STATE OF CALIFORNIA—THE RESOURCES AGENCY PETE WILSON, *Governor*

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STAFF REPORT: REGULAR CALENDAR

Application No:	**E-98-15**
Project Applicant:	**Surfrider Foundation (Surfrider)**
Location:	100 yards offshore El Segundo in about 15 feet of water, Los Angeles County (Exhibit 1)
Project Description:	An experimental temporary (10-year) surfing reef constructed of 10-20 large geotextile bags, filled with 5,000 cubic yards of sand (Exhibits 2 and 3).
Related Approvals:	April 26, 1994 Commission Concurrence with Acceptable Mitigation for Compliance with Special Condition 2.c. of Coastal Development Permit (CDP) #5-83-395 and continuation of this condition as Special Condition #1 of CDP #5-86-795.
Substantive File Documents:	Appendix B

SYNOPSIS

Surfrider Foundation (Surfrider) proposes to construct a temporary (10-year) experimental surfing reef in the nearshore waters of Santa Monica Bay. This experimental surfing reef, to be called Pratte's Reef, is proposed as mitigation for the impacts to surfing that were directly attributable to the construction of the groin at Chevron's El Segundo Marine Terminal.

Background

In 1983, the Commission conditionally approved CDP #5-83-395, an application by Chevron U.S.A., Inc. to construct a 900-foot long rock and concrete groin at the southern boundary of the El Segundo Refinery to prevent beach erosion and protect the pipelines that run between the offshore marine terminal and the onshore refinery. In addition to the groin, Chevron dredged 500,000 to 750,000 cubic yards of sand from the offshore area and placed this material north and south of the groin. In the 1983 permit, the Commission found that the project site was located in an area used for surfing and noted the potential adverse impacts of the project on surfing conditions at the groin.

The Commission imposed a three-year surf monitoring program requiring, in part, that:

> At the conclusion of the surfing monitoring program, the applicants and the Executive Director shall examine the accumulated information to determine whether or not further mitigation should be required of the applicants to alleviate adverse impacts on surf conditions that are directly and objectively attributable to the completed groin project. The proposed program shall be reviewed and commented upon by representatives from the Western Surfing Association. (CDP # 5-83-395)

In 1986, the Commission approved an emergency permit for repairs to the groin that had been damaged by storm waves, and in 1987, approved with conditions a regular permit for this same work. The same surf monitoring condition was included in the 1987 permit, and through the two permits, surf conditions at El Segundo were monitored from 1983 through 1989. Chevron U.S.A. contracted a consultant to do this monitoring and one conclusion was that "the surf quality in the project region was reduced significantly from the old El Segundo groin south to near the Chevron groin as a result of the original groin construction project" (Lissner, 1989). Based on this conclusion, Chevron U.S.A. and the executive director began examination of "the accumulated information to determine whether or not further mitigation should be required of the applicants" and if so, what it should be.

At the July 1993 Commission meeting, staff brought to the Commission an option for condition compliance that would have required a comprehensive study of surfing conditions in the South Bay. There was substantial public comment on this proposal and the Commission directed staff to continue to pursue options that might lead to enhanced surfing opportunities in the South Bay. Following that meeting, Commission staff and representatives from Chevron and Surfrider Foundation met to review and explore alternatives to the proposed comprehensive study. As an outcome of these meetings, Chevron proposed to provide funds for the planning, design and permitting of a Surf Restoration Project located between 45th Street in Manhattan Beach and Ballona Creek in Playa Del Rey, and funds for construction if it is found to be feasible. The executive director would administer these funds and Surfrider Foundation would undertake or oversee most of the study and work. The specifics of this fund are presented in the Chevron Surf Restoration Funding Proposal (Appendix C).

The Funding Proposal was presented to the Commission on April 26, 1994 and was accepted as satisfactory compliance by Chevron U.S.A. with Condition 2.c.of CDP #5-83-395 and continuation of this condition as Special Condition #1 of CDP #5-86-795.

Proposed Project

The proposed project site is 300 yards north of the Grand Avenue jetty and 100 yards offshore from Dockweiler State Beach, in the Westchester-Playa del Rey District. The proposed reef will be located in Coastal Commission's original jurisdiction and is on submerged public trust lands that have been granted in trust to the City of Los Angeles by the State of California.

The experimental reef will be constructed with 10 to 20 geotextile bags, containing a total of 5,000 cubic yards of imported sand. The reef will have a v-shape, with each wing approximately 150 feet long and 7 feet high. The reef will be located in 15 feet of water, mean sea level (MSL), and will cover approximately 9,000 square feet of submerged public trust lands in Santa Monica Bay.

Surfrider will construct the proposed Pratte's Reef in either the spring or fall, to avoid peak summer use and winter storm conditions. The reef will be built by deploying the bags from a split hull barge during the highest tides of the month (spring tides). It is estimated that full deployment will take up to 10 barge trips and will be spread out over a two-month period.

Pratte's Reef will be monitored annually during its life, for any movement or damage to the geotextile bags. In addition, there will be monitoring for shoreline changes, and surf enhancement. At the end of 10 years, the geotextile bags will be cut open, the sand will be dispersed throughout the littoral zone, and the empty bags will be removed and taken to an appropriate disposal site. If Surfrider wishes to keep the reef in place longer that 10 years, they will need to obtain an amendment to this permit.

CDP Application No. E-98-15 Consistency with Coastal Act Policies

The purpose of the proposed project is to restore surfing to the El Segundo area. Table 1 summarizes project-related significant issues, potential impacts to coastal resources and conditions and mitigation measures Surfrider can implement to avoid to reduce those impacts. All significant impacts can be mitigated or avoided.

The staff recommends that the Commission approve the proposed experimental surfing reef, as conditioned.

Table 1. Issue Summary. Potential Impacts and Proposed Conditions and Measures

Significant Issue Area	Proposed Special Conditions and Mitigation Measures
Marine Resources Sand Bottom Habitat	**Issue:** Geotextile bags will cover 9,000 square feet of sand bottom habitat for the 10-year life of the reef. Burrowing animals, typical of this habitat, will be smothered during construction. A new benthic community would be expected to recolonize the bags. Least terns nest north of the reef, but no threatened or endangered species have been identified at the reef area. **Mitigation Measure:** **Special Condition 2** requires that a qualified biologist conduct a pre-construction survey of the construction site and provide a copy of the survey for executive director review and approval prior to commencement of construction. If the results of the survey show the presence of any hard bottom, kelp, sea grass, or other sensitive species in the project construction corridor, Surfrider shall obtain an amendment to this permit to relocate the reef to a site where marine biological impacts will be avoided.
Marine Resources Surface Water Quality	**Issue:** A turbidity plume may occur during construction. **Mitigation Measure:** The turbidity impacts will be temporary and limited to the area of the reef. No feasible mitigation measures exist.
Marine Resources Grunion, Brown Pelicans and Least Terns	**Issue:** The proposed placement of the geotextile bags may smother grunion larvae if placed during the late spring or early summer. Further, the placement of the bags may disturb least terns, if placed during breeding season. **Mitigation Measure:** **Special Condition 3** prohibits any construction between April 1st and September 1st to avoid grunion spawning and least tern breeding seasons.
Public Recreation and Access	**Issue:** There can be no offshore recreational activities at the reef site during the times that the barge is deploying the sand-filled geotextile bags. **Mitigation Measure:** These impacts to recreation will be temporary. The construction will occur during the early spring or fall, avoiding the peak summer use period. No feasible mitigation measures exist.

Public Access and Recreation	**Issue:** The proposed reef is intended to enhance surfing opportunities in the area. **Mitigation Measure:** No mitigation is required. Surfrider proposes to monitor performance of the reef; **Special Condition 1** requires that the executive director be provided with annual performance reports.
Shoreline Processes Sediment Transport	**Issue:** The reef is proposed as a structure that will cause waves to break so that they will be more consistently surfable. This may reduce sediment transport in the lee of the structure. **Mitigation Measure:** **Special Condition 4** requires that Surfrider prepare a Shoreline Monitoring Plan prior to issuance of the CDP and submit quarterly or annual reports on the results of the monitoring.
Shoreline Processes Local Sand Supply	**Issue:** After 10 years the bags will be cut open and the sand will be released into the littoral system. If any bag is punctured or cut during the life of the reef, some sand will be released sooner than 10 years. **Mitigation Measure:** **Special Condition 5** requires that the sand in the geobags be compatible with the littoral material that exists currently at the reef site.
Air Quality	**Issue:** Up to 10 barge trips will be needed to deploy the sand filled geotextile bags. **Mitigation Measure:** The estimated daily construction emissions are below the South Coast Air Quality Management District significant thresholds. No mitigation is required.

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1.0 STAFF RECOMMENDATION

Approval with Conditions

The staff recommends conditional approval of Coastal Development Permit Application No. E-98-15.

Motion:

I move that the Commission approve Coastal Development Permit Application No. E-98-15, subject to the conditions specified in the staff recommendation dated September 24, 1998.

The staff recommends a YES vote. To pass the motion, a majority of the Commissioners present is required. Approval of the motion will result in the adoption of the following resolution and findings.

Resolution:

The Coastal Commission hereby **grants** permit No. E-98-15, subject to the conditions below, for the proposed development on the grounds that (1) as conditioned, the development will be in conformity with the provisions of Chapter 3 of the California Coastal Act of 1976 and (2) there are no feasible alternatives or feasible mitigation measures, other than those specified in this permit, which would substantially lessen any significant adverse impact that the activity may have on the environment.

2.0 STANDARD CONDITIONS

See Appendix A.

3.0 SPECIAL CONDITIONS

This permit is granted subject to the following special conditions:

1. Effectiveness of Pratte's Reef

Surfrider shall monitor the reef performance and shall provide the executive director with annual reports on results from this monitoring. Performance monitoring shall include inspections for bag movement or damage, changes in wave quality and qualitative and quantitative measures of surf enhancement, incoming swell, tides and weather. Performance reports shall be prepared in a manner that allows inter-annual comparisons of the performance. Damaged bags shall be repaired by divers without heavy equipment or removed within one month of discovery. No anchoring shall be used for placement or removal of the bags.

2. Pre-Construction Site Survey

Prior to issuance of this permit, Surfrider shall submit to the executive director a pre-construction biological site survey, conducted by a qualified marine biologist

approved by the executive director. If the results of the survey show the presence of hard bottom, kelp, sea grass, or other sensitive species in the project construction corridor, Surfirder shall obtain an amendment to this permit to relocate the reef to a site where marine biological impacts will be avoided.

3. Time of Year Construction Schedule

There shall be no construction between April 1st and September 1st to prevent possible impacts to grunion spawning or least tern breeding.

4. Shoreline Monitoring Plan

Surfrider has proposed to undertake shoreline monitoring in conjunction with the proposed project to quantitatively measure any shoreline change that results from the Pratte's Reef project. Prior to issuance of this permit, Surfrider shall provide for executive director review and written approval a Shoreline Monitoring Plan. Copies shall also be provided to the US Army Corps of Engineers and California Department of Boating and Waterways. Work outlined in the Shoreline Monitoring Plan shall be overseen and certified by a licensed civil engineer or land surveyor with experience in coastal processes. The plan shall include, at a minimum:

- Shoreline features to be monitored (profiles to wading depth, mean high tide line, etc.)
- Monitoring methodology (field surveys, aerial photography)
- Monitoring schedule
- Locations of two or more monitoring sites for reef effects
- Locations of two or more monitoring sites for control
- Reporting schedule
- Details of training program for any volunteer monitors

Surfrider shall provide the executive director with written reports on monitoring program results. Reports shall be quarterly for two years and annually thereafter.

5. Sources and Quality of Sand Material

The sand used for filling the geotextile bags, that will be used to construct the reef, shall be similar to the sand that exists currently offshore from Dockweiler State Beach. Prior to issuance of this permit, Surfrider shall submit to the executive director, for review and written approval, information on the sand borrow site, particle size and chemical suitability. The average diameter (d50) shall be between 0.17 and 0.3 millimeters and 85% of the sand shall have a diameter between 1.0 millimeter and 0.08 millimeters. No beach sand shall be used to fill the bags.

6. Extension of 10-Year Reef Life

If Surfrider finds that the experimental reef is successful and wish to keep the reef in place for longer than 10 years, they shall obtain an amendment to this permit. The permit amendment application shall include, but not be limited to, information on the long-term reef performance and shoreline monitoring, and a detailed review of the bag integrity.

4.0 FINDINGS AND DECLARATIONS

4.1 Background

The El Segundo/South Santa Monica Bay area has been a popular surfing area for many years. Surfing waves can occur near physical structures that concentrate wave energy (point breaks) and on sandbars (bar breaks). Prior to the construction of the El Segundo Marine Terminal Groin, there were both point and bar breaks north of the groin. The three identified surf spots at El Segundo were the Grand Avenue Groin (referred to by the local surfers as the Grand Avenue jetty) and at two beach breaks south of the Grand Avenue Jetty (referred to by local surfers as "Middles" and the "Standard Oil Pier").

During the 1982/83 El Niño storms, the Chevron pipelines that run between the El Segundo Marine Terminal facility and the onshore refinery were uncovered by beach erosion and threatened by storm waves. To insure that the pipelines would remain buried, Chevron U.S.A., Inc. proposed to construct a 900-foot long rock and concrete groin at the southern boundary of the El Segundo. In addition to the groin, Chevron proposed to dredge 500,000 to 750,000 cubic yards of sand from the offshore area and to pre-fill[1] the groin by placed this material north and south of the groin. The Commission approved this project, with conditions, in CDP #5-83-395.

In the 1983 permit, the Commission found that the project site was located in an area used for surfing and noted the potential adverse impacts of the project on surfing conditions at the groin. Through Special Condition 2.c., the Commission imposed a three-year surf monitoring program requiring, in part, that:

> At the conclusion of the surfing monitoring program, the applicants and the Executive Director shall examine the accumulated information to determine whether or not further mitigation should be required of the applicants to alleviate adverse impacts on surf conditions that are directly and objectively attributable to the completed groin project. The proposed program shall be reviewed and commented upon by representatives from the Western Surfing Association. (CDP # 5-83-395)

At the time that the El Segundo Marine Terminal Groin was constructed and filled with sand, it was known that these three existing surf spots near the Grand Avenue Jetty would be lost. It was expected that other surf spots would develop and eventually be similar to the surfing that existed prior to the El Segundo Marine Terminal groin. At the time, Dr. Andrew Lissner, consultant to Chevron U.S.A., concluded in 1983, that, "although the proposed project will significantly alter the existing surfing areas, new breaks at the proposed groin and sandbars which form offshore should result in at least the same

[1] Pre-filling is process of placing fillets of sand up and down coast of a sand retaining structure (such as a groin) with the expectation that the structure will not trap additional quantities of sand and that longshore sediment transport will not be interrupted.

number and quality of surfing areas as are presently available in the region.[2]" Dr. Richard Grigg, consultant to Chevron U.S.A., also stated that the new El Segundo Marine Terminal Groin would have only a temporary (3 or 4 month) adverse effect on surfing. Ultimately, he felt that, "new breaks around the groin will be of better quality than the existing sandbar breaks.[3]"

In 1986, the Commission approved an emergency permit for repairs to the groin that had been damaged by storm waves, and in 1987, conditionally approved a regular permit for this same work. The same surf monitoring condition was included in the 1987 permit, and through the two permits, surf conditions at El Segundo were monitored from 1983 through 1989. Chevron U.S.A. hired a consultant (Dr. Andrew Lissner) to do this monitoring and concluded in part that "the surf quality in the project region was reduced significantly from the old El Segundo groin south to near the Chevron groin as a result of the original groin construction project" (Lissner, 1989). Based on this conclusion, the Chevron U.S.A. and the executive director began examination of "the accumulated information to determine whether or not further mitigation should be required of the applicants" and if so, what it should be.

At the July 1993 Commission meeting, staff brought to the Commission an option for condition compliance, which was to undertake a comprehensive study of surfing conditions in the South Bay. There was substantial public comment on this proposal and the Commission directed staff to continue to pursue options that might lead to enhanced surfing opportunities in the South Bay, rather than a study of surfing enhancement opportunities. Following that meeting, Commission staff and representatives from Chevron and Surfrider met to review and explore alternatives to the proposed comprehensive study. As an outcome of these meetings, Chevron proposed to provide funds for the planning, design and permitting of a Surf Restoration Project located between 45th Street in Manhattan Beach and Ballona Creek in Playa Del Rey, and funds for construction if it is found to be feasible. The executive director would administer these funds and Surfrider would undertake or oversee most of the study and work. The specifics of this fund are presented in the Chevron Surf Restoration Funding Proposal (Appendix C). The Funding Proposal was presented to the Commission on April 26, 1994 and was accepted as satisfactory compliance by Chevron U.S.A. with Condition 2.c.of CDP #5-83-395 and continuation of this condition as Special Condition #1 of CDP #5-86-795.

On April 1, 1998, the City of Los Angeles adopted a negative declaration for the Surfrider Foundation's Pratte's Reef project and issued a 10-year revocable permit.

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[2] Lissner, Dr. Andrew (June 20, 1983) "Potential Effects of the El Segundo Marine Terminal (ESMT) Protection Project on Local Surfing Conditions," letter to Dames and Moore; Exhibit #8 to CDP #5-83-395.
[3] Grigg, Dr. Gary (June 22, 1983) "Review of Dr. Andrew Lissner's Report on Surfing Conditions and Potential Project Effects," letter to Dames and Moore; Exhibit #8 to CDP #5-83-395.

4.2 Project Description

Surfrider proposes to construct a temporary (10-year) experimental surfing reef in the nearshore waters of Santa Monica Bay. This experimental surfing reef is proposed as mitigation for the impacts to surfing that are directly attributable to the construction of the groin at Chevron's El Segundo Marine Terminal. The proposed reef will be located in Coastal Commission's original permit jurisdiction and is on submerged public trust lands that have been granted in trust to the City of Los Angeles by the State of California.

The proposed project site is 300 yards north of the Grand Avenue jetty and 100 yards offshore from Dockweiler State Beach, in the Westchester-Playa del Rey District. The experimental reef will be constructed with 10 to 20 geotextile bags, containing a total of 5,000 cubic yards of imported sand. The proposed reef will have a chevron shape, with each wing approximately 150 feet long and 7 feet high. The proposed reef will be located in 15 feet of water (MSL), and will cover approximately 9,000 square feet of submerged public trust lands in Santa Monica Bay.

Surfrider will construct the proposed reef, named Pratte's Reef, in either the spring or fall, to avoid peak summer use and winter storm conditions. The reef will be built by deploying the bags from a split hull barge during the highest tides of the month (spring tides). Full deployment will take up to ten barge trips and will be spread out over a two-month period.

Each bag will be fabricated and filled at an inland or dockside location and, once on the barge, will be transported and released at the reef site. The proposed reef site has been characterized as shallow sandy bottom habitat. The bags forming the reef will smother the 9,000 square feet of sandy bottom habitat. A Global Positioning System will be used to insure proper bag placement – there will be no need to anchor the barge at the proposed reef site.

The experimental reef will be monitored annually by Surfrider during the life of the reef, for any movement or damage to the geotextile bags, shoreline changes, and surf enhancement. **Special Condition 1** requires that Surfrider provide the executive director with annual reports on the performance of Pratte's Reef. If any bags are damaged, **Special Condition 1** also requires that they be repaired or removed within one month after the damage is discovered. If any boats are used for bag removal, they shall not anchor at the site or cause any anchor scars on the bottom.

At the end of 10 years, the geotextile bags will be cut open, the sand will be dispersed throughout the littoral zone, and the empty bags will be removed and taken to an appropriate disposal site. If Surfrider wishes to keep Pratte's Reef in place longer that 10 years, **Special Condition 6** requires that Surfrider submit a permit amendment application for this extension.

4.3 Related Projects and Designs

Most of the history of surfing sites in California has been the loss of surfing, not the surf creation or restoration. The surfing community has written frequently about the surf spot "Killer Dana" that was reputedly destroyed by the jetty system at Dana Point Harbor[4]. Surfers also have argued that surfing at Marina Del Rey was ruined when the breakwater was built to protect the Marina Del Rey Harbor, and the surfing at Stanley in Ventura County was destroyed when the Department of Transportation built the Seacliff offramp[5]. The Pratte's Reef is the first project in California that proposes to restore surfing.

Members of the surfing community have explored the idea of an artificial surfing reef to restore or enhance surfing for many years. In 1978, the Los Angeles County Engineer prepared an Environmental Impact Report for two underwater rock reefs at El Segundo that would reduce erosion and create a new surfing, sports fishing and diving recreation area. (This project was never funded or built; however, one of the identified consequences of the No Action alternative was that the beach would continue to erode and threaten the Chevron U.S.A. property. In 1982/83, erosion did threaten the Chevron U.S.A. property and the El Segundo Marine Terminal Groin was constructed.)

In 1989, the Lost Arrow Corporation and Patagonia Outdoor Clothing funded a concept study for a surfing reef at Emma Woods State Beach. The design was a "tapered wedge" to be made out of geofabric bags filled with concrete and the proposed project costs were $1.4 million. To date, no one has attempted to permit or construct this reef.

In 1991, Surfrider began detailed exploration of a possible surfing reef at El Segundo. Dr. Scott Jenkins and Mr. David Skelly, consultants to Surfrider, performed laboratory test of different reef designs that would use tetrahedral shaped sandbags[6]. This laboratory study examined both parallel and v-shaped bars. For both designs, the study found that the wave height enhancing properties of the reefs depended on the direction, height and period of the incoming waves, the water elevation and the reef slope. It also found that for multiple bars, the resulting breaker heights could be up to 87% higher that for a single bar. The final recommendation of this study was to build and study a prototype reef off of Scripps Pier. This reef would use 860 tetrahedron bags in a v-shaped bar that would be 100 feet long, 8 feet high and 20 feet wide. This prototype design was estimated to cost approximately $345,000 to $370,000. If it was successful, the proposed final restoration was to be a 1,500 foot long reef at El Segundo that would cost over $1,000,000, for construction alone. This effort was not pursued; however, the current project relies on much of the laboratory work for the current design parameters.

A surfing reef, similar to the proposed Pratte's Reef, is being constructed by the Gold Coast City Council at Narrowneck on the Gold Coast, Australia. Thirteen different reef designs were investigated for the Gold Coast. The reef will be constructed of large geotextile bags filled with sand. The reef will be a large open horseshoe shaped

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[4] Chris Aherns (August 1997) "The Breaking Of Killer Dana," Surfing Magazine.
[5] Thomas Pratte (1989) "Ocean Wave Recreation" Coastal Zone '87, pp. 5386 – 5398.
[6] A tetrahedron has a triangular base and three equal sized triangular faces that meet at a common point.

structure, extending 1,200 feet offshore, with areas planned for differing levels of expertise. The project cost is $1,500,000 (Australian) and is part of a larger Gold Coast shoreline enhancement program.

4.4 Alternatives

Alternative reef designs were examined in a 1991 study by Dr. Jenkins and Mr. Skelly, consultants to Surfrider, and a 1996 study by Mr. Chad Nelsen, a graduate student who prepared his Master's Thesis on Pratte's Reef. The ACOE Environmental Assessment also identified alternatives -- no action, a sand bar, a rock reef, and location of the reef at different sites. The Negative Declaration found that, "because no significant adverse environmental impacts have been identified, an EIR is not required and no alternatives analysis is necessary[7]." Despite this, the Negative Declaration examined the no action alternative and various sites between 45th Street, Manhattan Beach, and Ballona Creek channel in Playa del Rey.

The no action alternative would have the least environmental effect, but would not provide any mitigation for the surfing losses that resulted from the El Segundo Marine Terminal Groin. The no action alternative has been tested since the groin was constructed in 1982, and it has been determined that surfing can not be restored in the El Segundo area through a no action alternative.

In 1991, Dr. Jenkins and Mr. Skelly, consultants to Surfrider, tested various reef shapes and slopes, and found that the v-shaped reef provided better wave enhancement that a single linear reef. The 1991 report recommended that a v-shaped reef be selected for further study since "(t)his selection obviates the need to build two reefs as in the case of the parallel reef.[8]" Computer model studies of the v-shaped reef "suggest that the artificial surfing reef will extend the surf zone beyond the present conditions, create a pattern of breaking similar to a high quality surfing break, and increase wave height prior to breaking.[9]"

Materials other than sand-filled geobags, such as unconfined sandbars, quarry rock, automobile tires, longard tubes and concrete blocks were considered for the proposed reef. Unconfined sand would be very temporary and could result in increased turbidity at the site. Quarry rock would not provide the flexibility of the geobags and if the rocks were to dislodge they could pose a serious hazard to beach users. The effectiveness of the other materials was unknown.

The Environmental Assessment found that the sand filled geobags "were the least environmentally damaging material and one which could be easily removed.[10]" While

[7] City of Los Angeles (November 1997) "Surfrider Foundation Pratte's Reef; California Environmental Quality Act (CEQA) Initial Study and Proposed Negative Declaration, page 31.
[8] Scott Jenkins and David Skelly (December 27, 1991) "Project Report: Development of an Artificial Sandbar," prepared for the Surfrider Foundation, page 12.
[9] Chad Nelsen (April 1996) "Mitigation through Surf Enhancement: A Coastal Management Case Study in El Segundo, California", page 57.
[10] ACOE Environmental Assessment, October 8, 1997, page 3.

other sites could support a surfing reef, the proposed site is in close proximity to the area where surf had existing historically; it will not interfere with existing surf spots or intake and outfall structures.

4.5 Other Agency Approvals

4.5.1 State Lands Commission

On December 31, 1997, State Lands Commission (SLC) commented on the proposed project, stating that the project "involves sovereign tidelands and submerged lands granted in trust, by the Legislature, to the City of Los Angeles. The SCL is, therefore, a Trustee Agency under the California Environmental Quality Act (CEQA)." SLC raised questions about the bag material and its stability, but did not, as a Trustee Agency, object to the proposed Pratte's Reef.

4.5.2 City of Los Angeles

The City of Los Angeles prepared a CEQA Initial Study for the Surfrider Foundation Pratte's Reef in November 1997. On April 1, 1998 the City of Los Angeles, Board of Recreation and Parks adopted a Negative Declaration for the Pratte's Reef and approved the project.

4.5.3 State Water Resources Control Board

On August 11, 1998, the State Water Resources Control Board, Division of Water Quality, certified the proposed project subject to compliance with all conditions specified in the Los Angeles Regional Water Quality Control Board Section 401 Water Quality Certification. The Conditional Certification notes that the US Army Corps of Engineers will authorize the discharge of sand from the geobags under an Individual Permit.

4.5.4 South Coast Air Quality Management District (SCAQMD)

As discussed further in Section 4.6.4 Air Quality, the emissions from the proposed Pratte's Reef construction and use are below the SCAQMD significance thresholds and no permit is required.

4.5.5 US Army Corps of Engineers

On October 8, 1997, the Los Angeles District, Corps of Engineers (ACOE) issued an Environmental Assessment and Provisional Permit. The Provisional Permit describes the work that will be permitted and special conditions that will be placed on the final ACOE Permit once the section 401 permit has been issued or waived and once the California Coastal Commission has concurred with the Coastal Zone Management consistency certification.

4.6 Coastal Act Issues

4.6.1 Recreation and Public Access

Coastal Act Section 30210 states:

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

Coastal Act Section 30220 states:

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

Surfing is a very popular activity in southern California. On good days many of the surf spots are crowded and surfers must queue and wait their turn. There are now not enough surfing spots to adequately meet the demand. The proposed surfing reef is intended to restore some of the surfing opportunities that existed in the El Segundo area prior to the installation of the El Segundo Marine Terminal groin. The proposed surfing reef will relieve some of the crowding that exists at the remaining south bay surf spots and provide a safe spot for use by novice and intermediate surfers. A few people may start surfing because of the proposed reef; however, it's main purpose will be to address the current demand for surfing areas and reduce the overcrowding that exists for the current surfing community.

The Pratte's Reef construction will temporarily impact aquatic recreation during the placement of the bags. During the time that the bags are being dropped, swimmers and other water users would be prohibited from entering the immediate construction area. These impacts will be of very short duration and in a small area of the nearshore. Also, construction will not occur during the peak summer use period.

Surfrider proposes to monitor the operating performance of the surfing reef – stability of the reef, damage or movement of the bags, and changes to wave conditions. **Special Condition 1** requires that Surfrider provide the executive director with annual reports on operating performance. **Special Condition 1** also requires that any damaged bags be repaired or removed within one month of the discovery of the damage. The damaged bag will be cut, the sand released and the bag removed. If a boat is used to remove the damaged bag, the boat shall not anchor or create any anchor scars.

The surfing reef will be located immediately offshore from Dockweiler State Beach and will be available to public use. The reef location has bike, bus and car access. While some surfers may bring their surfboards on public transportation or there are special bike racked designed to hold a surfboard, most surfers travel by car to their destination surf

spot. There is curbside parking available near the proposed reef site and there are two pay parking lots within a few hundred feet of the reef. The proposed reef may shift some surf traffic from the surfing spots to the south like El Porto or the Edison Plant. There is adequate local parking to accommodate any increase in surfing traffic that may result from the proposed reef. The Commission therefore finds that the proposed project is consistent with Sections 30210 and 30220 of the Coastal Act.

4.6.2 Marine Resources

Coastal Act Section 30230 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.*

Coastal Act Section 30231 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 Pratte's reef will cover 9,000 square feet of sand bottom habitat for the 10-year life of the structure. The Biological Resources Study[11] examined the impacts to from bag placement and replacement of the existing bottom habitat by the proposed reef material.

4.6.2.1. Reef Materials

The California Department of Fish and Game has required that the materials used for the construction of artificial fishing reefs conform to the reef material specifications list. This list was not prepared for surfing reefs; however, it is a reasonable guide for the materials that can be used for a surfing reef and includes:

- Are non-toxic in the marine environment

[11] Dr. Richard Grigg (July 1996) "Surfrider Foundation Pratte's Reef Biological Resources Study", prepared for Skelly Engineering.

- Sufficient density to remain permanently in place (have a specific gravity at least twice that of sea water)
- Persistence (Be relatively unaffected by prolonged immersion in sea water)
- Not hazardous to marine mammals or diving birds

Clean, sand filled geobags meet all the above criteria.

4.6.2.2. Reef Impacts to the Marine Environment

Construction impacts will include temporary increases in turbidity and direct smothering of the benthic community under the bags. The bags will be filled with clean sand. The bags will settle quickly to the bottom and any increase in turbidity will be very temporary. If a bag were to break during placement, it would release 250 to 500 cubic yards of clean sand that would quickly settle out of the water column. The Biological Survey was a literature study of the biological resources expected to occur in a shallow, sand bottom habitat in the El Segundo area. The Biological Stucy, attached to the CEQA Initial Study, found that, "The change in light intensity associated with a turbidity plume would be ephemeral and cover such a small area as to be inconsequential.[12]"

Shoreline birds, including brown pelicans and least terns, forage in this area. The area where increased turbidity may occur is very small and is not expected to effect foraging habitat of birds using the area. Since turbidity impacts are expected to be very small and to be temporary, no mitigation for these impacts is necessary.

The project site is a high-energy sand bottom habitat. It is habitat for numerous burrowing organisms such as bivalves, Donax, Tellina and pismo clams, nematodes, polychaetes and sand crabs. The geobags will bury the organisms living in the substrate on which the bags will be placed. A new benthic community would be expected to recolonize the reef. Some of the same sand species may recolonize the bags or the sand that might settle into the spaces between the bags. No kelp, sea grass or hard bottom habitat was identified at the reef site. To insure that there are no special species in the area of the proposed reef and that the Biological Survey properly characterized the reef site, **Special Condition 2** requires that a qualified biologist conduct a pre-construction survey and provide a copy of the survey to the executive director prior to issuance of the permit. If the proposed reef site has any species or habitat areas of concern, the reef shall be moved to another location. These changes shall require an amendment to the permit.

Grunion eggs and larvae have been collected in the general project area. Least terns are also found north of the project site. To eliminate potential impacts to grunion spawning and the breeding season of the least terns, **Special Condition 3** requires that no project construction occur between April 1st and September 1st.

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[12] Ibid.

The Commission therefore finds that the project, as conditioned, will be designed, sited, constructed and surveyed in a manner consistent with Coastal Act Sections 30230 and 30231 which require that uses of the marine environment be carried out in a manner that sustains the biological productivity and the quality of the coastal waters.

4.6.2.3. Filling of Coastal Waters

The proposed artificial surfing reef constitutes "fill" as defined by Coastal Act Section 30108.2, which states:

> *"Fill" means earth or any other substance or material, including pilings placed for the purposes of erecting structures thereon, placed in a submerged area.*

Coastal Act Section 30233(a) states:

> *The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:*
>
> *(1) New or expanded port, energy, and coastal-dependent industrial facilities, including commercial fishing facilities.*
>
> *(2) Maintaining existing, or restoring previously dredged, depths in existing navigational channels, turning basins, vessel berthing and mooring areas, and boat launching ramps.*
>
> *(3) In wetland areas only, entrance channels for new or expanded boating facilities; and in a degraded wetland, identified by the Department of Fish and Game pursuant to subdivision (b) of Section 30411, for boating facilities if, in conjunction with such boating facilities, a substantial portion of the degraded wetland is restored and maintained as a biologically productive wetland. The size of the wetland area used for boating facilities, including berthing space, turning basins, necessary navigation channels, and any necessary support service facilities, shall not exceed 25 percent of the degraded wetland.*
>
> *(4) In open coastal waters, other than wetlands, including streams, estuaries, and lakes, new or expanded boating facilities and the placement of structural pilings for public recreational piers that provide public access and recreational opportunities.*
>
> *(5) Incidental public service purposes, including but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines.*

(6) Mineral extraction, including sand for restoring beaches, except in environmentally sensitive areas.

(7) Restoration purposes.

(8) Nature study, aquaculture, or similar resource dependent activities.

The surfing reef is proposed as a restoration project. Its express purpose is to restore the loss of a surf break caused by the construction of the El Segundo Marine Terminal groin. Beyond the general idea of creating surfing in an area where surf had existing previously, this project is an attempt to restore a hydrodynamic condition at essentially the same location relative to the new shoreline as it had been relative to the old shoreline.

The surfing condition can not be restored in the exact same area where surfing occurred previously. There is an outfall immediately south of the Grand Avenue groin where the earlier beach breaks had existed. One siting criterion was to avoid intake and outfall lines, so the location of the proposed reef was shifted to the north of the Grand Avenue groin, and out of the immediate vicinity of the outfall. Due to beach accretion upcoast of the El Segundo Marine Terminal Groin, the areas that had provided the hydrodynamic conditions suitable for surfing are now at wading depth. The conditions that previously existed in 15 to 20 feet of water (MSL) will be restored on the new near shore area in 15 to 20 feet of water (MSL).

The proposed surfing reef is different from a project to construct a new surfing reef in an area that does not now have the hydrodynamic conditions suitable for surfing. The Pratte's Reef will restore a previously existing and well-documented surf condition. Therefore, the Commission finds that the proposed reef meets the allowable use test of Coastal Act Section 30233(a) because it qualifies as a restoration project.

Section 30233(a) further allows for the filling of coastal waters only if there is no feasible, less environmentally damaging alternative and where feasible mitigation measures have been provided. The alternative analysis section (Section 4.4) previously discussed the various design and material alternatives, siting considerations and no action alternative. While other sites might support a surfing reef, the proposed site was chosen because it most closely approximates the original surf location that it proposes to restore. The proposed site will also avoid interfering with other existing surf areas, and existing intake and outfall pipes. Furthermore, the reef design and construction plan, as conditions will minimize environmental damage.

Combining this analysis with the use of a restoration site that closely approximates the original surfing location, and **Special Conditions 2 and 3** that require a pre-consrucion survey and prohibit construction during grunion spawning and least tern breeding seasons, the proposed Pratte's Reef is the least environmentally damaging, feasible alternative for restoration of the hydrodynamic conditions that are conducive to surfing. The Commission therefore finds that the proposed Pratte's Reef project is consistent with Coastal Act Section 30233(a).

4.6.3 Shoreline Processes

Section 30253 of the Coastal Act states, in part:

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

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 ... designed to eliminate or mitigate adverse impacts on local shoreline sand supply.*

Coastal Act Section 30253 expresses general concern about stability of new development and its effects on erosion. Section 30235 more specifically expresses concern that certain types of development may cause erosion by having adverse impacts on local sand supply.

In past actions, the Commission has expressed concern regarding the potential effects of artificial reefs on natural shoreline processes (see for example, the Carlsbad Artificial Surfing Reef, E-89-2). The proposed reef will be placed at a depth of 15' MSL -- a depth where sediment transport modification can be expected. As discussed below, the proposed surfing reef will be located in an area where sediment transport has been modified extensively. The incremental effect to sediment transport from the proposed reef can be expected to be negligible.

The proposed reef will be located in the southern portion of the Santa Monica Littoral Cell. The entire cell extends 39 miles from Point Dume on the west to Palos Verdes on the southeast. The western portion of the cell has remained rather unmodified; however, from Topanga Canyon to Malaga Cove (21 miles of coast) there are 5 shore parallel breakwaters, 3 jetties, 19 groins and 6 open-pile piers and there has been approximately 29 million cubic yards of nourishment.[13] Over 20 million cubic yards of sand were placed on Dockweiler State Beach during the construction of Marina Del Rey and there are groins approximately one mile apart from Marina Del Rey to the El

[13] Wiegel, Robert (1994) "Ocean Beach Nourishment on the USA Pacific Coast," Shore and Beach, Vol. 62, No. 1, pp. 11 – 36.

Segundo Marine Terminal Groin.[14] These activities have caused extensive modification of sediment transport in this cell.

The effects to sediment transport and local sand supply from the proposed surfing reef may be difficult to distinguish from the effects of the Grand Avenue groin, located 300 yards south of the proposed reef location, or the effects of the El Segundo Marine Terminal Groin immediately down coast of the Grand Avenue groin. (Exhibit 1) In its application, Surfrider proposes to monitor the beach profiles for the reef site and a control area for the first two years of the project. The City of Los Angeles changed the monitoring to require quarterly monitoring and reporting for the first two years and annual monitoring and reporting thereafter. **Special Condition 4** requires that Surfrider provide these monitoring reports to the executive director. In addition, **Special Condition 4** requires that Surfrider provide, for executive director review and written approval, prior to issuance of the permit, a detailed shoreline monitoring plan showing, at a minimum:

- Objectives of the monitoring program
- Shoreline features that will be monitored
- Monitoring methodology
- Qualifications or training for monitors
- Monitoring schedule
- Locations of monitoring sites
- Locations of control sites
- Locations of beach profiles that will be used to establish pre-project conditions
- Reporting schedule

At the end of the ten year period, the reef will be removed by cutting the bags, dispersing the sand, removing the bags and disposing of the bags in at appropriate disposal site. This will provide 5,000 cubic yards of beach quality sand to the littoral cell and will have a positive effect on local sand supply. The Geologic Feasibility Evaluation for Environmental Initial Study Proposed Artificial Reel, Dockweiler State Beach, Los Angeles, California, prepared by GeoSoils, Inc (October 7, 1996; W.O. 2033-A.1-SC) provides particle size distribution for the sediment at four sites in Dockweiler Beach. This provides the baseline grain size conditions for the area. The Corps of Engineers permit requires that,"(t)he permittee shall submit to the Corps of Engineers for approval information regarding the source of the borrow size (sic) and grain size analysis of the fill material to be used in the geotextile bags for determination of physical and chemical suitability" and that the permittee notify the Corps of Engineers of the borrow location prior to testing.

Special Condition 5 requires that (1) the sand uses for filling the bags be similar to the sediment that exists currently offshore from Dockweiler State Beach and (2) that Surfrider provide information on the borrow site and particle size and chemical suitability, to the executive director, for review and written approval. **Special Condition 5** also requires that the average diameter (d50) shall be between 0.17 and 0.3 millimeters and 85% of the sand shall have a diameter between 1.0 millimeter and 0.08 millimeters. No beach sand shall be used to fill the bags. The

[14] City of Los Angeles, Department of Parks and Recreation (1997) "California Environmental Quality Act (CEQA) Initial Study and Proposed Negative Declaration: Surfrider Foundation Pratte's Reef", RP 370-97.

Commission finds that the project, as proposed and conditioned, will not have any adverse effect on shoreline sand supply and is consistent with Sections 30235 and 30253 of the Coastal Act.

4.6.4 Air Quality

Coastal Act Section 30235(3) states:

> *New development shall: (B)e consistent with requirements imposed by an air pollution control district or the State Air Resources Control Board as to each particular development.*

The proposed project will result in air emissions from the tug boat, dump scow and support equipment (trucks and a loader). None of the emissions exceed the SCAQMD significance thresholds, as described below.

Emissions	CO	ROC	NOx	SOx	PM10
SCAQMD Daily Thresholds	550	55	55	150	150
Pratte's Reef Daily emissions	35.5	3.0	3.2	0.2	0.4
% of SCAQMD threshold	6%	5%	6%	0%	0%

Since all emissions are expected to be below the SCAQMD significance thresholds, SCAQMD has determined that no permit is required[15]. Therefore, the Commission finds the project consistent with Coastal Act Section 30253(3)

4.6.5 California Environmental Quality Act

As "lead agency" under the California Environmental Quality Act ("CEQA") the City of Los Angeles Board of Recreation and Parks Commission adopted a Negative Declaration and approved the proposed Surfing Reef Project on April 1, 1998.

The Commission's permit process has also been designated by the State Resources Agency as the functional equivalent of the CEQA environmental impact review process. Pursuant to Section 21080.5(d)(2)(A) of the CEQA and Section 15252(b)(1) Title 14, California Code of Regulations (CCR), the Commission may not approve a development project "if there are feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse impact which the activity may have on the environment." The Commission finds that there are no feasible less environmentally damaging alternatives or additional feasible mitigation measures that would substantially lessen any significant adverse impact which the activity would have upon the environment, other than those identified herein. Therefore, the Commission finds that the project is consistent with the provisions of the CEQA.

[15] Personal communication September 24, 1998 from Hemang Desai, Air Quality Engineer with the South Coast Air Quality Management District, to Lesley Ewing, staff to the California Coastal Commission.

APPENDIX A

Standard Conditions

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

2. Expiration. If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.

3. Compliance. All development must occur in strict compliance with the proposal as set forth in the application for permit, subject to any special conditions set forth below. Any deviation from the approved plans must be reviewed and approved by the staff and may require Commission approval.

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

5. Inspections. The Commission staff shall be allowed to inspect the site and the development during construction, subject to 24-hour advance notice.

6. 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.

7. 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.

APPENDIX B

Substantive File Documents

1. Coastal Development Permits #5-83-395 and #5-86-795.

2. 1984 YEARLY REPORT: ESMT PROTECTION PROJECT SURVEY OF SURFING CONDITIONS, prepared by Andrew L. Lissner, Ph.D., submitted January 17, 1985 (Lissner, 1985).

3. 1985 YEARLY REPORT: ESMT PROTECTION PROJECT SURVEY OF SURFING CONDITIONS, prepared by Andrew L. Lissner, Ph.D., submitted January 24, 1986 (Lissner, 1986).

4. 1986 YEARLY REPORT: ESMT PROTECTION PROJECT SURVEY OF SURFING CONDITIONS, Prepared by Andrew L. Lissner, Ph.D., submitted February 20, 1987 (Lissner, 1987a).

5. ASSESSMENT OF POTENTIAL SURFING HAZARDS ASSOCIATED WITH DISPLACED ROCKS ADJACENT TO THE CHEVRON GROIN, prepared by Andrew L. Lissner, Ph.D., submitted March 31, 1987 (Lissner, 1987b).

6. SURF MONITORING TO ASSESS THE POTENTIAL FOR SURFING HAZARDS AND DIMINISHED SURF QUALITY ASSOCIATED WITH THE CHEVRON GROIN, EL SEGUNDO, CA, prepared by Andrew L. Lissner, Ph.D., submitted May 3, 1988 (Lissner, 1988).

7. ANNUAL REPORT: 1988/89 SURF MONITORING TO ASSESS THE POTENTIAL FOR SURFING HAZARDS AND DIMINISHED SURF QUALITY ASSOCIATED WITH THE CHEVRON GROIN, EL SEGUNDO, CA, prepared by Andrew L. Lissner, Ph.D., 7/28/89 (Lissner, 1989)

8. EL PORTO SURFER'S QUESTIONNAIRE, prepared by Jeanette C. Doney, received August 27, 1992 (Doney, 1992).

9. IMPACTS TO SURFING AT THE EL SEGUNDO MARINE TERMINAL PROTECTION PROJECT, prepared by Noble Consultants, Inc. September 1992 (Noble, 1992).

10. QUALITATIVE EVALUATION OF CHANGES IN SURFING QUALITY, EL SEGUNDO CALIFORNIA, conducted for South Bay Chapter, The Surfrider Foundation, September 1992 (Surfrider, 1992).

11. November 12, 1992 letter from Rimmon C. Fay, Ph.D. to Charles Damm and Draft Essay on "Surfing Conditions in Santa Monica Bay".

12. February 2, 1993 letter from Chuck Damm, South Coast District Director, to R.E. Kenyon, Manager Technical Services at El Segundo Marine Terminal, RE: Mitigation of Impacts to Surfing at the El Segundo Groin (CDP # 5-86-795)

13. March 29, 1993 letter from Rick Page, South Bay Chapter of Surfrider, Project Coordinator, to Peter Douglas, Executive Director, RE: Mitigation of Surfing Impacts.

14. May 11, 1993 letter from R.E. Kenyon, Manager Technical Services at El Segundo Marine Terminal, to Chuck Damm, South Coast District Director, RE: El Segundo Groin.

15. June 28, 1993 Staff Report on Compliance with Special Condition 2-c. of CDP No. 5-83-395 and Special condition I of CDP 5-86-795.

16. Chevron Surf Restoration Funding Proposal (Appendix C)

17. April 26, 1994 Finding of Compliance with Special Condition 2.c. of CDP # 5-83-395 and continuation of this Special Condition through Special Condition #1 of CDP # 5086-795.

18. Mitigation through Surf Enhancement: A Coastal Management Case Study in El Segundo, California, prepared by Chad Nelsen as Master's Project at Nicholas School of the Environment, Duke University, 1996.

19. City of Los Angeles, Board of Parks and Recreation, Adoption of Negative Declaration for the Surfrider Foundation's Pratte's Reef Project and Issuance of a 10-Year Revocable Permit (#135-98), April 1, 1998.

20. State Water Resources Control Board, Conditional Certification Under Clean Water Act (CWA) Section 401: Pratte's Reef Project (Corps File No. 97-000176-FT), August 11, 1998.

Appendix C
Chevron Surf Restoration Funding Proposal

Chevron U.S.A. Inc. ("CHEVRON") proposes to comply with the terms of Special Condition 2.c. of Coastal Development Permit No. 5-83-395 and Special Condition 1 of Coastal Development Permit No. 5-86-795 through the following surf restoration fund proposal, as described below:

1. Within sixty (60) days of California Coastal Commission approval of this proposal, CHEVRON will deposit one hundred thousand dollars ($100,000) in an interest bearing account in which the interest accrues to the account and which is entitled the Surf Restoration Fund ("FUND"). By May 15, 1995, CHEVRON will deposit an additional two hundred thousand dollars into the interest bearing FUND. The California Coastal Commission ("COMMISSION") shall administer the FUND, and release of monies from the FUND shall be at the discretion of the Executive Director of the Commission and subject to the provisions stated below.

2. No more than one hundred thousand dollars ($100,000) of the FUND may be used towards the identification, planning, design and permitting of a Surf Restoration Project ("PROJECT"). Planning for the PROJECT shall be limited to the area between 45th Street in Manhattan Beach and Ballona Creek in Playa Del Rey. The PROJECT shall be intended, to the extent feasible, to restore planning area surf conditions to the surf conditions existing prior to 1983. If the actual planning, design and permitting costs are less than $100.000, all remaining monies in the FUND shall be available for use in the construction of the PROJECT.

3. The Executive Director of the COMMISSION and the South Bay Chapter of the Surfrider Foundation ("SURFRIDER") shall agree to a management structure under which Surfrider shall manage all aspects of the planning, design and permitting. Except for the receipt of periodic progress updates, CHEVRON shall not be required to facilitate, participate in or in any way become involved with the planning, design and permitting of the PROJECT. Regardless of the overall cost of the planning, design and permitting, CHEVRON shall in no event be required to contribute more than one hundred thousand dollars ($100,000) towards such planning, design and permitting. The Executive Director of the Commission shall not release any monies for the planning, design and permitting of the PROJECT until the management structure has been approved. In addition, a work program, with clearly identified benchmarks to determine progress, shall be submitted for the review and approval of the Executive Director of the Commission.

4. All remaining monies in the FUND, including interest, is intended to fund construction of the PROJECT. Regardless of the overall cost of the PROJECT, CHEVRON shall in no event be required to contribute more than three hundred thousand dollars ($300,000) towards the planning, design, permitting and construction of the PROJECT. Except for the receipt of periodic progress updates, and as stipulated in Section 5 below, CHEVRON shall not be required to facilitate, participate in, or in any way become involved with, construction of the PROJECT.

5. If requested, CHEVRON agrees to grant SURFRIDER access to its groin for use as a construction platform for the development of a Surf Restoration Project south of the existing groin structure. Any contractor doing work on the PROJECT will be required to adhere to CHEVRON'S guidelines for contractors doing work on, or visitors to CHEVRON'S property; which would include execution of an appropriate release.

6. The Executive Director of the COMMISSION shall not release any monies for construction unless and until the following conditions are met:

a. SURFRIDER shall establish a management structure- which will be reviewed and approved by the Executive Director of the COMMISSION- which will manage all aspects PROJECT;

b. sufficient additional funding has been obtained, in excess of the two hundred thousand dollars ($200,000) from the FUND, to cover the entire cost of the PROJECT:

c. all permits to begin the PROJECT have been granted;

d. firm bids have been obtained for all work required to complete the PROJECT;

e. the PROJECT plans are intended to restore surf only in the area between 45th Street in Manhattan Beach and Ballona Creek in Playa Del Rey; and

f. the PROJECT plans and related contracts require the PROJECT to be completed within a reasonable period of time.

7. CHEVRON shall not be responsible for maintenance of the PROJECT and shall not be held liable for any damages or liability which may result from the PROJECTS construction or existence.

8. Acceptance of this CHEVRON SURF RESTORATION FUNDING PROPOSAL by the COMMISSION shall be deemed complete and final satisfaction of Special Condition 2.c. of Coastal Development Permit No. 5-83-395 and Special

Condition 1 of Coastal Development Permit No. 586-795 including any existing responsibility to monitor surf conditions.

No later than three years from the date of COMMISSION action accepting this surf restoration funding proposal (May 15, 1997), CHEVRON, the COMMISSION and SURFRIDER shall meet to determine whether the PROJECT is feasible. The COMMISSION shall have the discretion to extend the deadline on a showing of good cause.

9. The Executive Director of the COMMISSION shall refund to CHEVRON $50,000 from all unexpended monies in the FUND and the proportional interest thereon, if it is determined that the PROJECT is financially infeasible at the end of three years from the date of COMMISSION action accepting this surf restoration funding proposal. The COMMISSION shall have the discretion to extend the deadline on a showing of good cause. The remaining monies in the FUND shall be used to fund a coastal surf enhancement project of the COMMISSION'S choosing.

EXHIBIT 1
APPLICATION # E-98-15

SITE LOCATION MAP

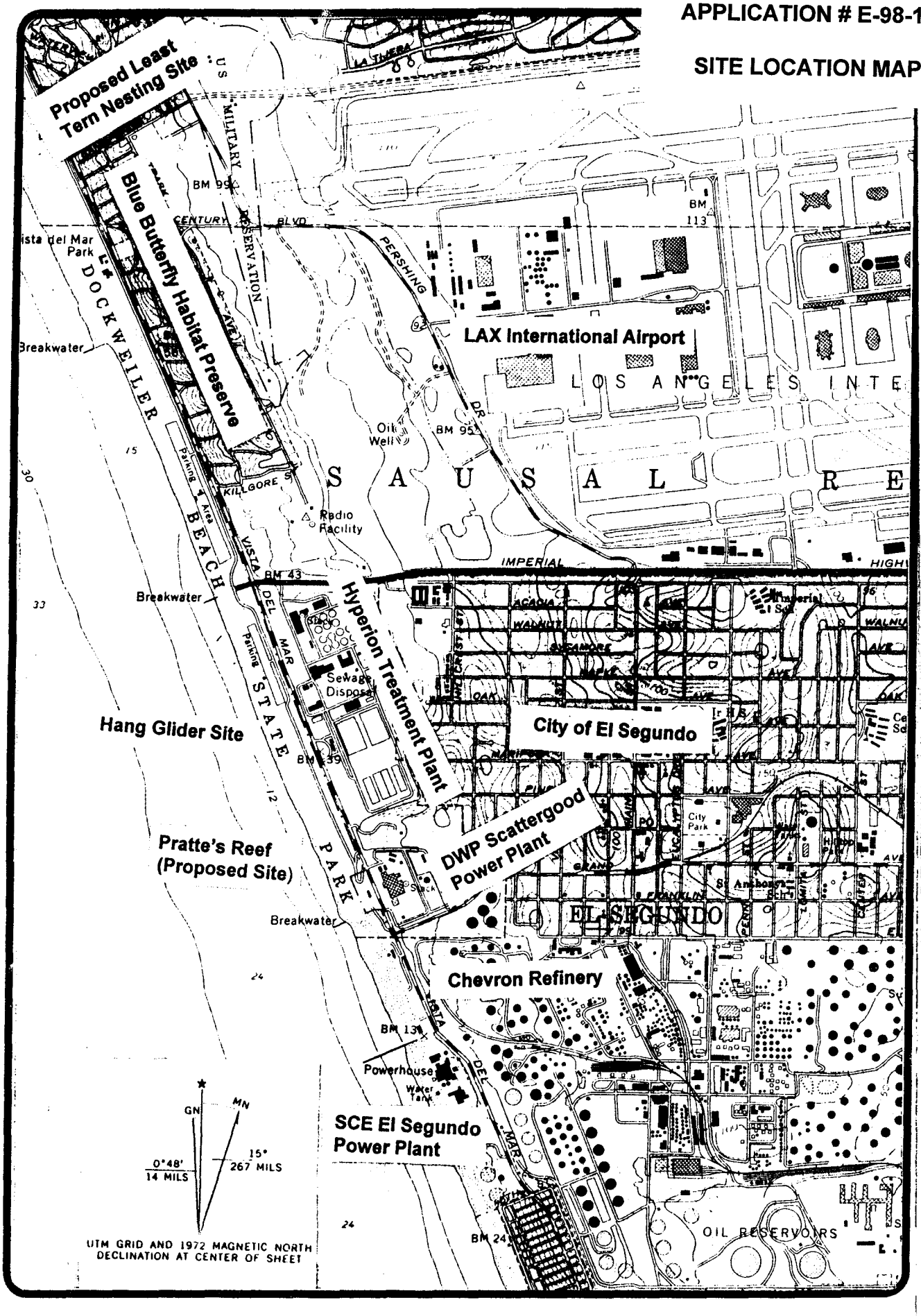
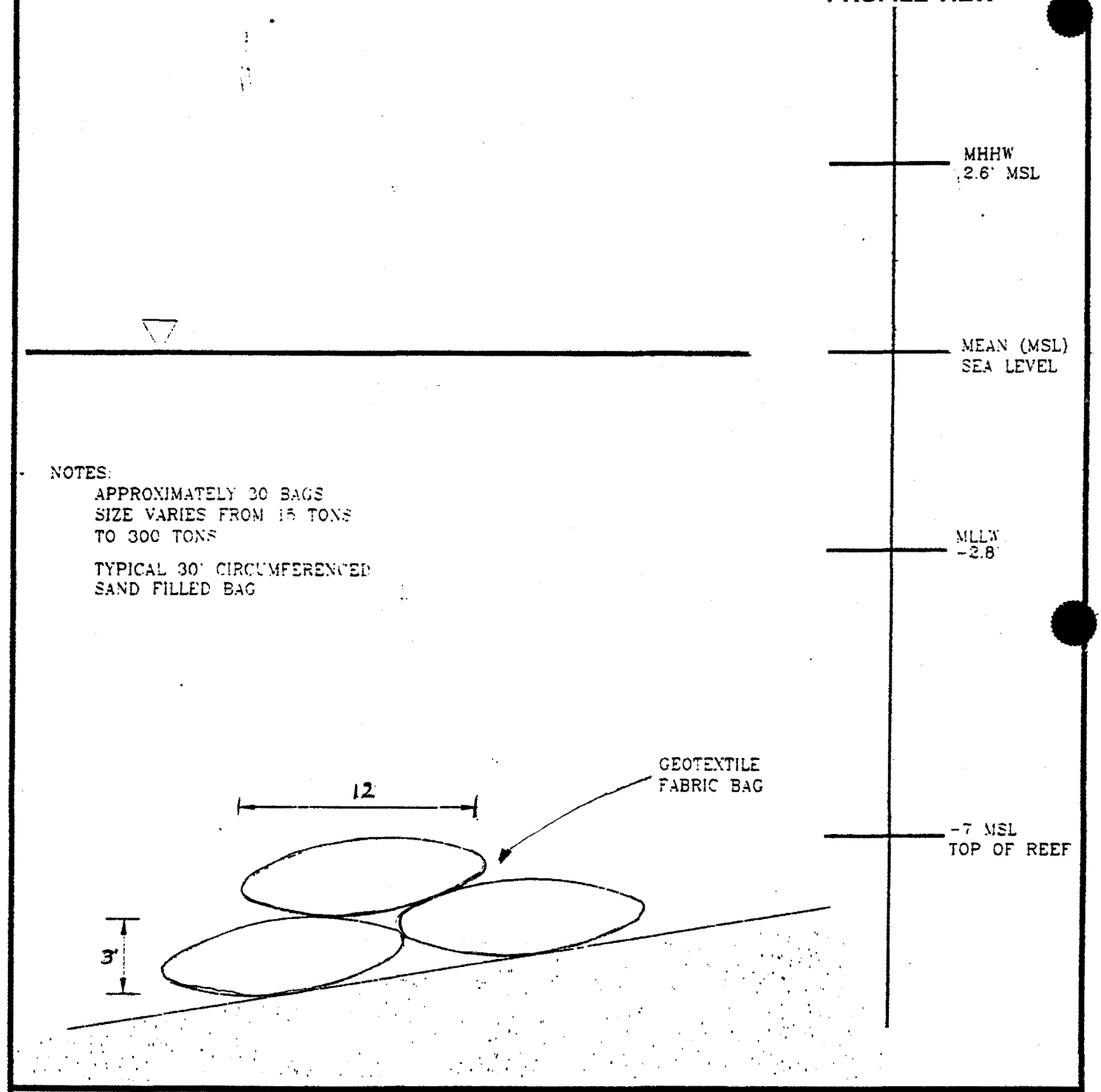


Figure 2: Site Location Map
BASE MAP: USGS 7.5 minute Topographic Map
Venice California Quadrangle 1964 Photorevised 1972

EXHIBIT 2
APPLICATION E-98-15

REEF DESIGN
PROFILE VIEW



NOTES:

APPROXIMATELY 30 BAGS
SIZE VARIES FROM 15 TONS
TO 300 TONS

TYPICAL 30' CIRCUMFERENCED
SAND FILLED BAG

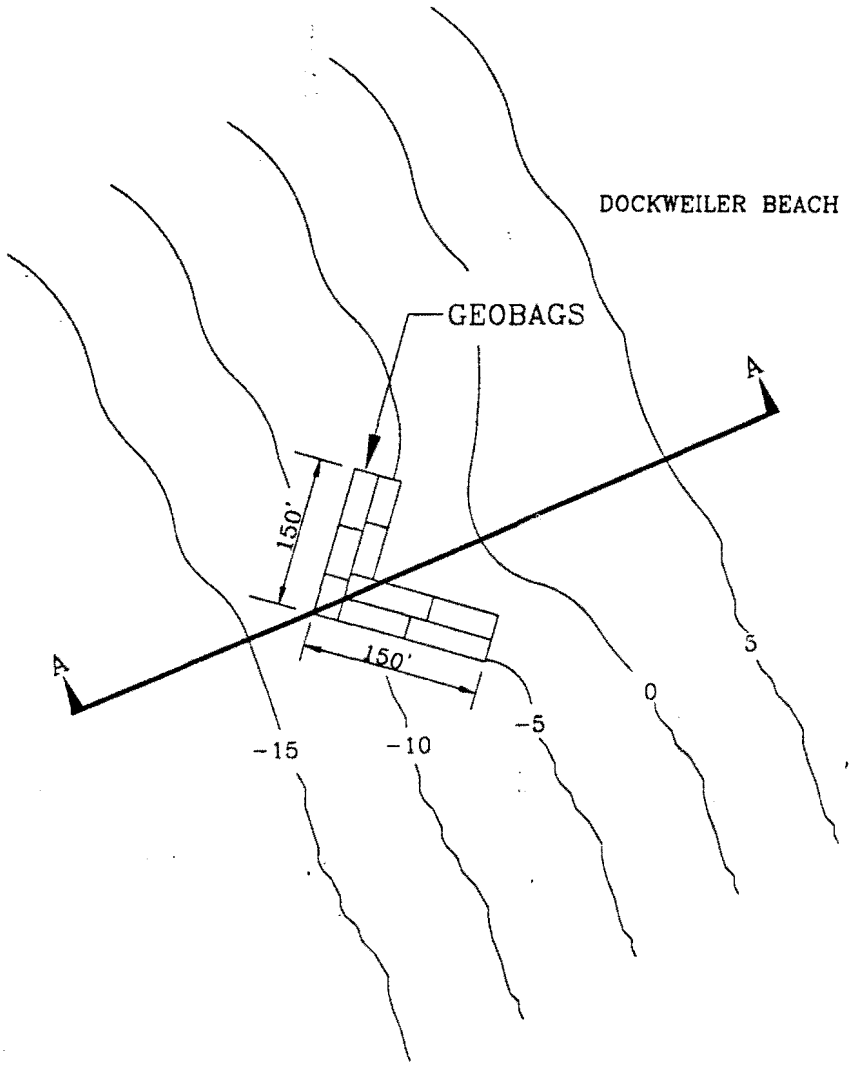
SE SKELLY ENGINEERING
David W. Skelly MS, PE
Coastal Engineer
(619) 942-8379
PHONE/FAX
619 South Vulcan Avenue, Suite 214E
Encinitas, CA 92024

SURFRIDER FOUNDATION
PRATTE'S REEF
CROSS SECTION

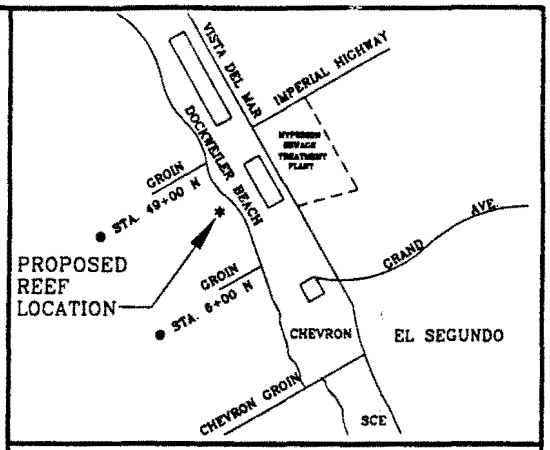
DATE: JUNE 1997

EXHIBIT 3
APPLICATION E-98-15

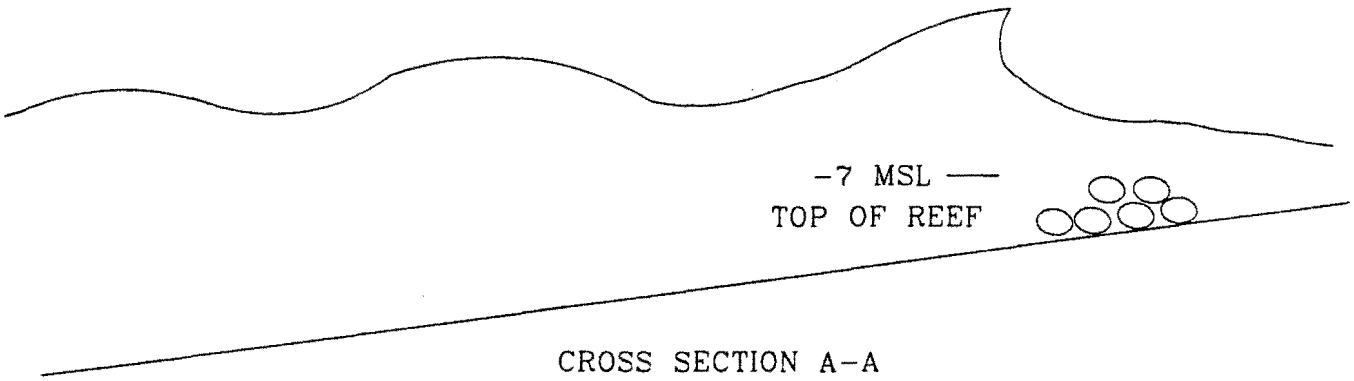
REEF DESIGN
PLAN VIEW



DEPTH CONTOURS IN FEET, MSL



VICINITY MAP



CROSS SECTION A-A

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PRATTE'S REEF

CONCEPTUAL PLAN
AND
GEOBAG CONFIGURATION

JULY 1996

Figure 3