

# RECORD PACKET COPY

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STATE OF CALIFORNIA—THE RESOURCES AGENCY

PETE WILSON, Governor

## CALIFORNIA COASTAL COMMISSION

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Staff: CP-LB  
Staff Report: 1/18/96  
Hearing Date: Feb. 6-9, 1996  
Commission Action:



### STAFF REPORT: CONSENT CALENDAR

APPLICATION NO.: 5-95-283

APPLICANT: City of Long Beach

AGENTS: Jack Humphrey, Advance Planning Officer  
Dennis Eschen, Superintendent of Planning & Development

PROJECT LOCATION: On the beach south of Ocean Boulevard between 39th and 72nd Place, City of Long Beach, Los Angeles County.

PROJECT DESCRIPTION: Move approximately 200,000 cubic yards of beach sand from beach west of 55th Place to the peninsula beach between 59th and 72nd Place.

### SUMMARY OF STAFF RECOMMENDATION:

Staff recommends approval of the proposed project with conditions regarding assumption of risk, compatibility of the excavated material with the deposition site, monitoring of the source site, buffers, beach and facility closures, and timing of project.

### LOCAL APPROVALS RECEIVED:

1. City of Long Beach Approval in Concept, 12/13/95.

### SUBSTANTIVE FILE DOCUMENTS:

1. City of Long Beach Certified Local Coastal Program, 7/22/80.
2. East Beach Stabilization Project, Comparison of Alternatives, Final Report, by Tetra Tech, Inc., August 1991.
3. Winter Sand Management Plan, Alamitos Bay Beach, For the Period 1 November 1993 to 1 May 1994, by Moffatt & Nichol, Engineers, 11/1/93.
4. Beach Nourishment Program, East Beach, Long Beach, California, November 1994 - February 1995, by Coastal Frontiers Corporation, April 1995.
5. Coastal Development Permit P-79-4767 (City of Long Beach).

## SUBSTANTIVE FILE DOCUMENTS (cont.):

6. Coastal Development Permit P-80-7188 (City of Long Beach).
7. Coastal Development Permit 5-81-516 (City of Long Beach).
8. Coastal Development Permit 5-82-817 (City of Long Beach).
9. Coastal Development Permit 5-84-567 (City of Long Beach).
10. Coastal Development Permit 5-91-695 & amendment (City of Long Beach).
11. Coastal Development Permit 5-94-102 (City of Long Beach).

STAFF RECOMMENDATION

The staff recommends that the Commission adopt the following resolution:

I. Approval with Conditions

The Commission hereby grants, subject to the conditions below, a permit for the proposed development on the grounds that the development, as conditioned, will be in conformity with the provisions of Chapter 3 of the California Coastal Act of 1976, will not prejudice the ability of the local government having jurisdiction over the area to prepare a Local Coastal Program conforming to the provisions of Chapter 3 of the Coastal Act, is located between the sea and first public road nearest the shoreline and is in conformance with the public access and public recreation policies of Chapter 3 of the Coastal Act, and will not have any significant adverse impacts on the environment within the meaning of the California Environmental Quality Act.

II. Standard Conditions

1. Notice of Receipt and Acknowledgment. The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.
2. Expiration. If development has not commenced, the permit will expire two years from the date this permit is reported to the Commission. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.
3. Compliance. All development must occur in strict compliance with the proposal as set forth in the application for permit, subject to any special conditions set forth below. Any deviation from the approved plans must be reviewed and approved by the staff and may require Commission approval.
4. Interpretation. Any questions of intent or interpretation of any condition will be resolved by the Executive Director or the Commission.

5. Inspections. The Commission staff shall be allowed to inspect the site and the project during its development, subject to 24-hour advance notice.
6. Assignment. The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.
7. Terms and Conditions Run with the Land. These terms and conditions shall be perpetual, and it is the intention of the Commission and the permittee to bind all future owners and possessors of the subject property to the terms and conditions.

### III. Special Conditions

#### 1. Assumption of Risk

By acceptance of this Coastal Development Permit, the City agrees that: (a) the applicant understands that the site may be subject to extraordinary hazard from storms, waves and erosion; and (b) the applicant hereby waives any future claims of liability against the Commission or its successors in interest for damage from such hazards.

#### 2. Suitability of Materials

The City shall provide a qualified expert at the excavation site to inspect and monitor all excavated material proposed to be deposited at the approved deposition site. The inspector shall determine the geotechnical suitability of all excavated material using the sediment compatibility criteria contained in the Sand Compatibility, Beach Nourishment Operations letter by Peter E. Gadd of Coastal Frontiers Corporation, dated June 1, 1994. Only excavated material deemed "compatible" using the criteria contained in the letter may be deposited at the approved deposition site. All contracts involving the subject project shall include the above stated condition of approval.

#### 3. Monitoring of the Source Site

The City shall monitor the excavation area before, during, and after the proposed movement of the beach sand in order to document any effects that the proposed project may have on the source site. Prior to June 1, 1997, the City shall submit to the Executive Director a monitoring report containing dated and scaled airphotos of the source site taken before, during, and after the excavation and movement of any beach sand. The monitoring report shall also contain an analysis of any effects which the proposed project may have had on the source site.

#### 4. Belmont Pool and Bicycle Path Buffer

No sand shall be excavated within two hundred feet of Ocean Boulevard, any parking lot, or the Belmont Pool complex. No sand shall be excavated

within two hundred feet of the bicycle path except between the ends of Laverne Avenue and Granada Avenue where all sand excavation shall be set back at least one hundred feet from the bicycle path.

5. Beach and Recreational Facility Closures

On weekends, all beach areas and recreation facilities shall remain open and available for public use during the normal operating hours. On weekdays, beach area closures shall be minimized and limited to areas immediately involved in sand excavation, transportation or deposition. On all days, except for the portions of the beach where sand excavation, transportation or deposition is occurring, all beach areas and recreation facilities shall remain open and available for public use during the normal operating hours. On all days, the bicycle path shall remain open and available for public use during the normal operating hours.

6. Timing of Project

No sand excavation or beach replenishment shall occur during the period commencing March 15 and ending September 1.

IV. Findings and Declarations

The Commission hereby finds and declares:

A. Project Description

The City of Long Beach proposes to move approximately 200,000 cubic yards of beach sand from the beach west of 55th Place to the peninsula beach between 59th and 72nd Place (Exhibits #1&2). Scrapers, bulldozers and trucks will be used to move beach sand from a wide section of the beach where sand has accreted to an eroding section of beach which has a width of less than fifty feet in some places (Exhibit #2). The proposed project is proposed to be carried out between February 1996 and March 14, 1997. During this time, the City states that it is necessary to close the beach during the hours that heavy equipment is being used to excavate, transport and deposit sand (7:00 AM to 4:00 PM weekdays). The beach will be open before and after the work hours and during the weekends.

The area from which the sand will be excavated is located between 39th Place (Belmont Pier) and 55th Place on the south side of Ocean Boulevard. According to the City, this is an area where sand has been accreting for many years. Dry sand will be scraped from the beach surface and transported to the deposition site by trucks. As proposed, no sand excavation will occur within two hundred feet of Ocean Boulevard, and no sand will be excavated below the mean lower low water line (MLLW).

The deposition area is located on the peninsula (east beach) between 59th Place and 72nd Place on the south side of Ocean Boulevard, about one-half mile east of the excavation site. Historic air photos show that the beach in this

area was once two hundred feet wide at its narrowest point. The beach width in this area currently averages about fifty feet, and it is still eroding. On this section of the peninsula, the beach has recently eroded at a rate of six to sixty feet per year because of its exposure to southern waves (Exhibit #3). The excavated sand will be placed seaward of the current waterline in order to extend the beach up to 150 feet further seaward than it currently exists.

The primary purpose of the project is to protect residential structures on the peninsula from damage caused by high tides and future storms. Many thirty to forty foot high single and multiple family residences front the peninsula beach between 59th and 72nd Place. Only a seven foot wide boardwalk separates the narrow sandy beach and ocean from the beach fronting structures. A seventy year old warped timber bulkhead on the ocean side of the boardwalk is the only protection for the structures once the beach erodes away. The project will help to protect approximately one thousand residences on the peninsula, and will also restore eroded recreational beach area on the peninsula.

The sand excavation and deposition will occur entirely on state tidelands which are administered by the City of Long Beach under the Long Beach Tidelands Trust agreement.

#### B. Area History

Prior to 1900, the peninsula beach (east beach) was wide and stable with an abundance of littoral sand supply from the Los Angeles, San Gabriel, and Santa Ana Rivers. Historically, the sand supply rate was naturally balanced with the rate of beach erosion. However, since 1900 the construction of the outer Los Angeles-Long Beach harbor breakwater, construction of dams and various flood control structures on the three rivers, filling of the Downtown Shoreline area, and construction of the Long Beach Marina Jetties has essentially eliminated all sources of natural sand supply. In addition, the construction of the Los Angeles-Long Beach harbor breakwater and the Alamitos Bay entrance channel jetties has created a wave exposure window which results in the continuing erosion of the east beach (Exhibit #3). Consequently, there is now a shortage of beach sand in this area of erosion. The sand shortage, combined with the shoreline erosion pattern which consistently erodes away the beach at this area on the peninsula, has made it difficult for the City to maintain a wide beach in this area to protect the ocean front homes from high tides and southern storm waves.

The beach erosion is caused by two distinct modes of sediment transport. First is the continual, although mild, loss of sediment due to the longshore wave energy generated by the prevailing westerly winds. The second, but more significant cause of beach erosion, is due to occasional large southerly waves. The large southerly waves are more common in the summer when tropical storms off the west coast of mainland Mexico generate a large amount of wave energy which travels north to the south facing beaches in the Long Beach area. However, winter storms from the north can occasionally move far enough south to generate southerly storm waves which can cause severe damage to the project area if the storm waves are large enough. These large southerly waves

penetrate the gap between the east end of the harbor breakwater and the Alamitos Bay boating entrance jetties before directly attacking the east beach (Exhibit #3).

According to the City, much of the eroded beach sand is transported off-shore and settles within the breakwater. However, large quantities of sand have also accreted on the beach just west of 55th Place and the peninsula. Sand accretion has increased the widths of the beaches near the Claremont and Granada Avenue boat launch ramps by about two hundred feet in the last decade. It is this area of sand accretion which will provide the sand for the proposed project (Exhibit #2).

Because of the beach erosion problems, the east beach area has suffered wave damage on several occasions. To combat the problem, the City of Long Beach has performed periodic beach nourishment projects during the last forty years. Beach nourishment is a preferred method of protecting the beach front homes because of the reduced impacts on marine habitats and public recreation. However, beach nourishment must be a continuing process because beach erosion continues as a natural process.

The City has implemented several beach erosion control projects in the past (Exhibit #5). The Coastal Commission has approved several of the City's beach erosion control projects.

In 1979, Coastal Development Permit P-79-4767 was issued to place approximately 100,000 cubic yards of dredge material on the beach to replenish the eroded beach. Winter storms had severely eroded the beach at that time, and replenishment was necessary to protect private properties adjacent to the beach. The dredged materials were comprised of small sediments which erode quicker than larger grains of sand.

In 1980, Coastal Development Permit P-80-7188 was issued to place dredge material and Birdseye gravel (larger grains) on the beach to again reestablish the area and permanently stabilize the beach. This effort did not permanently stabilize the beach.

Another Coastal Development Permit, 5-81-516, was issued in January of 1982 for a five-year maintenance dredging and beach replenishment program for the area.

Coastal Development Permit 5-82-817 was issued in January of 1983 for the installation of artificial offshore kelp beds along 2,500 feet of the peninsula. The kelp beds were installed six to eight hundred feet offshore in an effort to reduce wave energy and beach erosion. The applicants have stated that more artificial kelp was installed in the area in 1987 and 1990.

Coastal Development Permit 5-84-567 was approved on September 25, 1984. That permit allowed the City to import 50,000 cubic yards of river sand for deposition on the beach between 54th Place and 71st Place.

In a more recent approval, Coastal Development Permit 5-91-695, allowed the City to construct a three hundred foot long, eight foot high offshore reef with polyester bags filled with sand at 64th Place. The sandbag reef was

observed to see if it would slow the rate of beach erosion. The beach erosion continued and the sandbag reef was removed.

In July of 1994, the Commission approved Coastal Development Permit 5-94-103 for the deposition of approximately 166,000 cubic yards of dredge material on the City's beaches over a five-year period.

Most recently, on August 12, 1994, the Commission approved Coastal Development Permit 5-94-102 for the excavation and deposition of approximately 200,000 cubic yards of beach sand in the project area in 1994. The currently proposed project is identical to the project approved by Coastal Development Permit 5-94-102. The approval of this application will allow the City to continue to move beach sand to the peninsula (east beach) until March 14, 1997.

The City has recently indicated its interest in submitting an application for a five-year permit which would allow it to continue to excavate and move beach sand to the peninsula (east beach) at regular intervals over a five-year period. As part of that future application, the Commission staff has requested that the City provide an analysis of any effects an ongoing sand excavation project may have on the source site. A condition of this permit would require the City to monitor the source site during the term of this permit in order to provide additional information regarding the effects of sand excavation on the source site beach.

#### C. Marine Resources and Shoreline Protection

Section 30230 of the Coastal Act states:

Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.

Section 30233(b) of the Coastal Act states, in part:

- (b) Dredge spoils suitable for beach replenishment should be transported for such purposes to appropriate beaches or into suitable long shore current systems.

Section 30235 of the Coastal Act states:

Revetments, breakwaters, groins, harbor channels, seawalls, cliff retaining walls, and other such construction that alters natural shoreline processes shall be permitted when required to serve coastal-dependent uses or to protect existing structures or public beaches in danger from erosion, and when designed to eliminate or mitigate adverse impacts on local shoreline sand supply. Existing marine structures causing water stagnation contributing to pollution problems and fish kills should be phased out or upgraded where feasible.

The proposed use of excavated beach sand for beach nourishment will partially mitigate the ongoing erosion of east beach and will help to protect existing structures along the beach. Section 30235 of the Coastal Act permits such activities to protect existing structures from erosion, but only if they are designed to eliminate or mitigate adverse impacts on local shoreline sand supply. Section 30233(b) of the Coastal Act actually encourages beach replenishment. The project involves moving sand from one section of beach, where sand has accreted, to another section of beach where it has eroded. The proposed project will not have any adverse impacts on local sand supply.

Section 30230 of the Coastal Act requires that marine resources be protected and that the use of the marine environment be carried out in a manner that will sustain the biological productivity of coastal waters. The proposed excavation of sand will not impact the marine environment because no excavation will occur below the mean lower low water line (MLLW). The deposition of the excavated beach sand, although occurring in an area which was formerly a beach, may impact the existing marine habitat. As the beach is restored to its former width of approximately two hundred feet, bottom habitat will be covered with sand and the surrounding area could be impacted by turbidity caused by suspended sediments. Therefore, mitigation measures are necessary to protect the biological productivity of the coastal waters.

The proposed project may also result in the marine habitat around the deposition area being adversely impacted by suspended sediments and turbid waters. In 1994, there was some debate about the necessity and effectiveness of silt curtains or other barriers for containing any suspended sediments and turbid waters which may have resulted from the previously approved project [Coastal Development Permit 5-94-102 (City of Long Beach)]. Silt curtains or other barriers are often used to contain suspended sediments and turbid waters. However, the City's engineer, Peter Gadd, stated that silt curtains cannot be effectively used in the surf zone because waves break them up. Furthermore, the engineer stated that the proposed project will not increase turbidity over natural levels because the transported sand material will contain less than two percent fine grained material. Fine grained materials are usually responsible for turbid waters. Using on this information, the Commission previously found that silt curtains are not required for depositing sand in the proposed location [Coastal Development Permit 5-94-102 (City of Long Beach)]. Therefore, silt curtains are not required as a condition of this permit.

However, mitigation measures are necessary because the deposition site is a grunion spawning area. The waters in the area may also be used as a feeding area for the endangered California least tern. In order to reduce the proposed development's impacts on spawning grunions and the least tern's feeding area during the birds' nesting season, the permit has been conditioned so that development is not permitted during the period commencing March 15 and ending September 1. The period between March 15 and September 1 is the primary grunion spawning season as well as the least tern's nesting season. The California Department of Fish and Game (P. Bontadelli, 9/14/88) and the U.S. Army Corps of Engineers (Permit 88-110-KK) have also prohibited beach replenishment activities during these times. In any case, the City has proposed to avoid the restricted time period between March 15 and September 1.

The marine environment will also be protected by conditioning the permit to ensure that all excavated sand is compatible with the existing beach sand at the deposition site. An qualified expert is required to inspect the excavated material to determine if the materials are suitable for deposition at the approved beach. The expert is required to use the sediment compatibility criteria contained in the Sand Compatibility, Beach Nourishment Operations letter by Peter E. Gadd of Coastal Frontiers Corporation, dated June 1, 1994 when determining the suitability of the excavated materials (Exhibit #6).

Therefore, only as conditioned does the Commission find the proposed project to be consistent with Sections 30230, 30233 and 30235 of the Coastal Act.

D. Recreation and Public Access

The proposed project is consistent with the following Coastal Act policies which encourage public access and recreational use of coastal areas.

Section 30210 of the Coastal Act states:

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

Section 30213 of the Coastal Act states:

Lower cost visitor and recreational facilities shall be protected, encouraged, and, where feasible, provided. Developments providing public recreational opportunities are preferred.

Section 30221 of the Coastal Act states:

Oceanfront land suitable for recreational use shall be protected for recreational use and development unless present and foreseeable future demand for public or commercial recreational activities that could be accommodated on the property is already adequately provided for in the area.

The proposed project will partially mitigate beach erosion and provide for the continuing and increased recreational use of the east beach area by the public. The size of the beach in the deposition area will be substantially increased and will provide a much larger area for recreational use. The beach area where the sand will be excavated from will not be substantially reduced because the sand will be scraped from the surface. No excavation will occur below the mean lower low water line (MLLW).

The project will temporarily impact the use of some portions of the beach during the excavation, transportation and deposition of the sand. The City states that it is necessary to close some parts of the beach during the hours that heavy equipment is being used to excavate, transport and deposit sand (7:00 AM to 4:00 PM weekdays). The beach will be open before and after the

work hours and during the weekends. In order to reduce such impacts on public access and recreation the permit is conditioned as follows:

On all days: Except for the portions of the beach where sand excavation, transportation or deposition is occurring, all beach areas and recreation facilities shall remain open and available for public use during the normal operating hours.

The bicycle path shall remain open and available for public use during the normal operating hours.

On weekends: All beach areas and recreation facilities shall remain open and available for public use during the normal operating hours.

On weekdays: Beach area closures shall be minimized and limited to areas immediately involved in sand excavation, transportation or deposition.

The permit is also conditioned to prohibit development during the least tern nesting season and grunion spawning season. These times correspond with the peak summer recreation season. Therefore, public access and recreation will not be impacted during the peak summer season.

The long-term benefits of beach nourishment offset the temporary reduction in beach use by providing a larger, more stable beach for public recreation. Further, as conditioned, the impacts of the proposed development on access and recreation have been minimized. Therefore, the Commission finds that the proposed project, as conditioned, is consistent with Sections 30210, 30213 and 30221 of the Coastal Act.

#### E. Hazards

Section 30253(1) of the Coastal Act states:

New development shall:

- (1) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.

The proposed development involves the nourishment of the peninsula beach known as east beach. The purpose of the project is to widen the beach so that it provides existing structures more protection from high tides and storm waves. The beach width in this area currently averages about fifty feet, and is still eroding. On this section of the peninsula, the beach has recently eroded at a rate of six to sixty feet per year because of its exposure to southern waves (Exhibit #4). The City routinely renourishes this beach with dredge spoils and builds berms to protect the adjacent structures from flooding due to high tides and storm waves.

In the area of excavation there is a bike path and a public swimming pool

complex. Ocean Boulevard and several public beach parking lots are also located in the vicinity. In order to ensure that the excavation does not reduce the width of the beach which protects these developments from high tides and storms, the approval of the permit is conditioned to prohibit the excavation of any sand within two hundred feet of Ocean Boulevard, any parking lot, or the Belmont Pool complex. Also, no sand shall be excavated within two hundred feet of the bicycle path except between the ends of Laverne Avenue and Granada Avenue where all sand excavation shall be set back at least one hundred feet from the bicycle path. Although the City has not proposed to move the waterline any closer to these developments, the buffers are necessary to protect the developments from possible erosion of the beach in the future.

Also, in order to document any effects that the proposed project may have on the source site, the permit is conditioned to require that the City monitor the excavation area before, during, and after the proposed movement of the beach sand, and submit to the Executive Director a monitoring report containing dated and scaled airphotos of the source site taken before, during, and after the excavation and movement of any beach sand. The monitoring report shall also contain an analysis of any effects which the proposed project may have had on the source site. The information provided by the monitoring report will be used by Commission staff to determine the possible effects of any future sand movement projects near the site.

Finally, the Commission has routinely placed "assumption of risk" conditions on Coastal Development Permits for projects in areas of erosion and/or flood hazards. Previously, the Commission placed "assumption of risk" conditions on Coastal Development Permits 5-91-695 and 5-94-102 (City of Long Beach) when it approved a permits for sand protection on the peninsula. Therefore, because the site may be subject to extraordinary hazard from storms, waves and erosion, the Commission requires the applicant to waive any future claims of liability against the Commission or its successors in interest for damage from such hazards. As conditioned, the proposed project is consistent with Section 30253 of the Coastal Act.

#### F. Local Coastal Program

Section 30604(a) of the Coastal Act provides that the Commission shall issue a Coastal Development Permit only if the project will not prejudice the ability of the local government having jurisdiction to prepare a Local Coastal Program which conforms with Chapter 3 policies of the Coastal Act:

- (a) Prior to certification of the Local Coastal Program, a Coastal Development Permit shall be issued if the issuing agency, or the commission on appeal, finds that the proposed development is in conformity with the provisions of Chapter 3 (commencing with Section 30200) of this division 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 the provisions of Chapter 3 (commencing with Section 30200). A denial of a Coastal Development Permit on grounds it would prejudice the ability of the local government to prepare a Local Coastal Program that is in

conformity with the provisions of Chapter 3 (commencing with Section 30200) shall be accompanied by a specific finding which sets forth the basis for such conclusion.

The City of Long Beach Local Coastal Program was certified by the Commission on July 22, 1980. The certified Local Coastal Program requires the City to repair beach erosion and develop a sand management plan (LCP, p. 63). The City has prepared a sand management plan which includes the movement of sand from one section of the beach to another. The proposed project complies with the policies of the certified LCP. However, because the project is located seaward of the former mean high tide line, in the Commission's area of original jurisdiction, the LCP is advisory in nature and may provide guidance. The standard of review for this project is the Coastal Act.

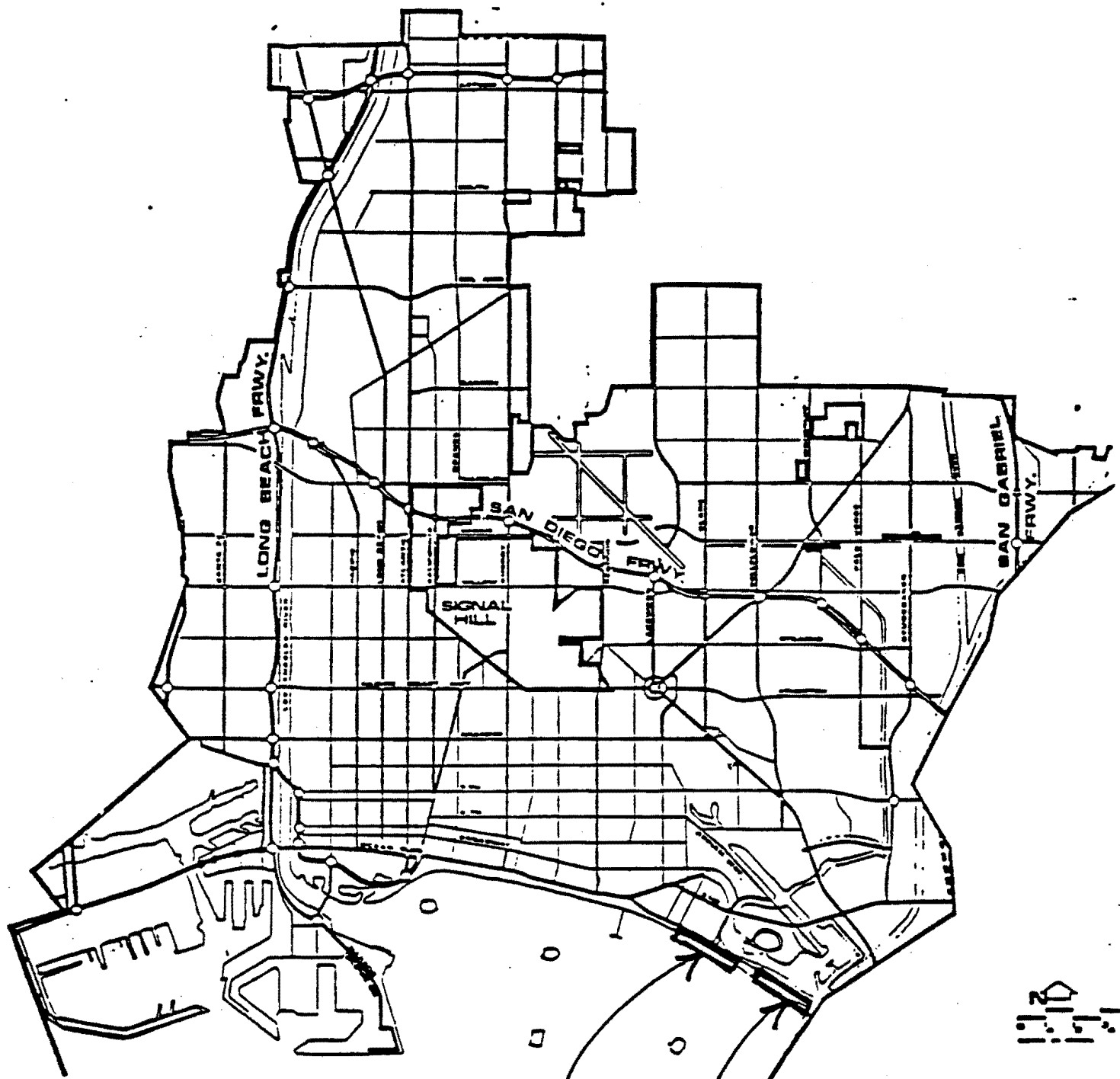
Approval of the project cannot prejudice the local government's ability to prepare a certifiable LCP because the City of Long Beach LCP was certified in 1980. The proposed project, as conditioned, is consistent with the policies of Chapter 3 of the Coastal Act, as required by Section 30604(a).

#### G. California Environmental Quality Act

Section 13096 of the California Code of Regulations requires Commission approval of a Coastal Development Permit application to be supported by a finding showing the application, as conditioned by any conditions of approval, to be consistent with any applicable requirements of the California Environmental Quality Act (CEQA). Section 21080.5(d)(2)(i) of CEQA prohibits a proposed development from being approved if there are feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse impact which the activity may have on the environment.

Several alternative solutions to the City's beach erosion problem have been considered. The alternative projects include the construction of "hard" solutions such as T-shaped groins, permanent rock reefs, and an Alamitos bay entrance jetty extension. These alternatives would have significant adverse impacts on the environment.

The proposed project is a "soft" solution which, as conditioned, does not have significant impacts on the environment. Therefore, the Commission finds that the project, as conditioned, is the least environmentally damaging feasible alternative and can be found consistent with the requirements of the Coastal Act to conform to CEQA.



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COASTAL COMMISSION

5-95-283

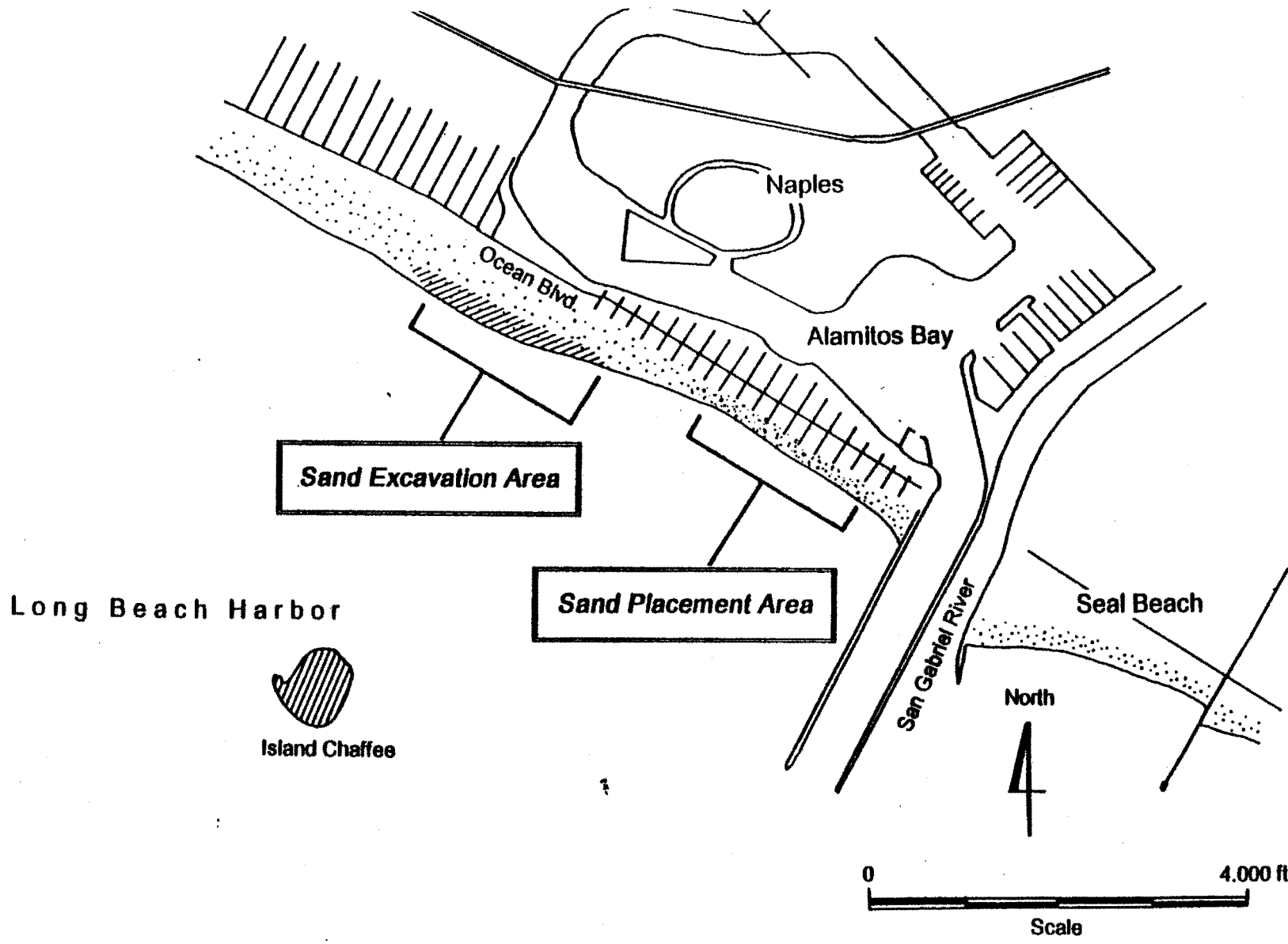
EXHIBIT # 1

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CITY OF LONG BEACH

**Vicinity Map**  
"Moving Beach Sand"

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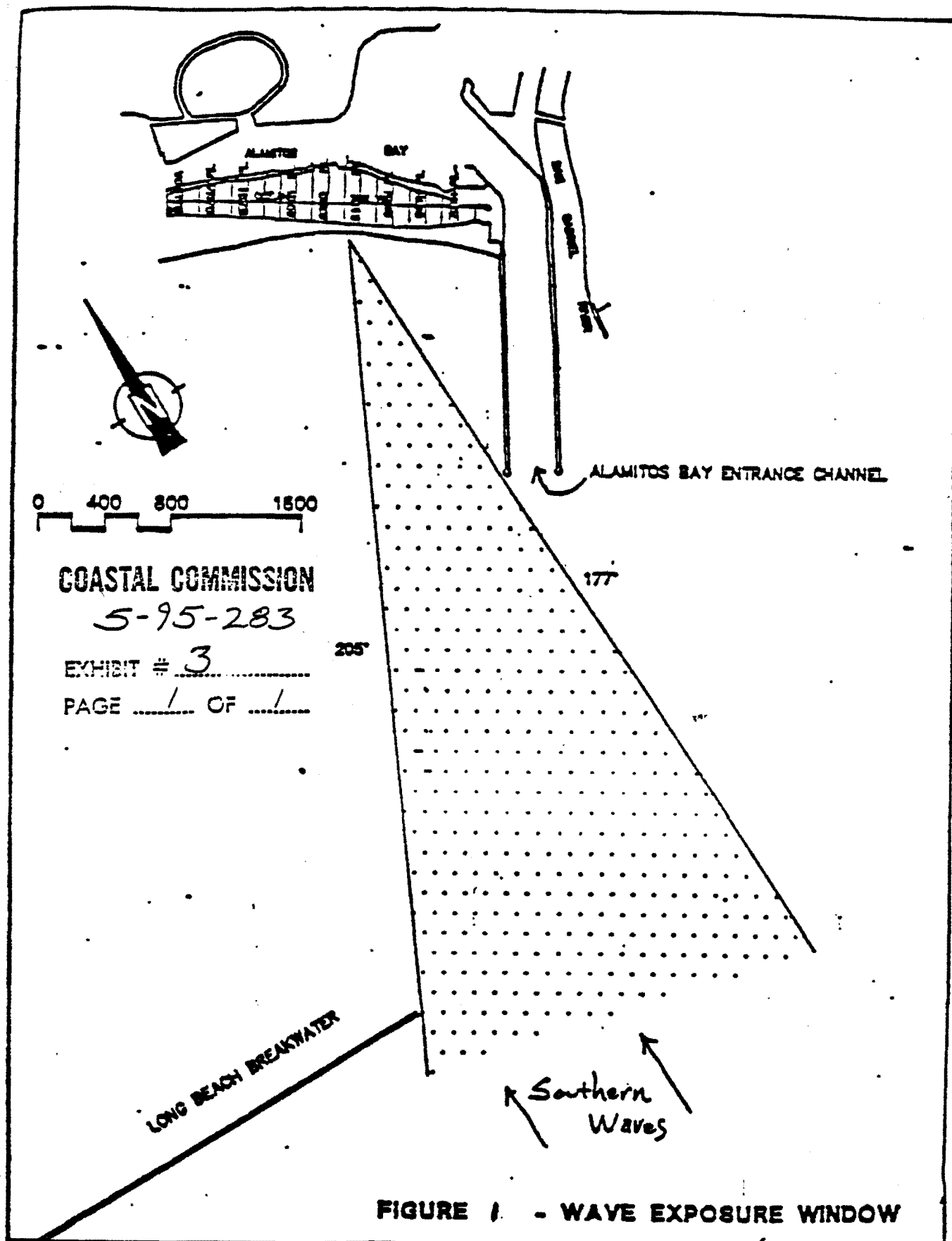
FIGURE 1: EAST BEACH NOURISHMENT PROGRAM, LOCATION MAP

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EXHIBIT # 2

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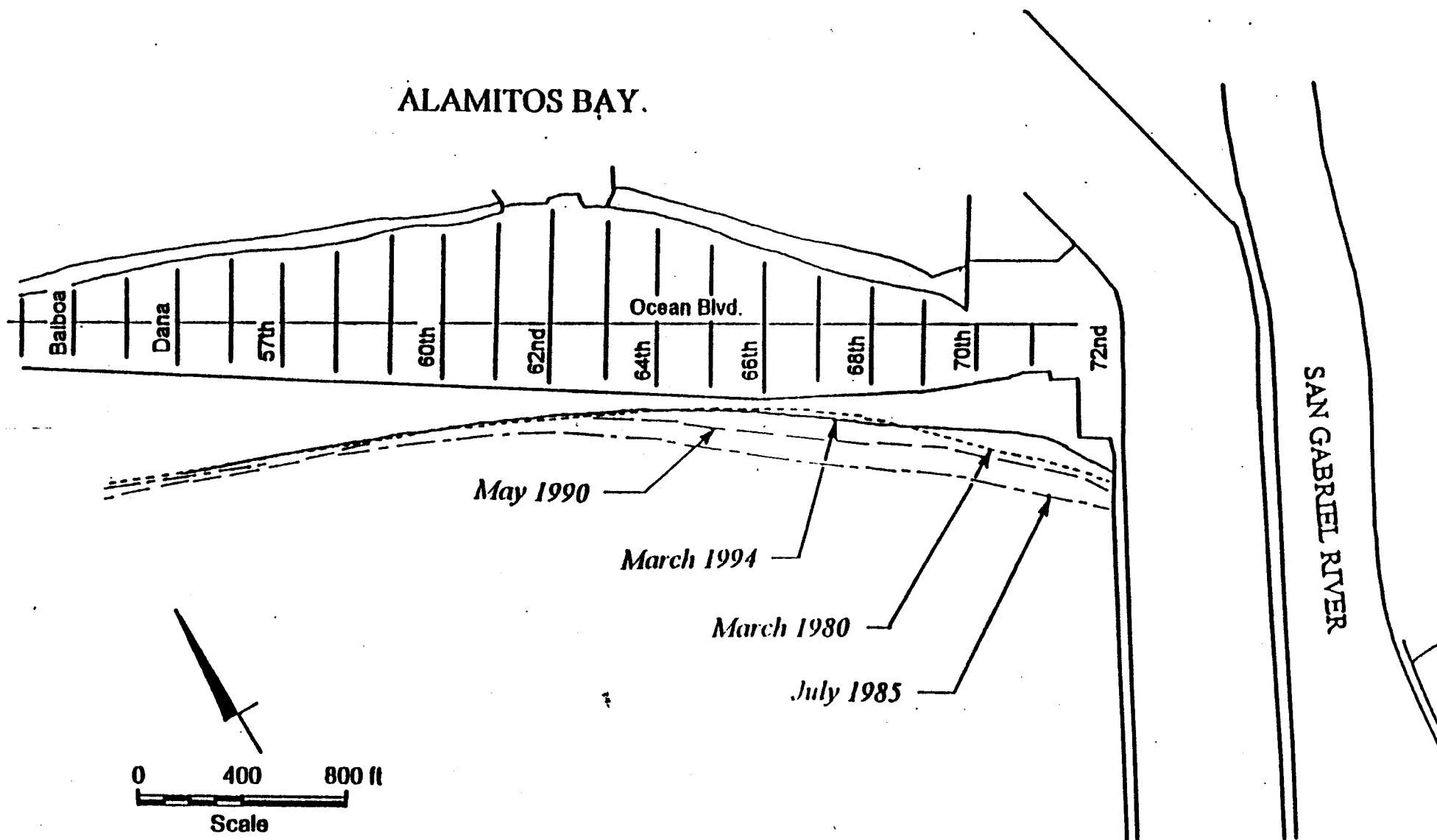


FIGURE 6: HISTORIC SHORELINE FLUCTUATIONS AT EAST BEACH, 1980-1994

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EXHIBIT # 4

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Table 2.1 - Activities Since 1920's to 1993

Period	Activity
1920's	Construction of a 15-foot high timber bulkhead between 55th Place and 70th Place.
1940's	Three million cubic yards of sediment from Alamitos Bay deposited on East Beach. Construction of two-hundred foot long steel sheet pile or timber groins.
1950's thru 1970's	Periodic beach nourishment with dredged material from Alamitos Bay, Alamitos Bay Entrance Channel, and San Gabriel River.
1981	Construction of coarse sand berm, backfilled with fine sand.
1983	Approximately 300,000 cubic yards of dredged material from San Pedro Bay 5-84-567 placed in addition to three rows of artificial kelp (Seascape) covering about 2150 feet. 5-82-817
1985	Five-row kelp field installed.
1987	Additional kelp installed.
1990	Additional kelp installed.
1991	Artificial (sandbag) reef installed between 62nd and 64th Pl. as a short-term mitigation measure. 5-91-695
1992	Approximately 15,600 cubic yards of sand were placed at 72nd place for emergency nourishment.
1993	Emergency nourishment at 72nd Place, with approximately 7,800 cubic yards (January - May) and 30,400 cubic yards (June - August) of sand imported from areas between 55th Place and Belmont Shore Pier. Approximately 91,200 cubic yards of sand placed between 60th Place and 72nd Place (June-August).

Note: This table does not include annual nourishment maintenance activities of approximately 25,000 cubic yards since 1980.

Beach Maintenance History

COASTAL COMMISSION

5-95-283

EXHIBIT # 5

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# COASTAL FRONTIERS

June 1, 1994

City of Long Beach  
Department of Parks, Recreation, and Marine  
2760 Studebaker Road  
Long Beach, CA 90815

Attention: Mr. Dennis Eschen

Subject: Sand Compatibility, Beach Nourishment Operations

Dear Dennis:

In answer to potential concerns related to the compatibility of sand for the Long Beach beach replenishment plan, we offer the following information. The sand source envisioned for the beach nourishment operation will be obtained from the existing wide beaches of the city. By moving beach sand from one area to another on the same beach, beach sand compatibility between the source beach and the receiving beach will be inherently achieved. However, we can be more precise in this evaluation.

The Geotechnical Branch of the Los Angeles District, Corps of Engineers, has established quantitative guidelines for the compatibility of the source materials with the disposal site (Personal conversation with Messrs. Chris Sands and Jack Ferguson of the Geotechnical Branch, 31 May 1994). For the source material to be compatible with that of the receiving beach, the sand size gradation curves for both sediments should only differ in the following ways:

- 1) The coarse-grained portion of the sediment source may be coarser than the receiving beach; and
- 2) The fine-grained portion of the sediment source may be finer than the receiving beach, however, the percentage of silt and clay (percent passing the #200 sieve = 0.074 mm) shall not exceed that of the finest receiving beach sample by more than 10 percentage points.

The enclosed figure compares the sand size characteristics of the borrow and receiving beaches along the Alamitos Bay peninsula. The samples collected at Cherry Avenue reasonably represent the borrow source sediments (median grain size,  $D_{50} = 0.2$  mm). The 67th Place samples indicate the sediment grain size at the receiving beach ( $D_{50} = 0.3$  mm). By virtue of the higher wave energy existent at the latter location, the grain size is somewhat larger than at Cherry Street. At both sites, the content of fine grained sediments (those passing the #200 sieve) is essentially identical and composes less than 2% of the sediment samples.

Based on the above-stated Corps of Engineers criteria for sediment compatibility, the sands at the nourishment source are acceptable for placement at the receiving beach.

Sincerely,  
COASTAL FRONTIERS CORPORATION

  
Peter E. Gadd  
Principal

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