STATE OF CALIFORNIA -- THE RESOURCES AGENCY

PETE WILSON, *Governor*

**CALIFORNIA COASTAL COMMISSION**

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# Th-5f

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## STAFF RECOMMENDATION
## REGULAR CALENDAR

**APPLICATION FILE NO.:** **E-97-25**

**APPLICANT:** **Samedan Oil Corporation**

**PROJECT DESCRIPTION:** Establish a new oil and gas drill site on an existing fill pad of a currently producing oilfield located within the Los Cerritos wetland area. Project activities include drilling up to 12 oil and gas production wells, demolishing a garage, and constructing a 1-foot-high containment berm around the perimeter of the site.

**PROJECT LOCATION:** Bixby Lease, Seal Beach Oilfield, within the Los Cerritos wetlands, 6433 Westminster Avenue, City of Long Beach, Los Angeles County (Exhibits 1-4).

**SUBSTANTIVE FILE DOCUMENTS:** See Appendix A

## Synopsis

### *Project Description and Location*

Samedan Oil Corporation proposes to establish a new oil and gas drilling site on an existing filled area within the Los Cerritos wetland area of Alamitos Bay. The purpose of the proposed project is to develop oil and gas reserves from an untested formation adjacent to the current

production zone by slant drilling up to 12 wells from an existing fill pad located approximately 4,300 feet from the center of the reservoir.

The proposed drill site is located within an already developed fill area. An existing road provides access to the site, and oil and gas produced from the proposed wells will be processed using existing oil field facilities and transported via existing pipelines. The proposed project will not result in any new wetland fill.

Oil and gas production activities began at the Bixby Lease in 1926 and have been in continuous operation since that time. The production facilities are located on filled wetland areas and are separated from the remaining wetlands surrounding the site and the Los Cerritos Channel by a series of earthen berms.

### *Property Ownership*

Effective October 1, 1997, Samedan entered into a Surface Use Agreement with Bixby Ranch Company and Bixby Oil and Gas, Ltd. for the surface rights necessary to carry-out the proposed project. This lease includes the provision that "If the drill site cannot be delivered as a result of regulatory or permit restrictions this Agreement shall be deemed terminated."

Samedan does not currently possess an interest in the target petroleum reserves, but indicates that it intends to enter into an oil and gas lease with Bixby Bellflower Oil Prospect, LLC, for the necessary mineral rights.

### *The Los Cerritos Wetlands*

Historical data indicate that approximately 2,400 acres of wetlands existed at Alamitos Bay before the turn of the century. These wetlands have been filled and severely degraded due to oil production activities, flood control projects, and other urban developments. However, like the Bolsa Chica wetlands to the southeast, the wetlands within and adjacent to the oilfield retain many important wetland characteristics, including halophytic wetland vegetation, ponding and soil saturation, and habitat for migratory birds *(Sorensen 1982, Zedler 1984, Long Beach 1984, MEC 1991, SCC 1998)* (see Exhibit 5). The Cerritos Channel is used by many species of waterfowl, including the Federal and State Endangered California brown pelican and California least tern.

Currently, the Los Alamitos Significant Ecological Area (SEA), which is located approximately 1,000 feet north of the project site, contains the most biologically valuable habitat within the Los Cerritos wetlands. Because of the 1,000-foot separation between the proposed drill site and the SEA, noise, light, and vibration generated by the project would not likely affect the habitat. In addition, a series of existing and proposed berms and dikes would effectively protect the SEA from any oil spills on the drill site.

### *Development Adjacent to an Environmentally Sensitive Habitat Area*

Although the proposed project would not require any new wetland fill, it would further degrade the adjacent disturbed wetlands. Although the adjacent wetlands are degraded, birds and other wildlife use this habitat. Studies show that noise and other human activities can significantly affect the breeding patterns and other behaviors of birds. The noise, night lighting, and vibration created by the proposed development could cause potentially adverse impacts to the environmentally sensitive habitat area (ESHA) adjacent to the proposed drill site. The project will also increase the risk of an oil spill that could be devastating to the ESHA.

### *Wetland Restoration*

Restoration of the Los Cerritos wetlands has been planned since the 1970's. On April 22, 1999, after lengthy negotiations involving the Bixby Ranch Company, the California State Lands Commission, the Port of Long Beach (POLB), and the State Coastal Conservancy (SCC), the SCC Board approved an option agreement the purchase and restoration of 181 acres of filled and degraded wetlands surrounding the proposed project site. This purchase is currently designated a priority on the Southern California Wetlands Restoration Project list of projects.

Conceptual restoration plans developed by the SCC and the Port of Long Beach show the proposed drilling site as an "island" within the area planned for restoration. The proposed project thus limits restoration opportunities. It will also degrade the wetlands surrounding the site that implementation of the SCC and POLB restoration project will create (see Exhibits 6-7). Noise, light, vibration, and any accidental oil spills generated by the project would reduce the biological functionality of the restored wetland to be created surrounding the proposed drill site and access road. Although the project site could eventually be restored after the cessation of oil and gas production, restoration would be delayed by more than 20 years. Future well abandonment, site cleanup, and restoration activities would further disturb surrounding habitat.

### *Consolidation of Oil and Gas Facilities*

Coastal Act Section 30262(b) requires consolidation of new or expanded oil and gas development with existing facilities to the maximum extent feasible. This policy is particularly important for the proposed project given the anticipated wetlands restoration. Currently, wells, pipelines and processing facilities are distributed throughout the Los Cerritos wetlands. Consolidation of these facilities would significantly increase the acreage available for wetland restoration.

In order to evaluate the consistency of the proposed project with the Coastal Act's "maximum feasible consolidation" standard, the staff requested Samedan to provide a detailed consolidation plan showing where each existing and proposed well and all associated pipelines and processing facilities would be located. Staff also asked Samedan to consider the feasibility of locating the proposed wells in the area of Tank Battery No. 2 in order to increase the consolidation of facilities. Staff asked that the plan include analysis of the technical and legal feasibility of the

consolidation alternatives, and be designed with consideration of the wetland restoration goals for the Los Cerritos system.

Samedan responded to staff's information request indicating that no specific facilities consolidation plan exists, but that existing facilities could be consolidated to the proposed drill site and a second site near Marketplace Pond (see Exhibits 6-7). Samedan has not provided sufficient information to determine whether consolidation centered on the proposed drill site and either Tank Battery No. 2 or the site at Marketplace Pond would represent maximum feasible and legally permissible consolidation of facilities as required under Section 30262(b), or, alternatively, whether some other site or sites would be more technically suited for facility consolidation. Samedan has not indicated what specific facilities would be relocated to the proposed drill site under this scenario or data to demonstrate that such a plan is technically feasible. Until such time that a more thorough examination of consolidation alternatives is provided, the Commission cannot determine that the proposed project is consistent with the requirements of Coastal Act Section 30262(b).

### *Alternatives Analysis*

The proposed development will adversely affect the existing degraded wetland habitat surrounding the site and will reduce the habitat value of these areas when restored. For example, noise and light generated by the proposed project will disturb wildlife currently utilizing the adjacent degraded wetland habitat and future restored habitat. Any accidental oil spills could jeopardize adjacent wetlands. The proposed project would also preclude restoration of the areas occupied by the drill site and access road and would divide what would otherwise be contiguous habitat. An alternatives analysis under the applicable provisions of the Coastal Act and CEQA should consider alternatives that would lessen or avoid these and any other environmental impacts associated with the project.

The permit application includes an alternative sites analysis, identifying three potential alternatives to the proposed project site location (Exhibit 8). In addition, staff advised Samedan to consider several other alternative sites for the project. Samedan rejected all of these alternatives as infeasible without providing analysis and information necessary to support its conclusions.

### *Local Coastal Program (LCP)*

The City of Long Beach Local Coastal Program (LCP) was certified by the Coastal Commission in 1980. However, the Los Cerritos section was deleted from the LCP prior to certification because California Department of Fish and Game determined that the plan did not provide adequate restoration. Hence, the Los Cerritos area remained a "white hole" in the LCP. Following certification of the LCP, the City and County commenced preparation of a Los Cerritos Wetlands LCP. The Commission approved the proposed LCP in April 1984, with suggested modifications. The suggested modifications included assurance that there would be no net loss of wetland acreage and provisions for the long-term management and financial

responsibility for the area. The City and County did not submit a modified LCP, and the Commission's action expired in October 1984. At this time, Los Cerritos is the only uncertified area in the City's coastal zone. For the reasons described above, the Commission cannot find that the proposed development is in conformity with Coastal Act Sections 30231, 30240 or 30262. Therefore, approval of the proposed development would prejudice the ability of the local government to prepare a local coastal program that is in conformity with Chapter 3 in conflict with Coastal Act Section 30604.

### *California Environmental Quality Act (CEQA)*

Samedan has not provided sufficient information to allow the Commission to determine that there is no less environmentally damaging feasible alternative or mitigation measures to avoid or substantially lessen adverse impacts that the project will cause to the environment. Therefore, the proposed development is inconsistent with Section 21080.5(d)(2)(A) of the CEQA.

**Table 1** (pg. 3) summarizes project-related significant issues and potential impacts to coastal resources.

## *Recommendation*

On the basis that the proposed project is inconsistent with Coastal Act policies and would prejudice the ability of the City of Long Beach's ability to prepare a certifiable Local Coastal Program, the staff recommends **denial** of the project.

## Table 1. Issue Summary: Potential Project-Related Impacts and Mitigation Measures

| Analysis |
|---|
| **Development Adjacent to an Environmentally Sensitive Habitat Area** |
| Although the adjacent wetlands are degraded, birds and other wildlife, including several threatened or endangered species, use this habitat. The proposed development will intensify industrial activity within the Los Cerritos wetlands, generating substantial noise, vibration, and light, and will increase the risk of an oil spill. Studies show that noise and other human activities can significantly affect the breeding patterns and other behaviors of birds. An oil spill could be devastating to the habitat and associated wildlife of the wetlands. Samedan has not fully evaluated these potential adverse impacts and has not included mitigation measures with the project to avoid or reduce these impacts. The Commission cannot therefore find that the proposed development is compatible with the continuation of the adjacent ESHA as required by Coastal Act Section 30240(b). |
| **Wetlands Restoration** |
| The proposed development will reduce restoration opportunities and will degrade the value of restored wetland habitat to be created in proximity to the project site. The proposed drilling pad and access road would delay restoration of these areas by more than 20 years, creating an industrial "island" that would divide the restorable area. The restored wetlands surrounding the drill site would be sensitive to the noise, vibration, and light impacts of the project. Restoration would require the re-establishment of waterways throughout the wetlands. These hydrologic connections would allow accidentally spilled oil from the proposed project to be transported throughout the wetlands and into open water. An oil spill could have significant adverse effects to the restored wetland habitat and wildlife. Samedan has not considered siting alternatives that would reduce or avoid such impacts. The Commission, therefore, cannot find that the proposed development conforms with Coastal Act Section 30231. |
| **Consolidation of Oil and Gas Production Facilities** |
| Samedan proposes that the project would facilitate the consolidation of oil and gas facilities in the Los Cerritos area because the new wells would be sited on an existing fill-pad where oil and gas facilities are already located. However, Samedan has not provided a specific consolidation plan or an analysis of potential consolidation alternatives. In accordance with Coastal Act Section 30262(b) and with the restoration goals for the area, the Commission must find that the proposed project will achieve the maximum feasible and legally permissible consolidation with existing facilities. Samedan has not provided the information necessary to make this determination. Therefore, the Commission is unable to find that the development conforms with Coastal Act Section 30262(b). |
| **Alternatives Analysis** |
| Samedan's alternatives analysis does not consider a number of potential less environmentally damaging feasible alternative sites for the project. The application identifies and rejects a number of alternative sites for the project. However, Samedan has not provided sufficient evidence to support its rejection of these alternatives. For example, while the current record for horizontal distance in extended reach drilling is 34,728 feet, the alternative sites identified by Samedan are limited to those within a 5,000-foot radius of the reservoir. This limitation is not supported by an examination of the specific economic and technical constraints from which the 5,000-foot limit proposed by Samedan is derived. Because Samedan has not fully evaluated potential project alternatives, the Commission cannot find that the proposed project represents the least environmentally damaging feasible alternative. |

## Table 1. (cont.)

| |
|---|
| **Development would Prejudice Local Government's Ability to Prepare a Certifiable LCP** |
| The Los Cerritos Local Coastal Program (LCP) remains uncertified due to significant unresolved issues concerning wetland restoration and future development. For the reasons described above, approval of the proposed development would prejudice the City of Long Beach's ability to prepare an LCP that is consistent with the Chapter 3 policies of the Coastal Act in conflict with Coastal Act Section 30604. |
| **California Environmental Quality Act (CEQA)** |
| As described above, Samedan has not demonstrated that the proposed development represents the least environmentally feasible alternative, and is therefore inconsistent with CEQA Section 21080.5(d)(2)(A). |

## 1.0 STAFF RECOMMENDATION

**Denial**

The staff recommends the Commission deny the permit application.

**Motion:**

I move that the Commission Approve Coastal Development Permit Application No. E-97-25, in accordance with the findings specified in the staff recommendation dated June 25, 1999.

The staff recommends a **NO** vote. To pass the motion, a majority vote of the Commissioners present is required. Approval of the motion will result in the adoption of the following resolution and findings.

**Resolution:**

The Commission hereby **denies** permit application E-97-25, on the grounds that (1) the project is inconsistent with the Chapter 3 policies of the Coastal Act, (2) insufficient information is available to determine that the project as proposed is the least environmentally damaging feasible alternative within the meaning of the California Coastal Act and the California Environmental Quality Act and (3) approval of the proposed project would prejudice the ability of the local government to develop a Local Coastal Program consistent with the California Coastal Act.

## 2.0 FINDINGS AND DECLARATIONS

The Commission finds and declares as follows:

## 2.1 PROJECT DESCRIPTION

### 2.1.1 Project Location

The project site is located in the Los Cerritos wetlands area of Alamitos Bay, on the McFarland Bixby "A" Lease at 6433 Westminster Avenue, in the City of Long Beach, Los Angeles County. Historical data indicate that approximately 2,400 acres of wetlands existed at Alamitos Bay before the turn of the century. These wetlands are filled and degraded due to oil production activities, flood control projects, and other urban developments.

Oil and gas production activities began at the Bixby Lease in 1926 and have been in continuous operation since that time. The production facilities are located on filled areas and are separated from the Los Cerritos Channel by a series of earthen berms. Currently, there are approximately 50 producing wells in the oil field. Average annual crude oil production for the past five years is 148,000 barrels with an average decline in production during this period of 4.77%. The area surrounding the drill site consists of degraded wetlands. In addition to the extensive oil and gas development, large Southern California Edison and Los Angeles County Department of Water and Power facilities are located in the vicinity of the project site. The project area is also known as the Seal Beach oilfield. The lease property is located off Westminster Avenue between

Studebaker Road and Pacific Coast Highway. The site is within an existing filled area of a currently producing oilfield in the northeast portion of the lease, approximately 2,500 feet west of the San Gabriel River and 1,800 feet south of the Los Cerritos Channel. The nearest residentially developed area is approximately 2,300 feet from the project site (see Exhibits 1-3).

### 2.1.2 Project Overview

Samedan Oil Corporation proposes to establish a new oil and gas drilling site within the existing developed area of the Bixby Ranch oilfield. The purpose of the proposed project is to develop oil and gas reserves from an untested formation adjacent to the current production zone. Samedan proposes to access the formation by slant drilling up to 12 wells from an existing filled area located approximately 4,300 feet from the center of the reservoir.

The proposed drill site is located entirely within an already developed fill area that has been in place for approximately 50 years. Access to the site is provided by an existing road, and oil and gas produced from the proposed wells will be processed using existing facilities within the lease site and transported via existing pipelines. The proposed project will not result in any physical expansion of the oilfield. The project will be carried out in three phases: pre-drilling site preparation, testing, and production.

### 2.1.3 Pre-Drilling Site Preparation

The proposed drill site will be located on an existing 2.2-acre fill area, immediately adjacent to the oilfield office building. A portion of the site is currently occupied by drill pipe racks, a storage dock, and a garage. In preparation for exploratory drilling, Samedan propose to demolish the garage and to consolidate the pipe racks and storage dock to provide room for drilling equipment and operations.

The project will make use of existing processing facilities, storage tanks, and pipelines within the lease site. Produced oil and gas will be routed from the proposed wells to existing aboveground gathering lines on the drill site. The existing facilities within the Bixby lease have sufficient capacity to support both the current production and the additional production from the proposed project. No new processing facilities, tanks, or pipelines (other than the lines connecting the new wells to the existing lines) are proposed.

Prior to any drilling operations, Samedan will construct an earthen berm around the perimeter of the site to provide oil spill containment and to separate the drill site from the adjacent wetlands. The berm will be constructed by excavating an approximately one-foot-deep trench from within the drill site fill area. The excavated material will be used to construct a one-foot-high berm at the edge of the fill site. No construction or staging activity is proposed outside of the existing fill area.

### 2.1.4 Testing

Initially Samedan will drill a single well from the drill site to a bottom hole location approximately 4,300 feet to the north northeast, approximately 11,800 feet below the surface, to

what Samedan expects to be the center of the oil and gas reservoir (Exhibit 8, Figure 2). The purpose of this initial well will be to determine whether commercial quantities of crude oil and natural gas exist in the formation. If the initial well is not commercially successful, the well will be plugged in accordance with California Division of Oil, Gas and Geothermal regulations (DOGGR) and the project will be terminated.

Drilling and testing of the initial well will be conducted over a three-month period. Equipment and parts for the drilling rig will be trucked to the site via the existing access road from Westminster Avenue. Trucking of parts and assembly of the drill rig and associated equipment will take up to two weeks. The drill rig will be 160 feet high, and will be powered by electricity. Existing high voltage service to the Bixby Ranch site has sufficient capacity to supply power to the drilling rig. A transformer will be installed at the drill site to step down the voltage from the high voltage supply line.

Drilling muds and cuttings will be re-circulated to the surface into portable 500-barrel capacity tanks during drilling operations.[1] Drill cuttings will be removed from the drilling muds and the drilling muds will be re-circulated back down the borehole for continuation of drilling. At the completion of drilling operations, the drilling muds and cuttings will be transported to an approved Class II disposal facility.

Once the target area is reached, Samedan will initiate testing procedures. If the initial testing procedures indicate that hydrocarbons are present in the vicinity of the bore hole, metal casing will be lowered into the bore hole and cemented in place in accordance with DOGGR requirements. Samedan will then mobilize a completion rig to perforate the casing in the prospective crude oil zone to test the well. Perforating the casing allows fluid to flow into and up the well bore. The completion rig is a diesel-powered vehicle that will be driven to the site. The completion rig has a mast height of 120 feet and is similar in appearance to the workover rigs that routinely work in the Seal Beach oilfield.

To test the well, Samedan will monitor the rate of production of the well and the rate of fluid level and pressure drop to estimate the size and production capability of the reservoir. During the testing phase, all produced crude oil and natural gas will be transported by the existing gathering lines that run east to west across the northern side of the drill site to the existing Tank Battery #2. Produced water will be processed at the existing water plant adjacent to the drill site and then discharged into the County sewer system as authorized under an industrial wastewater discharge permit from the County Sanitation District. Once processed, crude oil and natural gas will be routed for sale via existing pipelines.

### 2.1.5 Production

If the initial well is commercially successful, Samedan will drill up to 11 additional wells within the confines of the drill site. Several months will be required to drill and complete each

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[1] Drilling muds are used to keep the bore hole open during drilling, to cool the drill bit, and to transport drill cuttings to the surface. Drill cuttings are the geologic materials removed from the bore hole during the drilling process.

subsequent well in accordance with the procedures described above for the initial test well. Depending on the total number of wells drilled the drilling and completion rigs could be in operation on site for up to two years. Once production is established, Samedan will construct a concrete-block wall and plant vegetation to screen the project site from public view.

Initially, the reservoir is expected to provide enough pressure to allow fluids to come to the surface without an artificial lift or pumping system. This "flowing well" condition will last from a few months to several years, depending on the rate that pressure in the reservoir declines. Eventually, Samedan will install pumping units at each well to continue production.

Because the characteristics of the reservoir are unknown at this time, Samedan cannot specify the precise volumes of oil and gas that might be produced by the project or the length of time that the wells will be in operation. However, a commercially successful well would produce several hundred barrels of crude oil per day and several thousand cubic feet of natural gas per day. The expected total volume of the reservoir is estimated to be 50 million barrels, and Samedan expects that the project will be in operation for approximately 20 years.

### 2.1.6 Applicant's Property Interest

Bixby Ranch Company, a California Limited Partnership possesses surface fee title to the existing oilfield. The surface facilities and the mineral rights directly underlying the oilfield are owned by Bixby Oil and Gas, Ltd., a California Limited Partnership. Bixby Bellflower Oil Prospect, LLC, a California Limited Liability Company owns the mineral rights to the target reservoir of the proposed slant drilling project.

Effective October 1, 1997, Samedan entered into a Surface Use Agreement with Bixby Ranch Company and Bixby Oil and Gas, Ltd. for the surface rights necessary to carryout the proposed project. This lease includes the provision that "If the drill site cannot be delivered as a result of regulatory or permit restrictions this Agreement shall be deemed terminated."

Samedan does not currently possess an interest in the target petroleum reserves, but indicates that it intends to enter into an oil and gas lease with Bixby Bellflower Oil Prospect, LLC, for the necessary mineral rights.

## 2.2 BACKGROUND

### 2.2.1 Project Site

Before the turn of the century, about 2,400 acres of wetlands existed in the Los Cerritos area *(MEC 1991)*. Beginning in the 1920's the area was filled and the waterways channelized primarily to support oil and gas development. Today, the Los Cerritos wetlands consist of scattered fresh, brackish and saltwater wetlands. The least disturbed wetland habitat remaining at Los Cerritos is within the area designated as the Los Alamitos Significant Ecological Area (SEA) which is located approximately 1,000 feet north of the project site. The area immediately adjacent to the proposed drill site is primarily comprised of ruderal marsh. In addition to ruderal marsh, other wetland habitats occur in the area between the project site and the SEA.

Despite its degraded condition, the Los Cerritos wetlands continue to support a variety of wildlife, including several endangered species. Nine breeding pairs of the State Endangered Belding's savannah sparrow were recorded in the SEA in 1991. The intertidal mudflats in the SEA are heavily used by shorebirds. Like the Bolsa Chica wetlands to the southeast, the wetlands within the oilfield retain some wetland characteristics, including halophytic wetland vegetation, ponding and soil saturation, and habitat for migratory birds *(SCC, 1998)*. The Cerritos Channel is used by many species of waterfowl, including the Federal and State Endangered California brown pelican and California least tern.

### 2.2.2 LCP History and Jurisdiction

The City of Long Beach annexed Los Cerritos in November 1997, prior to which the area remained an unincorporated island under Los Angeles County jurisdiction. In anticipation of annexation, the City included Los Cerritos as a part of its South East Area Development and Improvement Plan (SEADIP), which was adopted in 1977. The SEADIP included a wetlands restoration section, developed by the City in partnership with the California Coastal Conservancy, the California Department of Fish and Game (CDFG), and Los Angeles County. The SEADIP was incorporated into the City of Long Beach Local Coastal Program (LCP) which was certified by the Coastal Commission in 1980. However, the Los Cerritos section was deleted from the LCP prior to certification because CDFG determined that the plan did not provide adequate restoration. Hence, the Los Cerritos area remained a "white hole" in the LCP.

Following certification of the LCP, the City and County commenced preparation of a Los Cerritos Wetlands LCP. The Commission approved the proposed LCP in April 1984, with suggested modifications. The suggested modifications included assurance that there would be no net loss of wetland acreage and provisions for the long-term management and financial responsibility for the area. The City and County did not submit a modified LCP, and the Commission's action expired in October 1984 in accordance with the Commission's regulations (CCR § 13537(b)). No further submittals have been made to the Commission, and the area therefore remains a "white hole".

On April 22, 1999,after lengthy negotiations involving Bixby, the California State Lands Commission (CSLC), the Port of Long Beach (POLB), and the State Coastal Conservancy (SCC), the SCC Board approved an option agreement for the purchase and restoration of 181 acres of filled and degraded wetlands surrounding the proposed drill site (Exhibit 9). The purpose of the option agreement is to provide for the remediation, public acquisition, and restoration of the property during the 15-month term of the option. The SCC and the Port of Long Beach have developed conceptual plans for this restoration project (see Exhibits 6 and 7). In consideration of this interest and in recognition of the high value in restoring these wetlands, the Southern California Wetlands Restoration Project Board of Governors voted to include acquisition of the Bixby Ranch property on its list of recommended clearinghouse projects. The restoration options for Los Cerritos have been the subject of previous studies as well *(Sorenson 1982, Zedler 1984, and MEC 1991)*.

### 2.2.3 Other Agency Approvals

No discretionary permits or approvals are required for the proposed project from either the City of Long Beach or any other agency. Consequently, no analysis has been undertaken of the project under CEQA separate from this analysis of the coastal development permit application.

A drilling permit is required under the City of Long Beach Oil Code (code). Because the drill site is located within a designated Oil Operating Area under the code, no discretionary local approval is required. The code provides for the addition of new Oil Operating Areas through actions by the Planning Commission and the City Council.[2]

## 2.3 Coastal Act Issues

### 2.3.1 Development Adjacent to an Environmentally Sensitive Habitat Area

Coastal Act Section 30240(b) states:

> *Development in areas adjacent to environmentally sensitive habitat areas... shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.*

As discussed in section 2.2.1 above, even in its currently degraded condition, the Los Cerritos wetlands continues to support important habitat for a variety of wildlife, including several endangered species. While the Los Alamitos Significant Ecological Area (SEA) contains the habitat with the highest current values, the degraded wetlands between the SEA and the proposed drill site, including the area just adjacent to the drill site, also provide habitat value that is subject to protection under Coastal Act Section 30240(b) as an environmentally sensitive habitat area (ESHA).

*Oil Spills*

Samedan's analysis of potential environmental impacts of the project concludes that there is no risk that the SEA could be affected by a project-related oil spill because it is separated from the drill site and associated pipelines by a series of berms and dikes. However, the application does not consider the risk of harm from a spill into the existing wetlands located within the oilfield. Such a spill could result in a significant adverse impact to this ESHA.

The project description indicates that the proposed drill site would be surrounded by a containment berm and that any spills would be retained on-site. In addition, the pipelines

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[2] Section 12.08.320 of the Long Beach Oil Code provides the Planning Commission and City Council must make the following findings before changing the boundary of, creating or deleting an oil operating area:

A. The change, creation or deletion will not adversely affect the character, livability or appropriate development of surrounding community;

B The change creation or deletion is necessary to produce the petroleum envisioned to be produced from the site, and the petroleum cannot feasibly be reproduced from other sites within the oil operating areas by unitization or production agreements, slant drilling or other mechanisms; and

C The change creation or deletion will not unreasonably hinder production of existing petroleum reserves.

transporting oil from the drill site are equipped with automatic leak detection and shut-off systems. These measures would reduce the risk of an oil spill but cannot eliminate the possibility of a spill into the ESHA. Containment berms can be overtopped or breached. Modern pipelines with leak detection and automatic shut-off systems are not 100% fail-safe. Pipeline failures resulting in oil spills continue to occur despite such equipment. For example, 163 barrels of crude oil were spilled in State waters offshore of Santa Barbara County due to a rupture in the Platform Irene pipeline. In this case, platform personnel over-rode the automatic shutdown of the pipeline. Failure of a computer controlled leak detection system lead to the release of approximately 277,000 gallons of gasoline into a river in Bellingham Washington that resulted in two deaths. Such incidents demonstrate that despite the use of modern safety equipment, the risk of oil spills cannot be eliminated.

An oil spill into the wetlands surrounding the proposed drill site would have a devastating impact to this ESHA. Because the possibility that the proposed project could result in such a spill cannot be eliminated, the project would not be consistent with the continuation of this habitat.

### *Noise*

The permit application includes a preliminary estimate of the noise contour that would be generated by the proposed project (Exhibit 10). The estimate is considered preliminary because it is based on generalized data and does not account for the specific equipment and site characteristics of the proposed project. The estimated noise contour indicate that noise levels generated from the project would vary from 90 decibels (dBA) directly adjacent to the drill site, to 65dBA 1,000+ feet away at the SEA. Samedan's analysis also concludes that the SEA will not be affected by noise impacts because traffic noise from Studebaker road is greater (68dBA) than the 65dBA-level from the project. However, the application does not consider the potential effects of project-related noise to the ESHA directly adjacent to the proposed project site. In addition, although it includes estimated vibration contours, the permit application does not contain a discussion of impacts of project related vibration to the adjacent ESHA or to the SEA.

The permit application indicates that noise level from traffic 200 feet from Studebaker road would be approximately 68dBA. Busy roadways surround the Los Cerritos wetland area. However, traffic noise effects only a relatively narrow band around the outer edges of the wetlands. The proposed project will substantially increase noise levels throughout all but a small portion of the area within a 1000-foot radius of the drill site. This radius encompasses virtually the entire wetland area, <u>including</u> the majority of the SEA.

A recent study found that the density of breeding birds is decreases by 30% to 100% in areas where noise levels exceed a threshold of 36dBA to 60dBA. The change in density and threshold noise level vary depending on the species *(Reijnin et. al. 1996)*. Another study conducted by the Wildlife Research Laboratory of the Florida Game and Fresh Water Fish Commission, and the Florida Office of Environmental Services concludes that:

*"Breeding colonial waterbirds are particularly susceptible to human disturbance because of their high-density nesting habits. Identified detriments to reproductive success include egg and nestling mortality, nest evacuation, reduced nestling body mass and slower growth, premature fledgling, and modified adult behaviors." (Rodgers & Smith 1994)*

Samedan concludes that because breeding pairs of Belding's savannah sparrows have been observed within the SEA near Studebaker Road, noise levels of 65dBA or less do not interfere with activities. This assertion contradicts the studies cited above. The observation that some breeding activity remains in the area does not, on its own, support the conclusion that the density of breeding birds in the area is not reduced due to traffic noise. Project related noise would substantially exceed the 36dBA to 60dBA disturbance threshold observed in the Reijnin study. Based on the noise contours estimated by Samedan and the information contained in the above cited studies, project generated noise would adversely affect bird populations in the surrounding wetlands.

The permit application does not consider the feasible mitigation measures to minimize the impacts of noise and vibration to the ESHA such as soundproofing of equipment, sound walls, and avoidance of peak wildlife use periods. Without considering either the effects of noise and vibration to the adjacent ESHA or mitigation measures to reduce these effects, Samedan cannot demonstrate that the proposed project has been sited and designed such that it would not degrade the adjacent ESHA and would be compatible with the continuance of the habitat.

### *Light*

Samedan proposes to conduct drilling operations around the clock. The application specifies that night lighting will be directed downward and will not disturb wildlife in the SEA 1,000 feet away. However, the application does not consider the effects of night lighting to the ESHA adjacent to the proposed drill site. Night lighting could adversely affect birds and other wildlife in the wetlands near the drill site.

The permit application does not consider the feasible mitigation measures to minimize the impacts of night lighting to the ESHA such as avoidance of peak wildlife use periods. Without considering either the effects of noise and vibration to the adjacent ESHA or mitigation measures to reduce these effects, Samedan cannot demonstrate that the proposed project has been sited and designed such that it would not degrade the adjacent ESHA and would be compatible with the continuance of the habitat.

### *Conclusion – Development Adjacent to an ESHA*

The proposed project would cause potentially significant adverse impacts to the adjacent ESHA. The permit application does not fully consider alternative siting that could lessen or avoid adverse impacts to the ESHA. Nor does the proposed project include feasible mitigation measures to minimize impacts to the ESHA. Therefore, the Commission denies this permit

application on the grounds that the project does not conform to the requirements of Coastal Act Section 30240(b).

### 2.3.2 Wetland Restoration

Coastal Act section 30200 states in relevant part that:

> *(a) Consistent with the coastal zone values cited in Section 30001 and the basic goals set forth in Section 30001.5, and except as may be otherwise specifically provided in this division, the policies of this chapter shall constitute the standards by which the adequacy of local coastal programs, as provided in Chapter 6 (commencing with Section 30500), and, the permissibility of proposed developments subject to the provisions of this division are determined.*

One of the basic goals specified under Coastal Act Section 30001.5 is to:

> *Protect, maintain, and where feasible, enhance and restore the overall quality of the coastal zone environment and its natural and artificial resources.*

Coastal Act Section 30231 addresses restoration of wetlands more specifically, stating in relevant part:

> *The biological productivity and the quality of... wetlands... appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored...* (emphasis added)

As discussed in Section 2.2.2 above, the proposed drill site is located on property that has been under consideration for wetlands restoration since at least the 1970's and is currently listed as a priority acquisition site by the Southern California Wetlands Restoration Project (SCWRP). The SCWRP is an organization of federal, state and local governments for the purpose of restoring and enhancing wetlands and watersheds in the Southern California region. The option agreement specifies that of the 196 acres offered for sale, Bixby would retain: (1) up to five acres of the property for oil and gas production and (2) a ten acre sanitary landfill adjacent to Studebaker Road (see discussion of drill site alternatives below). The POLB is the prospective major source of acquisition, restoration, and management funding, and the SLC is the likely titleholder.

In consideration of the agreement, the POLB has prepared a conceptual wetland restoration plan (Exhibit 6-7). In order to prepare this plan, the POLB consulted with Bixby concerning the location of the area(s) to be reserved for oil and gas development. Bixby indicated that oil and gas facilities would be consolidated onto two sites: (1) the proposed drill site for the Samedan project, and (2) a site adjacent to Shopkeeper Road, south of Marketplace Pond (see Exhibit 7). According to the information that Bixby provided to the POLB, the Tank Battery No. 2 site is included in the area designated for acquisition and restoration. Similar conceptual restoration plans were prepared for the SLC in November 1998 (Exhibit 6).

Both of the conceptual restoration studies assumed that the proposed drill site and access road as proposed by Samedan would be located within the wetland area. The restoration plans were designed with the proposed drill site as a constraint. The plans provide conceptual alternatives for restoring the wetlands with the drill site remaining in place as an "island" within the restored area. Accordingly, the plans include measures to protect the restored habitat from the impacts of the proposed oil and gas development. These mitigation measures include a 100-foot-wide buffer surrounding the drill site and access road and berms and dikes to prevent the release of spilled oil and contaminated runoff into the wetlands.

Neither of the conceptual restoration plans considered the issue of how the proposed drill site would affect the overall goal of restoring wetland habitat in Los Cerritos. The drilling project as proposed would preclude restoration of the areas that would be occupied by the project site and the drill site access road for approximately twenty years, creating an oilfield island within the restored wetland system. This island will physically divide what would otherwise be contiguous habitat, degrading its biological value. In accordance with the Commission's adopted guidelines for development adjacent to wetlands, new development should be separated from wetland habitat by a 100-foot-wide vegetated buffer *(CCC 1994, CCC 1981)*. Creation of a buffer to separate the proposed development from the wetland would further reduce the restorable area. Although these areas could eventually be restored to wetlands upon completion of the petroleum production, the removal of facilities, site remediation and grading would further disturb adjacent habitat.

In addition to precluding restoration of the immediate project site and the buffer area, impacts associated with the development will degrade the habitat value of the restored wetlands surrounding it. The impacts of noise, light, vibration, and oil spills associated with the proposed project to the currently existing ESHA is discussed in section 2.3.1 above. Once restored, this habitat area would be even more sensitive to such impacts. The proposed project would interfere with the goal of restoring Los Cerritos to a fully functioning wetland ecosystem.

Samedan's analysis of potential environmental impacts of the project concludes that there is no risk that the Los Alamitos Significant Ecological Area (SEA) could be affected by an oil spill because it is separated from the drill site and associated pipelines by a series of berms and dikes, stating:

> *"If any oil were spilled as a result of the proposed drilling project, it would be contained to a small portion of the oilfield by berms and roads that occur throughout the field."*

The application does not consider the effects of a spill to the wetlands that are intended for restoration directly adjacent to the proposed drill site. The release of oil into the restored wetland system would be devastating to the habitat. Restoration of the wetlands would require that re-establishment of hydrologic connections to the Los Cerritos Channel and open ocean waters. Spilled oil could readily flow through such connections throughout the restored area and into open waters.

The staff requested that Samedan provide additional information necessary to evaluate whether the proposed slant-drilling project would interfere with wetlands restoration. Samedan included a siting analysis with the permit application that assesses the feasibility of locating the drill site outside of the wetlands restoration area altogether. However, as discussed in Section 2.3.4 below, this alternatives analysis is deficient. Samedan and Bixby assert that the proposed project will be accommodated under any property transfer for wetlands restoration, but have not demonstrated that the development will not be detrimental to a restored wetland and/or limit restoration opportunities.

With the likelihood that the area will be the subject of a restoration project within the expected lifetime of the drilling project, it is necessary to consider whether the drill site could be relocated to maximize, consistent with the wetland restoration goals of the Coastal Act, the potential for such restoration on the site proposed for the project and in the larger area which surrounds it. Samedan's proposed site is approximately 350 feet from the nearest public road (Westminster Boulevard), well within the area proposed for restoration. Pursuant to the Long Beach Oil Code, the drilling site must be located at least 75 feet away from the nearest public road. Samedan has not presented an analysis of whether the project site could be located closer to the boundaries of the Bixby Ranch property to avoid the creation of an island within the restorable wetland area. For example, the staff identified the 10-acre landfill area next to Studebaker Road as a possible alternative site for the drilling project. As discussed in section 2.3.4 below, Samedan did not fully consider this potential alternative. The landfill site and other possible alternatives should be thoroughly analyzed, factoring in the goal of maximizing wetland restoration opportunities.

Samedan does not adequately evaluate whether the drill site could be relocated either completely outside of, or to a more appropriate alternative site within, the wetland restoration area to optimize restoration opportunities, or whether the project could include mitigation measures that would reduce the project effects to the surrounding habitat. Without a thorough analysis of such alternatives and mitigation measures, the Commission cannot find the project consistent with the wetland restoration goals of the Coastal Act. Therefore, the Commission finds that Samedan has not demonstrated that the proposed development is in conformity with Coastal Act Section 30231.

### 2.3.3 Consolidation of Facilities

Coastal Act Section 30262 states in relevant part:

> *Oil and gas development shall be permitted in accordance with Section 30260, if the following conditions are met:*
>
> ...
>
> *(b) New or expanded facilities related to such development are consolidated, to the maximum extent feasible and legally permissible, unless consolidation will have adverse environmental consequences and will not significantly reduce the number of producing wells, support facilities, or sites required to produce the reservoir economically and with minimal environmental impacts.*

Coastal Act Section 30262(b) requires consolidation of new or expanded oil and gas development with existing facilities to the maximum extent feasible. This policy is particularly important for the proposed project given the anticipated wetlands restoration. Currently, wells, pipelines and processing facilities are distributed throughout the Los Cerritos wetlands. Consolidation of these facilities would significantly increase the acreage available for wetlands restoration.

In order to evaluate the consistency of the proposed project with the Coastal Act's "maximum feasible consolidation" standard, the staff has requested that Samedan provide a detailed consolidation plan showing where each existing and proposed well and all associated pipelines and processing facilities would be located. Staff also asked Samedan to consider the feasibility of locating the proposed wells in the area of Tank Battery No. 2 in order to increase the consolidation of facilities.[3]

Samedan responded to staff's information request indicating that no specific facilities consolidation plan exists and that it would not be feasible to site the proposed wells at Tank Battery No. 2 because, among other reasons, this would require drilling through the main fault trace of the Newport Inglewood earthquake fault.

As proposed by Samedan, pipelines would transport the oil and gas produced from the drill site through the wetland area proposed for restoration to processing facilities located on the other side of the earthquake fault. Failure of one or more pipelines due to an earthquake would likely spill oil directly into the wetland area. Although Samedan asserts in the permit application that drilling through the fault line would increase the risk of an oil spill, no comparative analysis of the risks associated with a pipeline failure is provided. Nor does the application assess whether the risk of pipeline failure would be reduced if the drill site were located on the same side of the fault as the processing facilities. In the absence of such analysis, the Commission cannot evaluate the relative environmental impacts of locating the drill site on either side of the earthquake fault.

Samedan and Bixby have stated that a restoration project would involve consolidation of the oil and gas facilities located in the wetlands because the new wells would be sited on an existing fill-pad where oil and gas facilities are already located. Bixby indicated that the sale of its property for wetland restoration would provide for the reservation of five acres to allow oil and gas production to continue on its Los Cerritos property. The five acres would be split between two sites, one on either side of the fault line. In accordance with the conceptual restoration plans discussed above, the two sites would be Samedan's proposed drilling pad and a site near Marketplace Pond (Exhibits 6-7). Based on information provided by Bixby to the SCC and the POLB, all oil and gas facilities would be consolidated within these two sites. However, Samedan's permit application indicates that oil and gas from the project would be processed at Tank Battery No. 2. Samedan also states, that the proposed drill site could serve as one of the consolidated sites depending on the economic viability of the project.

---

[3] Tank Battery No. 2 contains most of the oilfield's major processing facilities and storage tanks, the tie-ins to the oil and gas shipping lines, and the wastewater disposal line.

freeway on ramps north of the Bixby Ranch property on the east side of the channel. None of these alternative sites is located within the area considered for wetland restoration.

In addition to the alternative sites considered in the permit application as originally submitted, the staff requested Samedan to examine several other alternative sites that would avoid or minimize impacts to existing and future wetland habitat.

The alternative sites identified by staff include:

1. Tank Battery No. 2;
2. The sanitary landfill near the intersection of Westminster Boulevard and Studebaker Road;
3. An unoccupied area within the power plant site on the west side of the San Gabriel River; and
4. An area south of the Market Place pond, adjacent to Shopkeeper Road.

Samedan rejects all of the identified alternatives on the basis that they are not feasible and/or would have greater environmental impacts than the proposed site.

The Coastal Commission finds Samedan's alternative sites analysis deficient in a number of ways, including:

1. Staff requested that Samedan provide documentation to support the assumption that the drill site must be within 5,000 horizontal feet of the reservoir. Samedan replied by reiterating its original assertion, stating: "Because the depth of the bottom holes are expected to reach approximately 11,800 feet in depth, the applicant has determined this [5,000 feet] to be the maximum surface distance that will accommodate the pumping unit/sucker rod artificial lift system which will be utilized to pump the oil." Samedan has not provided supporting documentation in the form of a technical analysis, studies, or other data concerning the technical limitations to extended reach drilling operations.

   Currently, the record for maximum horizontal displacement between the surface location of a well and a targeted reservoir is 34,728 feet. The total depth of this well, drilled in Argentina, is 36,683 feet *(Oil & Gas Journal: 5/17/99 p. 51; 6/7/99 p. 60)*. In light of the continuing advancements in extended reach drilling technologies, the 5,000-foot horizontal displacement limit set by Samedan cannot be accepted without the support of a complete technical analysis.

2. Samedan's alternatives analysis does not take into account the degree of compatibility, or lack thereof, of the alternative sites with future wetlands restoration. Without such analysis, the Commission cannot conclude that the proposed drill site represents the least environmentally damaging feasible alternative.

3. Samedan rejects the potential alternatives considered, in part, on the basis that they are not located within Oil Operating Areas under the Long Beach Oil Code. The Oil Code provides for revisions to create new operating areas by approval of the City Council. Therefore, the

specific showing along with supporting documentation that it is technically infeasible to drill from the sanitary landfill, this alternative should not be dismissed from consideration.

8. Samedan rejects the potential alternatives considered, in part, on the basis that it does not currently possess surface and/or mineral rights necessary to drill from these locations. However, Samedan does not demonstrate that obtaining such rights is infeasible. The mere absence of property interests necessary to carry out the project at an alternative location, absent a showing that the acquisition of such interests is not possible, does not constitute a valid basis for determining an alternative to be infeasible.

9. Samedan has not provided an analysis of alternatives for the consolidation of processing and production facilities. However, based on information provided by Bixby to the Port of Long Beach for the preparation of the conceptual restoration plan, existing processing facilities would be relocated to provide for wetland restoration. As further discussed in section 2.3.3, Samedan has not provided an analysis of feasible alternatives for facilities consolidation.

10. Samedan rejects as a potential alternative drill site an unoccupied area adjacent to the tank farm on the Hanes Steam Generating Plant northwest of the San Gabriel River, in part, on the basis that this site is "very close to surrounding residential neighborhoods." However, this potential alternative site is approximately ¼ mile from the nearest residential development. The distance between the power plant site and the nearest residential development is sufficient to allow this alternative to be considered under the well location restrictions established by the City of Long Beach Oil Ordinance.

### 2.3.5 Local Coastal Program

Coastal Act Section 30604 states in relevant part:

> *(a) Prior to certification of the local coastal program, a coastal development permit shall be issued if the issuing agency... finds that the proposed development is in conformity with Chapter 3... and that the permitted development will not prejudice the ability of the local government to prepare a local coastal program that is in conformity with Chapter 3...*

The Los Cerritos section of the City of Long Beach Local Coastal Program (LCP) was not certified by the Coastal Commission because of significant issues concerning restoration of the wetland system. Los Cerritos is the only uncertified area in the City's coastal zone. For the reasons described above, the Commission cannot find that the proposed development is in conformity with Coastal Act Sections 30231, 30240 or 30262. Therefore, as an additional ground for the Commission's decision to deny this application, the Commission finds that approval of the proposed development would prejudice the ability of the local government to prepare a local coastal program that is in conformity with Chapter 3 in conflict with Coastal Act Section 30604.

## 2.4 California Environmental Quality Act

Section 13096 of the Commission's administrative regulations requires Commission approval of CDP applications to be supported by a finding showing the application, as modified by any

## APPENDIX A

## SUBSTANTIVE FILE DOCUMENTS

California Coastal Commission 1981. *Statewide Interpretive Guidelines for Wetlands and Other Wet Environmentally Sensitive Habitat Areas.*

California Coastal Commission 1984. *Adopted Findings Certifying with Suggested Modifications the Los Cerritos Wetlands Local Coastal Program.* April 11, 1984.

California Coastal Commission 1994. *Procedural Guidance for the Review of Wetland Projects in the California Coastal Zone.*

Long Beach 1984. *Los Cerritos Wetlands Local Coastal Program.* City of Long Beach and County of Los Angeles, Final Revision, April 11, 1984.

MEC 1991. *Ecological Descriptions and Evaluation of Proposed Enhancement/Restoration for Eight Southern California Wetlands.* MEC Analytical Systems, Inc., Final Report, December 1991.

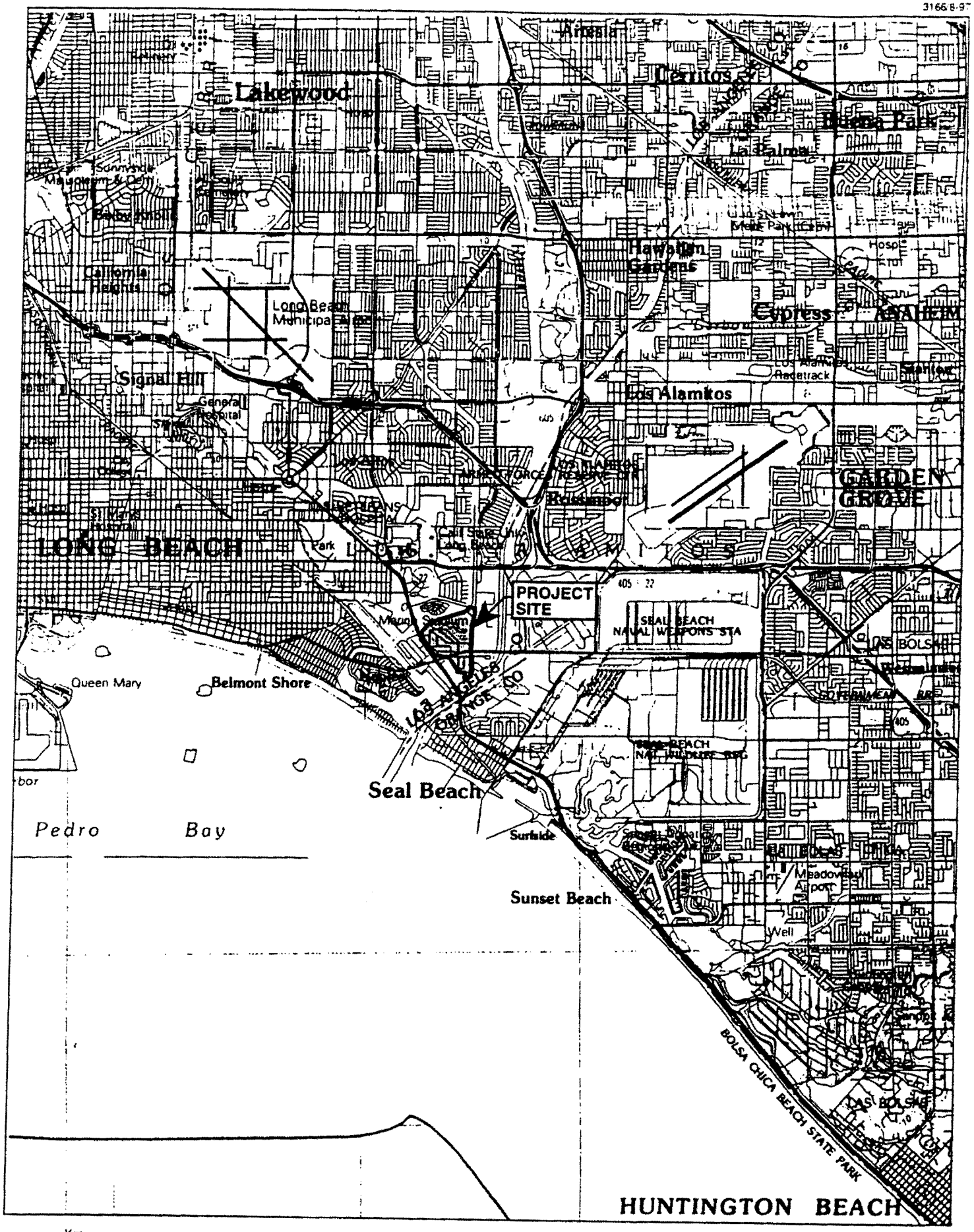
Reijnen et. al. 1996. *Disturbance by Traffic of Breeding Birds.* Biodiversity and Conservation, pages 567-581, vol. 6, 1997.

Rodgers & Smith 1994. *Set-Back Distances to Protect Nesting Bird Colonies from Human Disturbance in Florida.* Conservation Biology, pages 89-99, vol. 9, no. 1, February 1997.

Sorensen, J. 1982. *Southern California Regional Wetland Restoration Study.* Final Report to the State Coastal Conservancy.

State Coastal Conservancy 1998. *Los Cerritos Wetlands Investigation of Potential Wetland Restoration Alternatives.*

Zedler, J.B. 1984. *Salt Marsh Restoration: A Scientific Perspective and Southern California Focus.* California Sea Grant College System, Rept. T-038.




Km
0 1 1centimeter = 1 kilometer

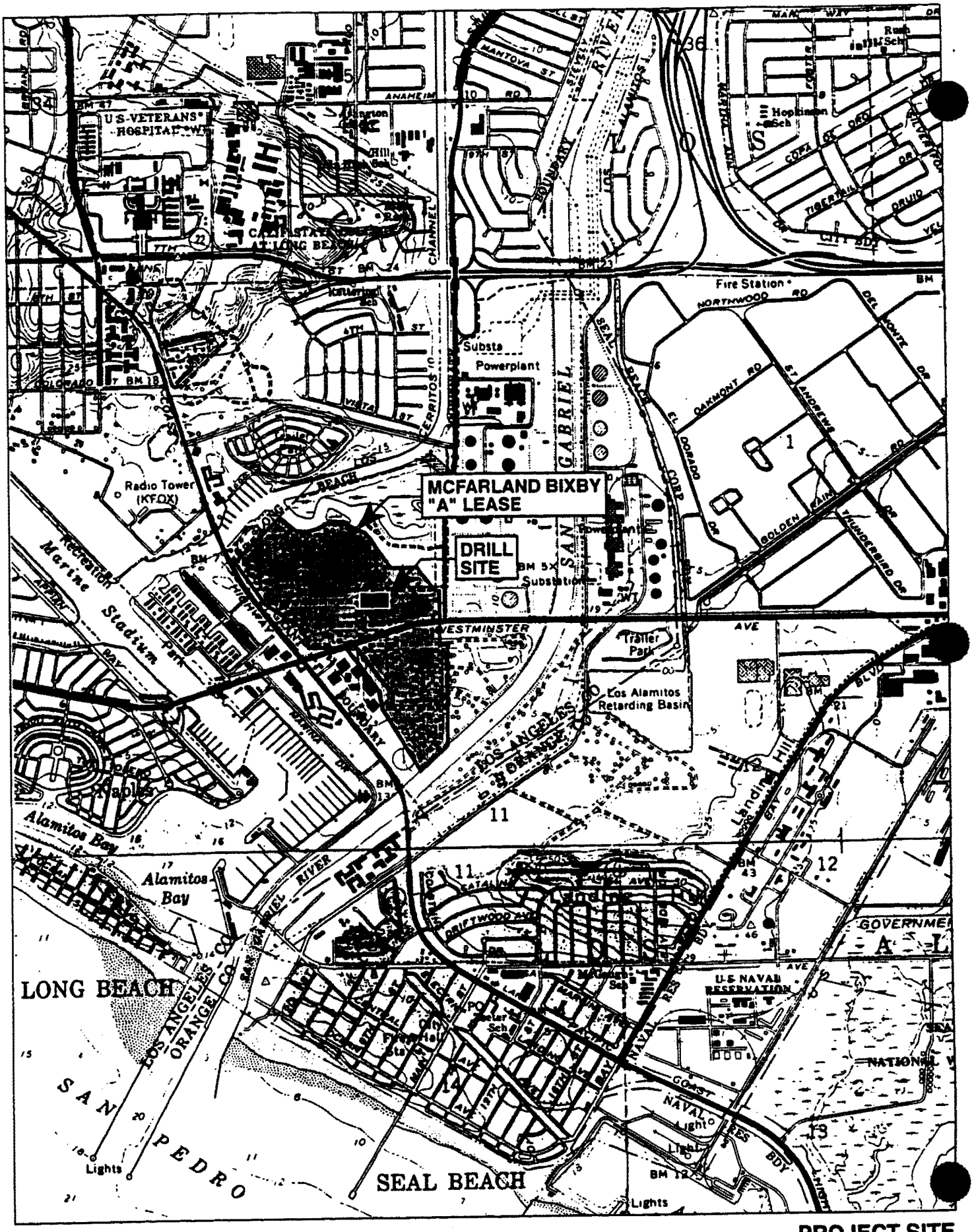
N

Base Map Source: USGS 1:100,000
Long Beach, CA

**E-97-25 (Samedan)**
**Exhibit 1**

**PROJECT LOCATION**
**Figure 1**

3166/8-97




Feet
0 2000 1 inch = 2000 feet

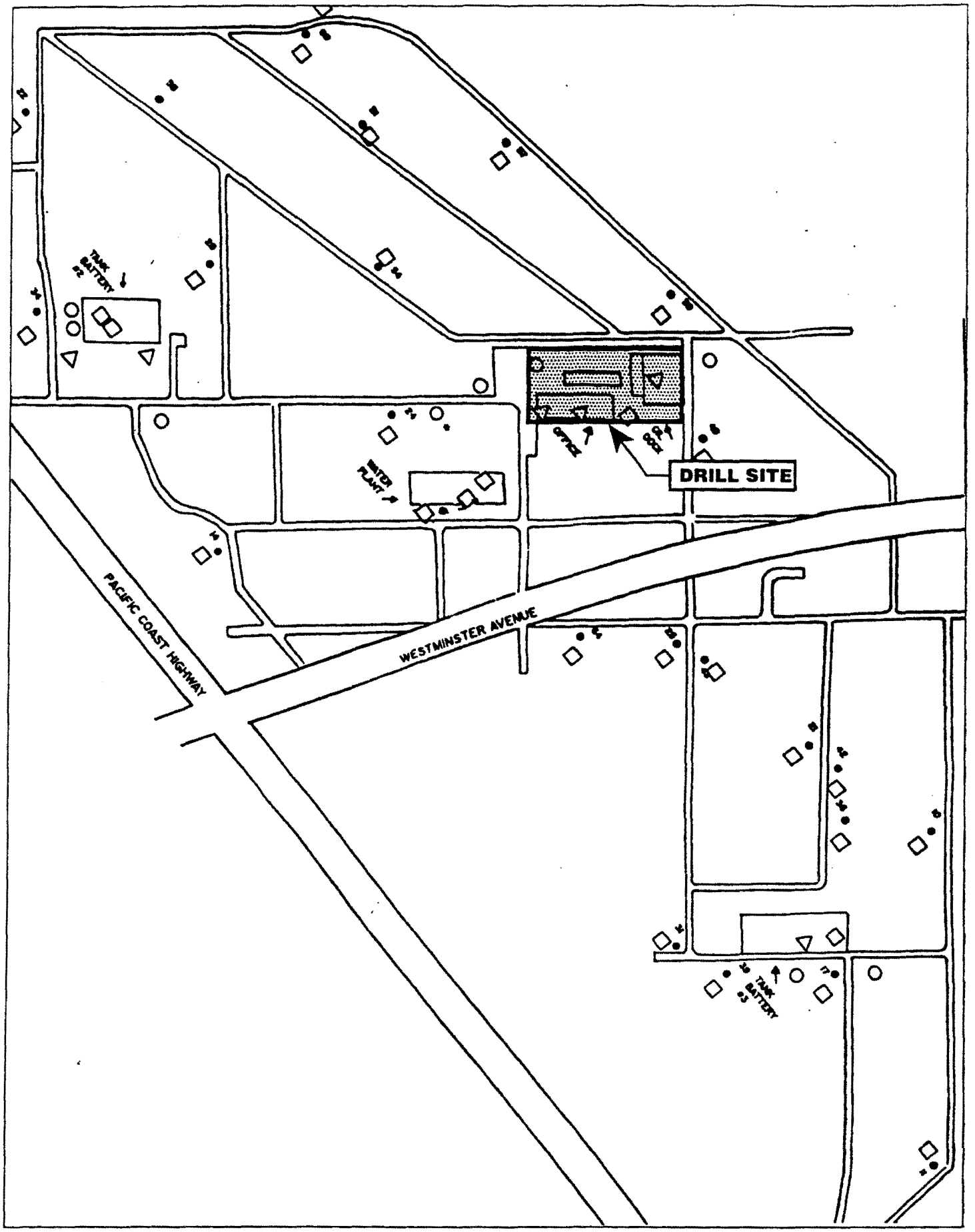
N

Base Map Source: USGS 1:24,000
Los Alamitos, Seal Beach, CA

E-97-25 (Samedan)
Exhibit 2

**PROJECT SITE**
**Figure 2**

3166/8-97




Not to Scale

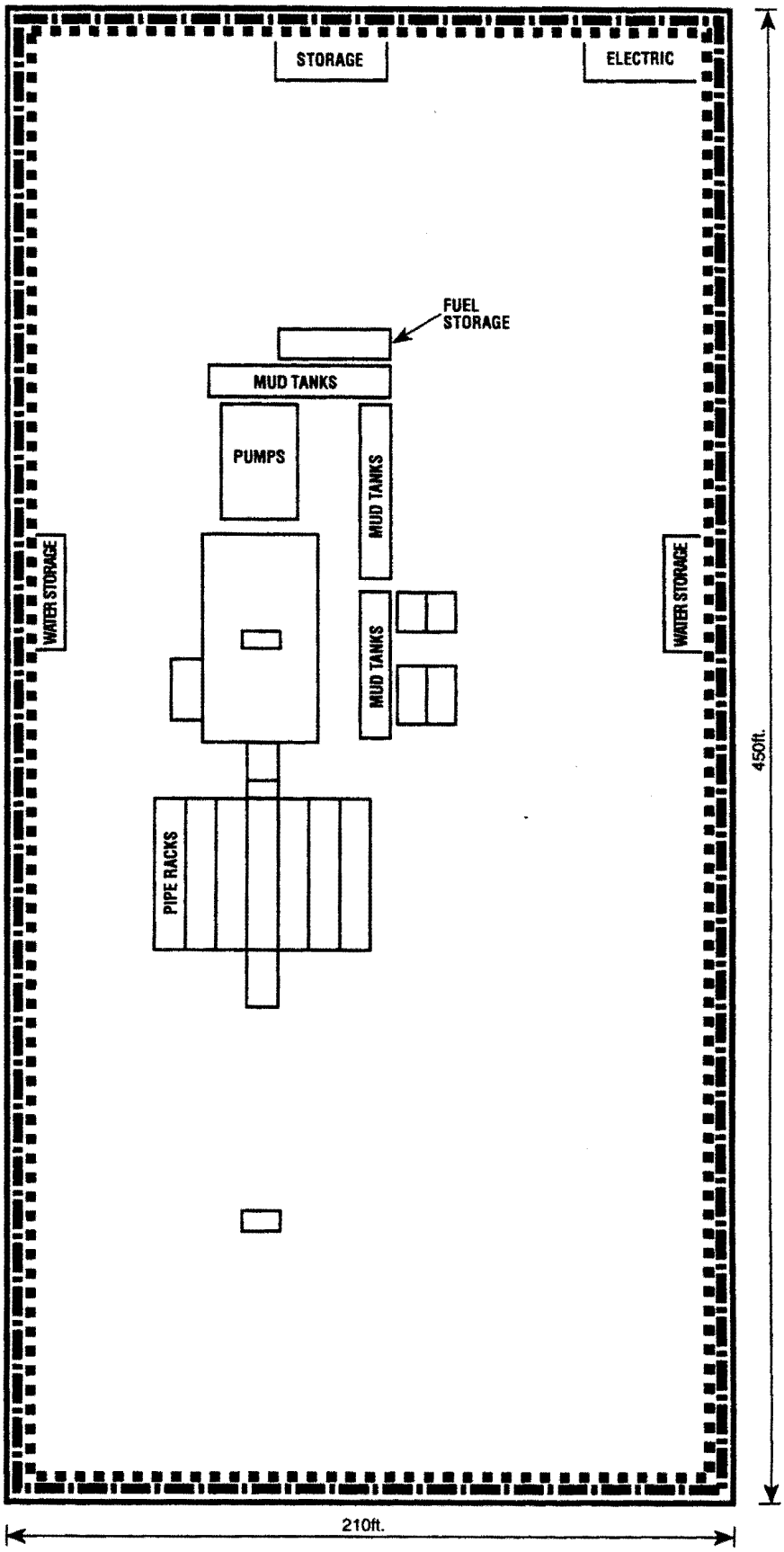
N

Base Map Source: McFarland Energy, 1994

E-97-25 (Samedan)
Exhibit 3

LOCATION OF DRILL SITE WITHIN
BIXBY "A" LEASE PROPERTY
Figure 3

3166/8-97




**LEGEND:**

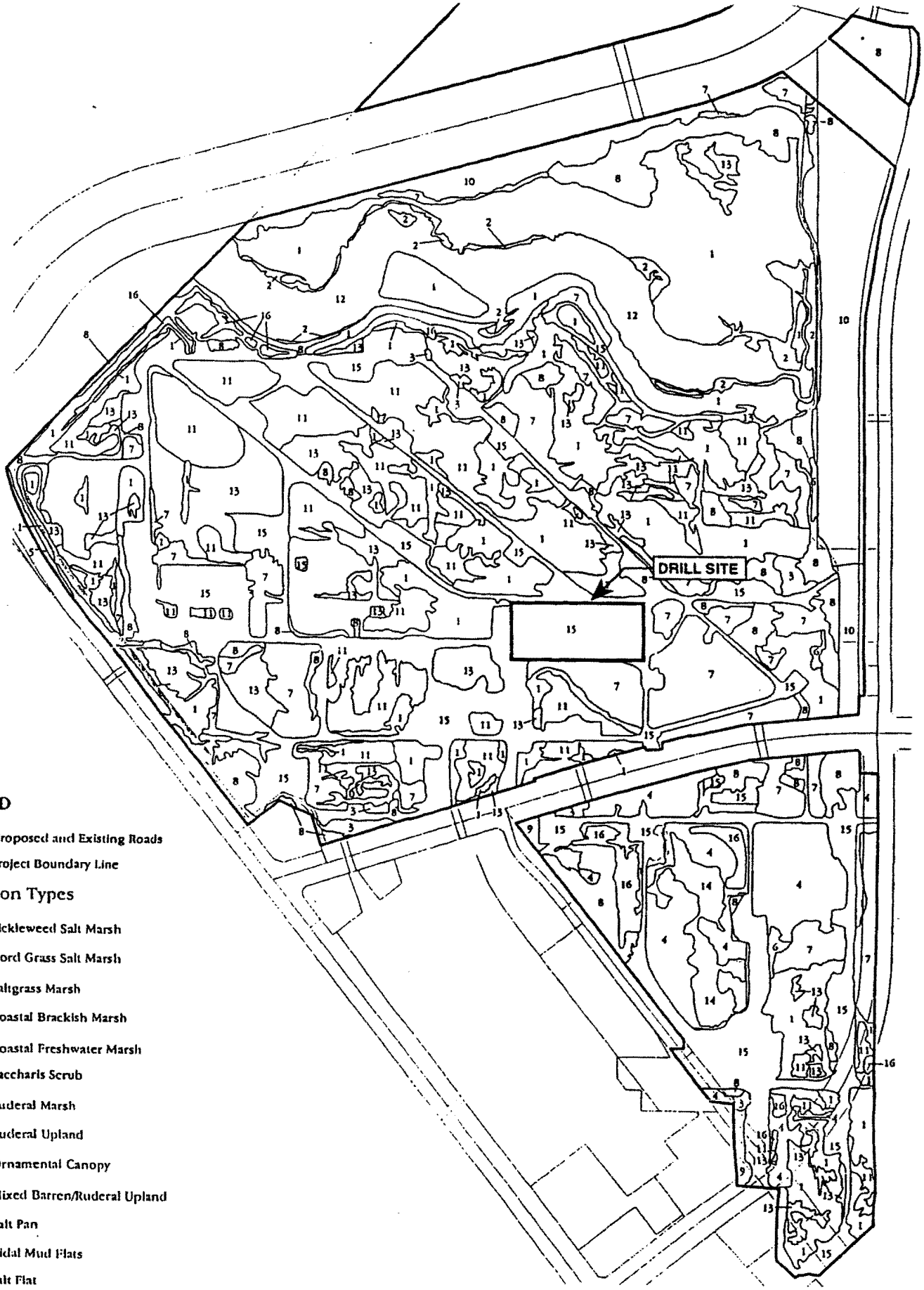
- SITE BOUNDARY
- 1 FOOT-HIGH BERM
- 1 FOOT-DEEP TRENCH

**PROJECT SITE PLAN**
**Figure 6**

N

Base Map Source: The Planning Center

**E-97-25 (Samedan)**
**Exhibit 4**




**LEGEND**

Proposed and Existing Roads

Project Boundary Line

Vegetation Types

1 Pickleweed Salt Marsh

2 Cord Grass Salt Marsh

3 Saltgrass Marsh

4 Coastal Brackish Marsh

5 Coastal Freshwater Marsh

6 Baccharis Scrub

7 Ruderal Marsh

8 Ruderal Upland

9 Ornamental Canopy

10 Mixed Barren/Ruderal Upland

11 Salt Pan

12 Tidal Mud Flats

13 Salt Flat

14 Open Water

15 Developed/Disturbed

16 Ditch-grass/Seasonal Open Water

**E-97-25 (Samedan)**
**Exhibit 5**

Coastal Conservancy

RECEIVED
MAY 26 1999
CALIFORNIA
COASTAL COMMISSION

**TRANSMITTAL**

November 18, 1998

**To:** Tim King
Bixby Ranch Company

**From:** Bill Martin Bill
Coastal Conservancy

**Ref:** Los Cerritos
Potential Alternatives Report

Enclosed is a copy of the report prepared by Moffatt/Nichol and Mike Josselyn on potential restoration alternatives for the Bixby Ranch Property – Los Cerritos. A copy of this report has been provided to the Coastal Commission and will also be provided to Tom Johnson of the Port of Long Beach. Should you have questions or want additional information, please contact me at 510-286-3709 or e-mail martinb@igc.org.

**E-97-25 (Samedan)**
**Exhibit 6**

1330 Broadway, [illegible] Flo
Oakland, California 94612-25
510·286·1015 *Fax*: 510·286·04

# LOS CERRITOS WETLANDS

## INVESTIGATION OF POTENTIAL WETLAND RESTORATION ALTERNATIVES

Prepared for:

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Attn: William Martin
510-286-3709

Funded by:

Southern California Wetlands Clearinghouse

Prepared by:

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Attn: Dr. Michael Josselyn
415-435-7126

November 18, 1998

## INTRODUCTION

The Los Cerritos wetlands are a remnant of the once extensive tidal wetlands near the mouth of the San Gabriel River and historic Alamitos Bay. Today, the wetlands consist of a tidal wetland bordering the Los Cerritos Channel and a much larger diked wetland area within an active oil field (Figure 1). The larger wetland area was former tidal marsh, but was diked and portions filled for oil extraction roads and pumps. Like Bolsa Chica to the southeast, the wetlands within the oil field retain some wetland characteristics including halophytic wetland vegetation, ponding and soil saturation, and habitat for migratory birds. However, their potential is greatly reduced due to on-going land practices.

The tidal wetland that borders the site is dominated by a large tidal channel that supports fish and benthic invertebrates, a densely vegetated marsh of cordgrass (*Spartina foliosa)* and pickleweed (*Salicornia virginica*), and is utilized by a variety of migratory shorebirds and waterfowl. Several previous plans have been developed to restore the diked portion of the site to tidal action and to re-establish the historic condition of this area. Currently, the State Coastal Conservancy is considering purchasing the parcels owned by the Bixby Ranch for implementing a wetland restoration plan.

One consideration in the restoration of these lands will be the removal of oil extraction equipment from the site. The oil operator has a permit application on file with the California Coastal Commission to construct a new oil exploration facility on an existing fill pad within the diked wetland. The oil exploration facility (2.3 acres) is designed to allow for slant drilling and extraction if oil is discovered. If the lands were purchased by the State and a restoration plan was implemented, all other oil production facilities would be consolidated, a site contaminant characterization completed, and any hazardous materials removed by the present landowner.

The purpose of this report is two fold:

1. Can the restoration of the wetlands be accomplished with the proposed location for the drilling location for the northern field (north of earthquake fault)?

2. Will the oil exploration and drilling activities have any impact on the viability of the wetland?

This report describes the opportunities and constraints affecting the wetland restoration at Los Cerritos and several alternatives that might be implemented pending further investigation and design study.

## OPPORTUNITIES AND CONSTRAINTS

Restoration options for the Los Cerritos wetlands has been the subject of several previous studies (Sorenson 1982, Zedler 1984, and MEC 1991). Like Bolsa Chica and West Newport Oil site, the wetlands at Los Cerritos have been severely impacted by oil exploration and extraction facilities. However, the amount of fill is limited to access roads and pumping facilities with wetland areas remaining in-between. Wetland plants survive in the seasonally wet areas impounded by the access roads and shallowly ponded areas in the winter and spring attract many migratory shorebirds. The purpose of this section of the report is to address some of the site specific factors that will affect various restoration alternatives for Los Cerritos wetlands.

### *Opportunities*

Currently, a portion of the Los Cerritos wetlands is a viable tidal wetland and slough connected with the Los Cerritos Channel. This wetland supports a healthy vegetated marsh dominated by pickleweed and cord grass. In addition, numerous shorebirds forage along the channel on benthic invertebrates and fish. The tidal channel has been used for foraging by the California least tern although the breeding population at the San Gabriel River has been extirpated since 1981 (Fancher 1992). The pickleweed marsh is utilized as nesting habitat by the Beldings savannah sparrow (James and Stadtlander 1991). The preservation of the tidal wetland offers a seed source for both plants and animals to colonize the proposed restoration site if tidal action is restored to the site.

Within the oil fields, wetland plants still dominate the unfilled portions of the property. Although surface ponding has eliminated salt marsh plants in some areas, these ponded areas attract migratory shorebirds that forage on insects and invertebrates in the winter and spring. It is likely that with improved hydrologic control of these areas, vegetation can easily become re-established.

Elevations of the site indicate that some subsidence has occurred in relation to the presumed elevations when the site was formerly a tidal wetland. The tidal datums in this area are given in Table 1. Most marsh vegetation is found above Mean Sea Level with cordgrass found at approximately 1.5 ft above NGVD and pickleweed dominating above 2.5 ft NGVD. The land

surfaces within the northern oil field area range between 0 ft and +6 ft. The portion nearest the natural tidal marsh is the lowest in elevation with increasing elevation towards Westminster Avenue. In the southern portion of the site, elevations range between 2 and 6 ft NGVD.

Table 1. Water level statistics from 1960-1978 in Los Angeles Outer Harbor (NOAA 1991)

| DATUM | ELEVATION |
|---|---|
| Highest Observed Water Level | 5.6 ft |
| Mean Higher High Water | 2.76 ft |
| Mean High Water | 2.01 ft |
| Mean Sea Level | 0.10 ft |
| NGVD-1929 | 0.0 ft |
| Mean Low Water | -1.81 ft |
| Mean Lower Low Water | -2.76 ft |
| Lowest Observed Water | -5.35 ft |

Within the portion of the site south of Westminister Road, there is a brackish water pond (sometimes referred to as the Shopkeeper Pond) that receives runoff from Marketplace Mall. The pond is deep and may also be supported by brackish ground water. Water levels are generally at or below sea-level . It does support resident and migratory birds and adds to the biodiversity of this site.

The relatively large size of the restorable wetlands is also a significant opportunity. Increasing size has been correlated to higher biodiversity in wetlands. Over 100 acres of wetlands could be restored at this site, providing a significant regional resource between Anaheim Bay and Ballona Wetlands.

Tidal water is available from several sources: the San Gabriel River and the Los Cerritos flood control channel. It may be possible to consider thru-flow regimes that utilize water from both sources. However, it is likely that water quality issues, especially thermal pollution from power plants that discharge to the San Gabriel River may limit the potential to use this water sources.

*Constraints*

For over 17 years since the first ideas for wetland restoration of Los Cerritos were seriously considered, the primary constraint limiting restoration opportunities has been the on-going oil operations. The cost for removal and clean-up of the oil field may be significant and is the responsibility of the current landowner and oil field operator. Economic incentives, either to abandon or consolidate oil extraction facilities and to initiate the removal and clean-up are needed to initiate restoration of these lands. Levees and oil access roads have blocked movement of water through the site; oil processing facilities limit restorable wetland acreage, and various land management activities reduce habitat value. If restoration is to proceed, economic incentives will be required to encourage full or partial abandonment of the oil field.

One proposal to possibility consolidate oil operations will require use of an existing pad within the oil field. A 2.5 acre pad that now provides office and logistical support to the field is proposed for an exploratory drilling pad and possible site to consolidate oil extraction facilities. The pad is an upland area with elevations near 5 ft NGVD. The proposed exploratory drilling will involve new technology for slant drilling and therefore eliminate the need to locate drilling pads and extraction facilities directly above the geologic formation where the oil resides.

However, one limitation to the slant drill and extraction operation is that it cannot cross an earthquake fault lines. A known fault line extents across the site, dividing the site into north and south areas. The proposed extraction pad and possible consolidation site will service the northern field area and an as yet unspecified site will be required to service the south field. The pad is located at the furthest southern location in the north field that is not currently delineated wetlands. While other upland locations occur in the north field area, they are either in the midst of potential restorable wetlands or occur on an existing landfill that cannot support drilling and extraction facilities according to the oil operator. Roads to the consolidated facility must have a 100 ton capacity. There is an existing road to the pad that could be used for servicing the exploration facility.

Restoration alternatives may also require the partial or complete removal of levees that separate tidal areas from areas which are now protected from tidal flooding. Flood protection must be provided to developed areas surrounding the site, the proposed slant drilling site, and the major roadways including PCH, Westminster Avenue and Studebaker Road. At present, these roadways are at approximately 6-10 ft NGVD. Levees will also need to be erected around any remaining facilities within the oil field including the proposed exploration pad. The height of

these levees would need to be approximately 8 ft NGVD in order to protect against the highest observed tide.

A landfill exists along the edge of the site adjacent to Studebaker Road. Appropriate protection measures to avoid groundwater infiltration and surface soil erosion would need to be included in the restoration design to assure that the landfill does not erode or contribute contamination to the restored wetlands.

Even with the removal of the oil facilities, the site will still be surrounded by urban uses. Westminster Avenue bisects the site and culverts or bridges would be required to allow water to move between the two restorable areas. Shopkeeper Road and Marketplace Mall are to the west of that portion of the site south of Westminister. Appropriate buffer areas and public access would have to be incorporated into any final restoration design.

Because the wetlands are generally lower than the surrounding land, they also act as storm water detention/retention facilities. This is particularly true for the Market Place Pond. Appropriate design measures will need to be taken to minimize impacts to the restored wetland from urban run and associated water quality issues.

Finally, the oil field currently provides some habitat value for migratory birds that may be displaced with the restoration plan. In particular, species that forage in the seasonal ponds will require some high tide refugial habitat if the site is restored entirely to tidal action. The lost of this habitat may need to be mitigated under the possible restoration scenarios. In addition, the brackish water marsh provides perennial habitat to some species that might be eliminated if this pond were restored to tidal marsh. The source of water to the pond is not entirely understood and local groundwater may play an important role. Bringing tidal action close to the pond may affect its salinity. Some additional geohydrology studies will be needed to understand this issue.

## OVERALL PROJECT GOAL AND SPECIFIC OBJECTIVES

The majority of proposals for the restoration of the Los Cerritos wetlands have focused the creation of tidal marsh. Tidal marsh historically existed here and the presence of a remnant tidal marsh demonstrates that such restoration is likely to be successful. In addition, a tidal salt marsh would restore fish and benthic invertebrate habitat that will subsequently support a greater diversity of migratory shorebirds and waterfowl. It is also likely that Belding's savannah sparrow will substantially benefit from tidal restoration that promotes greater pickleweed canopy height. Zedler (1996) has shown the substantial benefits that can arise with tidal marsh restoration.

A key element for any restoration plan for the Los Cerritos wetlands will be the preservation of existing habitat values either through preservation of some seasonal ponds or provision of upland refugial areas for migratory bird use during high tides. In addition, some protected nesting areas should also be included in the habitat design.

Specific objectives for the restoration include:

- Creation of subtidal habitat for fish and benthic invertebrates
- Expansion of vegetated marsh area for Belding's savannah sparrow nesting habitat
- Provision of nesting areas for California least tern and other summer nesters
- Provision of high tide refugial habitat for migratory birds
- Protection of existing brackish water habitat in the Marketplace Pond area
- Maintain a buffer of 100 ft around any remaining oil production facilities, urban development and roadways
- Allow for future expansion of wetland habitat on exploratory drilling site after use is discontinued

With these objectives in mind, several alternatives were considered for the Los Cerritos wetlands. The alternatives were selected based on the degree of excavation and land surface alteration needed to acquire certain habitat configurations.

## PROJECT RESTORATION DESIGN ALTERNATIVES

*Alternative 1: Creation of maximum subtidal and intertidal habitat.*

The primary objective of this alternative is to provide subtidal and intertidal habitats for aquatic organisms and migratory birds (Figure 2). The subtidal area would be created adjacent to the existing tidal marsh channel and would consist of a subtidal basin dredged to a depth of -5.8 to –5.4 ft MSL. The configuration of the subtidal area and the surrounding intertidal area was determined by the existing topography—the lowest portion of the site would be excavated to create the basin. The habitats on the remainder of the site would be largely dictated by present

land surface elevation. The oil roads, pumping facilities, and a portion of the levee would be removed to implement this plan. A subtidal channel would be excavated to Westminister Road where it would be culverted and extend into the southern portion of the site. A tidal slough and salt marsh area would be created within the southern portion, avoiding the existing Marketplace Pond.

The intertidal areas would use existing topography (although some excavated materials would be used to create appropriate habitat elevations in some locations), with the exception of the removal of oil roads and pads. It is expected that the existing wetland vegetation would act as the primary seed source to the expanded tidal wetland. A shorebird nesting site would be constructed along the existing levee separating the oil field from the tidal marsh.

Under this plan, the exploratory drilling pad would be protected from tidal action by a levee surrounding the pad. A 100 ft buffer would be maintained around the pad and planted with transitional vegetation. This transitional vegetation would provide additional habitat types and could increase the biodiversity of the site and high tide refugial. After the exploration and production phases were discontinued, the pad would be converted to high marsh habitat or transition zone. If California least tern or shorebird breeding populations were successful in this area, the pad could also be used for an additional nesting site as it is situated near shallow water fish habitat.

*Alternative B. Minimal grading plan*

The primary objective under this alternative (Figure 3) is the restoration of intertidal and vegetated marsh habitat with minimal land alteration. The site would either have several narrow tidal breaches in the existing levee or culverts would be used to allow water to enter the site. If culverts were used, the tidal regime may be narrower (muted) within the restoration site. The plan would involve the excavation of the existing upland areas (oil roads and pads) to subtidal elevations to create a series of parallel tidal channels. The actual size and shape of the channels could be varied somewhat to provide for a natural tidal pattern The primary advantage of this alternative is that it would have minimal grading impacts to existing salt marsh vegetation within the site. However, because the existing elevations are slightly lower than the adjacent tidal marsh, much of the restoration site would be mudflat or low to mid-marsh habitat. Some of the existing pickleweed-dominated areas would be converted to these other habitat types. The tidal channels would be connected to the tidal slough through either a breach in the levee or a series of culverts through the levee. The culverts could be used to create a muted tidal regime within the restoration site to lower high tide levels; thereby creating more high marsh and transitional

habitat.

The exploratory drilling pad would be surrounded by a 100 ft buffer. Depending upon the degree of tidal muting, there may not be any requirement for levees surrounding the pad. After exploration or oil production ceased, this area could be coverted to vegetated marsh or transition zone habitat. Due to the limited subtidal and mudflat habitat in this alternative, it is not likely that a shorebird nesting "island" would be successful here.

An extended channel will be constructed beneath Westminister Avenue to provide water to the area adjacent to Shopkeeper Pond. Vegetated marsh would be the primary habitat in this area. The type of vegetation would be determined by the degree of tidal muting resulting from the culverts beneath Westminister Avenue. With a muted marsh, it is likely that mid to high marsh would be the dominant habitat type. The existing brackish water pond will be retained.

*C. Alternative 3: Subtidal channel plan (Hybrid Grading Plan)*

The primary goal for this alternative (Figure 4) is the creation of a mix of habitat types similar to the existing tidal marsh with the goal of reducing excavation quantities. A main tidal channel will be excavated within the site from the existing tidal slough. Under this alternative, the levee would be breached and a full tidal regime would occur within the site. The channel will be designed as an inverted Y-shape to provide tidal water to the entire site. In addition, smaller tidal slough channels would be excavated to create a network within the vegetated marsh. These channels would provide habitat for small estuarine and marsh fish and invertebrates.

Some of the excavated materials will be used for creation of two shorebird nesting areas and to create some of the elevations necessary to support high marsh habitat. In addition, a tidal channel will be extended into the area south of Westminister parcel to create a tidal slough. However, in order to increase tidal circulation throughout the site, the channel would be connected to the San Gabriel River through a culvert system. The culverts would be equipped with control structures such that intake rates and timing could be controlled to reduce the impacts of thermal effluents in the River, especially during the summer months. The existing brackish water pond will be retained.

The consolidated exploratory drilling pad will be bermed and high marsh created around its edges. After exploration and oil production ceased, tidal channels could be extended into this area and marsh habitat created.

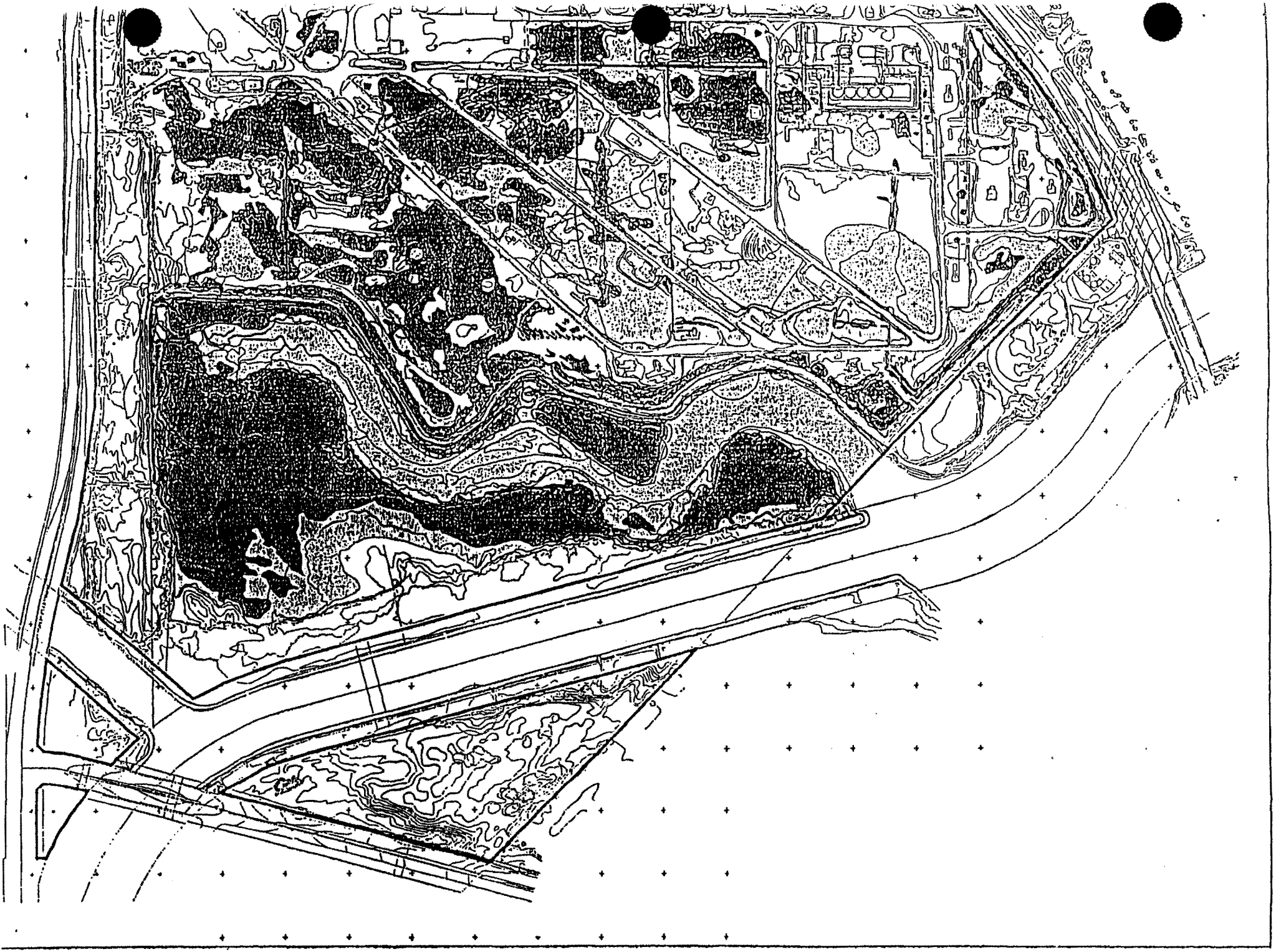
## CONCLUSION

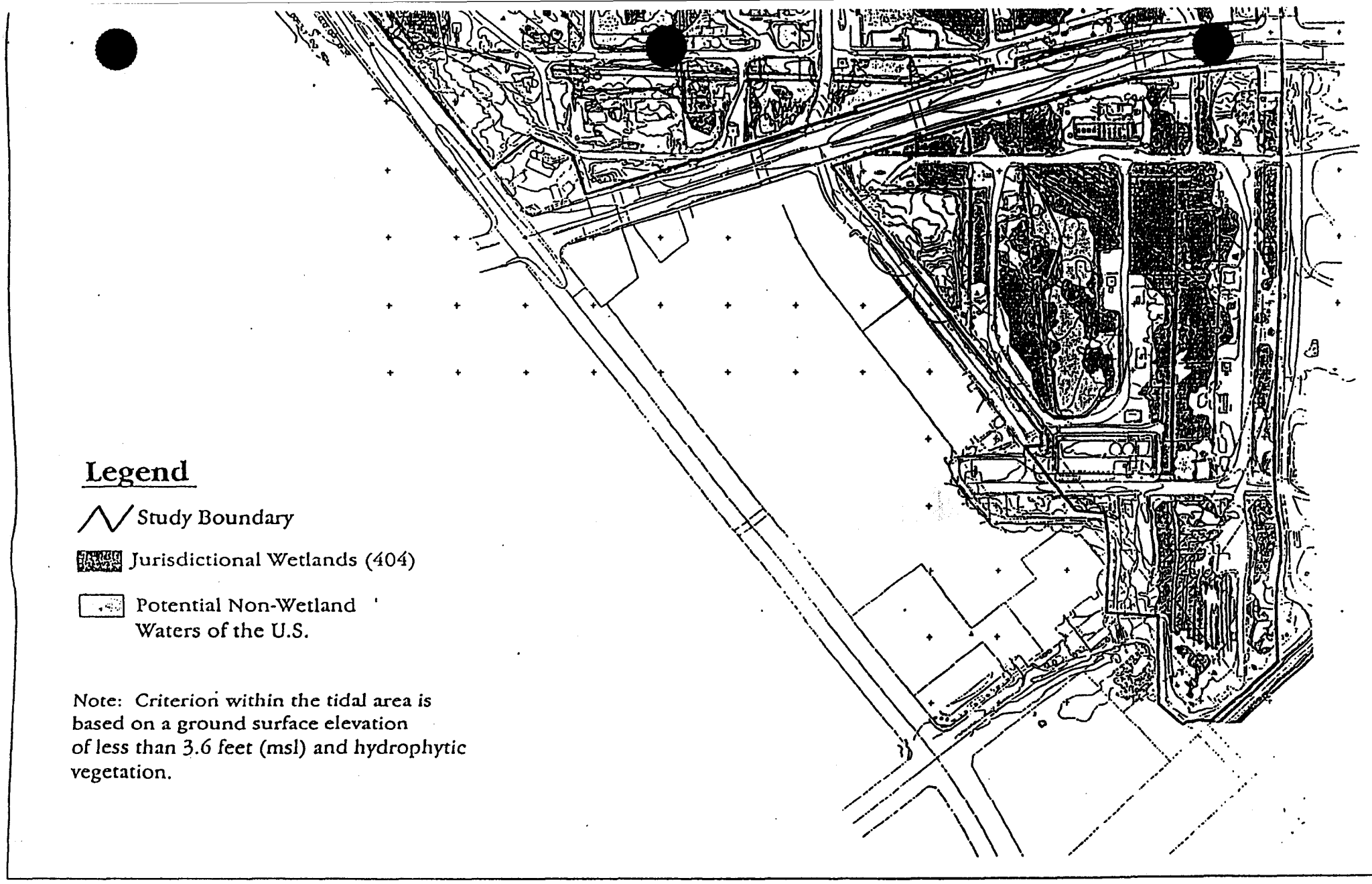
Given the level of information currently available for this site, it is feasible to create subtidal and tidal wetland habitat at the Los Cerritos Wetlands. Three restoration alternatives are possible based on the habitat types desired, the target species sought, and the amount of land manipulation undertaken. A summary of the relative responsiveness of each design to the goals and objectives is given in Table 2.

Each of the alternatives also provide the opportunity to restore the oil exploration and extraction facility in the future to either high marsh or transitional habitat. The use of buffers and berms can provide sufficient means to protect the restored wetland in the interim while exploration and oil production are undertaken.

TABLE 2. Relative degree of each alternative in meeting project objectives. Number of "+" indicate relative degree.

| OBJECTIVE | ALT 1 | ALT-2 | ALT-3 |
|---|---|---|---|
| Creation of subtidal habitat | +++ | + | ++ |
| Habitat for Belding's savannah sparrow | + | +++ | ++ |
| Nesting and foraging habitat for California least tern | +++ | 0 | ++ |
| High tide refugial habitat | + | +++ | ++ |
| Protect brackish water habitat | Yes | Yes | Yes |
| Maintain 100 ft buffer around pad | Yes | Yes | Yes |
| Allow for expansion of wetland habitat | Yes | Yes | Yes |

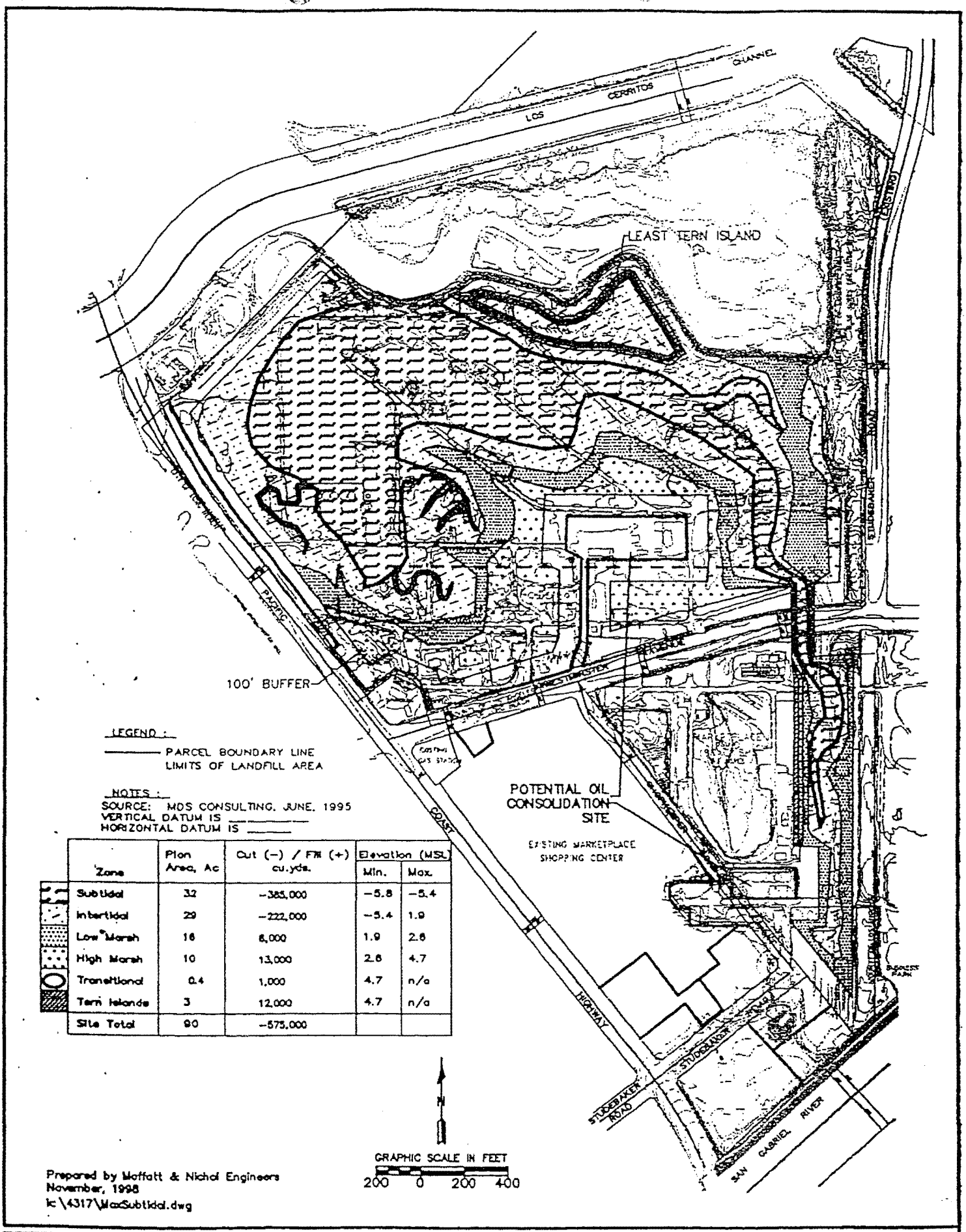





N

200 0 200 400 Feet

# Wetlands and Non-Wetland Waters of the U.S.

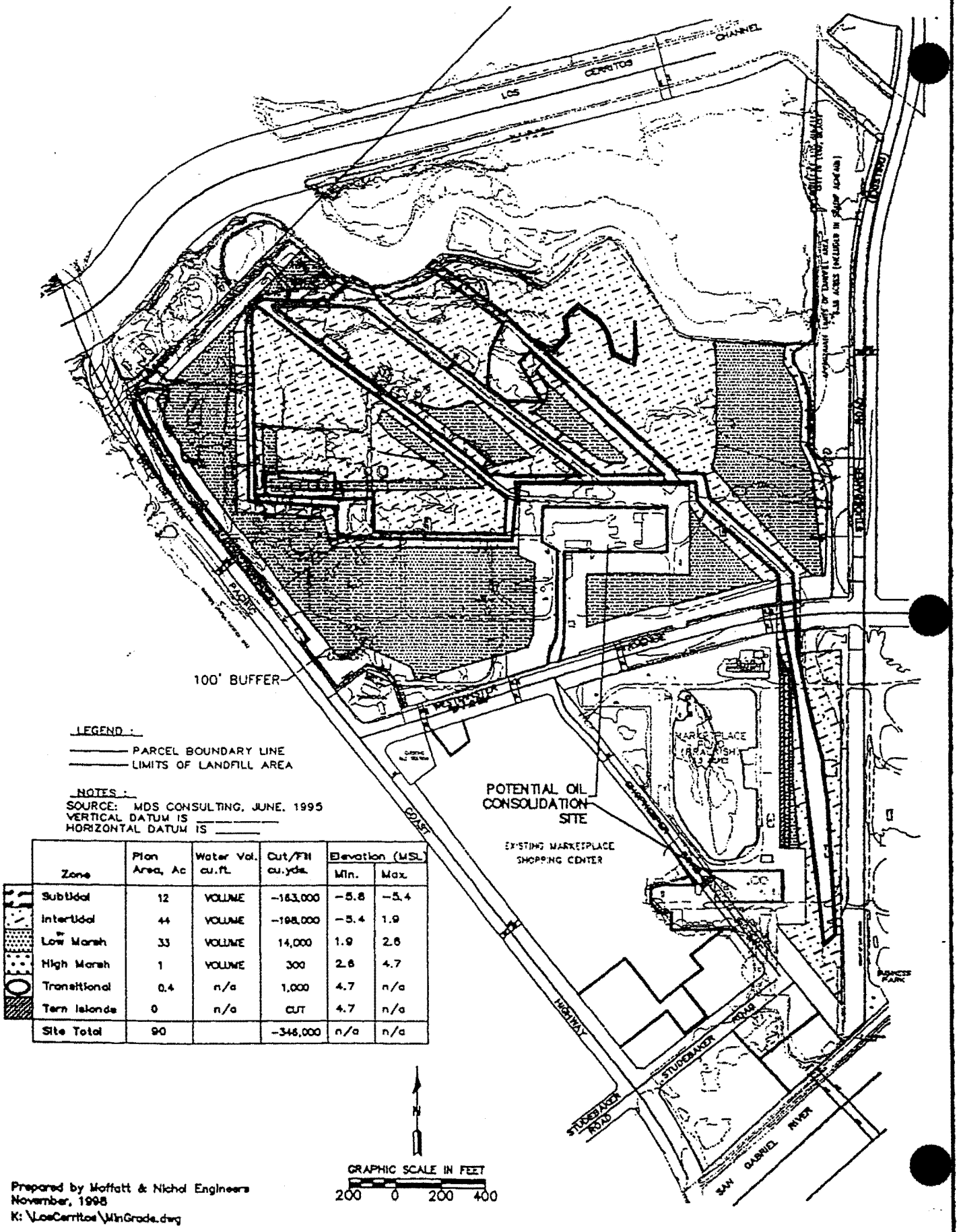



| Zone | Plan Area, Ac | Cut (−) / Fill (+) cu.yds. | Elevation (MSL) Min. | Max. |
|---|---|---|---|---|
| Subtidal | 32 | −365,000 | −5.8 | −5.4 |
| Intertidal | 29 | −222,000 | −5.4 | 1.9 |
| Low Marsh | 16 | 6,000 | 1.9 | 2.6 |
| High Marsh | 10 | 13,000 | 2.6 | 4.7 |
| Transitional | 0.4 | 1,000 | 4.7 | n/a |
| Tern Islands | 3 | 12,000 | 4.7 | n/a |
| Site Total | 90 | −575,000 | | |

LOS CERRITOS WETLAND

ALTERNATIVE 1: MAXIMUM SUBTIDAL AREA

FIGURE 2




LEGEND :

PARCEL BOUNDARY LINE
LIMITS OF LANDFILL AREA

NOTES :
SOURCE: MDS CONSULTING, JUNE, 1995
VERTICAL DATUM IS _____
HORIZONTAL DATUM IS _____

| Zone | Plan Area, Ac | Water Vol. cu.ft. | Cut/Fill cu.yds. | Elevation (MSL) Min. | Max. |
|---|---|---|---|---|---|
| Subtidal | 12 | VOLUME | -163,000 | -5.8 | -5.4 |
| Intertidal | 44 | VOLUME | -198,000 | -5.4 | 1.9 |
| Low Marsh | 33 | VOLUME | 14,000 | 1.9 | 2.6 |
| High Marsh | 1 | VOLUME | 300 | 2.6 | 4.7 |
| Transitional | 0.4 | n/a | 1,000 | 4.7 | n/a |
| Tern Islands | 0 | n/a | CUT | 4.7 | n/a |
| Site Total | 90 | | -346,000 | n/a | n/a |

Prepared by Moffatt & Nichol Engineers
November, 1998
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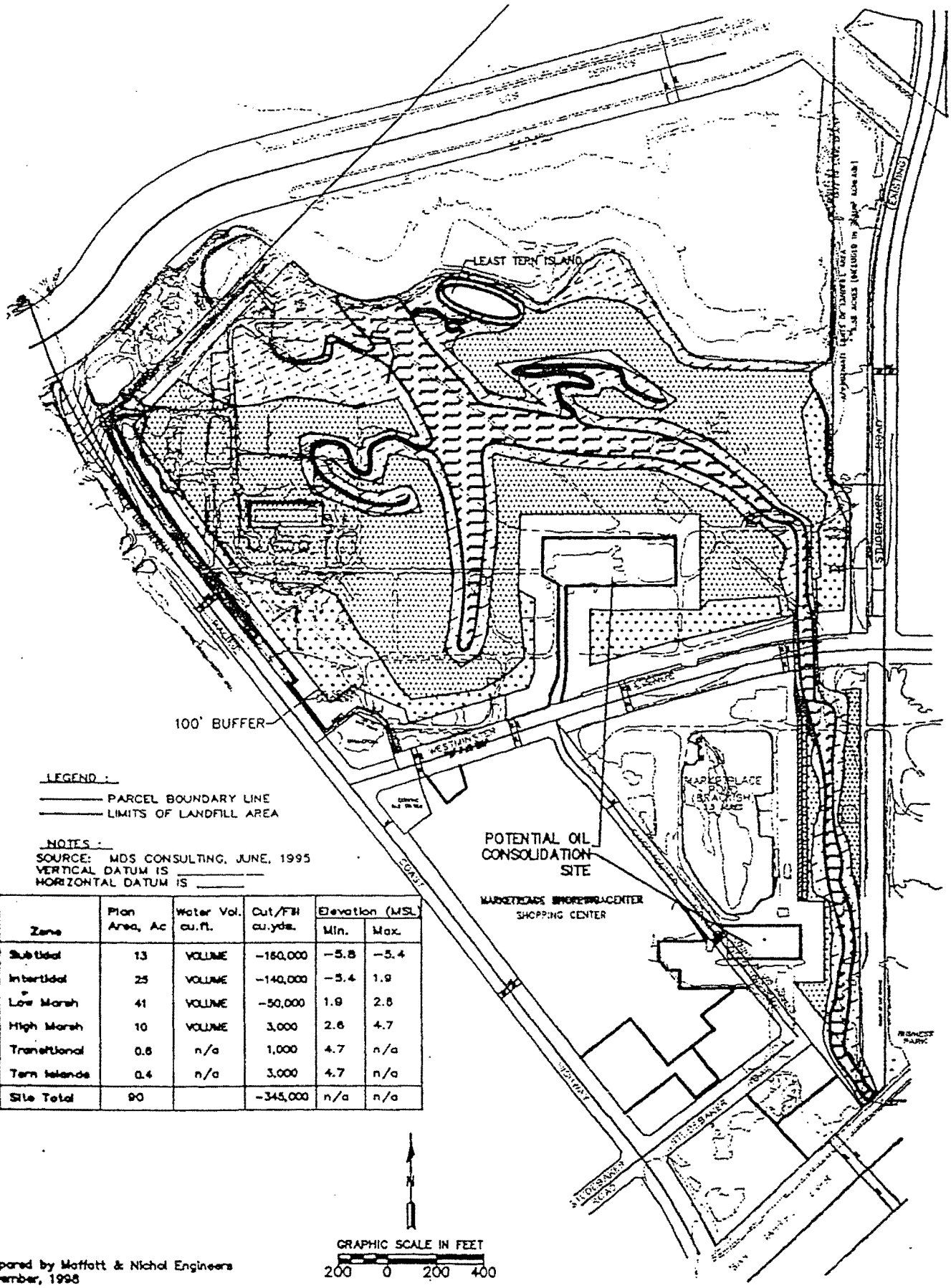
LOS CERRITOS WETLAND

ALTERNATIVE 2:
MINIMAL GRADING PLAN

FIGURE
3




| Zone | Plan Area, Ac | Water Vol. cu.ft. | Cut/Fill cu.yds. | Elevation (MSL) Min. | Max. |
|---|---|---|---|---|---|
| Subtidal | 13 | VOLUME | -160,000 | -5.8 | -5.4 |
| Intertidal | 25 | VOLUME | -140,000 | -5.4 | 1.9 |
| Low Marsh | 41 | VOLUME | -50,000 | 1.9 | 2.6 |
| High Marsh | 10 | VOLUME | 3,000 | 2.6 | 4.7 |
| Transitional | 0.6 | n/a | 1,000 | 4.7 | n/a |
| Tern Islands | 0.4 | n/a | 3,000 | 4.7 | n/a |
| Site Total | 90 | | -345,000 | n/a | n/a |

Prepared by Moffatt & Nichol Engineers
November, 1998
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LOS CERRITOS WETLAND

ALTERNATIVE 3:
HYBRID GRADING PLAN

FIGURE
4

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The Port of Long Beach

P. O. BOX 570 · LONG BEACH, CA 90801-0570 · TELEPHONE (562) 437-0041 · FAX (562) 901-1725

May 27, 1999

JUN 01 1999

Mr. Chris Kern
California Coastal Commission
45 Fremont Street, Suite 2000
San Francisco, CA 94105-2219

Subject: Restoration Planning for Los Cerritos

Dear Mr. Kern:

Per our discussion, I am pleased to provide copies of the conceptual restoration plans produced on the Port's behalf by Moffatt & Nichol Engineers. These three plans encompass the range of habitat mixes being considered by the resource agencies, and will serve as the basis for further design. We are also collecting hydrological data to characterize tidal conditions in the Los Cerritos Channel. You will note that these plans incorporate the oil relocation site as proposed by Samedon.

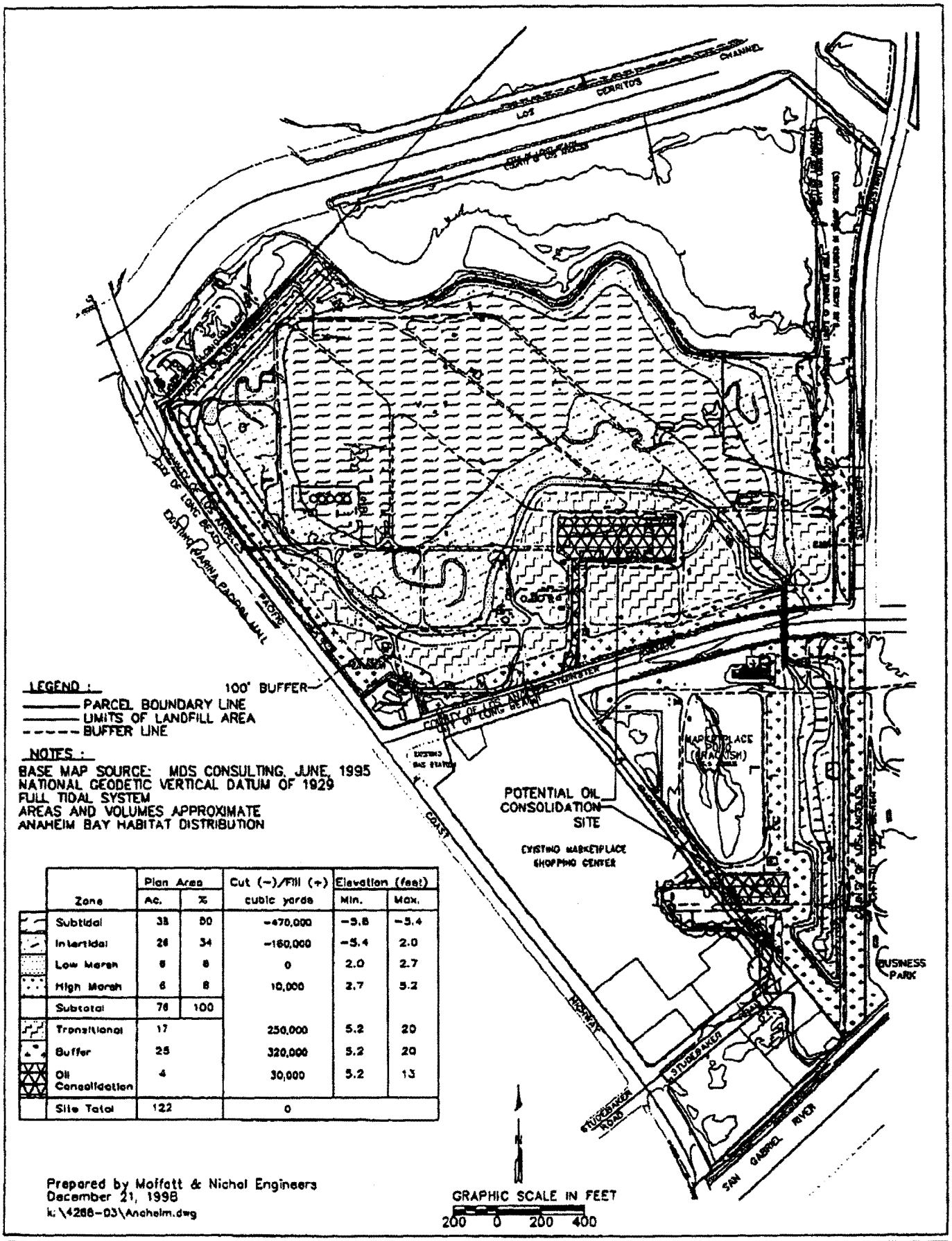
If you have any questions, please contact me at (562) 590-4156.

Sincerely,

Thomas D. Johnson, Ph.D.
Acting Manager of Environmental Planning

:s

Attachment




LEGEND :

PARCEL BOUNDARY LINE
LIMITS OF LANDFILL AREA
BUFFER LINE

NOTES :

BASE MAP SOURCE: MDS CONSULTING, JUNE, 1995
NATIONAL GEODETIC VERTICAL DATUM OF 1929
FULL TIDAL SYSTEM
AREAS AND VOLUMES APPROXIMATE
ANAHEIM BAY HABITAT DISTRIBUTION

| Zone | Plan Area Ac. | Plan Area % | Cut (−)/Fill (+) cubic yards | Elevation (feet) Min. | Elevation (feet) Max. |
|---|---|---|---|---|---|
| Subtidal | 38 | 50 | −470,000 | −5.8 | −5.4 |
| Intertidal | 26 | 34 | −160,000 | −5.4 | 2.0 |
| Low Marsh | 6 | 8 | 0 | 2.0 | 2.7 |
| High Marsh | 6 | 8 | 10,000 | 2.7 | 5.2 |
| Subtotal | 76 | 100 | | | |
| Transitional | 17 | | 250,000 | 5.2 | 20 |
| Buffer | 25 | | 320,000 | 5.2 | 20 |
| Oil Consolidation | 4 | | 30,000 | 5.2 | 13 |
| Site Total | 122 | | 0 | | |

Prepared by Moffatt & Nichol Engineers
December 21, 1998
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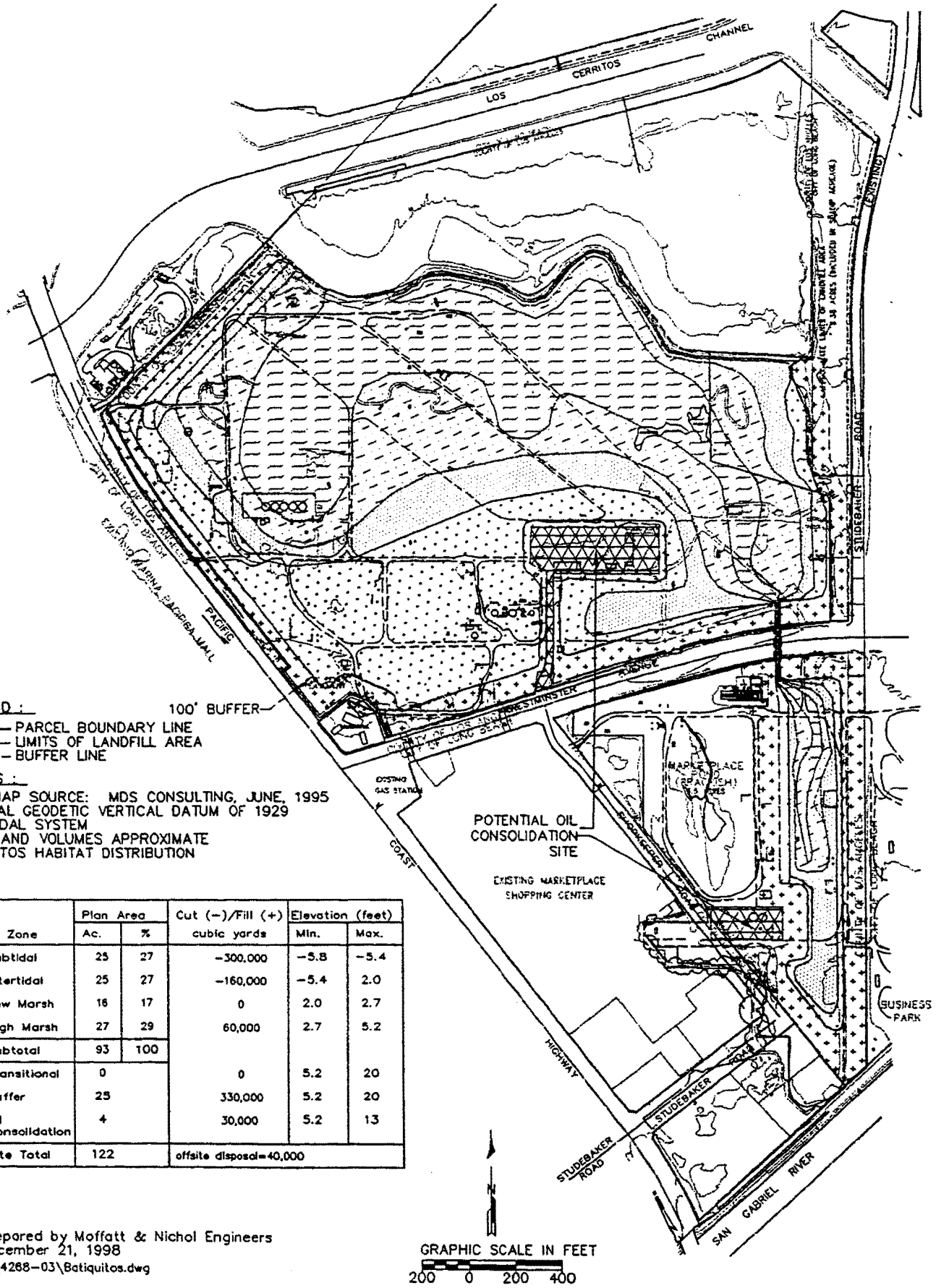
PORT OF LONG BEACH
LOS CERRITOS WETLAND

ALTERNATIVE 1:
ANAHEIM BAY HABITAT DISTRIBUTION




LEGEND :

- PARCEL BOUNDARY LINE
- LIMITS OF LANDFILL AREA
- BUFFER LINE

NOTES :

BASE MAP SOURCE: MDS CONSULTING, JUNE, 1995
NATIONAL GEODETIC VERTICAL DATUM OF 1929
FULL TIDAL SYSTEM
AREAS AND VOLUMES APPROXIMATE
BATIQUITOS HABITAT DISTRIBUTION

| Zone | Plan Area Ac. | Plan Area % | Cut (−)/Fill (+) cubic yards | Elevation (feet) Min. | Elevation (feet) Max. |
|---|---|---|---|---|---|
| Subtidal | 25 | 27 | −300,000 | −5.8 | −5.4 |
| Intertidal | 25 | 27 | −160,000 | −5.4 | 2.0 |
| Low Marsh | 16 | 17 | 0 | 2.0 | 2.7 |
| High Marsh | 27 | 29 | 60,000 | 2.7 | 5.2 |
| Subtotal | 93 | 100 | | | |
| Transitional | 0 | | 0 | 5.2 | 20 |
| Buffer | 25 | | 330,000 | 5.2 | 20 |
| Oil Consolidation | 4 | | 30,000 | 5.2 | 13 |
| Site Total | 122 | | offsite disposal=40,000 | | |

Prepared by Moffatt & Nichol Engineers
December 21, 1998
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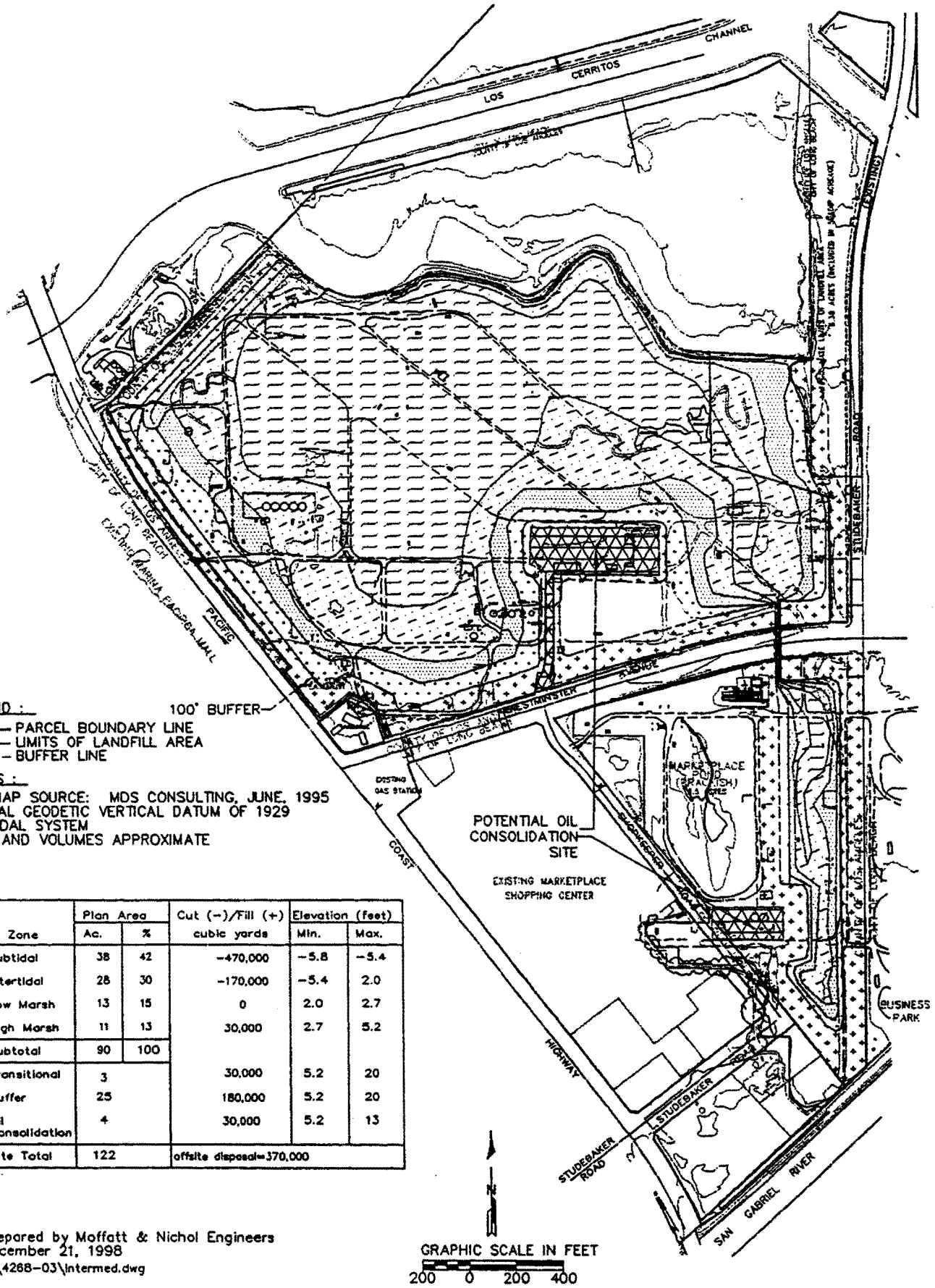
PORT OF LONG BEACH
LOS CERRITOS WETLAND

ALTERNATIVE 2:
BATIQUITOS HABITAT DISTRIBUTION




| Zone | Plan Area Ac. | Plan Area % | Cut (−)/Fill (+) cubic yards | Elevation (feet) Min. | Elevation (feet) Max. |
|---|---|---|---|---|---|
| Subtidal | 38 | 42 | −470,000 | −5.8 | −5.4 |
| Intertidal | 28 | 30 | −170,000 | −5.4 | 2.0 |
| Low Marsh | 13 | 15 | 0 | 2.0 | 2.7 |
| High Marsh | 11 | 13 | 30,000 | 2.7 | 5.2 |
| Subtotal | 90 | 100 | | | |
| Transitional | 3 | | 30,000 | 5.2 | 20 |
| Buffer | 25 | | 180,000 | 5.2 | 20 |
| Oil Consolidation | 4 | | 30,000 | 5.2 | 13 |
| Site Total | 122 | | offsite disposal=370,000 | | |

PORT OF LONG BEACH
LOS CERRITOS WETLAND

ALTERNATIVE 3:
INTERMEDIATE HABITAT DISTRIBUTION

# APPENDIX A

# BELLFLOWER PROSPECT ALTERNATIVE SITES ANALYSIS

# BELLFLOWER PROSPECT
# ALTERNATIVE SITES ANALYSIS

## Introduction

This alternative sites analysis was prepared by Dr. Noel Davis of Chambers Group. Her resume is included as Appendix G. The objective of this analysis was to determine if an alternative location for the drill site was available which would have less potential for environmental impacts than the proposed project location. In order to identify feasible potential alternative sites, a circle with a radius of 5,000 feet was drawn around the proposed bottom hole location of the initial well. This 5,000 foot radius represents the maximum distance that a directional well can be safely drilled at the current time. Therefore, in order to accomplish the goals of the project and reach the formation, any alternative site must be inside this 5,000 foot radius. A map showing the areas included in this 5,000 foot radius circle along with the current land use, coastal zone boundary and the jurisdictional designated oil drilling areas is provided as Figure 1. An aerial photograph showing the area within the 5,000 foot radius is included as Figure 2.

## Preliminary Evaluation of Potential Alternative Sites

The area within a 5,000 foot radius around the proposed bottom hole location is almost completely built out with residential, industrial and commercial uses. Few sites are available for consideration to support the proposed drilling operation. In order to identify potential alternative drill sites, the area within the 5,000 foot radius of the proposed bottom hole location was divided into specific areas. Each of these areas is discussed below in terms of its potential to provide a feasible environmentally superior alternative to the proposed site. The areas are shown on Figure 1. Based on this preliminary analysis three potential alternative sites were investigated.

- Area 1 includes lands within the existing Seal Beach Oilfield. Area 1 includes the areas: (1) south of Westminster Avenue and (2) north of Westminster Avenue that is west of Studebaker Road, east of Pacific Coast Highway and south of the Los Cerritos Significant Ecological Area. There are numerous areas of disturbed fill within the oilfield.

- Area 2 includes the area north of the oilfield, west of Studebaker road and south of the Coastal Zone boundary. This area includes a trailer park and the Los Cerritos Significant Ecological Area (SEA). Drilling within the SEA would obviously have greater environmental impacts to the proposed site. A potential alternative site was identified north of the Los Cerritos Channel and east of the trailer park. This site is identified as Site 1.

- Area 3 includes the areas: (1) west of Studebaker Road and north of the Coastal Zone boundary and (2) east of Studebaker Road and north of the 405 and 22 Freeways. This area is in residential land use or is occupied by the campus of the California State University at Long Beach. There is no suitable area for an oil well drill site in this area.

- Area 4 is located south of the 405 and 22 Freeways and north of the Coastal Zone boundary. This western portion of this area is an industrial area that contains a portion of the Southern California Edison power plan, a small Southern California Gas Company natural gas pipeline station and a self-storage facility. The eastern portion of Area 4 is a residential area with no suitable locations for an oil well drill site. A potential alternative site (Site 2) was investigated north of the formation, the only other potential alternative sites were the spaces between the freeway interchanges (Site 3).

- Area 5 is the area east of Studebaker Road, south of the Coastal Zone boundary and north of Westminster Avenue. This area is fully developed and occupied by the Southern California Edison and Department of Water and Power.

Analysis of Identified Potential Alternative Sites

Alternative Site 1 is an open area within Area 2 that is just north of the Los Cerritos Channel and just east of the trailer park. Although this site appears to have adequate area to support the proposed drilling operations, it has numerous disadvantages that would result in greater environmental impacts than the proposed drilling site. The site is only about 250 feet from the SEA. Therefore, the project would have greater potential to disturb wildlife within the SEA than the proposed drilling site. Site 1 is also immediately adjacent to the Los Cerritos Channel which is used by wildlife including two endangered species, the California least tern and the California brown pelican. Again, activities at Site 1 have greater potential to disturb sensitive biological resources than activities at the proposed drill site. Site 1 is bounded on the west and north by residences. Therefore, Site 1 has a greater potential than the proposed drilling site to impact residences, because no residences are located within 2,300 feet of the proposed drill site.

A further disadvantage of Site 1 compared to the proposed drill site is that Site 1 has no existing infrastructure for the processing, storage and sale of produced crude oil and is not consistent with the City of Long Beach Oil Ordinance (see Appendix F). This alternative location is outside the boundaries of oil operating areas as defined in the City of Long Beach Oil Code (Figure 1). This alternative site would require construction of new processing and storage facilities for crude oil produced at the drilling island. A successful project would produce several hundred to several thousand barrels per day of crude oil. This oil would either have to be transported off site by trucking or by construction of a new oil pipeline. Trucking would generate significant additional traffic. A new pipeline would need to be constructed across Los Cerritos Channel and the SEA to connect into the existing oil gathering system. Construction of this new pipeline would increase the potential for releases of crude oil into

sensitive areas and waterways. These potential impacts are clearly greater than those from the proposed drill site which would consolidate facilities by taking advantage of existing infrastructure. The concept of consolidating facilities is consistent with both Coastal Commission policy and with City of Long Beach zoning policy related to new oilfield development.

Alternative Site 2 is located in Area 4 north-northeast of the proposed location, just north of the formation. This site was a possible alternative site initially considered but it recently has been developed and occupied by a storage facility. In addition, this site has numerous disadvantages revolving around the fact that there is no existing infrastructure for the processing, storage, and sale of produced crude oil and this location is outside the boundaries of the City of Long Beach Oil Ordinance (see Appendix F).

The only other potential sites with enough space within the 5,000 foot radius of the bottom hole location are the open areas near the freeway on-ramps (Site 3). Although these areas are outside of the Coastal Zone they also are outside of the oil operating boundaries defined in the City of Long Beach Oil Code. These sites have no existing infrastructure to support oil production and would have the impacts described for Alternative Sites 1 and 2. New processing and storage facilities would need to be constructed on the site and a successful project would produce several hundred to several thousand barrels of crude oil per day which would have to be shipped offsite either by trucking or construction of a new crude oil pipeline. The location of Site 3 near a major freeway interchange would result in unacceptable traffic impacts and risks to public safety.

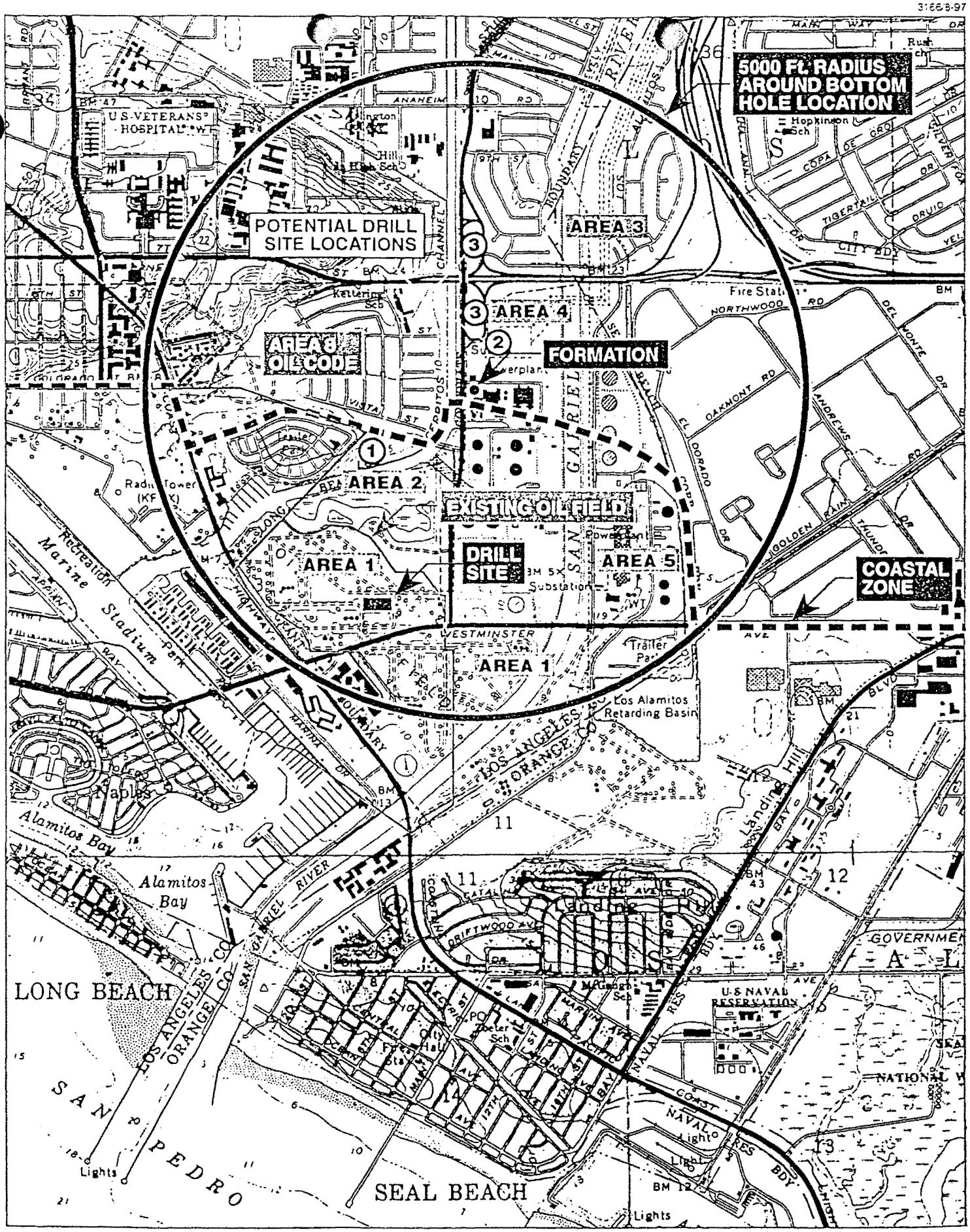
Conclusion

Based on this alternatives analysis the proposed drill site location within the existing oilfield is environmentally superior to locating a drill site in any of the surrounding areas for the following reasons:

- the proposed drill site is located within an existing oilfield on disturbed, upland fill area with no new surface disturbance required.

- the proposed drill site utilizes existing infrastructure. This consolidation of facilities is consistent with Coastal Commission and City of Long Beach policies. The location of the proposed drillsite within an existing oil facility avoids the impacts associated with transporting produced oil to processing facilities.

Finally, with the exception of the SEA, all areas outside of the existing oilfield are in residential, commercial, or industrial use. Oil drilling within and adjacent to residential areas is not allowed by the City of Long Beach Oil Production regulations. There is not adequate space within the industrial and commercial areas to locate a drill site for oil wells.




Feet

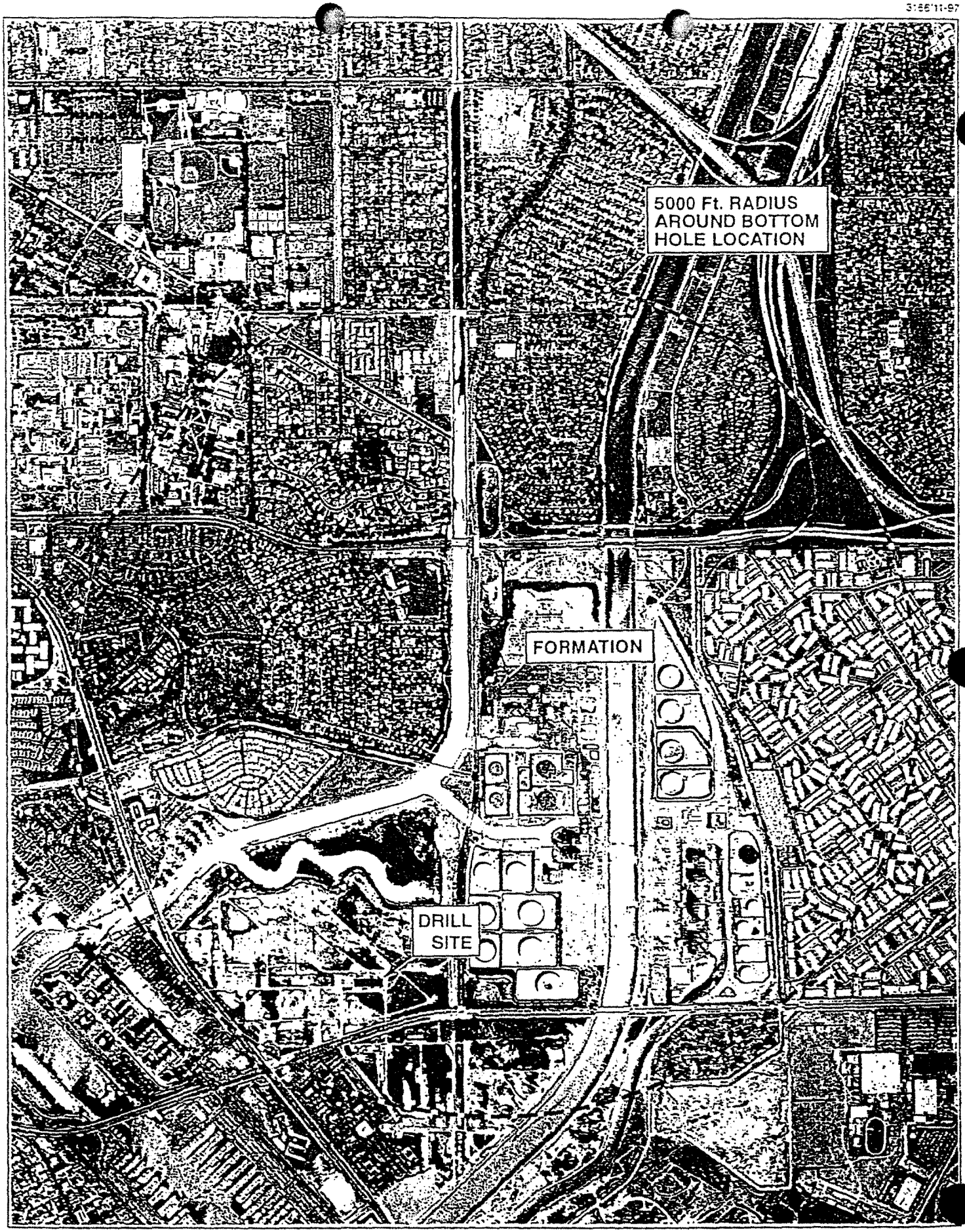
0 2000 1 inch = 2000 feet

N

Base Map Source: USGS 1:24,000
Los Alamitos, Seal Beach, CA

LOCATION OF COASTAL ZONE AND CITY OF LONG BEACH OIL CODE PROPERTY WITHIN 5000 FT. RADIUS OF THE FORMATION

Figure 1




Feet

0 1565 1 inch = 1565 feet

N

AERIAL PHOTOGRAPH OF 5000 FT. RADIUS

Figure 2

# BIXBY/LOS CERRITOS PROPERTY OPTION AGREEMENT

E-97-25 (Samedan)
Exhibit 9

COASTAL CONSERVANCY

Project Summary
April 22, 1999

# BIXBY/LOS CERRITOS PROPERTY OPTION AGREEMENT

File No. 98-015
Project Manager: Melanie Denninger

COMMENDED ACTION: Authorization to enter into an option agreement to purchase the Bixby Ranch Company Property at Los Cerritos in Long Beach.

LOCATION: City of Long Beach, inland side of Pacific Coast Highway between the Los Cerritos Channel and the San Gabriel River (Exhibit A)

PROGRAM CATEGORY: Resource Enhancement

ESTIMATED COST: Option Price: $10.00 (Source: General Fund appropriation for the Southern California Wetlands Clearinghouse)

Purchase Price: Confidential (to be provided to Conservancy in closed session)

PROJECT SUMMARY: The Los Cerritos wetland complex is the southernmost of Los Angeles County's three largest remaining coastal wetlands. The Bixby Ranch Company and another group of private parties are the principal owners of surface rights at the Los Cerritos wetlands, with Bixby holding approximately 203 acres and the other group approximately 85 acres. A third private party owns a much smaller property. All the Los Cerritos properties are used for oil extraction and storage and have been modified by construction of levees and roads and placement of fill materials. On the subject property, the oil and gas rights are held by a separate entity, Bixby Oil & Gas, Ltd.

After many years of working with resource and regulatory agencies on plans for development and wetland restoration, Bixby is interested in consolidating oil operations on five acres, cleaning up the rest of the subject property, and selling it. The option agreement between Bixby and the Conservancy that is the subject of this staff recommendation contemplates acquisition by the State of approximately 181 acres of existing and restorable coastal wetlands (196 acres minus the consolidation

COASTAL CONSERVANCY

Staff Recommendation
April 22, 1999

# BIXBY/LOS CERRITOS PROPERTY OPTION AGREEMENT

File No. 98-015
Project Manager: Melanie Denninger

STAFF RECOMMENDATION: Staff recommends that the State Coastal Conservancy adopt the following Resolution pursuant to Sections 31251-31270 of the Public Resources Code:

> "The State Coastal Conservancy hereby authorizes disbursement of ten dollars ($10.00) for an option to purchase approximately 181 acres of the Bixby Ranch Company Property at Los Cerritos in Long Beach, which is more specifically described in Exhibit C to the accompanying staff recommendation, and authorizes the Executive Officer of the Conservancy to enter into an option agreement with Bixby Ranch Company, and related agreements with Bixby Ranch Company, the Port of Long Beach, the State Lands Commission and others, in order to plan for the restoration, remediation and public acquisition of the property during the term of the option. All such agreements shall be consistent with the option terms and conditions specified in the accompanying staff recommendation."

Staff further recommends that the Conservancy adopt the following findings:

> "Based on the accompanying staff report and attached exhibits, the State Coastal Conservancy hereby finds that:
>
> 1. The proposed project would be consistent with Chapter 6 (Resource Enhancement) of the Conservancy's enabling legislation (Division 21 of the Public Resources Code); and
> 2. The proposed project would be consistent with the Conservancy's Resource Enhancement Program Announcement."

**Price of option:** $10.00

**Term of option:** Through June 30, 2000, with provision for extension by mutual agreement.

**Conditions of Purchase:** Although the option agreement imposes no obligation on the Conservancy to purchase the property, it does incorporate the terms and conditions of sale that will apply if the option is exercised. These include the purchase price for the property (discussed below) as well as the requirement that prior to close of escrow a number of conditions be met: Bixby must obtain necessary permits and approvals of the Remedial Action Plan and for consolidation of oil operations on no more than five acres of the property, and abandonment of oil operations on the remainder, and must carry out the abandonment, consolidation, and remediation measures in accordance with the terms and conditions of those permits and approvals. Precise details pertaining to the location and extent of consolidation sites and remedial actions cannot be known until these approvals are obtained, and they must be acceptable to both parties.

**Purchase price:** The fair market value of the subject 181-acre portion of the property was determined by an appraisal jointly commissioned by Bixby and the Coastal Conservancy and reviewed by the Lands Commission. The purchase price for the property, which will be provided to the Conservancy in closed session, is to remain confidential—to the extent permissible under the law—unless and until the option is exercised. Costs of preparing the Bixby's RAP contributed by the Port (or by the Conservancy or Lands Commission, if any) would be deducted from the purchase price.

**Assignment of option:** The Coastal Conservancy may assign its option rights to the Lands Commission or, with the written consent of Bixby, to another public agency or qualified nonprofit organization. (Assignment or exercise of the option would require Conservancy authorization, and be the subject of a future staff recommendation.)

Ancillary agreements among the parties may be necessary to carry out the terms of the option. For example, a confidentiality agreement is contemplated to restrict the use of information obtained about potential contaminants on the property during the option period. This agreement would protect Bixby's interests in the event that the option is not exercised. Another type of agreement that may be needed would be for further defining roles, processes and responsibilities among the Lands Commission, the Port, and the Conservancy. Although the Conservancy

gered least tern nested on unvegetated uplands adjacent to the property.

The rest of the subject property has been modified with levees and other facilities for oil extraction. Roads that are a few feet higher than the property bisect it and border it on two sides. Patches of disturbed wetlands remain among the oil facilities. The other properties that are in oil production, but under separate ownership, abut the site. (While restoration of wetland habitat on all the properties is a long-term goal of resource agencies and environmentalists, it can be undertaken sequentially.)

Project History: The historic and existing coastal wetlands at Los Cerritos in Long Beach have been sought by public agencies and environmentalists for habitat protection and restoration for many years. During the late 1970s and early 1980s, the Conservancy and other agencies worked with Bixby on planning for the future disposition of the property.

In its Southeast Area Development Plan, the City of Long Beach identifies opportunities for extensive development on the property along with wetland restoration. The Coastal Commission has not certified a Local Coastal Program for this portion of the City.

Conservancy staff met in early 1998 with representatives of the Bixby Ranch Company to explore the potential for a public agency purchase for purposes of wetland protection and restoration. While Bixby was again in the process of preparing a development proposal and a prospective oil field operator, Samedan Oil Corporation, was seeking a coastal development permit for exploratory drilling, Bixby representatives acknowledged an interest in oil facility consolidation, site remediation, and sale to the Conservancy. Bixby then agreed to jointly commission a fair market appraisal. The appraisal was completed by an independent appraiser last October.

Meanwhile, upon being apprised of the potential acquisition and restoration opportunity, the Port of Long Beach mobilized its wetland restoration engineers to draft conceptual plans for consideration by resource and regulatory agencies and for cost-estimating purposes. Even with the mitigation credits provided to the Port in exchange for funding for Bolsa Chica acquisition and restoration, it is still seeking additional credit to offset anticipated filling of submerged habitat for facilities in San Pedro

Conservancy staff would also work closely with the Port, Lands Commission and Bixby during the option period to complete restoration and remediation plans so that the option can be exercised prior to its expiration date if funding becomes available.

PROJECT SUPPORT: This project has broad community, agency, and legislative support. Letters of support will be provided at the Conservancy meeting.

CONSISTENCY WITH CONSERVANCY'S ENABLING LEGISLATION: The proposed authorization is consistent with Chapter 6 (resource enhancement) of the Conservancy's enabling legislation, Division 21 of the Public Resources Code. Acquisition and restoration of the property would help to achieve the purposes set forth in Public Resources Code Section 31251, to assemble parcels of land which have suffered a loss of natural and scenic values to improve resource management, relocate improperly located or designed improvements and take other corrective measures to enhance the area's natural and scenic character. Consistent with Section 31255.1, the Conservancy is entering into an option to purchase lands in order to reserve them while a resource enhancement plan is prepared and other necessary steps are taken toward acquisition.

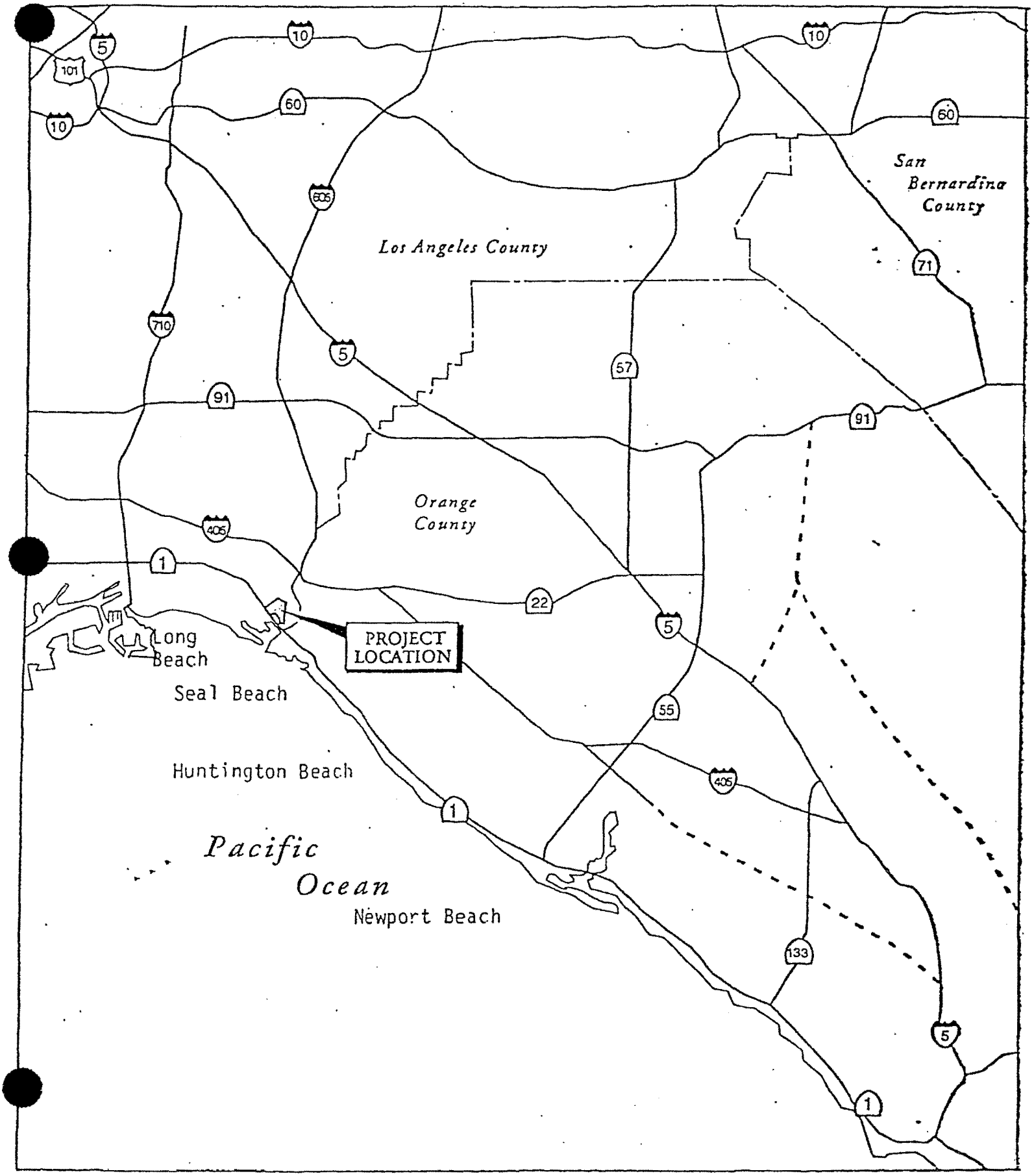
CONSISTENCY WITH CONSERVANCY'S PROGRAM GUIDELINES: **Significance:** Los Angeles County has lost over 90 percent of its coastal wetlands. At 181 acres, the subject property one of the three largest restorable coastal wetlands remaining in Los Angeles County. If acquired and restored, the property will add significantly to wetland habitat. The recommended purchase of an option to acquire the property is a step toward accomplishing that restoration.

**Cooperation and Support:** As indicated by the letters and testimony that will be provided at the Conservancy meeting, the project has broad community, agency, and legislative support.

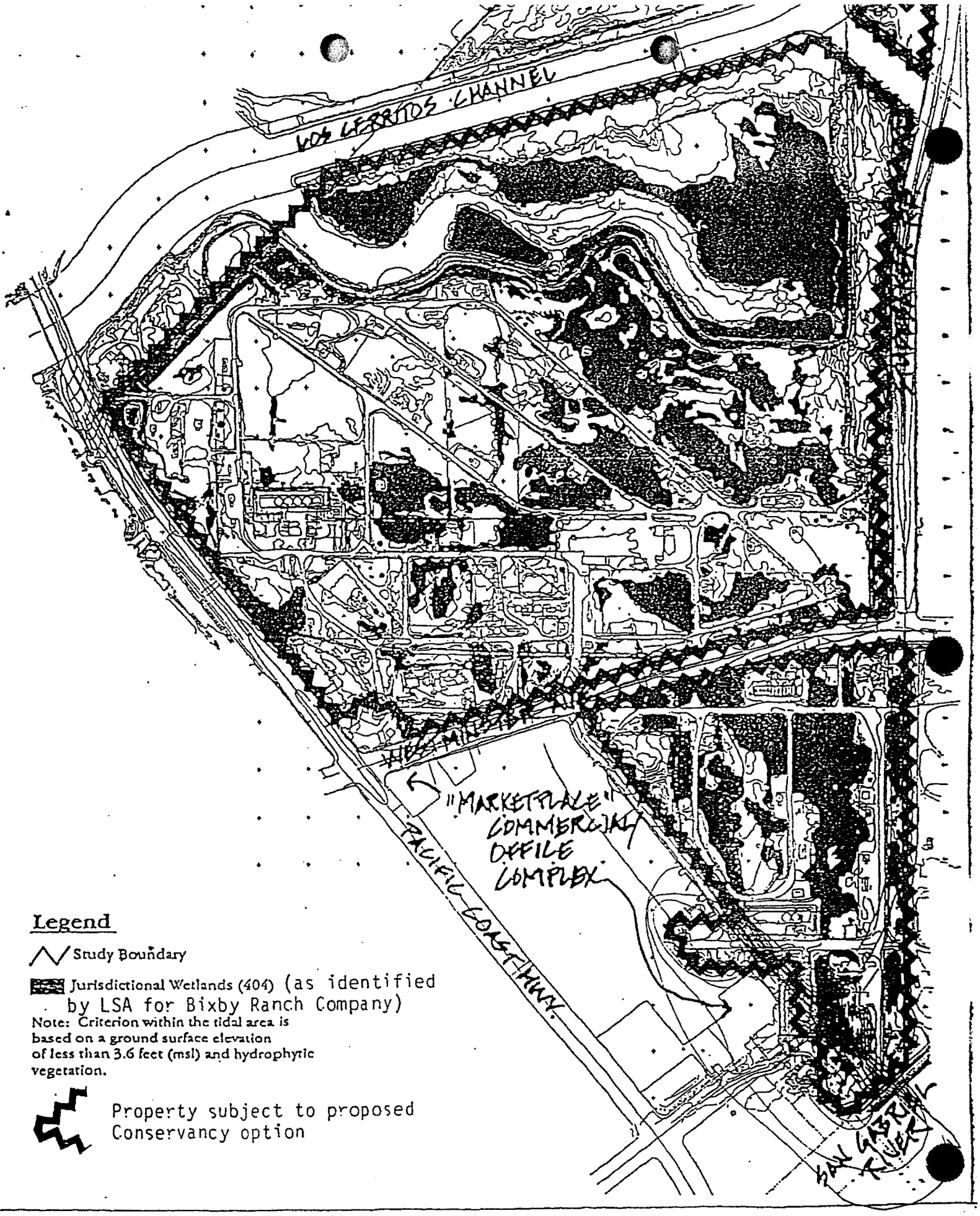
**Urgency:** Representatives of Bixby Ranch Company are showing a new interest in selling the Los Cerritos property for public purposes. Major acquisition funding appears to be forthcoming from the Port of Long Beach. We should try to take ad-

EXHIBIT A

# REGIONAL LOCATION




Source: LSA and Bixby Ranch Company




Source: LSA and Bixby Ranch Company

N

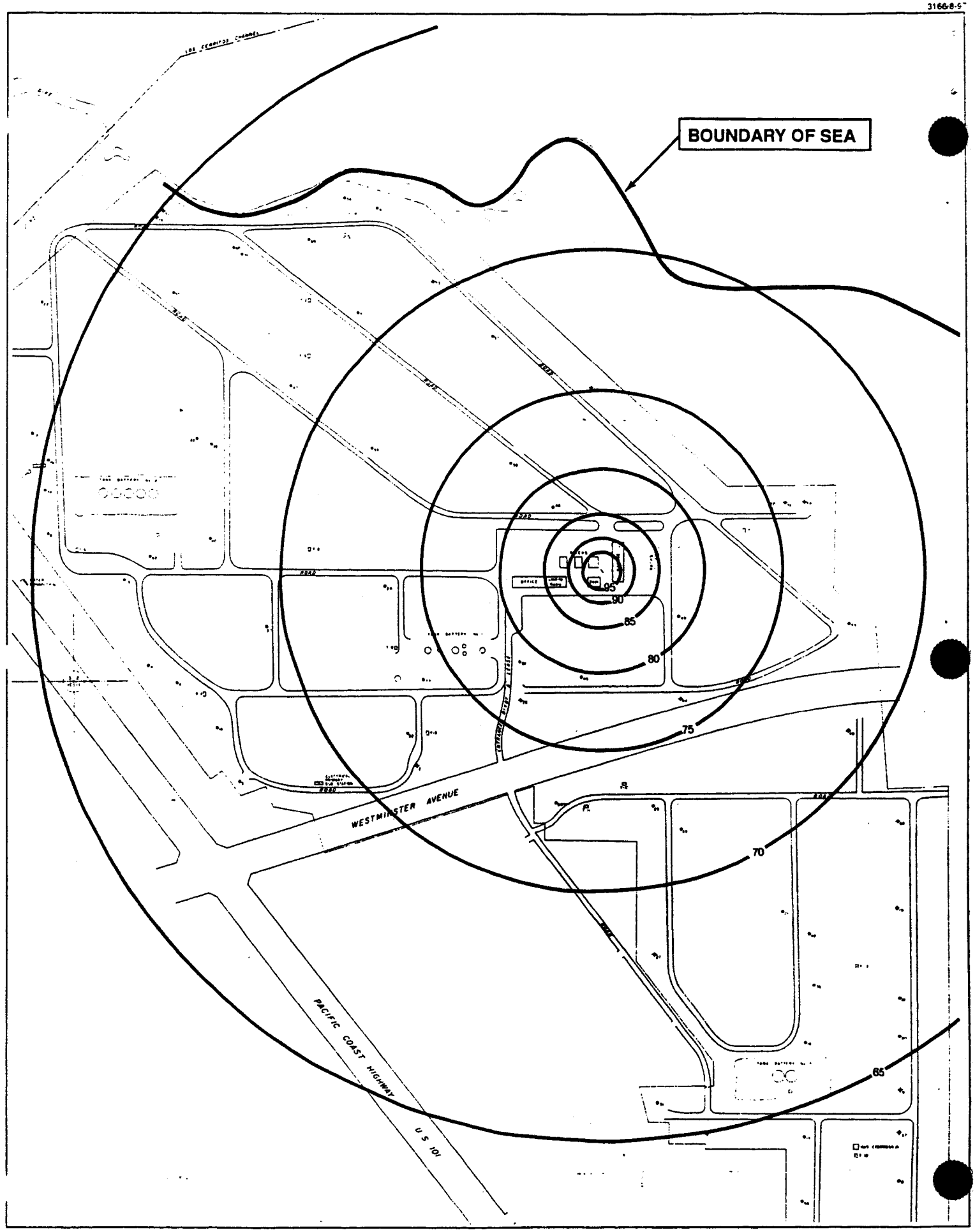
EXHIBIT B: Project Location

# EXHIBIT C

## Parcels Subject to Proposed Conservancy Option

Assessor's Parcel Numbers:

7237-017-006
7237-017-007
7237-017-008
7237-017-009
7237-017-010
7237-017-011
7237-017-012
7237-017-013
7237-017-014
7237-017-018
7237-017-019
7237-018-001
7237-020-021
7237-020-003 (ptn.)




N

Source: M

**E-97-25 (Samedan)**
**Exhibit 10**

**ESTIMATED UNMITIGATED L50 AND Lmax NOISE LEVEL CONTOURS FOR THE PROPOSED DRILLING OPERATION**
**Figure 10b**