

MINUTE ITEM
This Calendar Item No. 22
was approved as Minute Item
No. 22 by the State Lands
Commission by a vote of 3
0 at its 9/27/89
meeting.

CALENDAR ITEM

A 74
S 38

22

09/27/89
W 24262 PRC 7347
Townsend

APPROVAL OF GENERAL LEASE - PUBLIC AGENCY USE

APPLICANT: California Department of Fish and Game
Attn: John Grant
330 Golden Shore, #50
Long Beach, California 90802

AREA, TYPE LAND AND LOCATION:
A 93.572-acre parcel of sovereign tide and
submerged land located in the Pacific Ocean
offshore Batiquitos Lagoon, San Diego County.

LAND USE: Installation and maintenance of an artificial
fishing reef.

TERMS OF PROPOSED LEASE:
Initial period: 20 years beginning October 1,
1989.

CONSIDERATION: The public use and benefit; with the State
reserving the right at any time to set a
monetary rental if the Commission finds such
action to be in the State's best interest.

BASIS FOR CONSIDERATION:
Pursuant to 2 Cal. Code Regs. 2003.

PREREQUISITE CONDITIONS, FEES AND EXPENSES:
Filing and processing costs have been received.

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STATUTORY AND OTHER REFERENCES:

- A. P.R.C.: Div. 6, Parts 1 and 2; Div. 13.
- B. Cal. Code Regs.: Title 2, Div. 3;
Title 14, Div. 6.

AB 884: 12/10/89.

OTHER PERTINENT INFORMATION:

1. The California Department of Fish and Game (Department) has filed an application with staff of the Commission for a General Permit - Public Agency Use, to build a 10,000 ton quarry rock fishing reef off the coast of Carlsbad. The Department believes the reef will increase the local sportfish catch and allow the Department to further refine its knowledge of the relationships between some sportfish species and artificial reefs. The Department indicates that the Carlsbad area is unique in that it offers an opportunity to investigate the interaction between reef construction and near shore sportfish populations in addition to providing expected fishery benefits.

The artificial reef proposed for Carlsbad will consist of a series of rock piles, or modules, which will form four lines perpendicular to shore. Large rocks will be used to build half of the modules, small rocks will be used on the other. The proposed lease to the Department provides that construction shall begin by October 1, 1989 and be completed by October 1, 1990.

In addition, the proposed lease provides for the following:

- A. Prior to commence of construction of the authorized improvements, the Department of Fish and Game agrees to provide to the staff of the Commission, for its review and approval, an installation plan for the artificial reef which describes the equipment to be used, methods of installation, time required for installation, timing of

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installation, methodology to be used to ensure accurate placement, configuration, and composition of the proposed reef components.

B. Department of fish and Game shall submit to the Commission, within six months of the date of this lease, a Monitoring Plan that will describe the following:

- a. the purpose(s) and objective(s) for the reef;
- b. how the reef is designed to meet the purposes and objectives described in (a);
- c. how this reef differs from other reefs installed by the Department;
- d. how the Department will monitor and evaluate the effectiveness of the reef in meeting the purposes and objectives described in (a); and
- e. a time schedule for monitoring, evaluating, and reporting on the effectiveness of the reef.

The Department shall submit all formal reports to the Commission. The Commission shall be advised of and have access on demand to all field notes, survey data, and any other information collected for the above Monitoring Plan or during the administration of the Department's Artificial Reef Program.

- C. The Department agrees to provide an "as built" survey of the artificial reef to the staff of the Commission upon completion of construction and shall include the depth from the highest point of the reef at the lowest low water.

bas ed of 1980 data.

2. The annual rental value of the site is estimated to be \$846.
3. This activity involves lands which have NOT been identified as possessing significant environmental values pursuant to P.R.C. 6370, et seq. However, the Commission has declared that all tide and submerged lands are "significant" by nature of their public ownership (as opposed to "environmental significant"). Since such declaration of significance is not based upon the requirements and criteria of P.R.C. 6370, et seq., use classifications for such lands have not been designated. Therefore, the finding of the project's consistency with the use classification as required by 2 Cal. Code Regs. 2954 is not applicable.
4. A Negative Declaration was prepared and adopted for this project by the California Department of Fish and Game. The State Lands Commission's staff has reviewed such document and believes that it complies with the requirements of the CEQA.

APPROVALS OBTAINED:

None.

FURTHER APPROVALS REQUIRED:

United States Army Corps of Engineers and
California Coastal Commission.

EXHIBITS:

- A. Land Description.
- B. Location Map.
- C. Negative Declaration

IT IS RECOMMENDED THAT THE COMMISSION:

1. FIND THAT A NEGATIVE DECLARATION WAS PREPARED AND ADOPTED FOR THIS PROJECT BY THE CALIFORNIA DEPARTMENT OF FISH AND GAME AND THAT THE COMMISSION HAS REVIEWED AND CONSIDERED THE INFORMATION CONTAINED THEREIN.

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2. DETERMINE THAT THE PROJECT, AS APPROVED, WILL NOT HAVE A SIGNIFICANT EFFECT ON THE ENVIRONMENT.
3. AUTHORIZE ISSUANCE TO THE CALIFORNIA DEPARTMENT OF FISH AND GAME OF A 20-YEAR GENERAL LEASE - PUBLIC AGENCY USE, ON FILE IN THE SACRAMENTO OFFICE OF THE STATE LANDS COMMISSION, BEGINNING OCTOBER 1, 1989; IN CONSIDERATION OF THE PUBLIC USE AND BENEFIT, WITH THE STATE RESERVING THE RIGHT AT ANY TIME TO SET A MONETARY RENTAL IF THE COMMISSION FINDS SUCH ACTION TO BE IN THE STATE'S BEST INTEREST, AND WITH CONSTRUCTION TO BEGIN OCTOBER 1, 1989 AND COMPLETED BY OCTOBER 1, 1990; FOR INSTALLATION AND MAINTENANCE OF AN ARTIFICIAL FISHING REEF ON THE LAND DESCRIBED ON EXHIBIT "A" ATTACHED AND BY REFERENCE MADE A PART HEREOF.

TO DETERMINE THAT THE ABOVE DESCRIBED PARCEL IS PUBLIC LAND OF THE UNITED STATES OF AMERICA

EXHIBIT "A"

W 24262

LAND DESCRIPTION

A parcel of submerged land in the Pacific Ocean near Bataquitos Lagoon, San Diego County, California, the corners of said parcel having the following geographic positions:

- | | |
|-----------------------------|----------------------------|
| 1. Latitude = N 33° 05' 21" | Longitude = W 117° 19' 00" |
| 2. Latitude = N 33° 05' 00" | Longitude = W 117° 18' 56" |
| 3. Latitude = N 33° 05' 18" | Longitude = W 117° 19' 22" |
| 4. Latitude = N 33° 04' 57" | Longitude = W 117° 19' 18" |

END OF DESCRIPTION

PREPARED JULY 25, 1989 BY BIU 1.

5" TYPHX

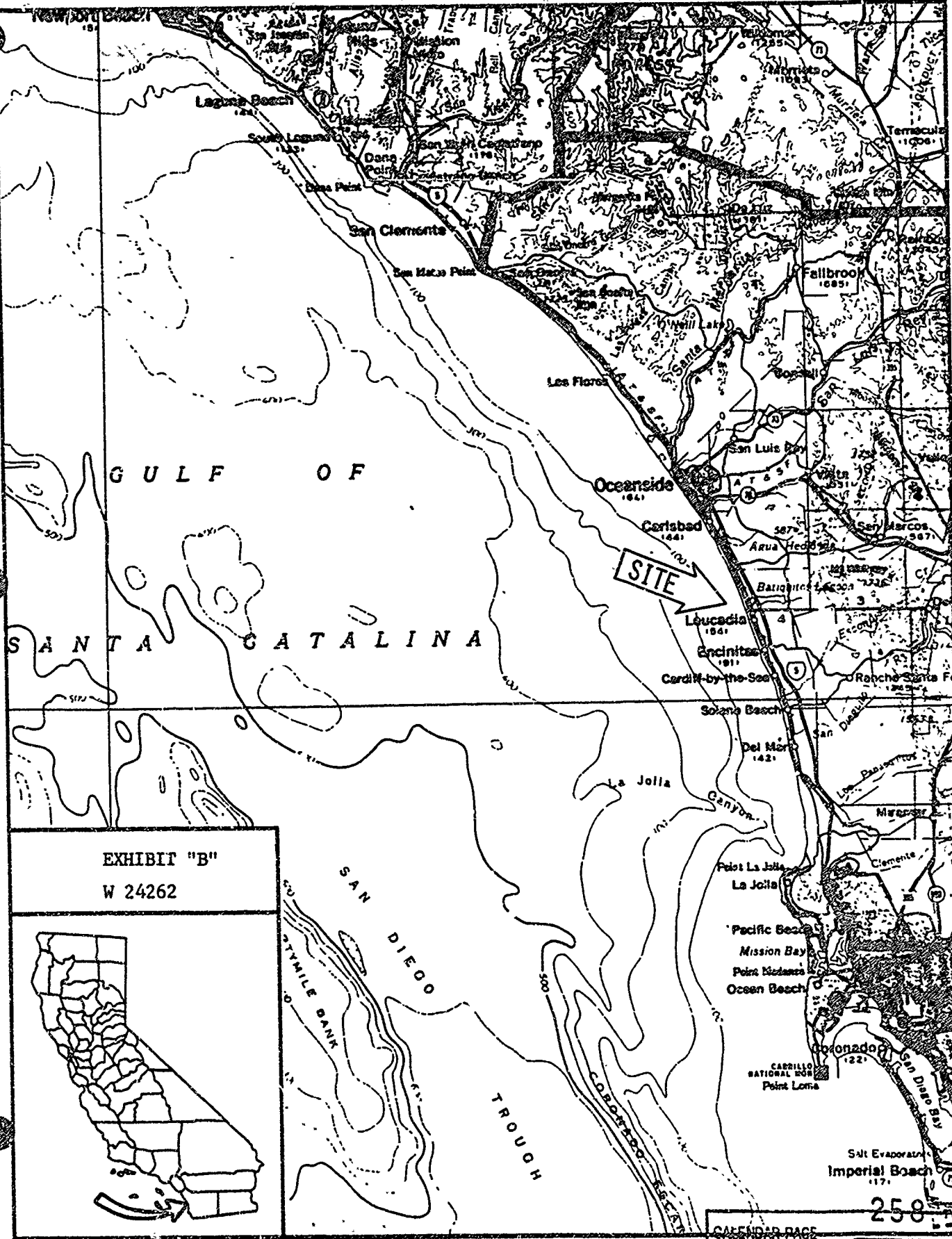


EXHIBIT "B"
W 24262



EXHIBIT "C"



California Department of Fish and Game
Proposed Negative Declaration
for
Carlsbad Artificial Reef

March, 1989



APPENDIX F

NOTICE OF COMPLETION AND ENVIRONMENTAL DOCUMENT TRANSMITTAL FORM

Fill out State Clearinghouse, 1600 Beach Street, Room 121, Sacramento, CA 95814 - 916/445-6613

See NOTE below
 SEE # _____

NOTICE OF COMPLETION AND ENVIRONMENTAL DOCUMENT TRANSMITTAL FORM

Carlsbad Artificial Reef Construction

1. Project Title: _____

2. Lead Agency: Dept. of Fish and Game 3. Contact Person: John T. Grant

3a. Street Address: 330 Golden Shore, Suite 50 3b. City: Long Beach

3c. County: Los Angeles 3d. Zip: 90802 3e. Phone: (213) 590-5180

PROJECT LOCATION 4. County: _____ 4a. City/Community: offshore of Carlsbad, CA

4b. Assessor's Parcel No. _____ 4c. Section _____ 4d. _____ 4e. _____

5a. Cross Street: _____ 5b. For Rural, nearest Community: _____

6. Within 2 miles: a. State By _____ b. Air- _____ c. Rail- _____ d. Water- _____

7. PROJECT TYPE: CEA 8. LOCAL ACTION TYPE: _____ 9. DISTRICT TYPE: _____

01. NOI 06. NOI 02. NOI 03. NOI 04. NOI 05. NOI 06. NOI 07. NOI 08. NOI 09. NOI 10. NOI 11. NOI 12. NOI 13. NOI 14. NOI 15. NOI 16. NOI 17. NOI 18. NOI 19. NOI 20. NOI 21. NOI 22. NOI 23. NOI 24. NOI 25. NOI 26. NOI 27. NOI 28. NOI 29. NOI 30. NOI 31. NOI 32. NOI 33. NOI 34. NOI 35. NOI 36. NOI 37. NOI 38. NOI 39. NOI 40. NOI 41. NOI 42. NOI 43. NOI 44. NOI 45. NOI 46. NOI 47. NOI 48. NOI 49. NOI 50. NOI 51. NOI 52. NOI 53. NOI 54. NOI 55. NOI 56. NOI 57. NOI 58. NOI 59. NOI 60. NOI 61. NOI 62. NOI 63. NOI 64. NOI 65. NOI 66. NOI 67. NOI 68. NOI 69. NOI 70. NOI 71. NOI 72. NOI 73. NOI 74. NOI 75. NOI 76. NOI 77. NOI 78. NOI 79. NOI 80. NOI 81. NOI 82. NOI 83. NOI 84. NOI 85. NOI 86. NOI 87. NOI 88. NOI 89. NOI 90. NOI 91. NOI 92. NOI 93. NOI 94. NOI 95. NOI 96. NOI 97. NOI 98. NOI 99. NOI 100. NOI

11. X Other: Artificial Reef

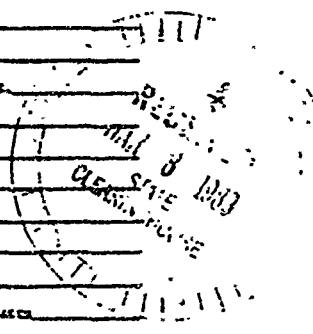
12. PROJECT IMPACT ANALYSIS BY CATEGORY: _____

13. NOI 14. NOI 15. NOI 16. NOI 17. NOI 18. NOI 19. NOI 20. NOI 21. NOI 22. NOI 23. NOI 24. NOI 25. NOI 26. NOI 27. NOI 28. NOI 29. NOI 30. NOI 31. NOI 32. NOI 33. NOI 34. NOI 35. NOI 36. NOI 37. NOI 38. NOI 39. NOI 40. NOI 41. NOI 42. NOI 43. NOI 44. NOI 45. NOI 46. NOI 47. NOI 48. NOI 49. NOI 50. NOI 51. NOI 52. NOI 53. NOI 54. NOI 55. NOI 56. NOI 57. NOI 58. NOI 59. NOI 60. NOI 61. NOI 62. NOI 63. NOI 64. NOI 65. NOI 66. NOI 67. NOI 68. NOI 69. NOI 70. NOI 71. NOI 72. NOI 73. NOI 74. NOI 75. NOI 76. NOI 77. NOI 78. NOI 79. NOI 80. NOI 81. NOI 82. NOI 83. NOI 84. NOI 85. NOI 86. NOI 87. NOI 88. NOI 89. NOI 90. NOI 91. NOI 92. NOI 93. NOI 94. NOI 95. NOI 96. NOI 97. NOI 98. NOI 99. NOI 100. NOI

15. PROJECT DESCRIPTION:
 Construction of a 10,000-ton quarry rock fishing reef to increase local sportfish catch and to allow study of the relationships between some sportfish species and artificial reefs.

16. SIGNATURE OF LEAD AGENCY REPRESENTATIVE: Robert J. Jansen DATE: 3/7/89

NOTE: Clearinghouse will assign identification numbers for all new projects. If a CE number already exists for a project (e.g. from a Notice of Preparation or previous draft comment) please fill it in.



APPENDIX H

APPENDIX B

ENVIRONMENTAL INFORMATION FORM
(To Be Completed By Applicant)

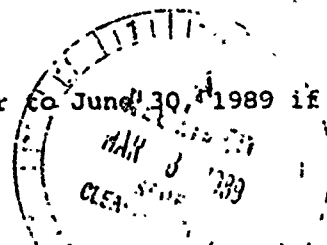
Date Filed 2-27-89

General Information

1. Name and address of developer or project sponsor: California Department of Fish and Game
2. Address of project: by coordinates: ocean bottom described 33°05'21"N x 117°19'00"W
Assessor's Block and Lot Number: 33°05'00"N x 117°18'56"W
33°05'18"N x 117°19'22"W
33°04'57"N x 117°19'18"W
3. Name, address, and telephone number of person to be contacted concerning this project: John J. Grant, 330 Golden Shore, Suite 50, Long Beach, CA 90802
(213) 590-5180
4. Indicate number of the permit application for the project to which this form pertains: one
5. List and describe any other related permits and other public approvals required for this project, including those required by city, regional, state and federal agencies: California Coastal Commission, Corps of Engineers, State Lands Commission, Water Resources Control Board
6. Existing zoning district: N/A
7. Proposed use of site (Project for which this form is filed): Recreational Fishery Enhancement

Project Description Artificial Reef constructed of 10,000 tons of quarry rock

8. Site size.
9. Square footage. 30,000 square feet of ocean bottom covered by 12 rock piles, each 50' x 50' square.
10. Number of floors of construction. None
11. Amount of off-street parking provided. None
12. Attach plans. See attached figures
13. Proposed scheduling. Project to be built over 12 days prior to June 30, 1989 if permits are received.
14. Associated project. None
15. Anticipated incremental development. None
16. If residential, include the number of units, schedule of unit sizes, range of sale prices or rents, and type of household size expected.



17. If commercial, indicate the type, whether neighborhood, city or regionally oriented, square footage of sales area, and loading facilities.
18. If industrial, indicate type, estimated employment per shift, and loading facilities.
19. If institutional, indicate the major function, estimated employment per shift, estimated occupancy, loading facilities, and community benefits to be derived from the project.
20. If the project involves a variance, conditional use or rezoning application, state this and indicate clearly why the application is required.

Are the following items applicable to the project or its effects? Discuss below all items checked yes (attach additional sheets as necessary).

	Yes	No
21. Change in existing features of any bays, tidelands, beaches, or hills, or substantial alteration of ground contours.	X	—
22. Change in scenic views or vistas from existing residential areas or public lands or roads.	—	X
23. Change in pattern, scale or character of general area of project.	—	X
24. Significant amounts of solid waste or litter.	—	X
25. Change in dust, ash, smoke, fumes or odors in vicinity.	—	X
26. Change in ocean, bay, lake, stream or ground water quality or quantity, or alteration of existing drainage patterns.	—	X
27. Substantial change in existing noise or vibration levels in the vicinity.	—	X
28. Site on filled land or on slope of 10 percent or more.	—	X
29. Use of disposal of potentially hazardous materials, such as toxic substances, flammables or explosives.	—	X
30. Substantial change in demand for municipal services (police, fire, water, sewage, etc.).	—	X
31. Substantially increase fossil fuel consumption (electricity, oil, natural gas, etc.).	—	X
32. Relationship to a larger project or series of projects.	—	X

Environmental Setting

33. Describe the project site as it exists before the project, including information on topography, soil stability, plants and animals, and any cultural, historical or scenic aspects. Describe any existing structures on the

Indicate the type, whether neighborhood or regional site, and the use of the structures. Attach photographs of the site. Snapshots or polaroid photos will be accepted (See Attachment I)

- 34. Describe the surrounding properties, including information on plants and animals and any cultural, historical or scenic aspects. Indicate the type of land use (residential, commercial, etc.), intensity of land use (one-family, apartment houses, shops, department stores, etc.), and scale of development (height, frontage, set-back, rear yard, etc.). Attach photographs of the vicinity. Snapshots or polaroid photos will be accepted. See below.

Certification

I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this initial evaluation to the best of my ability, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

2-27-89
Date

[Signature]
Signature

For _____

(Note: This is only a suggested form. Public agencies are free to devise their own format for initial studies.)

- #21. The project will result in the covering of 30,000 square feet of subtidal sand/rocks area by placement of 12 rock piles each 50 ft square and 6 ft high.
- #34. The area is currently an open sand/rock table-like ocean bottom area between two kelp beds offshore Baticuitos Lagoon, Carlsbad California. The area currently supports relatively sparse populations of the normal inshore biota. Nearby kelp beds provide food and shelter habitat for numerous diverse species of fish and invertebrates.

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APPENDIX I

ENVIRONMENTAL CHECKLIST FORM

(To Be Completed By Lead Agency)

I. Background

- 1. Name of Proponent Department of Fish & Game
- 2. Address and Phone Number of Proponent 330 Golden Shore, Suite 50,
Long Beach, CA 90802 (213) 590-5180
- 3. Date of Checklist Submitted _____
- 4. Agency Requiring Checklist California Department of Fish and Game
- 5. Name of Proposal, if applicable Carlsbad Artificial Reef

II. Environmental Impacts

(Explanations of all "yes" and "maybe" answers are required on attached sheets.)

	<u>Yes</u>	<u>Maybe</u>	<u>No</u>
1. Earth. Will the proposal result in:			
a. Unstable earth conditions or in changes in geologic substructures?	_____	_____	X
b. Disruptions, displacements, compaction or overcovering of the soil?	_____	_____	X
c. Change in topography or ground surface relief features?	_____	_____	X ←
d. The destruction, covering or modification of any unique geologic or physical features?	_____	_____	X
e. Any increase in wind or water erosion of soils, either on or off the site?	_____	_____	X
f. Changes in deposition or erosion of beach sands, or changes in siltation, deposition or erosion which may modify the channel of a river or stream or the bed of the ocean or any bay, inlet or lake?	_____	_____	X ?
g. Exposure of people or property to geologic hazards such as earthquakes, landslides, mudslides, ground failure, or similar hazards?	_____	_____	X

	<u>Yes</u>	<u>Maybe</u>	<u>No</u>
2. Air. Will the proposal result in:			
a. Substantial air emissions or deterioration of ambient air quality?	_____	_____	<u>X</u>
b. The creation of objectionable odors?	_____	_____	<u>X</u>
c. Alteration of air movement, moisture, or temperature, or any change in climate, either locally or regionally?	_____	_____	<u>X</u>
3. Water. Will the proposal result in:			
a. Changes in currents, or the course of direction of water movements, in either marine or fresh waters?	<u>X</u>	_____	_____
b. Changes in absorption rates, drainage patterns, or the rate and amount of surface runoff?	_____	_____	<u>X</u>
c. Alterations to the course or low of flood waters?	_____	_____	<u>X</u>
d. Change in the amount of surface water in any water body?	_____	_____	<u>X</u>
e. Discharge into surface waters, or in any alteration of surface water quality, including but not limited to temperature, dissolved oxygen or turbidity?	_____	_____	<u>X</u>
f. Alteration of the direction or rate of flow of ground waters?	_____	_____	<u>X</u>
g. Change in the quantity of ground waters, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations?	_____	_____	<u>X</u>
h. Substantial reduction in the amount of water otherwise available for public water supplies?	_____	_____	<u>X</u>
i. Exposure of people or property to water related hazards such as flooding or tidal waves?	_____	_____	<u>X</u>
4. Plant Life. Will the proposal result in:			
a. Change in the diversity of species, or number of any species of plants (including trees, shrubs, grass, crops, and aquatic plants)?	<u>X</u>	_____	_____

	Yes	Maybe	No
b. Reduction of the numbers of any unique, rare or endangered species of plants?			X
c. Introduction of new species of plants into an area, or in a barrier to the normal replenishment of existing species?			X
d. Reduction in acreage of any agricultural crop?			X
5. Animal Life. Will the proposal result in:			
a. Change in the diversity of species, or numbers of any species of animals (birds, land animals including reptiles, fish and shellfish, benthic organisms or insects)?	X		
b. Reduction of the numbers of any unique, rare or endangered species of animals?			X
c. Introduction of new species of animals into an area, or result in a barrier to the migration or movement of animals?			X
d. Deterioration to existing fish or wildlife habitat?	X		
6. Noise. Will the proposal result in:			
a. Increases in existing noise levels?			X
b. Exposure of people to severe noise levels?			X
7. Light and Glare. Will the proposal produce new light or glare?			
			X
8. Land Use. Will the proposal result in a substantial alteration of the present or planned land use of an area?			
			X
9. Natural Resources. Will the proposal result in:			
a. Increase in the rate of use of any natural resources?		X	
10. Risk of Upset. Will the proposal involve:			
a. A risk of an explosion or the release of hazardous substances (including, but not limited to, oil, pesticides, chemicals or radiation) in the event of an accident or upset conditions?			X

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	Yes	Maybe	No
b. Possible interference with an emergency response plan or an emergency evacuation plan?			X
11. Population. Will the proposal alter the location, distribution, density, or growth rate of the human population of an area?			X
12. Housing. Will the proposal affect existing housing, or create a demand for additional housing?			X
13. Transportation/Circulation. Will the proposal result in:			
a. Generation of substantial additional vehicular movement?			X
b. Effects on existing parking facilities, or demand for new parking?			X
c. Substantial impact upon existing transportation systems?			X
d. Alterations to present patterns of circulation or movement of people and/or goods?			X
e. Alterations to waterborne, rail or air traffic?		X	
f. Increase in traffic hazards to motor vehicles, bicyclists or pedestrians?			X
14. Public Services. Will the proposal have an effect upon, or result in a need for new or altered governmental services in any of the following areas:			
a. Fire protection?			X
b. Police protection?			X
c. Schools?			X
d. Parks or other recreational facilities?			X
e. Maintenance of public facilities, including roads?			X
f. Other governmental services?			X
15. Energy. Will the proposal result in:			
a. Use of substantial amounts of fuel or energy?			X

	<u>Yes</u>	<u>Maybe</u>	<u>No</u>
b. Substantial increase in demand upon existing sources or energy, or require the development of new sources of energy?	_____	_____	X
16. Utilities. Will the proposal result in a need for new systems, or substantial alterations to the following utilities:	_____	_____	X
17. Human Health. Will the proposal result in:			
a. Creation of any health hazard or potential health hazard (excluding mental health)?	_____	_____	X
b. Exposure of people to potential health hazards?	_____	_____	X
18. Aesthetics. Will the proposal result in the obstruction of any scenic vista or view open to the public, or will the proposal result in the creation of an aesthetically offensive site open to public view?	_____	_____	X
19. Recreation. Will the proposal result in an impact upon the quality or quantity of existing recreational opportunities?	X	_____	_____
20. Cultural Resources:			
a. Will the proposal result in the alteration of or the destruction of a prehistoric or historic archaeological site?	_____	_____	X
b. Will the proposal result in adverse physical or aesthetic effects to a prehistoric or historic building, structure, or object?	_____	_____	X
c. Does the proposal have the potential to cause a physical change which would affect unique ethnic cultural values?	_____	_____	X
d. Will the proposal restrict existing religious or sacred uses within the potential impact area?	_____	_____	X
21. Mandatory Findings of Significance.			
a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate			

Proposed for
Improving Angling Opportunities Near Carlsbad, California
by Artificial Reef Construction

BACKGROUND

Since the late 1950's the California Department of Fish and Game (CDFG) has been successfully enhancing sportfishing success in southern California by construction of artificial reefs. Such reefs are an increasingly important fisheries management tools by which CDFG can significantly impact fishing success. Recent reef construction has provided opportunities for marine scientists to investigate fisheries/reef interactions and better understand benthic community development on such habitat. Results of these studies have advanced the Departments local sport fisheries management potential and suggested new improved, reef designs.

Observations of fishes inhabiting artificial reef suggest that they react differently to varied physical characteristics in reef design. Studies indicate fish "size grading" on reefs can be influenced by rock size and, perhaps, water depth. A series of fishing reefs has been constructed from San Diego to Santa Monica Bay. These reefs include built-in experimental designs that will allow future investigation of these, and other, questions while providing increased sportfishing opportunity and success.

PROPOSED REEF

We propose to build a 10,000 ton quarry rock fishing reef off the coast of Carlsbad, California that will increase local sportfish catch and allow us to further refine our knowledge of the relationships between some sportfish species and artificial reefs. The Carlsbad area (Figure 1) offers an opportunity, perhaps unique, to investigate the interaction between reef construction and nearshore sportfish populations beyond the expected fishery benefits.

The artificial reef proposed for Carlsbad differs in design from previous reefs built by CDFG. The reef will consist of a series of rock piles, or modules, forming four lines perpendicular to shore (Figure 2). Large rocks (4'-6') will be used to build half of the modules, small rocks (1'-3') will be used on the other.

The proposed design will act as an excellent fishing reef. However, the future opening of Bataquitos Lagoon presents a unique opportunity to increase our knowledge of the behavior of nearshore fishes on such reefs. The "size grading" phenomenon mentioned above, could facilitate movements of small or juvenile fishes into, and out of, the lagoon along the lines of modules comprised of smaller rocks. It has been suggested that the population declines appearing in several of southern California's most popular sportfish species can be attributed, in part, to the loss of wetlands and embayments. If this is the case, and such habitat is critical to juvenile and larval fish, the Bataquitos Lagoon opening will represent a small but significant change in direction for southern California coastal management. The proposed reef is designed to take advantage of such a development and provide shelter to juvenile fish entering and leaving the lagoon.

The site chosen for the reef, directly in front of the proposed lagoon opening, is located between two areas that have historically supported stands of Macrocystis (giant kelp). Macrocystis does not grow in the proposed site, precluded by the sand layer covering rock basement in the area. Since the reef will be in relatively shallow water (30 to 57 ft) and proximal to existing kelp forests, Macrocystis is expected to recruit successfully onto the rock substrate provided by the reef. This will increase primary productivity and provide additional habitat.

CMUCRDCAB

The fisheries management value of the reef is independent of the Bataquitos lagoon opening. The reef sportfishing potential is excellent. A rock pile artificial reef constructed in nearby Oceanside has been very successfully fished by sport anglers from skiffs and from commercial sportfishing charter boats. However, little such relatively rugose rocky substrate is available in that section of coast and the Carlsbad reef will provide another site for sportfishing effort.

Oceanographic studies conducted by Tech-Marine indicate no sand transport or burial problems for the reef as designed and sited (see attached). No significant resources will be negatively impacted by the construction.

The City of Carlsbad is a beach community of 60,000. It covers 45 square miles including 6.5 miles of beach front. Within the city boundaries are 3 lagoons including the now closed Bataquitos Lagoon. Due to the shelf/sand nature of nearby subtidal substrate there are no particularly successful fishing sites within the city limits. The construction of Carlsbad Artificial Reef will provide such a site with no significant negative environmental impacts.

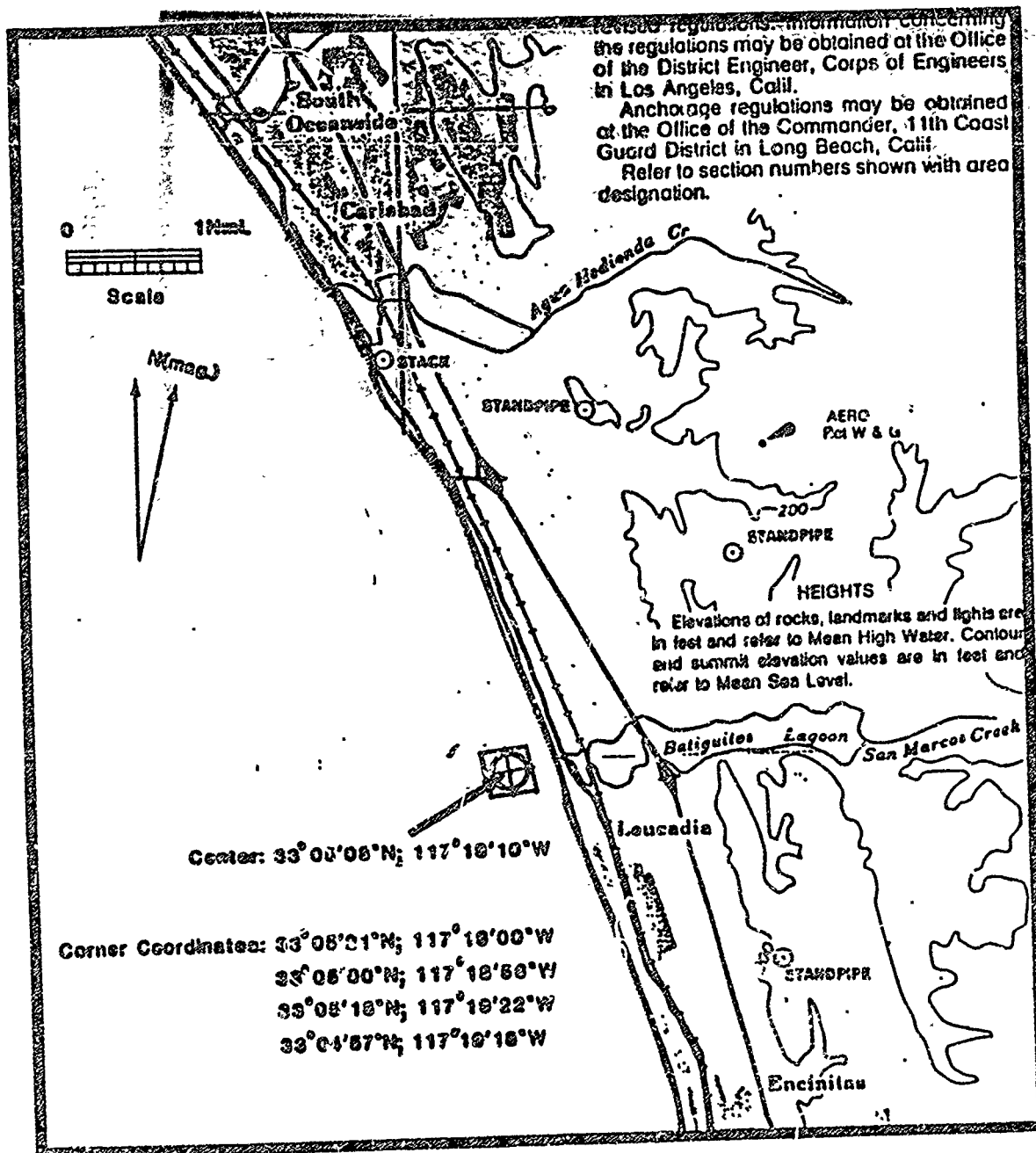


Figure 1. Proposed Carlsbad Artificial Reef

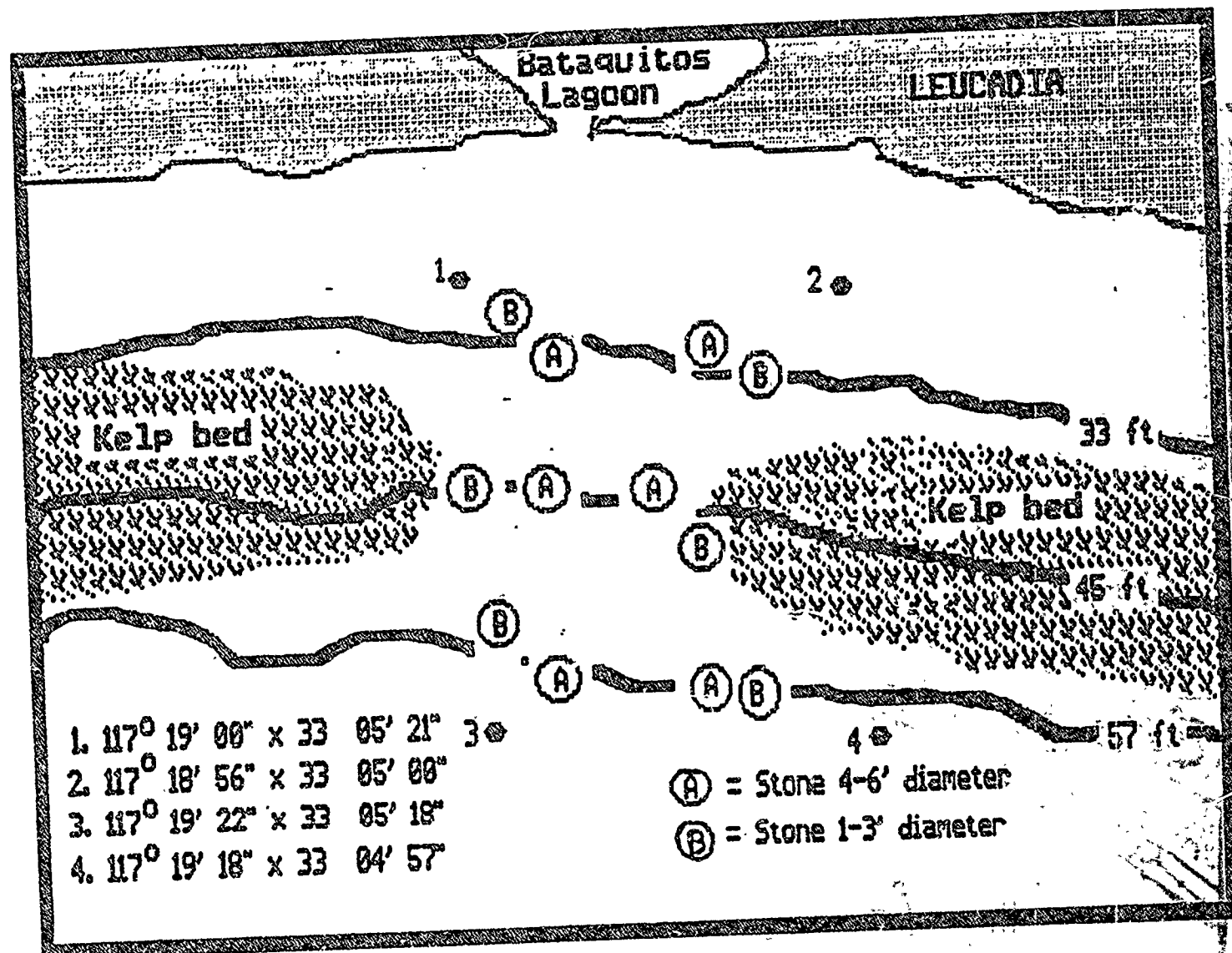


Figure 2. Carlsbad Artificial Reef - Relative location of reef modules

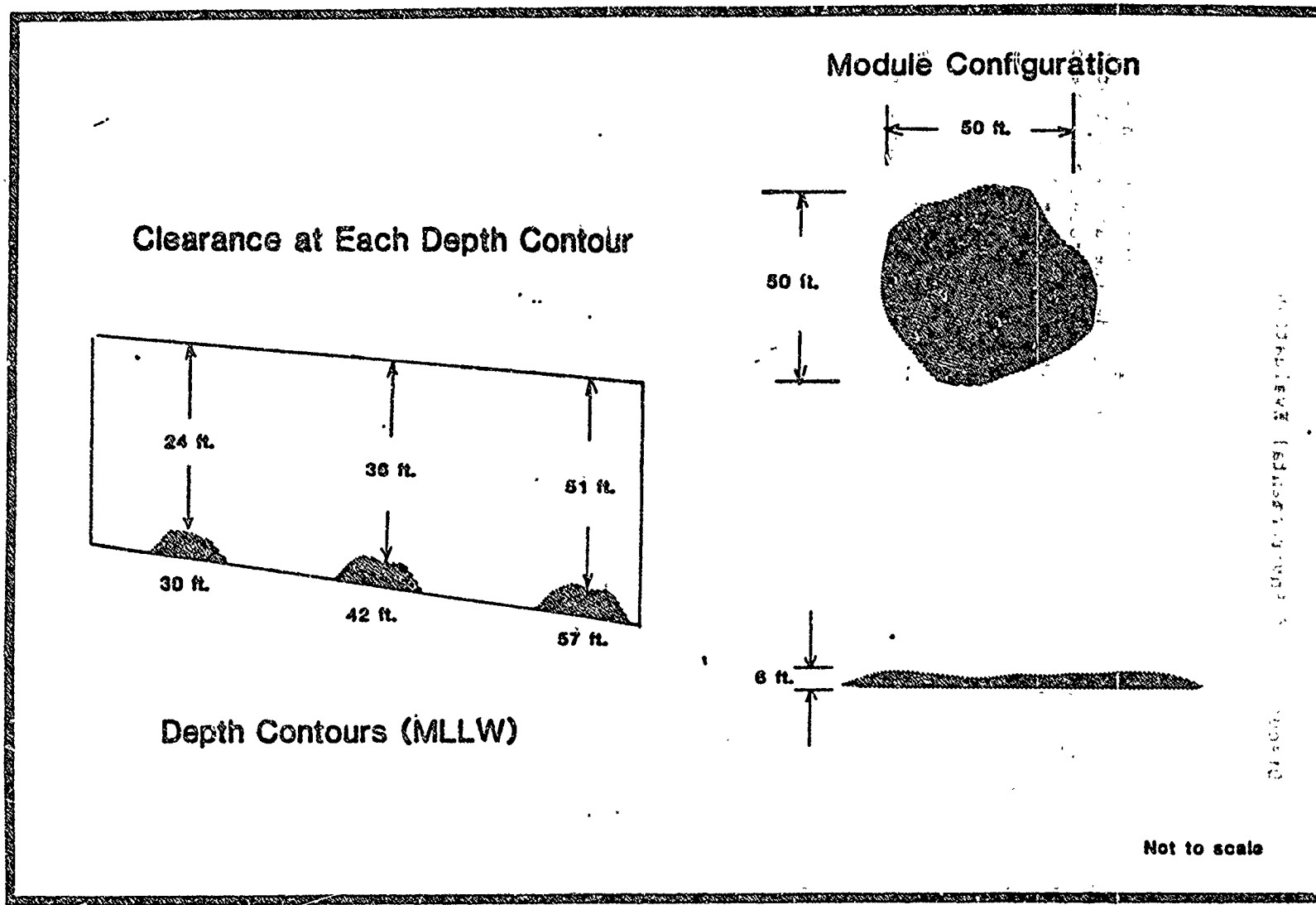


Figure 3. Clearances and configuration of Carlsbad Artificial Reef modules

NO. 274
 DATE 3/5/93
 274

Attachment II

Discussion of Environmental Evaluation

Initial Study

WATER

- 3a. There will be very minimal and localized changes in water movements around the rock piles. All modules will be outside the active littoral transport zone, so there will be no impact on coastal processes. There should also be no impact on wave patterns or recreational water activities (see enclosed TEKMARINE Report).

PLANT LIFE

- 4a. There will be an increase in numbers and diversity of aquatic plants as a result of the reef. Kelp plants will recruit to and grow on the rock piles.

ANIMAL LIFE

- 5a. There will be increases in the diversity and numbers of plants, invertebrates, and fish as a result of the reef construction. The present substrate is a dynamic, thin sand overlay covering a table rock-cobble bottom. There are very low numbers of the ornate tubeworm (Diopatra ornata) in the sand areas between the exposed rock, and occasional sand stars (Astropecten sp.) and Kellets whelks (Kelletia kelletia) on the more permanent sandy patches. Most species of the nearshore kelp bed-associated fishes probably move through the proposed site in transit to the two adjacent kelp beds. The placement of the 30,000 square feet of rock will, of course, remove an equal amount of the existing substrate by burial. However, this relatively unproductive area will be enhanced by the rugose and complex rock piles. Similar artificial reefs in the Southern California Bight have been very successful in increasing numbers and diversity of nearshore species of fish and invertebrate.
- 5d. As mentioned in 5a., above, the placement of the rock piles will cover 30,000 square feet of sand/rock substrate. However, the substrate in question is not very productive, perhaps due to the slight amount of sand that seasonally overlays the basement rock/cobble bottom. The transient nature of this thin (0-2 ft) layer of sand prohibits the development of either a stable sand or rock-dwelling community. The increase in biota resulting from the rock placement and subsequent colonization and use by benthic organisms will more than replace any organisms lost to burial.

NATURAL RESOURCES

- 9a. There may be an increase in the rate of use of natural resources resulting from increased recreational fishing pressure. This is difficult to assess since much of the pressure on artificial reefs is from anglers redirecting their efforts to the reefs from other traditional sites. Fish are attracted to artificial reefs and are, in theory, more vulnerable to take by fishing pressure. However, the reef

design is similar to that which has proven successful in increasing production in nearby areas, such as Fendleton Artificial Reef, and should function equally well here. Also, the placement of this reef at this site could provide significant overall increases in young fish survival if the proposed opening of Batiquitos Lagoon becomes a reality. The reef design is based upon reef studies that suggest fish segregate by size onto artificial reefs of different size rocks. We are investigating the potential for providing recruitment habitat and pathways for young and small fish to move into, and out of, the lagoon. Recent evidence suggests that such coastal lagoons provide critical habitat for young fish species that have suffered significant population declines coincident with loss of such habitat. If this experiment is successful, we may be able to develop a valuable tool for managing some nearshore sportfish populations. While we believe any increased use of the local sportfish populations will be minimal, the benefits of the project could be significant in terms of development of new management techniques.

TRANSPORTATION

- 13e. There will be some increase in water-borne traffic in the immediate area of the reef, particularly when it is first constructed. It should be noted, however, that the overall traffic in the area will not be significantly increased. There will be no increased use of adjacent harbors.

RECREATION

19. The proposed reef will have a positive impact on both the quality and quantity of existing recreational opportunities. The area around the proposed site has numerous very low relief, small natural reefs. The proposed reef would provide a substantially higher relief target for sport fishing.

DEPARTMENT OF FISH AND GAME

Marine Resources Division

330 Golden Shore, Suite 50

Long Beach, CA 90802

CALIFORNIA ENVIRONMENTAL QUALITY ACT

NEGATIVE DECLARATION

CEQA Guidelines

AGENCY

California Department of Fish and Game

PROJECT TITLE

Carlsbad Artificial Reef

PROJECT LOCATION

within area described by corner coordinates: $33^{\circ} 05' 21''N \times 117^{\circ} 19' 00''W$
 $33^{\circ} 05' 00''N \times 117^{\circ} 18' 56''W$
 $33^{\circ} 05' 18''N \times 117^{\circ} 19' 22''W$
 $33^{\circ} 04' 57''N \times 117^{\circ} 19' 18''W$

PROJECT DESCRIPTION:

Construction of artificial reef from 10,000 tons of quarry rock (SEE ATTACHMENT I)

NAME AND ADDRESS OF APPLICANT

California Department of Fish and Game

330 Golden Shore, Suite 50

Long Beach, California 90802

FINDING:

The Nearshore Sportfish Habitat Enhancement Project of the Department of Fish and Game has determined that this project will not have a significant effect on the environment for the following reasons:

The Reef will have no significant impact on the existing marine environment. any changes that do occur will be beneficial in that there will be an increase in numbers and diversity of the nearshore species of fish and invertebrates.

▶ SEE ATTACHED SHEET(S) FOR ANY MITIGATION MEASURES IMPOSED.

THE INITIAL STUDY PREPARED FOR THIS PROJECT IS ATTACHED.

NAME OF PERSON PREPARING THIS FORM

John J. Grant

TITLE

Marine Habitat Development
Coordinator

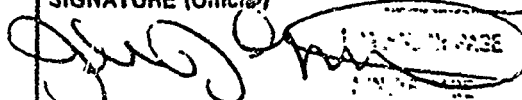
TELEPHONE NUMBER

(213) 590-5180

ADDRESS

California Department of Fish & Game
330 Golden Shore, Suite 50
Long Beach, California 90802

SIGNATURE (Official)



DATE

2/27/89

0530

TEKMARINE

November 8, 1988

Ref: TCN-138/1

Mr. John Grant
Department of Fish and Game
330 Golden Shore
Suite 50
Long Beach, CA 90802

Subject: Carlsbad Artificial Fishing Reef

Dear John:

On behalf of the City of Carlsbad, we have reviewed your proposed site and design for the Carlsbad artificial fishing reef (CAR, see Attachment 1) from an oceanographic and engineering perspective. Our review comments are detailed below. In summary, we endorse the proposed site and design with the exception that we recommend siting the shallow water modules at the sediment transport closure depth of 30 ft, MLLW (see Attachment 2) to minimize inundation resulting from seasonal beach profile changes.

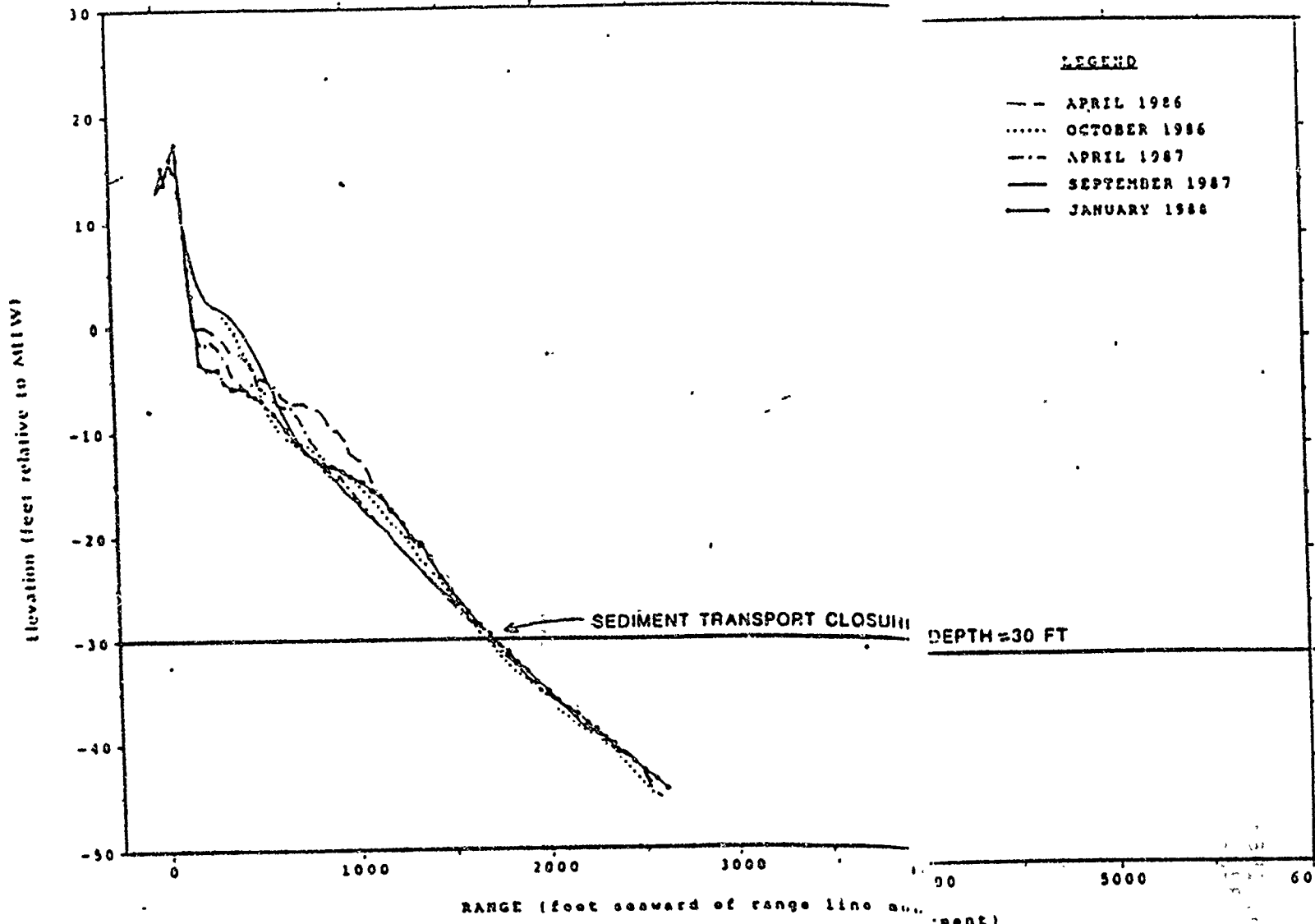
Site Evaluation

It is our understanding that the site selection was limited to the area offshore of Batiquitos Lagoon because of the proposed lagoon opening and the potential for biological interaction between the reef and lagoon. As indicated in our meeting of October 4, 1988, our primary concern with this site is the potential for siltation resulting from the opening of the lagoon and nourishment of the adjacent beaches. To evaluate this site and, in particular, address the foregoing concern, we conducted a literature review and on-site inspection.

Our literature review concentrated on the results of Tekmarine's evaluation of sites, extending from mid-Carlsbad to Camp Pendleton, for the Oceanside fishing reef (December, 1985). Findings relevant to the siting of CAR include the following:

- o The area has a relatively straight shoreline and uniform bathymetry indicating that differences in oceanographic considerations will be subtle.
- o Sediment supply due to discharges of coastal rivers is greatest near the San Luis Rey River, suggesting that turbidity will be reduced at sites farthest from the river.

Cont'd



ATTACHMENT 2: NEARSHORE PROFILES AT BAHIQUITOS LAGOON

SOURCE: US ARMY CORPS OF ENGINEERS COAST OF CALIFORNIA: BERM AND TIDAL WAVES STUDY

NO. OF COPIES 279
 DATE 3/23/88

ENCLOSURE

VIBRACORE LOG

Core number: 1435

Date: 2/81

Total core length (cm): 73

Sheet 1 of 1

Number of core sections: 1

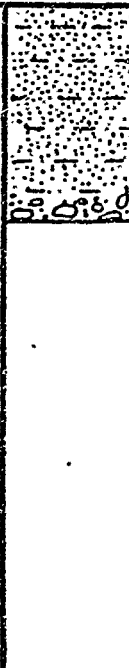
Water depth (ft): 42

Vertical scale: 1 cm = 25 cm

Distance in cm
from top of core

Description

Log

<u>Distance in cm</u> <u>from top of core</u>	<u>Description</u>	<u>Log</u>
0-73	<p><u>Sand</u>: very fine grained, ranges from silt to fine sand from 0-65 cm., moderately well sorted; medium sand to gravels from 65-73 cm. with abundant clasts (1-5 cm. dia.), poorly sorted; olive gray (5 Y 4/1) grading to olive black (5 Y 2/1); apparently massive; highly micaceous grading downward to slightly micaceous.</p>	

SOURCE: OSBORNE, R. H. et al, JUNE 1983, 'REPORT OF POTENTIAL OFFSHORE SAND AND GRAVEL RESOURCES OF THE INNER CONTINENTAL SHELF OF SOUTHERN CALIFORNIA', UNIV. OF SOUTHERN CAL., prepared for STATE OF CAL. DEPT. OF BOATING AND WATERWAYS

ATTACHMENT 3: VIBRACORE LOG OFF BATIQUITOS LAGOON

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Mr. John Grant
Department of Fish and Game
Page 2

- o The potential for sediment movement (scour and deposition) exists throughout the study area due to wave and current action. However, the potential decreases with water depth.
- o The seafloor sediments in the area are uniformly graded silty sands suitable as a foundation for a quarrystone reef.
- o Traces of sewage in the surface sediments are weak throughout the area.

Additional data sources consulted included the nearshore bathymetric survey data base (U.S. Army Corps of Engineers Coast of California Storm and Tidal Waves Study) and a report on sand and gravel resources of the nearshore area of southern California (Dept. of Boating and Waterways, June 1983). Site-specific findings relevant to the proposed CAR location included the following:

- o Seasonal on- offshore sediment transport is limited to a depth of approximately 30 ft, MLLW (see Attachment 2).
- o The seafloor sediments consist of a thin veneer of fine sand (0-2 ft thick) overlying medium sand and gravels, based on a vibrocore log in a water depth of 42 ft (see Attachment 3).

Based on the findings of our literature review, we had no reason to suggest an alternative site off of Carlsbad. However, a dive inspection was made on October 19, 1988 to investigate the potential for siltation resulting from the Batiquitos Lagoon enhancement plan. The objective of the inspection was to compare seafloor conditions at the proposed CAR site with those directly offshore of the discharge outlet of Agua Hedionda Lagoon. The rationale for this objective was based on the assumption that the conditions at Agua Hedionda (beach nourishment adjacent to the outlet) may be somewhat analagous to those proposed at Batiquitos Lagoon, and, therefore, it may be possible to draw inferences based on existing relative conditons. In fact, the conditions at the Agua Hedionda discharge outlet may be worse because the flow is essentially unidirectional while at Batiquitos the flow direction will change with the tide.

Cont'd

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The dive inspections were conducted at depths of 30 and 60 ft, MLLW off of Batiquitos Lagoon and depths of 15 and 35 ft, MLLW off of Agua Hedionda Lagoon. During each dive the following activities were performed: 1) a visual inspection of seafloor conditions, 2) grab sampling of sediments for subsequent sieve analysis, and 3) seafloor probing with a hand-held rod.

Results of the inspections were remarkably similar at all dive sites: the bottom was essentially a featureless fine-grained sand plain with some evidence of bottom-founded marine life. The seafloor was probed 2-3 ft except at the 60 ft site where only a thin veneer of sand several inches thick covered gravel and cobble.

If the seafloor off of Agua Hedionda had been coarse sand, cobbles or rock, it could have been concluded that siltation was not occurring. Conversely, if the seafloor had been a desert of silt-sized sediments, it could have been concluded that siltation was occurring. The existence of some bottom-founded marine life and fine-grained sediments similar to those off of Batiquitos Lagoon suggests that heavy sedimentation is not a problem off of Agua Hedionda and may not be a problem off Batiquitos Lagoon.

Based on our literature review and site inspections, our only recommendation concerning the proposed site of CAR is that the shallow-water modules be sited at the sediment transport closure depth of 30 ft to minimize temporary inundation during seasonal beach profile changes.

Reef Design

Our primary concern in reviewing the reef design was to assess the potential for impacts on natural coastal processes and coastal recreational activities, e.g., sediment transport and surfing. Assuming the shallow-water modules are sited at 30 ft, MLLW, all of the modules will be outside of the active littoral transport zone and there should be no impact on coastal processes. Furthermore, because the overall dimensions of the modules are small relative to the length of typical waves in the area, there should be no impact on wave patterns or recreational water activities.

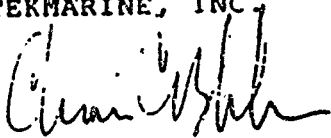
Conc'd

Mr. John Grant
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The reef design was also reviewed for structural integrity, i.e. rock stability. A cursory evaluation of rock stability based on rock size, water depth, and wave conditions indicates the rocks are adequately sized.

Should you have any questions regarding our review or if we can assist in expediting the permitting process, please feel free to call.

Very truly yours,
TEKMARINE, INC.



Chris C. Butcher, P.E.
Senior Engineer

xc: Mr. John Cahill, City of Carlsbad

Attachments: as stated

EXHIBIT "C"

NOTICE OF DETERMINATION

TO: X Office of Planning and Research
1400 Tenth Street, Room 121
Sacramento, CA 95814

FROM: (Public Agency) _____
Department of Fish and Game
330 Golden Shore, Suite 50
Long Beach, CA 90802

County Clerk _____
County of _____

SUBJECT: Filing of Notice of Determination in compliance with Section 21108 or 21152 of the Public Resources Code.

Project Title
Carlsbad Artificial Reef Construction
State Clearinghouse Number Contact Person Area Code/Number/Extension
(If Submitted to Clearinghouse)
SCH #89030821 John Grant (213) 590-5180
Project Location
Offshore Carlsbad, CA Orange Co. 33°05'21"N x 117°19'00"W 33°05'00"N x 117°18'56"W
within area described by: 33°05'00"N x 117°18'56"W 33°04'57"N x 117°19'18"W
Project Description


10,000 ton Quarry Rock Artificial Reef

This is to advise that the Department of Fish and Game
(Lead Agency or Responsible Agency)
has approved the above described project on 6/13/89 and has made the follow-
(Date)
ing determinations regarding the above described project:

1. The project will, X will not have a significant effect on the environment.
2. An Environmental Impact Report was prepared for this project pursuant to the provisions of CEQA.
X A Negative Declaration was prepared for this project pursuant to the provisions of CEQA.
3. Mitigation measures were, X were not made a condition of the approval of the project.
4. A statement of Overriding Considerations was, X was not adopted for this project.

This is to certify that the final EIR with comments and responses and record of project approval is available to the General Public at:

Department of Fish and Game, Region 5 and MRD, 330 Golden Shore, Suite 50
Long Beach, CA 90802
Date Received for Filing and Posting at OPR _____


Signature (Public Agency)

Chief Deputy Director

Title

FILED AND POSTED BY
Governor's Office of
Planning and Research

Revised March 1986

JUN 14 1989

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MINUTE PAGE 3539