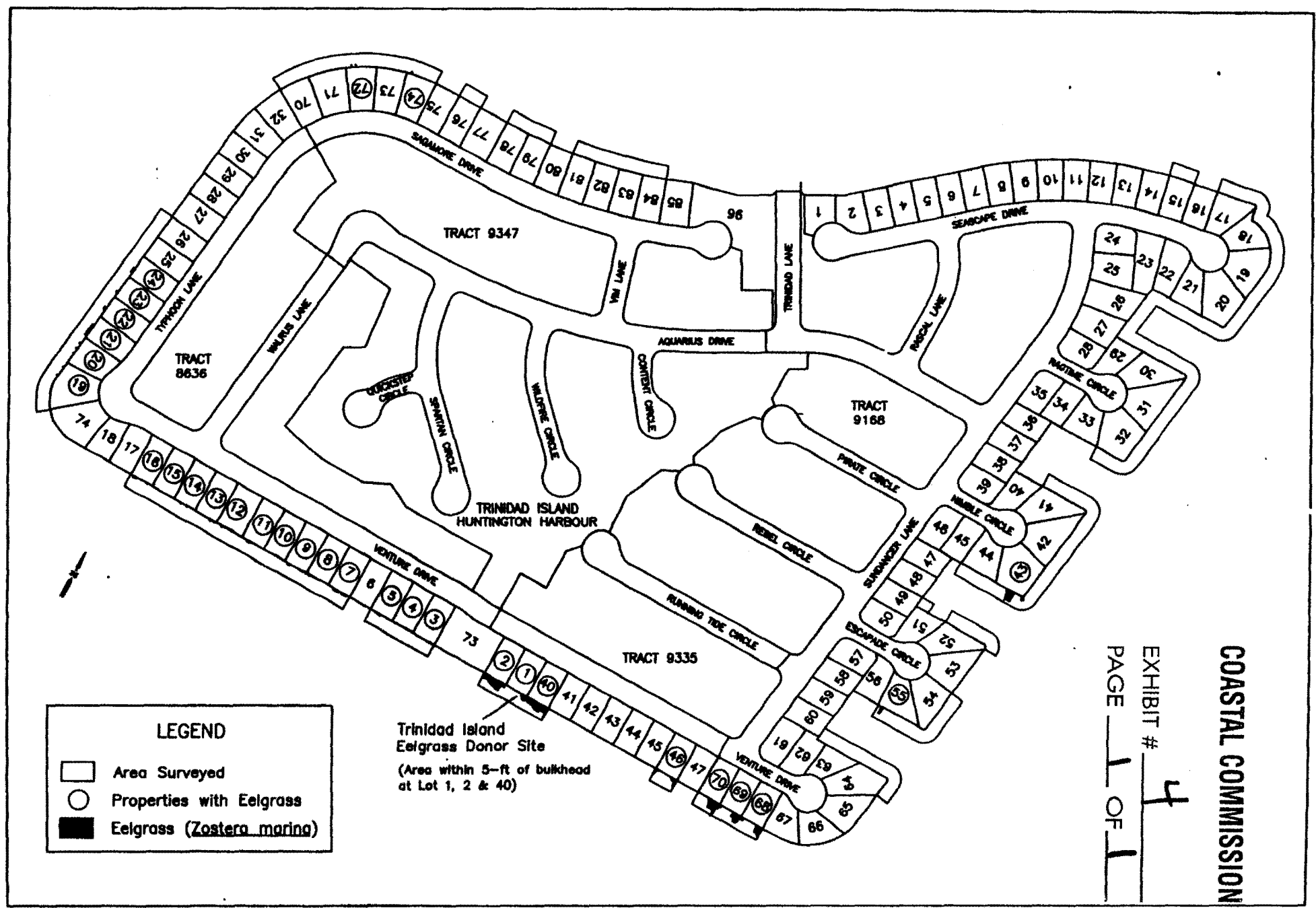


FIGURE 3. Trinidad Island Eelgrass Transplant Donor Site, Huntington Beach California, June 2000.

DEPARTMENT OF FISH AND GAME

MARINE REGION,
411 BURGESS DRIVE
MENLO PARK, CA 94025
(650) 688-6340



August 31, 2000

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SEP 05 2000

Department of Planning

Ms. Mary Beth Broeren
Senior Planner
City of Huntington Beach
2000 Main Street
Huntington Beach, California 92648

Dear Ms. Broeren:

Department of Fish and Game (Department) personnel have reviewed the Draft Negative Declaration/ Environmental Assessment No. 00-05 for the Humboldt Island and Trinidad Island Seawall Repairs (No. 00-05). The proposed project will repair and renovate existing bulkheads at 40 properties on Humboldt Island and 64 properties on Trinidad Island, Huntington Harbor, Huntington Beach, Orange County, California. It is anticipated that 24 properties will require removal and/or repair of damaged piles. At 44 properties, vinyl sheet-pile will be installed 1-foot, 7-inches seaward of the bulkheads. At all properties, a protective rip-rap footing comprised of quarry waste material, ranging from sand to 8-inch fragments, will be placed at the bulkheads. The footing will extend a maximum of 11 feet from the bulkheads. Sheet-pile installation will eliminate soft bottom habitat while slope protection will impact eelgrass (*Zostera marina*) habitat.

Tetra Tech, Inc., the property owners' authorized agents, have prepared two separate mitigation plans to compensate for loss of soft bottom habitat and impacts to eelgrass. The "Soft Bottom Mitigation Plan," describes procedures to restore and create tidal influence to existing wetland areas located in the Bolsa Chica Ecological Reserve, managed by the Department, in an area bordered by Pacific Coast Highway and Warner Avenue, approximately 0.5- to 1.2-miles southwest of the bulkhead projects. The "Eelgrass Mitigation and Eelgrass Transplant Report," describes procedures for eelgrass transplant at a site delineated for eelgrass mitigation by Orange County, approximately 1 mile northwest of the impact area. Tetra Tech, Inc., transplanted 3,600 square feet of eelgrass in June 2000.

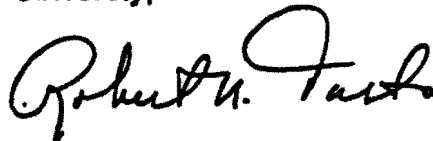
The Department has reviewed the mitigation plans and finds them adequate compensation for project induced losses. Thus, we conclude that the project, as currently proposed, would not have a significant adverse impact upon the existing marine environment provided the described mitigation plans are carried out in full.

COASTAL COMMISSION

EXHIBIT # 5
PAGE 1 OF 4

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 Specialist, California Department of Fish and Game, 4949 Viewridge Avenue, San Diego, CA 92123, telephone (858) 467-4231.

Sincerely,



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

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

COASTAL COMMISSION

EXHIBIT # 5
PAGE 2 OF 4

Memorandum

To : Mr. Karl Schwing
California Coastal Commission
200 Ocean Gate Avenue Suite 1000
Long Beach, California 90802

RECEIVED
South Coast Region

Date : July 6, 1999

JUL 14 1999

CALIFORNIA
COASTAL COMMISSION

From : Department of Fish and Game

Subject : Humboldt Island Homeowners Association Bulkhead Repair

This memo is in response to a request from Ms. Sarah McFadden, Tetra Tech Inc., representing the Humboldt Island Homeowners Association, concerning proposed project plans to repair and renovate existing bulkheads for 36 residences on southern Humboldt Island, Huntington Harbor, Huntington Beach, Orange County, California. Damaged piles will be removed and/or repaired at three properties. At 19 properties, vinyl sheet-pile will be installed 1 foot 7 inches seaward of the bulkheads. At all 36 properties a protective rip-rap footing, comprised of quarry waste material ranging from sand to 8 inch fragments, will be placed at the bulkheads. The footing will extend a maximum of 11 feet from the bulkheads.

The proposed project will impact hardscape, the water column, and soft bottom habitat. Impacts to hardscape (i.e., existing bulkheads and structures) and the water column are considered temporary, as the water quality will return to pre-construction conditions and the new structures will eventually be colonized by attachment organisms. However, impacts to soft bottom habitat will not be temporary. Based on information provided to the Department by Tetra Tech Inc., "expansion" of 19 bulkheads will result in a permanent loss of approximately 1,581 square feet of marine soft bottom bay habitat. In addition, approximately 17,700 square feet of soft bottom habitat will be buried by placement of rip-rap. Approximately 780 square feet of this soft bottom substrate is eelgrass (*Zostera marina*) habitat.

The permanent loss of marine soft bottom bay habitat is of concern to the Department. The Department strongly recommends that bulkhead projects be designed to eliminate or minimize loss of marine bay habitat. To accomplish this goal, we recommend that each property owner strive to construct its bulkhead either in place of the existing bulkhead or immediately in front of the existing bulkhead so that installation results in no net loss of intertidal habitat when measured at the Mean Higher High Water line. The Humboldt Island Homeowners' project has proposed sheet piling to be placed 1 foot 7 inches seaward of those bulkheads in need of repair. The sheet piling retains concrete and grout which is pumped in to fill existing voids in the bulkhead. Presumably the 1 foot 7 inch distance is necessary to allow sufficient clearance for concrete and grout piping, and to enable a pneumatic hammer to clear the bulkhead footing. It is the Department's position that bulkhead projects be constructed in such a manner to be the least environmentally damaging practicable alternative. Thus, we recommend the project proponent investigate alternative methodologies for filling voids in bulkheads. If this is deemed structurally unfeasible, then any incurred loss of marine soft bottom bay habitat should be mitigated.

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EXHIBIT # 5
PAGE 3 OF 4

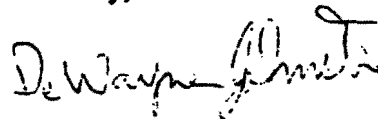
The Department recognizes that placement of rip-rap at the bulkheads would result in an initial loss of ecological benefits to species associated with soft bottom habitat. However, in the case of unvegetated soft bottom habitat this loss would likely be short-term, as different organisms would recolonize the rip-rap. Thus, we believe that placement of rip-rap on unvegetated soft bottom habitat would not have a significant impact on the environment.

In contrast, impacts to vegetated soft bottom habitat, i.e., eelgrass, from placement of rip-rap are significant. It is well documented that eelgrass habitat provides forage, cover, 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.

The project proponents plan to offset the loss of eelgrass in a manner consistent with the Southern California Eelgrass Policy, as amended. However, a specific eelgrass mitigation plan identifying the mitigation site has not been detailed at this time. In addition, the project proponent has not proposed a mitigation plan, nor recognized the necessity to compensate for the loss of 1,581 square feet of marine soft bottom bay habitat. The location and plans for mitigation sites are the responsibility of the project proponent. Therefore, until appropriate mitigation plans both for eelgrass loss and loss of soft bottom habitat have been developed and provided to the Department for review and approval, we cannot support this project.

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 Specialist, California Department of Fish and Game, 4949 Viewridge Avenue, San Diego, California 92123, or by telephone at (619) 467-4231.

Sincerely,



DeWayne Johnston
Regional Manager
Marine Region

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

COASTAL COMMISSION

EXHIBIT # 5
PAGE 4 OF 4



California Regional Water Quality Control Board

Santa Ana Region



Winston H. Hicker
Secretary for
Environmental
Protection

Internet Address: <http://www.swrwb.ca.gov/swrwb8>
3737 Main Street, Suite 500, Riverside, California 92501-3348
Phone (909) 782-4130 • FAX (909) 781-6288

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DEC 12 2000
Gray Darr
Commissioner

December 8, 2000

CALIFORNIA
COASTAL COMMISSION

Richard K. Asbury
3751 Nimble Circle
Huntington Beach, CA 92649

Ruben & Cheryl Bagdasarian
3492 Venture Drive
Huntington Beach, CA 92649

Alan E. Bristol
16311 Typhoon Lane
Huntington Beach, CA 92649

Bradley J. Buennert
3183 Seascope Drive
Huntington Beach, CA 92649

Robert & Marcello Burggraf
16281 Typhoon Lane
Huntington Beach, CA 92649

Paul C. Byrne, Jr.
3811 Seascope Drive
Huntington Beach, CA 92649

R.L. Cull
3802 Seascope Drive
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Huntington Beach, CA 92649

Frederick & Ellen Oble
3501 Sagamore Drive
Huntington Beach, CA 92649

Douglas & La Rue Daniels
3602 Venture Drive
Huntington Beach, CA 92649

Alan B. Deagier
3401 Regatta Circle
Huntington Beach, CA 92649

Alan B. Deagier
3382 Venture Drive
Huntington Beach, CA 92649

William B. & Christine A.
Davidson
3401 Sagamore Drive
Huntington Beach, CA 92649

Harry W. A. Dawson
3392 Venture Drive
Huntington Beach, CA 92649

Frank & Donna DeOche
3622 Venture Drive
Huntington Beach, CA 92649

Mark & Regina Dentonakis
3491 Sagamore Drive
Huntington Beach, CA 92649

Lien & Aub B. Do
16291 Typhoon Lane
Huntington Beach, CA 92649

Francis E. Goodyear
3422 Venture Drive
Huntington Beach, CA 92649

James R. Grace
3842 Seascope Drive
Huntington Beach, CA 92649

Austin L. Green
16272 Sandancer Lane
Huntington Beach, CA 92649

Rodney C. Hill
3402 Venture Drive
Huntington Beach, CA 92649

H. Henry Hirsch
3732 Nimble Circle
Huntington Beach, CA 92649

Clarence D. Hodges
3322 Venture Drive
Huntington Beach, CA 92649

Joseph & Benita Jacobs
3682 Escapade Circle
Huntington Beach, CA 92649

Arthur Jan, Jr.
3431 Sagamore Drive
Huntington Beach, CA 92649

Robert M. & Helen M. Johnson
3521 Sagamore Drive
Huntington Beach, CA 92649

Preston Kling
3671 Venture Drive
Huntington Beach, CA 92649

Nicholas Koss
3362 Venture Drive
Huntington Beach, CA 92649

Gregory D. Krimmel
3512 Venture Drive
Huntington Beach, CA 92649

John D. & Nicholas M. Kubeck
3442 Venture Drive
Huntington Beach, CA 92649

William M. McCune
3791 Regatta Circle
Huntington Beach, CA 92649

Thomas & Lynn T. McInally
3382 Venture Drive
Huntington Beach, CA 92649

Thomas L. Jr. & Janet McKinn
3601 Venture Drive
Huntington Beach, CA 92649

Elizabeth Meadows
3692 Escapade Circle
Huntington Beach, CA 92649

James P. Merley
3651 Venture Drive
Huntington Beach, CA 92649

Frank T. & Nancy C. Monroe
3452 Venture Drive
Huntington Beach, CA 92649

John S. & Irene D. Murren
3742 Nimble Circle
Huntington Beach, CA 92649

Lanette G. Neware
3691 Escapade Circle
Huntington Beach, CA 92649

William Newfield
3332 Venture Drive
Huntington Beach, CA 92649

Beverly Newhall
3841 Seascope Drive
Huntington Beach, CA 92649

Huang Van Ong
3441 Sagamore Drive
Huntington Beach, Ca 92649

Gary Pezonak
16262 Sandancer Lane
Huntington Beach, Ca 92649

John M. & Patricia Pratto
3322 Seascope Drive
Huntington Beach, Ca 92649

Syria Rayhan
3612 Venture Drive
Huntington Beach, Ca 92649

Zacharia Roda
3372 Venture Drive
Huntington

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California Environmental Protection Agency

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EXHIBIT # 6
PAGE 1 OF 6

Trinidad Island Homeowners
Huntington Beach, CA

- 2 -

December 8, 2000

James Riddick
3812 Seascope Drive
Huntington Beach, Ca 92649

Yuvai Rosenthal
16301 Typhoon Lane
Huntington Beach, Ca 92649

Harry M. Ross
3831 Seascope Drive
Huntington Beach, Ca 92649

Brian & Rose Seylla
3561 Sagamore Drive
Huntington Beach, Ca 92649

George F. Schoffner
3342 Venture Drive
Huntington Beach, Ca 92649

R. James Schaffer
16412 Sundancer Lane
Huntington Beach, Ca 92649

Linda Silverman
3461 Sagamore Drive
Huntington Beach, Ca 92649

Serve Shamer
16305 Nimble Circle
Huntington Beach, Ca 92649

Howard E. Seida
3541 Sagamore Drive
Huntington Beach, Ca 92649

George & Irene Strickfield
3531 Sagamore Drive
Huntington Beach, Ca 92649

Susan Seiler
3502 Venture Drive
Huntington Beach, Ca 92649

Robert Swain
16371 Typhoon Lane
Huntington Beach, Ca 92649

Pherie D. Taddao
16251 Typhoon Lane
Huntington Beach, Ca 92649

Hishkara Tujima
3462 Venture Lane
Huntington Beach, Ca 92649

Stanley S. Tseng
3411 Sagamore Drive
Huntington Beach, Ca 92649

Trifone & Esther A. Ulys
3421 Sagamore Drive
Huntington Beach, Ca 92649

Ralph B. & Marjorie M. Warner
16261 Typhoon Lane
Huntington Beach, Ca 92649

Kenneth L. Yaryan
3742 Regime Circle
Huntington Beach, Ca 92649

Lincoln S. Yee
3761 Nimble Circle
Huntington Beach, Ca 92649

Yaphob Youmans
3352 Venture Drive
Huntington Beach, Ca 92649

**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)**

Dear Trinidad Island Homeowners:

This is in response to the October 9, 2000 transmittals we received on October 11, 2000 and additional information received on November 21, 2000, requesting 401 water quality standards certification under section 401 of the Clean Water Act for the above referenced project.

1. Project Description:

Sixty-four Trinidad Island homeowners are proposing to repair and restore the foundation of an existing bulkhead confining a portion of Trinidad Island in Huntington Beach. In locations of severe bulkhead erosion, the proposed construction will involve removing damaged timber and replacement with steel jacks. The voids within the repaired structure will be pressure-filled with concrete and grout to protect the steel surfaces from corrosion. A fiberglass-reinforced plastic sheet will be placed at a maximum distance of 1'7" in front of the bulkhead face to retain the pumped concrete and provide structural integrity for the bulkhead. A blanket of coarse material over filter fabric will be applied seaward of the sheet pile at a 2:1 slope from the top of the footing, and extend out a maximum of 8 feet from the bulkhead (dependent on existing slope and erosion conditions). The blanket will help prevent seawall footing scour, as well as prevent fish from burrowing under the wall.

In locations of minimal erosion, coarse material will be backfilled over filter fabric as slope protection.

The proposed construction activities may cause significant permanent impact to eelgrass, a sensitive plant species, and/or may also result in the loss of soft bottom habitat. Thirty properties will permanently impact eelgrass habitat, and

COASTAL COMMISSION

EXHIBIT # 6
PAGE 2 OF 6

- 17 properties will permanently impact soft bottom habitat.
2. Receiving water: Huntington Harbour, Orange County
3. Fill area: Ocean: 0.69 acres of permanent impact.
No wetlands will be impacted.
4. Dredge volume: N/A
5. Federal permit: U. S. Army Corps of Engineers, Individual Permit # 200100038-YJC
6. Compensatory mitigation: Eelgrass Habitat Mitigation
The proposed bulkhead repair at Trinidad Island will permanently impact 1671.9 square feet of eelgrass habitat. The mitigation for this site will require transplanting eelgrass at a 1.2:1 ratio. On October 16, 2000, Regional Board staff received an Eelgrass Mitigation Report and Eelgrass Transplant Report from Tetra Tech, Inc. The report indicated that a Memorandum of Understanding between the City of Huntington Beach and the County of Orange stipulates that Trinidad Island residents will adhere to the Eelgrass Mitigation Report and Eelgrass Transplant Report. The mitigation project, including monitoring and evaluation, must also be consistent with the Southern California Eelgrass Mitigation Policy developed by the National Marine Fisheries Service, U.S. Fish and Wildlife Service, and the California Department of Fish and game (February 2, 1999).

The residents have already conducted the eelgrass transplant program under the guidance of the California Department of Fish and Game in June of 2000. The total mitigation volume of 1671.9 square feet of eelgrass was transplanted in Huntington Harbour approximately one mile northwest of the impacted properties. The mitigation program is currently in the monitoring and evaluation phase, which is required for a minimum of five years. In addition, the permittee must identify and mark the eelgrass areas to be avoided during bulkhead construction.

Soft Bottom Habitat Mitigation

Each homeowner is responsible to mitigate for the loss of soft bottom habitat as a result of the bulkhead repairs. Tetra Tech, Inc., the consulting firm representing the Trinidad Island Homeowners, has prepared a Soft Bottom Mitigation Plan (Plan) that has been accepted by the California Department of Fish and Game (CDFG). The mitigation site is in the Bolsa Chica Wetlands area, 0.5 - 1.2 miles southwest of the impacted properties. The Plan proposes to compensate for impacts to 340.4 square feet of soft bottom by requiring: repair of an existing conduit; removal of concrete debris; regrading of the mitigation area to an elevation similar to an adjacent wetland area; monitoring surveys; and evaluating the success of the mitigation site. The mitigation plan proposes to regrade a total of 680.8 square feet (based on a 2:1 mitigation ratio) within the Bolsa Chica Wetlands to compensate for impacts from this project.

Best Management Practices will be implemented at the mitigation site to minimize impacts to surrounding areas. The pickleweed on site will be protected and/or salvaged. Any disturbed pickleweed will be replaced with pickleweed from an adjacent location or from a nursery. The planting will be performed under the direction of the CDFG.

Adherence to the Soft Bottom Mitigation Plan, submitted April 2000 is required. In addition, the mitigation site must be monitored for a minimum of five years.

COASTAL COMMISSION

EXHIBIT # 6
PAGE 3 OF 6

Applicants Name	Trinidad Island Residents and Associated Eelgrass/Soft Bottom Impacts	Project Street Address	Lot Number	Habitat Impact
Richard K. Asbury	3751 Nimble Circle	41	SB	
Ruben & Cheryl Bagdasarian	3492 Venture Drive	2	E	
Alan E. Brindle	16311 Typhoon Lane	20	E	
Bradley J. Buechner	3832 Seascope Drive	20	E	
Robert & Masako Burggraf	16281 Typhoon Lane	23	E, SB	
Paul C. Byrne, Jr.	3811 Seascope Drive	15	E	
R.L. Call	3802 Seascope Drive	23	E, SB	
Eric Chan	3392 Venture Drive	9	E	
Frederick & Ellen Chia	3501 Segamore Drive	79	SB	
Douglas & La Rue Daniels	3602 Venture Drive	70	E	
Alan B. Dauger	3801 Ragtime Circle	31	SB	
William B. & Christine A. Davidson	3582 Venture Drive	46	E, SB	
Harry W. A. Dwyer	3401 Segamore Drive	70	E, SB	
Frank & Deanne DuCelles	3292 Venture Drive	19	E	
Mark & Regina Duestel	3422 Venture Drive	68	E	
Liem & Ann B. Do	3491 Segamore Drive	78	E	
Francis E. Goodyear	16291 Typhoon Lane	22	E	
James R. Grasse	3442 Seascope Drive	7	E	
Austin L. Grasm	16272 Sandpiper Lane	19	E	
Rodney C. Hill	3402 Venture Drive	27	E	
H. Henry Hirsch	3732 Nimble Circle	8	SB	
Clarence D. Hodges	3322 Venture Drive	44	SB	
Joseph & Brenda Jacobs	3682 Escapade Circle	16	E	
Arthur Jea, Jr.	3431 Segamore Drive	55	SB	
Robert M. & Helen M. Johnson	3521 Segamore Drive	73	SB	
Preston Kling	3671 Venture Drive	81	SB	
Nicholas Kratz	3627 Venture Drive	64	SB	
Gregory D. Kripnel	3512 Venture Drive	12	E, SB	
John D. & Nicholas M. Kubeck	3442 Venture Drive	40	E	
William M. McCane	3791 Ragtime Circle	5	E	
Thomas & Lynn T. McNulty	3382 Venture Drive	30	E, SB	
Thomas L. Jr. & Janet McKenney	3661 Venture Drive	10	E	
Elizabeth Meadows	3692 Escapade Circle	63	E	
James P. Menley	3651 Venture Drive	54	E	
Frank T. & Nancy C. Minor	3452 Venture Drive	62	E	
John S. & Irene D. Murmore	3742 Nimble Circle	4	E	
Lanacote Q. Newman	3691 Escapade Circle	43	E	
William Newfield	3332 Venture Drive	52	E	
Beverly Newhall	3841 Seascope Drive	15	E	
Huang Yan Ong	3441 Segamore Drive	18	E	
Gary Puzonak	16262 Sandpiper Lane	74	E, SB	
John M. & Patricia Pratto	3822 Seascope Drive	26	E	
Syrus Rayburn	3612 Venture Drive	21	E	
Zacharia Rade	3372 Venture Drive	09	E	
James Riddle	3812 Seascope Drive	11	E	
Yorel Rosenzweig	16301 Typhoon Lane	22	E	
Harry M. Ross	3831 Seascope Drive	21	E	
Brian & Rene Saylla	3561 Segamore Drive	17	E	
George F. Scholander	3342 Venture Drive	04	E	
R. James Schaffler	16412 Sandpiper Lane	14	E	
Linda Silverman	3461 Segamore Drive	49	E	
Steve Shawer	16305 Niandic Circle	76	E, SB	
Howard E. Stein	3541 Segamore Drive	70	E	
George & Irene Steinfeld	3531 Segamore Drive	83	E	
Robert Swann	3502 Venture Drive	82	SB	
Prasad D. Taddeo	16271 Typhoon Lane	1	E	
Huanzuo Teyuan	16251 Typhoon Lane	24	E	
Stanley S. Tseng	3442 Venture Lane	3	E	
Tridone & Esther A. Uva	3411 Segamore Drive	71	E	
	3421 Segamore Drive	72	E, SB	

COASTAL COMMISSION

EXHIBIT # 6

PAGE 4 OF 6

California Environmental Protection Agency

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Ralph B. & Marine M. Wevers	16261 Typhoon Lane	25	
Kenneth L. Yaryan	3782 Ragtime Circle	32	
Lincoln S. Yee	3761 Nimble Circle	42	
Yaghoub Younessi	3352 Venture Drive	13	E, SB
<hr/>			
E = Eelgrass SB = Soft Bottom			

Trinidad Island Homeowners propose to implement Best Management Practices (BMP) to ensure that there is not excessive erosion and to prevent pollutant discharges during project construction. Turbidity will be minimized by installing a filter fabric between the fine sediments and the coarse materials.

Trinidad Island Homeowners have received an individual permit (#200100038-YJC) and a Letter of Permission from the U.S. Army Corps of Engineers in compliance with Section 404 of the Clean Water Act. A certified Negative Declaration was received for this project on October 19, 2000.

Resolution No. 96-9 (copy enclosed) provides that waste discharge requirements for certain types of discharges are waived provided that criteria and conditions specified in the Resolution are met. Provided that the criteria and conditions for Minor Dredging Projects specified on page 1 (of Attachment "A" to the Resolution), Other Insignificant Discharges of Wastewater to Land specified on page 4, and the general conditions specified on page 4 are met, waste discharge requirements are waived for this project.

***Caulerpa taxifolia* Stipulation:**

In June 2000, *Caulerpa taxifolia*, an invasive marine seaweed, was reported to be 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. Regional Board staff has contacted Tetra Tech, Inc. regarding this matter, and Tetra Tech, Inc. informed us that there were no signs of *Caulerpa* at the proposed project sites. This must be confirmed prior to any repair/restoration efforts since those efforts would likely contribute to the dispersal of this alga, if it is present. Therefore, coordination with CDFG regarding an extensive survey of the project site for *Caulerpa* is required prior to initiation of the project. A letter indicating that CDFG has been contacted and clearance from them has been obtained stating that the properties that will be impacted do not have *Caulerpa* must be submitted to the Regional Board prior to the start of the project. 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. Upon discovery of the invasive seaweed, which must not be disturbed, the Regional Board must be notified immediately, reporting the location and date of discovery. In addition, should no *Caulerpa* be observed during the bulkhead repair, please notify the Regional Board of this fact when all property repairs at Trinidad Island have been completed. This will help us to establish a database of infestation or the occurrence or absence of *Caulerpa*. In turn, this will help us to locate and prevent the spread of this invasive seaweed, which has severe adverse effects on the ecosystem.

Pursuant to 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 Chapter 28. Certification of 23 CCR.
- (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 Chapter 28 of 23

COASTAL COMMISSION

EXHIBIT # 6
PAGE 5 OF 6

California Environmental Protection Agency

CCR 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 Chapter 28 of 23 CCR and owed by the applicant.

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 Stephanie M. Gasca with the Santa Ana Regional Board staff before project construction on this project begins. Should there be any questions, please contact Wanda Smith at (909) 782-4468 or Stephanie M. Gasca at (909) 782-3221.

Sincerely,


GERARD J. THIBEAULT
Executive Officer

Attachment

cc (with attachment):
Tetra Tech- Sarah McFadden

cc (w/out attachment):
U.S. Environmental Protection Agency, Director of Water Division (WTR-1) - Alexis Strauss
U.S. Army Corps of Engineers, Los Angeles District - Jae Chung
U.S. Fish and Wildlife Service, Carlsbad Office - Christine Moeen
California Department of Fish and Game - Marilyn Fluharty
California Department of Fish and Game - Erick Burres
California Coastal Commission, Long Beach Branch - Karl Schwing
State Water Resources Control Board, Watersheds Project Support Section -
William R. Campbell, Chief

COASTAL COMMISSION

EXHIBIT # 6
PAGE 6 OF 6

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) 574-1892

Contact FAX: (916) 574-1925

March 24, 2000
RECEIVED
South Coast Region
APR 3 - 2000
CALIFORNIA
COASTAL COMMISSION

File Ref: W 25628
W 25444

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

Dear Mr. Pages:

SUBJECT: Proposed Bulkhead Repairs on 62 Residential Properties at
Trinidad Island, Huntington Harbour, Orange County

This is in response to your request on behalf of your clients, 62 residential property owners at Trinidad Island in Huntington Harbour, for a determination by the California State Lands Commission (CSLC) whether it asserts a sovereign title interest in the properties that the subject projects will occupy and whether it asserts that the projects will intrude into an area that is subject to the public easement in navigable waters.

The facts pertaining to your clients' projects, as we understand them, are these:

Your clients are proposing to repair existing bulkheads located adjacent to various residential properties throughout Trinidad Island in Huntington Harbour. The repairs will involve further waterward reinforcement of the bulkheads. Pursuant to two agreements entered into in 1961 and 1962, BLA 18 and SLL 34, the CSLC settled certain property (boundary and title) ownership issues with the Huntington Harbour Corporation involving Huntington Harbour. The CSLC's area of leasing jurisdiction extends over the state's fee title ownership including the areas that are referred to as the Main and Midway Channels. The state retains a Public Trust easement over additional within Huntington Harbour. Specifically with regard to Trinidad Island, the 20 lots located within Tracts 8636 and 9335 (Venture Drive) are located adjacent to the north fork of the Main Channel. The bulkheads are assumed to be located on privately-owned lots adjacent to the boundary between the private upland and the state's fee ownership.

COASTAL COMMISSION

EXHIBIT # 7
PAGE 1 OF 4

Based on our review of the information you provided, the proposed repair projects within Tracts 8636 and 9335 are located in the Main Channel and will include sovereign lands lying waterward of the existing bulkheads, and therefore require CSLC authorization. An application(s) will need to be submitted for the 20 lots along Venture Drive. One application may be submitted for all 20 lots, along with a filing fee of \$25 per lot and a processing deposit of \$3000, for a total of \$3500. The homeowners may wish to consider having one individual represent them during the application process. However, all of the homeowners will need to be signatories to the lease documents.

For your information, back in 1997, I reviewed plans from Moffatt & Nichol Engineers relative to bulkhead repairs at 3302 and 3312 Venture Drive. In mid-1998, I was subsequently advised by M & N that the property owners (Shea and Albert) would be included as part of an application to be submitted on behalf of many other property owners for bulkhead repairs throughout this area of Huntington Harbour. Please advise if your firm will be handling the projects for these two properties as part of the larger Trinidad Island projects you are proposing.

I have enclosed information relative to the CSLC's application process. Please have the application completed and returned to me, along with the necessary fees, as soon as possible. In addition, the projects are subject to environmental review by the CLSC's staff. Standard for this review are set forth in the California Environmental Quality Act (CEQA), the State CEQA Guidelines, and the Public Resources Code.

It is our understanding that a significant number of property owners in Huntington Harbour in addition to your clients are proposing bulkhead repairs and that before these projects are considered by the California Coastal Commission, the State Department of Fish and Game is requesting that a Mitigation Plan be prepared to mitigate impacts to soft-bottom habitat. As to all of the bulkhead repair projects being proposed by your clients, whether subject to the CSLC's leasing jurisdiction and/or the Public Trust Easement, we will be reviewing that Mitigation Plan as part of our consideration of your clients' projects.

Upon receipt of the application and fees, your clients or their designated representative will be provided a reimbursement agreement. An executed reimbursement agreement to cover the CSLC's cost to process these transactions is required as part of a complete application. If the actual staff costs of processing this transaction are less than the deposited amount, the difference will be refunded.

On a somewhat related matter, our files indicate that seven of the lots on Venture Drive (Tract 8636, Lots 1 and 2; Tract 9168, Lots 68, 69, 70; and Tract 9335, Lots 40 and 46) have existing recreational pier leases for boat docks. Our files also indicate that thirteen of the lots proposed for bulkhead repairs (Tract 8636, Lots 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, and 16) do not currently have recreational pier leases for boat

COASTAL COMMISSION

EXHIBIT # 7
PAGE 2 OF 4

docks. To the extent that any or all of these thirteen lots have existing boat docks, recreational pier lease(s) are required. Please confirm the status of these thirteen lots with regard to this issue.

Sincerely,



Jane E. Smith
Public Land Management Specialist
Southern California Region

Enclosure

cc: Marilyn Fluharty, DFG
Karl Schwing, CCC/Long Beach

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EXHIBIT # 7
PAGE 3 OF 4

CALIFORNIA STATE LANDS COMMISSION

100 Howe Avenue, Suite 100-South
Sacramento, CA 95825-8202RECEIVED
SEP 14 2000CALIFORNIA
COASTAL COMMISSION

PAUL D. THAYER, Executive Officer

(916) 574-1800 FAX (916) 574-1810

California Relay Service From TDD Phone 1-800-735-29
from Voice Phone 1-800-735-29

Contact Phone: (916) 574-1892

Contact FAX: (916) 574-1925

September 12, 2000

File Ref: W 25524/W25628

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

Dear Mr. Pages:

SUBJECT: Additional Bulkhead Repairs on Trinidad and Humboldt Islands,
Huntington Harbour, Orange County

This will acknowledge your September 1, 2000 letter concerning three additional bulkhead repair projects in Huntington Harbour. Those three projects are located in Tract 9168, Lot 22 (3812 Seascap) and Lot 32 (3782 Ragtime Circle), and Tract 5481, Lot 70 (16305 Niantic Circle). As you are aware, the area of the leasing jurisdiction of the California State Lands Commission (CSLC) extends over the State's fee title ownership including the areas known as the Main and Midway Channels. There are various waterways not owned in fee by the State. However, most of Huntington Harbour remains subject to a Public Trust Easement, though fee title is in private ownership.

Based on my review, these three additional properties are not located within the area of the CSLC's leasing jurisdiction. It is the CSLC staff's position that the projects are consistent with current Public Trust needs in the area and we have no objection to the projects as proposed.

If you have any questions, please call me at (916) 574-1892.

Sincerely,


Jane E. SmithPublic Land Management Specialist
Southern California Region

cc: Karl Schwing, CCC/Long Beach

COASTAL COMMISSION

EXHIBIT #

7

PAGE

4 OF 45-60-402

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.,

COASTAL COMMISSION

EXHIBIT # 8
PAGE 1 OF 5

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, transplants shall be

COASTAL COMMISSION

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.

COASTAL COMMISSION

EXHIBIT # 8
PAGE 3 OF 5

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:

$$STA = MTA \times (|A_i + D_i| - |A_c + D_c|)$$

MTA = mitigation transplant area.

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

D_i = 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

COASTAL COMMISSION

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.

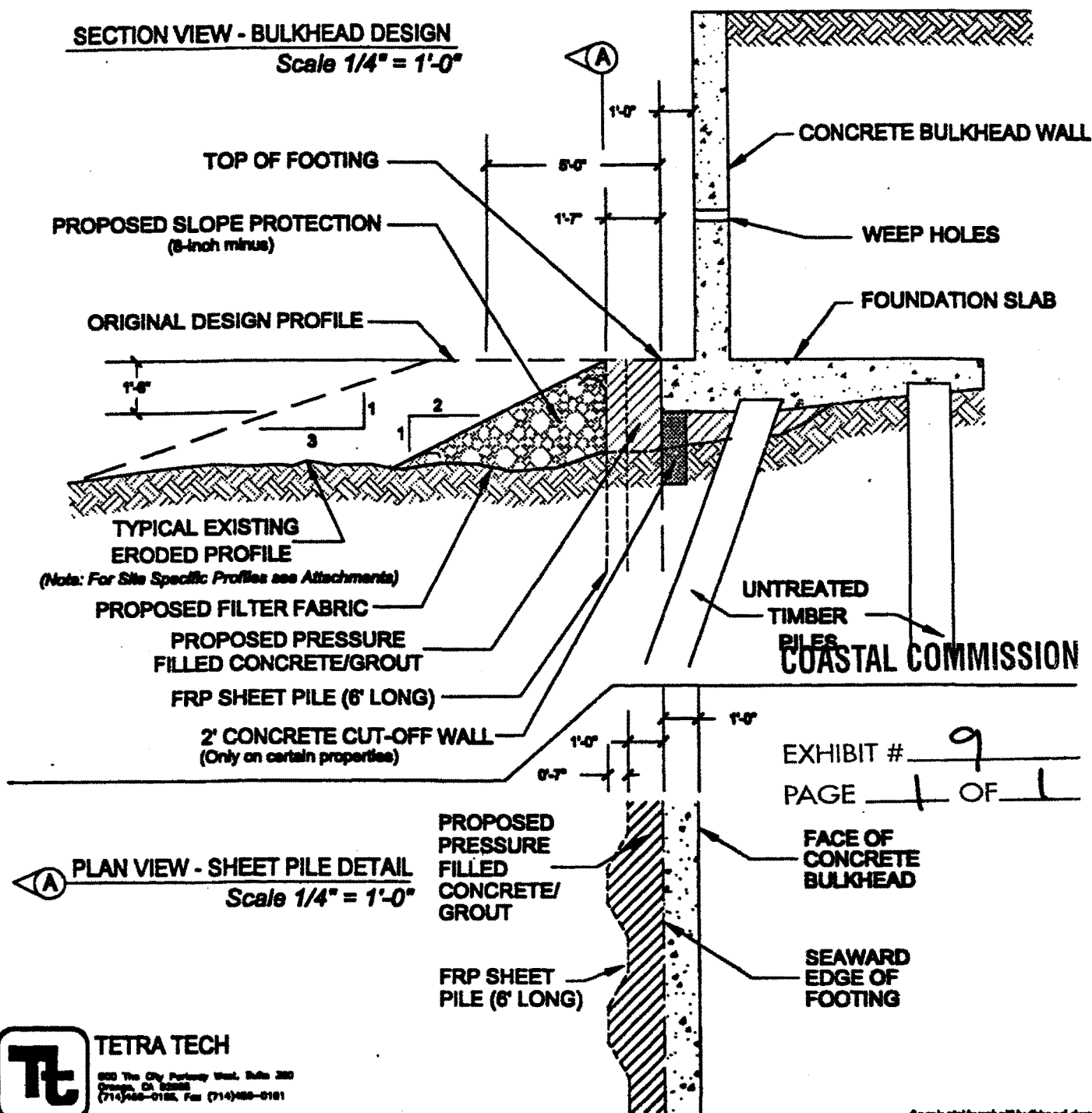
(last revised 2/2/99)

COASTAL COMMISSION

EXHIBIT # 8
PAGE 5 OF 5

SECTION VIEW - BULKHEAD DESIGN

Scale 1/4" = 1'-0"



PLAN VIEW - SHEET PILE DETAIL

Scale 1/4" = 1'-0"



TETRA TECH

800 The City Parkway West, Suite 200
Orange, CA 92668
(714) 960-0100, Fax (714) 960-0101

\\projects\humbolt\bulkhead.dwg

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