

CALIFORNIA COASTAL COMMISSION

SOUTH COAST AREA
245 W. BROADWAY, STE. 380
P.O. BOX 1450
LONG BEACH, CA 90802-4416
(310) 590-5071



Filed: April 9, 1996
49th Day: May 28, 1996
180th Day: October 6, 1996
Staff: John T. Auyong *John*
Staff Report: April 19, 1996
Hearing Date: July 9-12, 1996
Commission Action:

RECORD PACKET COPYSTAFF REPORT: REGULAR CALENDAR

APPLICATION NO.: 5-95-276

APPLICANT: City of Seal Beach

PROJECT LOCATION: On the beach at the northwestern end of Surfside Colony, adjacent to the east jetty of the entrance to Anaheim Bay.

PROJECT DESCRIPTION: Repair of the northwesternmost 250 lineal feet of an existing 900 foot long revetment by the placement of 5 ton rock within the existing footprint and crest elevation to restore the revetment to its as-built state.

LOCAL APPROVALS RECEIVED: City of Seal Beach Emergency Declaration Resolution 4431.

SUBSTANTIVE FILE DOCUMENTS: Coastal Development Permits P-10-21-75-6364 (Surfside Colony, Ltd.), and 5-82-579; Emergency Permits 5-82-579G and 5-82-748G; Emergency Permit Application G5-95-276; Letter from Moffatt & Nichol to the City of Seal Beach dated November 16, 1995; Letter from Moffatt & Nichol to the City of Seal Beach dated February 22, 1996; "Proposed Monitoring and Maintenance Program for Revetment at Surfside Colony", Moffatt & Nichol, January 18, 1996; "Statement Regarding: Surfside Colony Temporary Revetment," Moffatt & Nichol, June 27, 1983; "Long Term Shore Protection for Surfside Colony", Moffatt and Nichol, January 1984; "Emergency Shore Protection", Robert A. Nathan and David Hawley, Proceedings of the Fifth Symposium on Coastal and Ocean Management, ASCE, 1987; "Evaluation of Surfside Revetment for Surfside Colony", Moffatt and Nichol, December 6, 1988.

SUMMARY OF STAFF RECOMMENDATION:

Staff is recommending approval of the proposed project with special conditions regarding monitoring and beach replenishment.

STAFF RECOMMENDATION:

The staff recommends that the Commission adopt the following resolution:

I. Approval with Conditions.

The Commission hereby grants a permit, subject to the conditions below, for the proposed development on the grounds that the development, located between the first public road and the sea, will be in conformity with the provisions of Chapter 3 of the California Coastal Act of 1976, including the public access and recreation policies of Chapter 3, 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, 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.

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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. Future Improvements

This coastal development permit 5-95-276 approves only the repair of the Surfside Colony revetment as described and conditioned herein and on the approved plans. Any future improvements to or repair and maintenance of the revetment, including but not limited to increases in the footprint, height, crest elevation, or size of the stones, shall require an amendment to this permit or a new coastal development permit or a written determination from the Executive Director that the work does not require a coastal development permit. The construction of future improvements shall not occur during grunion runs identified by the California Department of Fish and Game or unexpected grunion runs.

2. Monitoring Program

a. Revisions to Monitoring Program

Prior to issuance of the coastal development permit, the applicant shall submit, for the review and approval of the Executive Director, a revised version of the "Proposed Monitoring and Maintenance Program for Revetment at Surfside Colony" dated January 18, 1996 which was prepared by Moffatt & Nichol and was submitted to the Coastal Commission as Attachment 1 to the January 22, 1996 letter from Lee Whittenberg, Director of Development Services of the City of Seal Beach, to John T. Auyong, Staff Analyst with the Coastal Commission. The applicant shall revise said monitoring plan as follows (*all text shown in italics; added text shown in underline; deleted text shown in strikethrough*):

II. **MAINTENANCE**

A. **Maintenance Activities**

If at any time during monitoring, the Engineer believes corrective measures are required, the City of Seal Beach and the California Coastal Commission will be notified. {no intervening changes}

- *The Engineer will notify the City and the California Coastal Commission of any deficiencies that may require remediation. Minor fill operations may be performed, or displaced stones may be replaced or added where necessary to maintain design profile within allowable tolerances.*

- Prior to the commencement of any remediation, repair, and maintenance activities as described herein, the City shall obtain a coastal development permit or permit amendment from the California Coastal Commission or a written determination from the Executive Director of the Coastal Commission that the proposed remediation, repair, or maintenance activities do not require a coastal development permit.

B. Schedule

Maintenance inspection will occur annually within one month after the end of the rainy season which runs from October 15 through May 15 and after significant storm events to allow for development of any necessary maintenance plans prior to the start of the subsequent rainy season.

III. MONITORING PLAN

A. Performance Criteria

The goals of the monitoring program are to generate information that will address the exposure of the site and the revetment to storm waves and the potential of flooding, erosion and damages caused by waves and high tides to the properties, revetment, and beach at Surfside Colony.

B. Monitoring Methods

The program will emphasize monitoring the effectiveness of the structure to protect homes from significant damage and the structure's impact, if any, on shoreline processes. Physical measurements will be used to provide supporting information. {no intervening changes}

Photographs shall be taken during each monitoring period. They shall be taken from the same vantage point(s) and in the same direction every year. The report shall contain a map or diagram of the vantage point(s) from which the photographs are taken and the directional view(s) from these vantage point(s). At least one vantage point shall be located on the seaward side of the revetment at one end of the repaired portion of the revetment, and the direction from this vantage point shall be the view looking along the shoreline, parallel to the revetment. The photographs shall document the extent of erosion on the beach, such as for example the width of the beach between the revetment and the water's edge, as well as the current condition of the revetment, and shall reflect material discussed in the monitoring report.

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C. Annual Reports

The information will be summarized in an annual report prepared for and submitted to the City of Seal Beach and the California Coastal Commission.

Annual reports shall include the following: {no intervening changes to Numbers 1 through 4; add a new Number 5 as shown below}

5. Recommended actions for remediation, if necessary.

b. Compliance with Monitoring Program

The applicant shall comply with the Monitoring Program as described and modified in Special Condition No. 2.a. above. Any future changes to said monitoring program shall be submitted for the review and approval of the Executive Director.

3. Notification of the Executive Director

When the beach, after the completion of any future beach replenishment, has eroded such that it is less than fifty (50) feet wide in front of the revetment, as measured from the toe of the revetment to the Mean Lower Low Water ("MLLW") mark, the applicant shall notify the Executive Director of this situation. If it is determined that development must be undertaken to minimize potential damage to existing homes behind the revetment, a regular coastal development permit application for the proposed development shall be submitted at that time. An analysis of alternatives to the proposed development and a statement as to why the proposed development is the least environmentally damaging feasible alternative, and why the other analyzed alternatives are not, must be included as part of said permit application. The alternatives analysis shall consider short-term beach nourishment, sand back-passing, further evaluation of the Longard tube method, or comparable measures which would last at least one winter season, which could be carried out independently of the U.S. Army Corps of Engineers beach nourishment projects, and which could be repeated every winter season as necessary between U.S. Army Corps of Engineers beach nourishment projects in order to minimize future damage to the revetment resulting from the revetment's exposure to wave hazards. If circumstances allow, said permit application shall be submitted sufficiently in advance of the start of the rainy season (October 15) to allow sufficient time for action on the permit application and to allow any approved development to be completed prior to the start of the rain season.

IV. Findings and Declarations

A. Project Description / History

The applicant is proposing to repair an existing revetment located on the beach at the northwestern end of the Surfside Colony community, adjacent to the Anaheim Bay southern jetty. Wave action has damaged the revetment by washing away portions of the upper surface of the revetment (see Exhibit B). Of the 900 lineal feet of the revetment, the northernmost 250 lineal feet has been damaged. The existing revetment was constructed of 1/2 to 2 ton rocks. The damage has resulted in some of the existing rock being washed away, leaving gouged out areas in the revetment. The proposed repair will consist of placing a single layer of 5 ton stones in these gouged out areas within the existing footprint and crest elevation of the existing revetment to restore the revetment to its as-built state prior to it being damaged (see cross-section of revetment in Exhibit B). Since the beach which normally covered the revetment had eroded away, leaving the revetment exposed to wave action, the revetment has suffered wave damage. In addition, the applicant proposes to move up to 200 cubic yards of sand from the southerly end of the beach. This sand would be placed on the inland side of the revetment to allow repair work to be completed from the inland side of the revetment rather than on the beach itself. This sand would then be returned to the southerly end of the beach.

Emergency permit 5-82-579G was issued for the placement of sand bags in front of the existing homes at Surfside to protect the homes from wave damage. When the sand bags failed, the revetment which currently exists was then proposed to protect the homes. The existing revetment was approved by the Commission under emergency permit 5-82-748G. Both of the follow-up regular coastal development permits to these two emergency permits were combined into a single follow-up regular coastal development permit 5-82-579. The revetment was required to shield unprotected existing homes threatened by wave hazards. Since the beach in front of the homes had eroded away, the homes no longer had the protective buffer of the beach to minimize risks from wave hazards. The revetment was not intended to be a permanent solution, as indicated in the staff report for permit 5-82-579 which states that "[t]he project is proposed as a preliminary solution. The City intends to employ further shoreline protection mechanisms based on further research and study." Permit 5-82-579 had special conditions requiring lateral and vertical access and the construction of a boardwalk on top of the revetment.

Since the approval of permit 5-82-579, several studies have been undertaken to study the revetment. Several long-term solutions have been studied, such as the placement of artificial seaweed offshore, the construction of an off-shore breakwater, slab breakwaters attached to the existing Anaheim Bay jetty off-shore, groin fields, and beach nourishment. In its letter to the City of Seal Beach dated November 16, 1995, Moffatt & Nichol defined "long-term" as providing a twenty year life with periodic maintenance and inspection. Also in its November 16, 1995 letter, Moffatt & Nichol concludes that "[i]n the long run, the best solution is to prompt the Federal government into recognizing the beach problem exists because of the jetties and should therefore take responsibility for periodic nourishment. This would take the pressure off of finding a long-term solution and avoiding structural methods." Regular, periodic beach nourishment by the U.S. Army Corps of Engineers ("Army Corps") typically has been considered to be the preferred and least environmentally damaging alternative. However, at the time of approval of permit

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5-82-579, the Commission could not have anticipated the unforeseen circumstances described further below which have caused the unexpected delays in the latest beach nourishment phase which has resulted in the current need for the proposed development.

The beach in this part of Surfside typically erodes rapidly. The applicant has provided documentation that this is due to the adjacent Anaheim Bay east jetty, which deflects waves which hit the jetty onto the beach. This is in addition to the waves which don't hit the jetty but instead hit the beach directly (see Exhibit C). Thus, the increased wave action due to two sets of waves crashing into one area of the beach results in this part of the beach eroding faster than normal. The beach also erodes because it is not naturally replenished. Flood control works on the Los Angeles and San Gabriel Rivers reduce the amount of sediment which reaches the ocean. What sediment does reach the ocean is further prevented from being carried downcoast to Surfside due to four jetties between the mouth of the San Gabriel River and Surfside and breakwaters off Long Beach. To rectify the loss of sand, the Army Corps historically has undertaken periodic replenishment of the beach every five or so years since the 1960s. Towards the end of each replenishment cycle is when the beach is eroded the most. Because of unforeseen delays in the latest phase of the Army Corps beach replenishment (Stage 10) which was scheduled to be undertaken in 1994, the previous 1990 beach nourishment is at the end of its cycle. Although the final preparations for the commencement of Phase 10 are currently underway, at this time it is not known for sure when Phase 10 will actually begin. Because it has been six years since the beach in front of the revetment has been replenished, the entire beach has eroded away, directly exposing the revetment to wave action.

The existing revetment has not been completely destroyed and is not being replaced in its entirety. The damaged areas, approximately 28% of the revetment, are simply being repaired. Thus, the proposed development is not exempt pursuant to Section 30610(g) of the Coastal Act which exempts from coastal development permit requirements the replacement of structures destroyed by natural disaster. Further, the proposed development would not be exempt pursuant to Section 30610(d) of the Coastal Act which exempts from coastal development permit requirements routine repair and maintenance activities. Instead, a coastal development permit is required for the proposed development pursuant to Sections 13252(a)(1)(C) and 13252(a)(1)(D) of Title 14 of the California Code of Regulations. This is because, pursuant to Section 13252(a)(1)(C), the proposed development involves the replacement of 20% or more of the materials of an existing structure (250 feet of the existing 900 lineal feet would be affected by the proposed development) with materials of a different kind (replacement of existing 1/2 to 2 tons rocks with 5 ton rocks). Further, pursuant to Section 13252(a)(1)(D), the proposed development would involve the presence of mechanized construction equipment or construction materials on any sand area.

B. Hazards / Shoreline Protective Works

Section 30235 of the Coastal Act states:

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

The proposed development involves the repair of the northwesternmost 250 lineal feet of the existing revetment by placing a layer of 5 ton stones within the design footprint and crest elevation in the area of the revetment gouged out by wave action. The existing revetment is 900 lineal feet and located on the beach at the northwestern end of Surfside Colony was approved by the Commission under both Emergency Permit 5-82-748G and the follow-up regular coastal development permit 5-82-579. The preferred plans for the original revetment called for five ton stones, but instead it was built with 1/2 to 2 ton stones since the larger stones were not immediately available.

The project description in the findings for the staff report for permit 5-82-579 indicate that the existing revetment was designed to be a short-term measure to protect homes from winter storms. The revetment was intended to be the last line of defense against wave attack (Moffatt Nichol, 12-6-88, p. 30), not the first. Regular, periodic beach nourishment by the Army Corps was generally considered the first line of defense and the least environmentally damaging alternative. After the revetment was built, the beach was replenished by the Army Corps in 1983-84 and again in 1990, resulting in the revetment being buried under the sand. Therefore, so long as the revetment was buried, its permanence and suitability as a protective device was not an issue.

However, because of delays in the latest phase of the Army Corps beach nourishment project in front of Surfside, the beach has since eroded away and exposed the revetment. Wave action has caused the existing 1/2 to 2 ton stones along the northwesternmost 250 feet to unravel from the revetment. If left unrepaired, the revetment's failure would expose the existing homes behind the revetment to wave hazards and result in potential damage to the homes due to those wave hazards.

At the time of approval of permit 5-82-579, the Commission did not anticipate that the revetment would once again be exposed to wave hazards and once again have to serve as the first line of defense against wave attack. Therefore, the issue of long-term monitoring, maintenance, and repair of the revetment was not specifically addressed. Since the revetment was not intended to be a long-term solution and thus not designed for a life expectancy of twenty years, the condition of the structure must be monitored to ensure that the revetment does not continue to unravel and is adequate to protect the adjacent homes. This is because the possibility exists that delays in future Army Corps beach nourishment phases, or the outright cancellation of the beach nourishment altogether, may occur. This would result in future beach erosion, once again leaving the revetment exposed to wave attack. Thus, in this situation, the revetment would once again have to

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serve as the first line of defense against wave attack for the subject stretch of existing Surfside homes.

The applicant has submitted a monitoring program (see Exhibit D). The program would monitor the condition of the structure on an annual basis and after storm events. With modifications to the monitoring plan as shown in Special Condition No. 2, the monitoring program would provide the Executive Director information regarding the condition of the revetment, its effect on the beach, and the state of beach erosion. This would allow for earlier planning and more comprehensive documentation and analysis that would be used to better assess impacts to coastal resources and the need for future protection of the existing homes at Surfside.

Further, the permit must be conditioned so that in the future if the beach in front of the revetment becomes less than fifty (50) feet wide, the City must notify the Executive Director of this situation. The City indicated that the beach in front of the revetment was approximately 50 feet wide in the summer of 1995. By December of 1995, the beach had eroded away, leading to the situation which created the need for the current permit application. Thus, when the beach is 50 feet wide, it is very likely that in approximately six months hence the beach will be substantially eroded away, leading to another situation in which the existing homes at Surfside are threatened by wave action and need protection. The permit condition must also require that if the beach is less than 50 feet wide and it is determined that as a result of this situation development needs to be undertaken to protect the existing homes at Surfside from the threat of wave damage, then a permit application for such development, whether it involves revetment repair or not, must be submitted with an alternatives analysis well in advance of the rainy season. This would also allow for earlier planning and more comprehensive documentation and analysis of impacts to coastal resources and better assess the need for protection of the existing homes at Surfside. It would also allow the proposed development to be completed in a timely fashion to minimize potential wave damage to the homes at Surfside. Thus, as a result, the Commission would be more proactive rather than reactive in the event that the revetment or homes should be threatened again. This would also ensure the greatest protection for the existing homes at Surfside.

The permit is also conditioned to inform the applicant that any future improvements, repair, and maintenance of the revetment shall require an amendment to this permit or a new permit so that any impact on coastal resources resulting from future improvements or repair of the revetment can be evaluated. These future activities would not be exempt from coastal development permit requirements as explained above. The proposed development, as conditioned, would allow the existing revetment to continue in its function of protecting existing structures at Surfside in danger from erosion, as it was originally designed and intended, and as previously permitted by the Commission. Therefore, the Commission finds the proposed project, only as conditioned, to be consistent with Section 30235 of the Coastal Act.

C. Grunion Runs

Section 30230 of the Coastal Act states:

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

The existing revetment is located adjacent to the beach. At certain high tides throughout the year, grunion fish come onto the beach to lay their eggs over the course of one or two nights. This process is commonly known as "grunion runs." Along the California coast, grunion are of special biological significance for two reasons. First, their method of reproduction is unique among California's marine species. Second, in California their numbers are decreasing and they are less common today over their historic range than previously.

In order to minimize adverse impacts to the grunion spawning process, the Commission finds that it is necessary to prohibit future repair/improvement activities to the revetment during grunion runs identified by the California Department of Fish and Game ("CDFG"), as well as grunion runs not predicted by the CDFG. Therefore, as conditioned, the Commission finds the proposed project to be consistent with Section 30230 of the Coastal Act regarding marine resources.

D. Public Access / Recreation

Section 30212 of the Coastal Act states, in relevant part:

(a) Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects except where:

(2) adequate access exists nearby . . .

(b) For purposes of this section, "new development" does not include:

(4) The reconstruction or repair of any seawall; provided, however, that the reconstructed or repaired seawall is not seaward of the location of the former structure.

The proposed development is to be located between the sea and first public road on the beach in the gated, private Surfside Colony community. A public access dedication can be required pursuant to Section 30212 of the Coastal Act only if it can be shown that the development either individually or cumulatively directly impacts physical public access, i.e., impacts to historic public use, or impacts which preclude the use of public trust lands.

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The proposed development involves the repair of an existing revetment within the same footprint and crest elevation. Thus, the proposed repair would not result in the revetment being in a seaward location of the former structure. Therefore, the proposed development does not constitute new development requiring public access pursuant to Section 30212 of the Coastal Act.

Public access and public recreation opportunities exist at the beach in Sunset Beach immediately adjacent to Surfside to the southeast. Further, the Commission approved permit P-10-21-75-6364 for new access gates at Surfside's south entrance located at the Anderson Street/South Pacific Avenue intersection. The permit has a special condition stating that "[a]ccess shall be available to pedestrians and bicyclist [sic] during daylight hours" through a pedestrian gate adjacent to the vehicular gate constructed pursuant to the permit. This provides vertical access at Surfside's southern boundary.

The Commission finds that the proposed repair of the existing Surfside Colony revetment would not have significant adverse impacts, either individually or cumulatively, on public access or public recreation opportunities and is consistent with the public access and recreation policies of Chapter 3 of the Coastal Act.

E. Unpermitted Development

Without benefit of a coastal development permit, the applicant has allegedly already undertaken the proposed development. Consideration of the permit application by the Commission has been based solely on the consistency of the proposed development with the Chapter 3 policies of the Coastal Act. Approval of this permit does not constitute a waiver of any legal action with regard to the alleged unpermitted development, nor does it constitute admission as to the legality of any development undertaken on the subject site without a coastal development permit.

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 the Chapter Three policies of the Coastal Act.

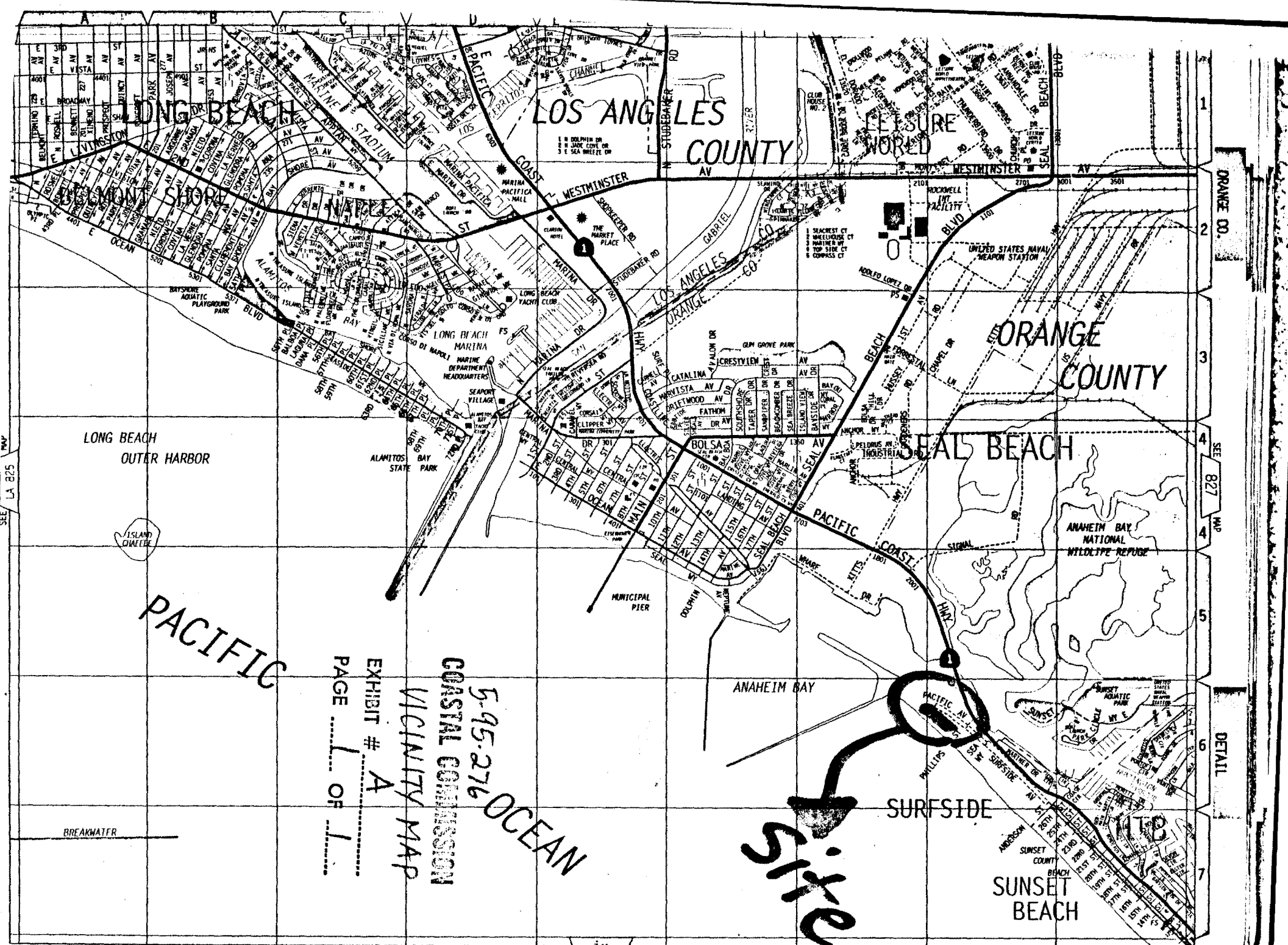
On July 28, 1983, the Commission denied the City of Seal Beach Land Use Plan (LUP) as submitted and certified it with suggested modifications. The City did not act on the suggested modifications within six months from the date of Commission action. Therefore, pursuant to Section 13537(b) of the California Code of Regulations, the Commission's certification of the land use plan with suggested modifications expired. The LUP has not been resubmitted for certification since that time.

The proposed development, as conditioned, would be consistent with the shoreline protective works and marine resources policies of Chapter Three of the Coastal Act. The proposed development would be consistent with the public access and recreation policies of Chapter Three. Therefore, the Commission finds that the proposed development would not prejudice the ability of the City of Seal Beach to prepare a certified local coastal program consistent with the Chapter Three policies of the Coastal Act.

G. California Environmental Quality Act

Section 13096 of Title 14 of the California Code of Regulations requires Commission approval of Coastal Development Permits to be supported by a finding showing the permit, as conditioned, 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.

The proposed project has been conditioned in order to be found consistent with the hazards/shoreline protective device policies of the Coastal Act. Mitigation measures which inform the applicant of coastal development permit requirements for future improvements to the revetment and other future shoreline protection, prohibit the construction of future improvements during grunion runs, and require modifications to the submitted monitoring plan as well as compliance with the monitoring plan, will minimize all adverse impacts. As conditioned, there are no feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse impact which the activity may have on the environment. Therefore, the Commission finds that the proposed project can be found consistent with the requirements of the Coastal Act to conform to CEQA.



LOS ANGELES COUNTY

ORANGE COUNTY

ORANGE CO. MAP

SEE 827 MAP

DETAIL

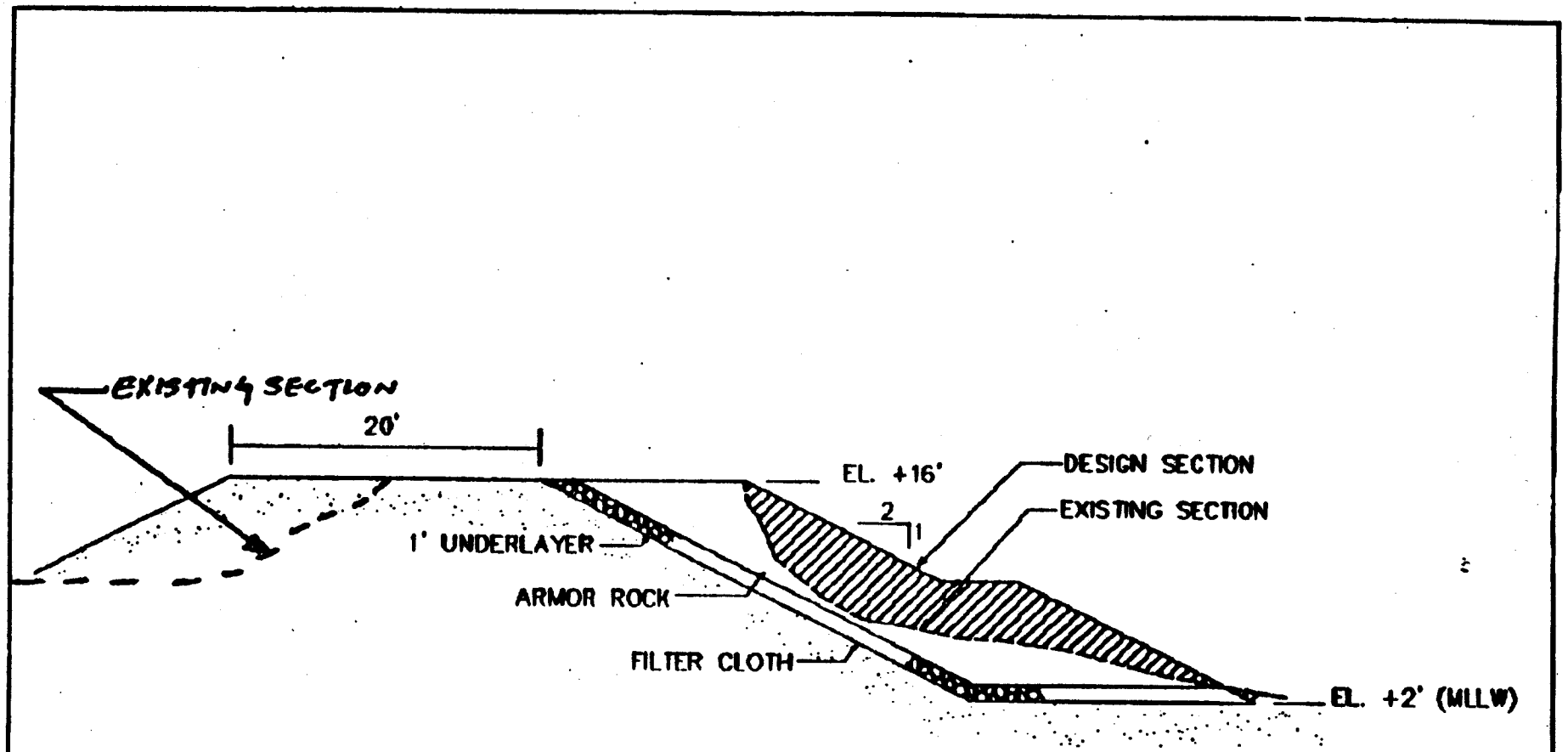
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5-95-276
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VICINITY MAP

EXHIBIT # A
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SITE

SEE ix MAP



TYPICAL REPAIR SECTION

SCALE: 1"=10'

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 DISTRICT

5-95-276
 COASTAL COMMISSION
 cross-section of damaged/
 repair area

REPAIRED SECTION WITH 5 TON STONE
 DAMAGED AREA

EXHIBIT # B
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FIGURE 2

310 224 7489 P. 09

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COASTAL COMMISSION

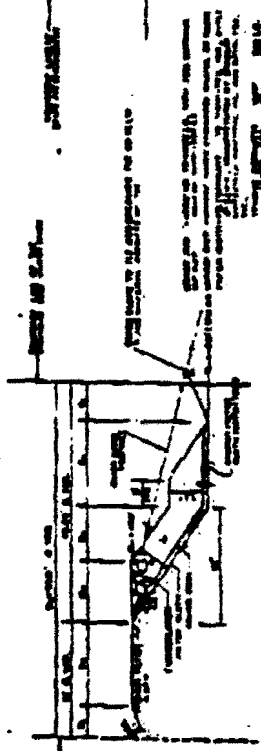
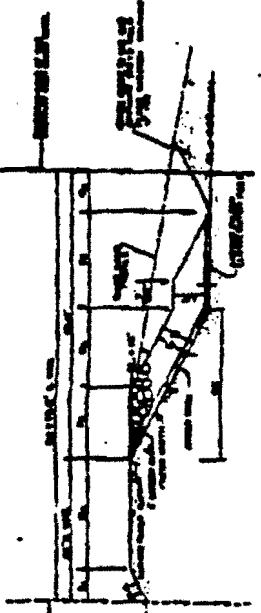
Plan view of revetment/repair

EXHIBIT # B

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CITY OF SAN DIEGO	PROJECT NO.	
ENGINEERING DEPARTMENT	DATE	
DRAWN BY		
CHECKED BY		

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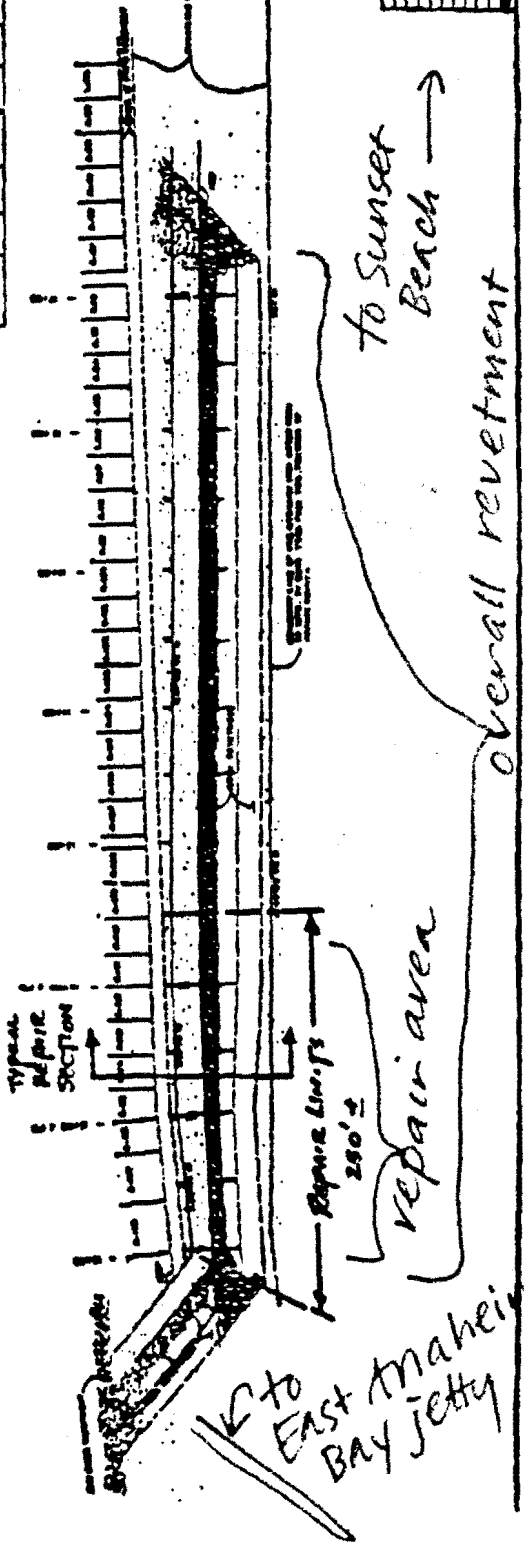
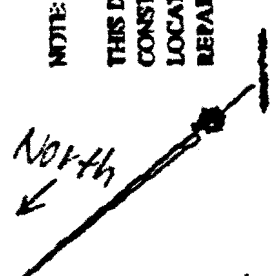


AS BUILT

AS BUILT

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Structure																					
Revetment																					
Repair																					

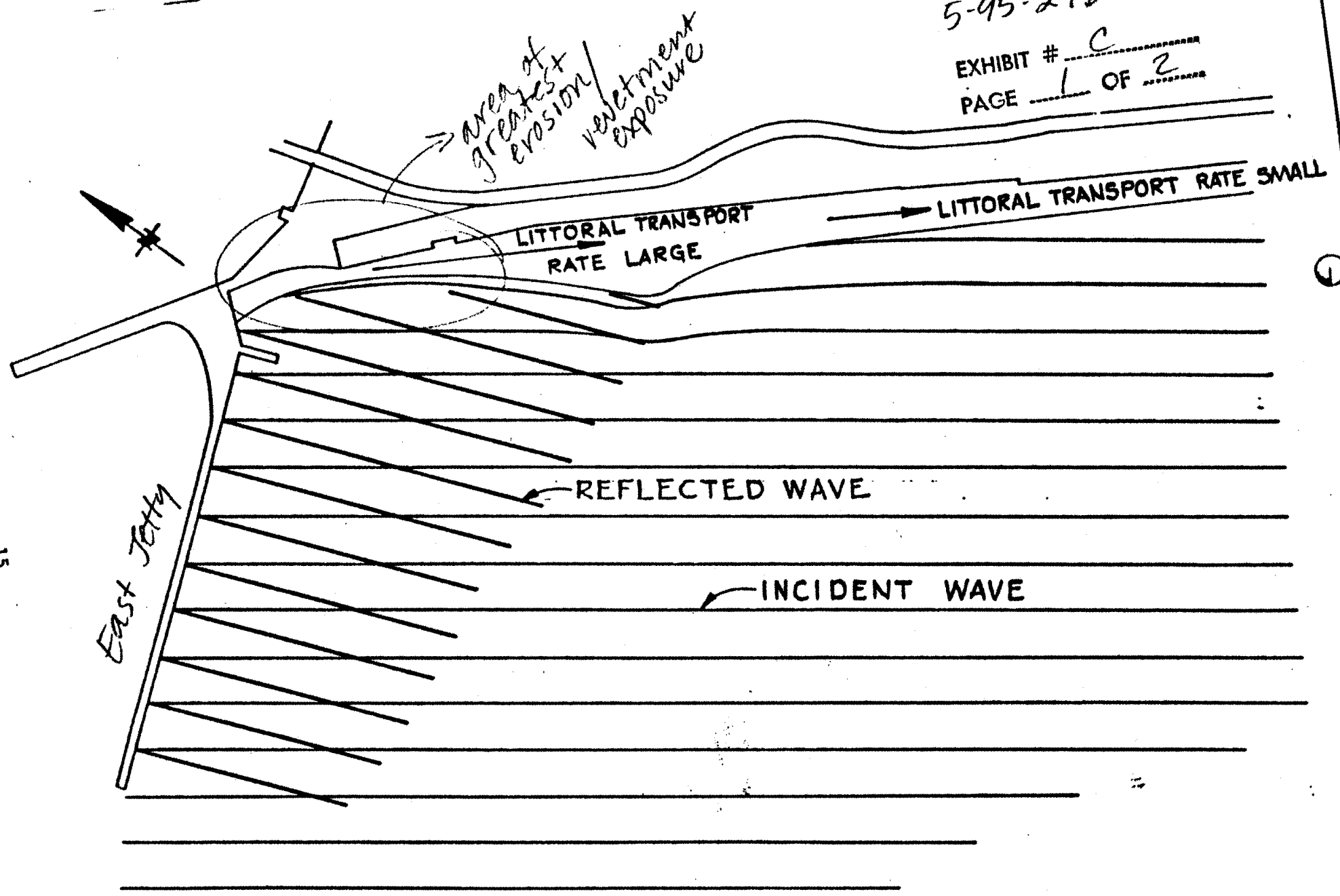
NOTE:
 THIS DRAWING IS THE AS-BUILT FOR THE ORIGINAL REVETMENT CONSTRUCTION IN 1942. REPAIRS ARE TO BE PERFORMED AT THE LOCATION NOTED AND AS SHOWN ON THE ATTACHED TYPICAL REPAIR SECTION



R 5-95-276 **D**

DEC 15 1995

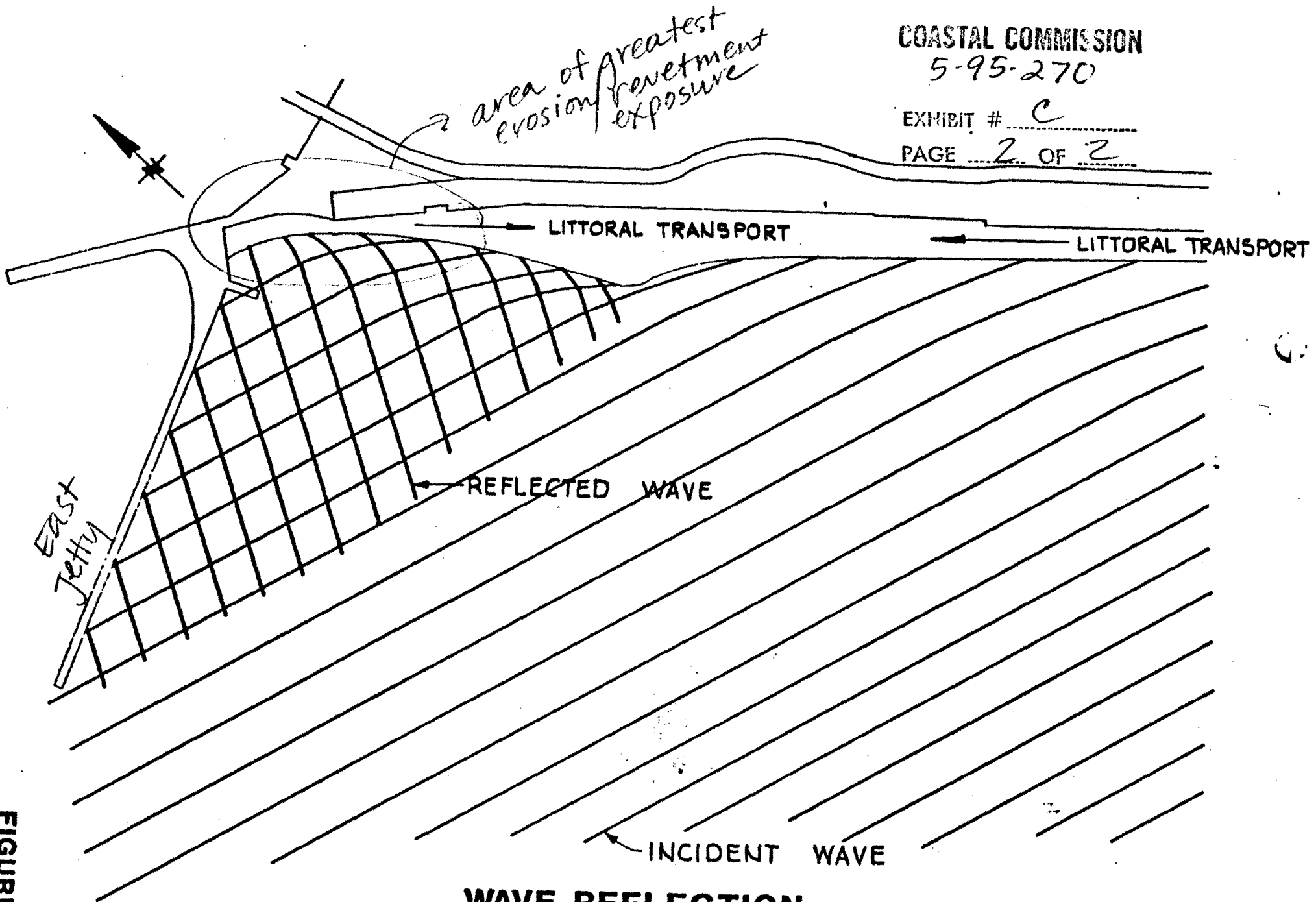
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 SOUTH COAST DISTRICT



15

FIGURE

WAVE REFLECTION
(INCIDENT WAVES FROM THE WEST)



**WAVE REFLECTION
(INCIDENT WAVES FROM THE SOUTH)**

FIGURE 8

16

Permit 5-95-276, Surfside Revetment Repair
Response to Coastal Commission Letter of January 5, 1996
City of Seal Beach, January 22, 1996

ATTACHMENT 1

*"Proposed Monitoring and Maintenance Program for
Revetment at Surfside Colony", Moffatt & Nichol,
January 18, 1996*

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Monitoring Program as Submitted

EXHIBIT # D
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PROPOSED MONITORING
AND MAINTENANCE PROGRAM
FOR
REVETMENT AT SURFSIDE COLONY

RECEIVED

JAN 22 1996

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SOUTH COAST DISTRICT

SUMMARY

This is a preliminary maintenance and monitoring plan submitted in support of the application to facilitate successful completion of the permitting process. A brief description of the project is provided along with a description of the proposed maintenance and monitoring plan.

I. PROJECT DESCRIPTION

A. Location of Project

The project is located at Surfside Colony, Orange County, California.

B. Summary of Overall Project

The project involves an emergency repair of the existing Surfside Colony revetment. The existing revetment was constructed in November 1982 as a last line of defense for the imminent 1983 winter storms. The revetment was considered temporary and an emergency project that would provide interim protection until the next Corps of Engineers beachfill project was completed, or until a more substantial structure could be constructed. Several subsequent beachfill projects have since been performed.

The U.S. Army Corps of Engineers Stage 10 project was not implemented last Fall as planned, leaving an eroded beach in front of the revetment. The structure was in poor condition and showed signs deterioration. Immediate repair was required to protect homes against major damage from direct wave action and runup. The repair of the revetment included placement of a single layer of 5-ton stone along approximately 250 lineal feet.

The design for the revetment repair is still temporary in nature and was built only to improve the integrity of the existing shore protection for service during this winter season. Continued exposure to direct wave action will cause deterioration until a beachfill operation is implemented.

A monitoring and maintenance program is suggested until the beachfill can be performed to determine if any further action is required for protection of the homes. Inspection shall occur annually and after significant storm events. The monitoring program shall include inspection by an engineer to determine if maintenance is required. This may include

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replacing displaced stones or adding new stones as required. Maintenance can be conducted from either in front or behind the revetment.

Following the beachfill, measurements of the beach width should be taken to gage erosion and to prevent situations requiring emergency action. The revetment will most likely be buried following the beachfill and may not be visible for inspection. Employees of the City of Seal Beach, residents at Surfside Colony or an engineer can be retained to perform measurements annually and after significant storm events. The Engineer should be informed if the revetment becomes exposed.

C. Responsible Parties

Applicant: City of Seal Beach
Contact: Steve Badum
City Engineer
Address: 211 Eighth Street
Seal Beach, CA 90807
Phone: (310) 431-2527

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II. MAINTENANCE

A. Maintenance Activities

If at any time during monitoring, the Engineer believes corrective measures are required, the City of Seal Beach will be notified. Corrective measures to remediate problems may include:

- Reviewing and verifying the monitoring data with the City to determine the cause(s) of the problems and potential solution.
- If the revetment is exposed, or damaged beyond accepted limits, repairs will be made to return the structure to the design section.
- The Engineer will notify the City of any deficiencies that may require remediation. Minor fill operations may be performed, or displaced stones may be replaced or added where necessary to maintain design profile within allowable tolerances.

B. Schedule

Maintenance inspection will occur annually and after significant storm events.

III. MONITORING PLAN

A. Performance Criteria

The goals of the monitoring program are to generate information that will address the exposure of the site to storm waves and the potential of flooding, erosion and damages caused by waves and high tides to the properties at Surfside Colony.

B. Monitoring Methods

The program will emphasize monitoring the effectiveness of the structure to protect the homes from significant damage. Physical measurements will be used to provide supporting information.

The revetment inspection will include information regarding crest elevation, structural integrity, condition of the toe, and any other relevant information.

Beach width measurements will be taken along transects established at strategic locations. Measurements will be taken at the same location to compare to previous measurements.

Photographs shall be taken during each monitoring period. They shall be taken from the same vantage point and in the same direction every year, and shall reflect material discussed in the monitoring report.

C. Annual Reports

The information will be summarized in an annual report prepared for and submitted to the City of Seal Beach.

Annual reports shall include the following:

1. A list of names, titles, and companies of all persons who prepared the content of the report and participated in monitoring activities for that year.
2. Analysis of all quantitative monitoring data.
3. Prints of all included monitoring photographs.
4. Maps identifying monitoring areas, transects, etc. as appropriate.

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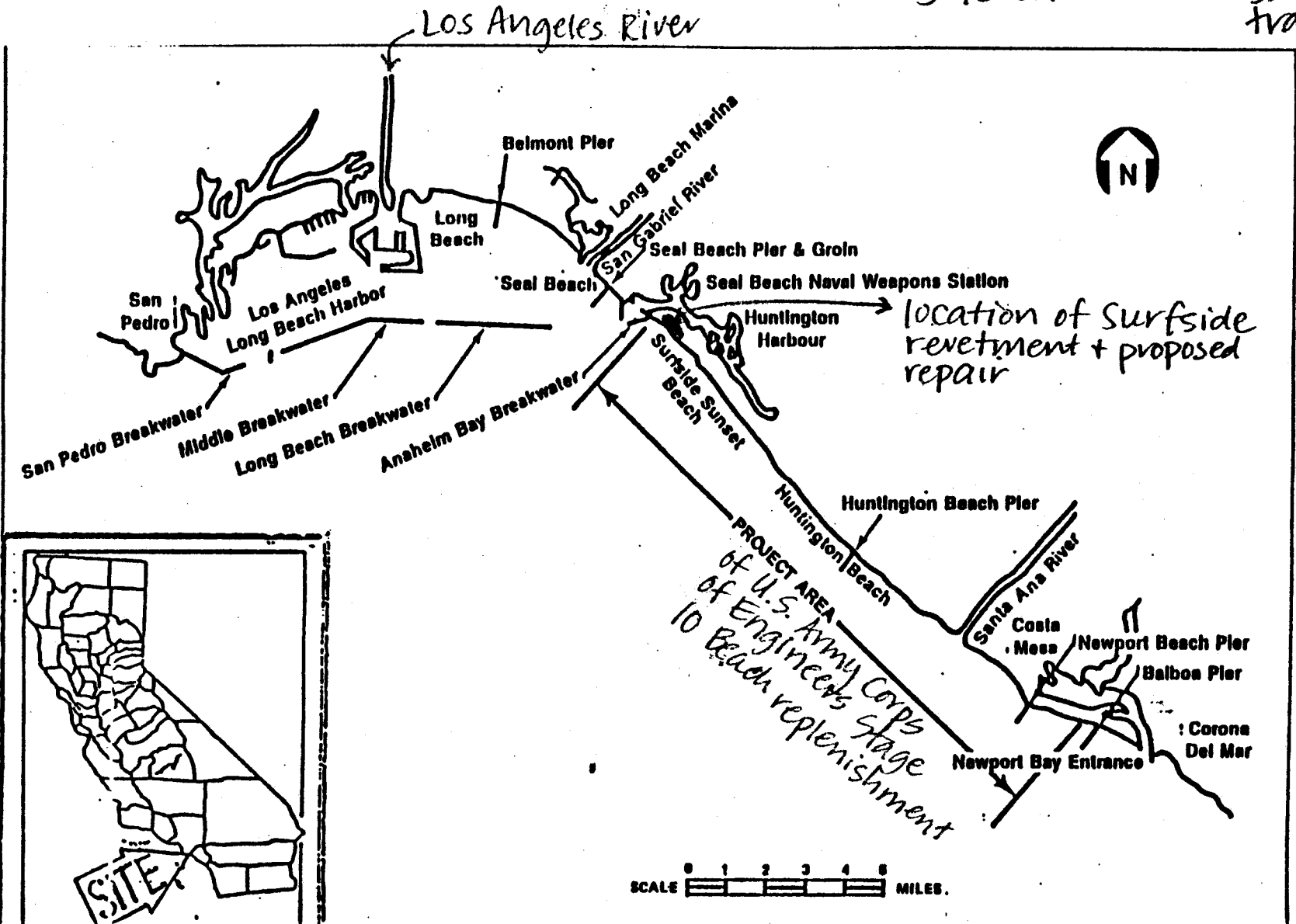
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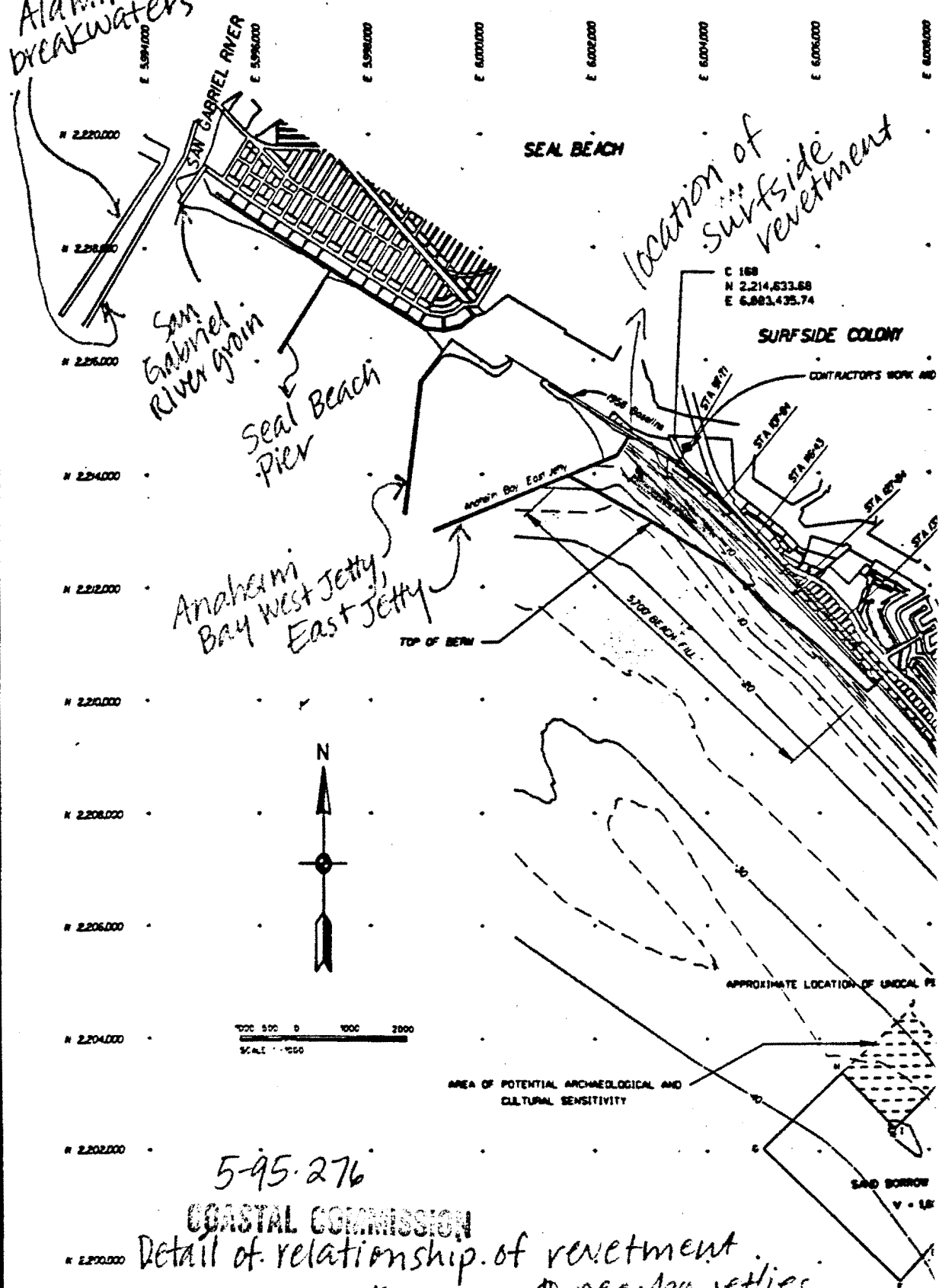
*from May, 1995 U.S. Army Corps
of Engineers, L.A. District
Environmental Assessment of
Surfside/Sunset/Newport
Stage 10 beach replenishment

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Relationship of Surfside revetment
to L.A. & San Gabriel Rivers, other
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jetties
which
obstruct
sand
transport



Alamitos Bay
breakwaters



ENVIRONMENTAL
DOCUMENT
Title: Environmental

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 Detail of relationship of revetment
 to nearby jetties

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