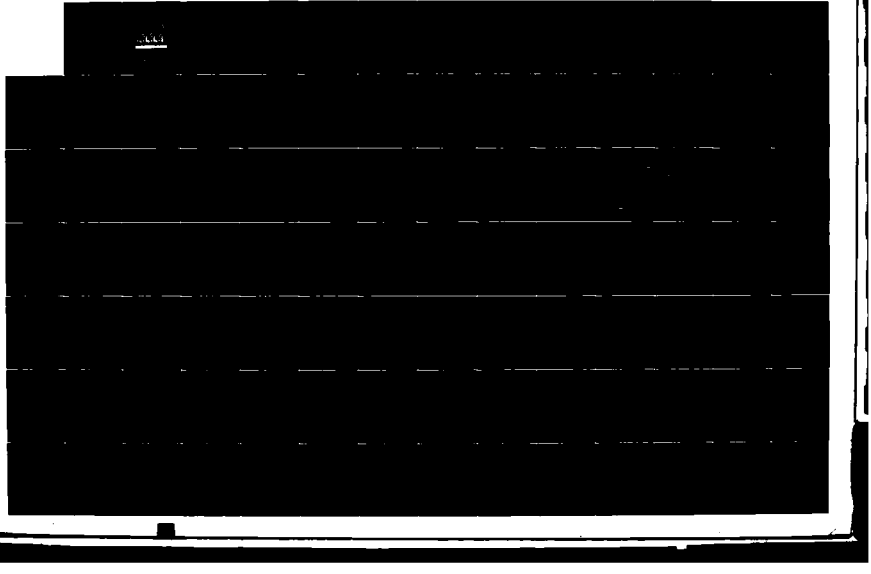
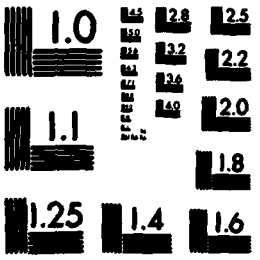
AD-A170 305 LOS COCHES CREEK SAN DIEGO COUNTY CALIFORNIA DETAILED PROJECT REPORT FOR..(U) ARMY ENGINEER DISTRICT LOS ANGELES CA AUG 84 1/2

UNCLASSIFIED F/G 13/2 NL





(12)

US Army Corps
of Engineers
Los Angeles District

Los Coches Creek
San Diego County, California

FINAL
Detailed Project Report
and Environmental Assessment

Main Report and
Environmental Appendix

August 1984

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER	2. GOVT ACCESSION NO. ADA170305	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) Final Detailed Project Report and Environmental Assess. Main Report and Env. Appendis Tech. Appendixes		5. TYPE OF REPORT & PERIOD COVERED Final 6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s) Los Angeles District U.S. Army Corps of Engineers		8. CONTRACT OR GRANT NUMBER(s)
9. PERFORMING ORGANIZATION NAME AND ADDRESS Los Angeles District, Corps of Engineers P.O. Box 2711, Los Angeles, CA 90053		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
11. CONTROLLING OFFICE NAME AND ADDRESS Los Angeles District, Corps of Engineers P.O. Box 2711, Los Angeles, CA 90053		12. REPORT DATE August 1984 13. NUMBER OF PAGES
14. MONITORING AGENCY NAME & ADDRESS(if different from Controlling Office)		15. SECURITY CLASS. (of this report) unclassified 15a. DECLASSIFICATION/DOWNGRADING SCHEDULE
16. DISTRIBUTION STATEMENT (of this Report) Approved for public realease: distribution unlimited		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES Copies are obtainable from the National Technical Information Service Springfield, VA 22151		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Flood Control Plan Identify water resources needs of study area		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Studies performed for this report were intended to identify water resource needs of the study area, to develop alternative solutions to the problems and needs identified, and to select a flood control plan that maximizes benefits to the surroundings community within the guidelines established by federal laws and policies.		

DD FORM 1 JAN 73 1473 EDITION OF 1 NOV 65 IS OBSOLETE

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

LOS COCHES CREEK

SAN DIEGO COUNTY, CALIFORNIA

FINAL

DETAILED PROJECT REPORT FOR FLOOD CONTROL

AND

ENVIRONMENTAL ASSESSMENT

August 1984

SYLLABUS

This study on Los Coches Creek is authorized under the continuing authority of Section 205 of the Flood Control Act of 1948, as amended, following a request by the County of San Diego. Los Coches Creek, a tributary of the San Diego River, originates at an elevation of 2,200 feet just below the El Capitan Reservoir in San Diego County and flows through the community of Lakeside before joining the San Diego River. The Los Coches Creek drainage basin is approximately nine miles long and two miles wide, draining an area of sixteen square miles.

Flooding is the major water resource related problem in the study area. During three consecutive years, 1978-1980, damaging floodflows occurred along the creek, causing substantial community disruption and trauma. The largest of these floods, in 1980, caused about $6 million in damages. The existing channel has, in the reach through downtown Lakeside, been substantially altered by existing development. The non-damaging flood has a discharge of 300 cubic feet per second (cfs), and a return interval of three years.

The main objectives of this study are to develop and recommend a plan which would provide a high degree of flood protection to the residents of Lakeside and protect the nation's environment. Alternative plans considered in this study included a reservoir plan, removal of obstructing bridges, a flood-warning system, floodproofing, relocation, no action, and channelization of the creek. Of this array, only three alternatives, all concrete channel plans, were considered feasible enough to study in detail. The recommended plan is a rectangular concrete channel, with a total length of 2.1 miles including inlet and outlet structures. This channel, designed to convey a 100-year flood, would solve the local flooding problem. Potential environmental impacts associated with this plan include loss of riparian, wetland, and old field habitats in the project area, loss of wildlife access to water in the creek, loss of groundwater recharge, loss of aesthetic values, impacts to archeologic or historic sites, changes in land use, and impacts to local air and water quality. Of these potential impacts, prior to consideration of mitigation, only the loss of habitat and wildlife access to water were judged significant and adverse. However, the local sponsor's planned dedication of about 30 acres of riparian and wetland habitat for protection of wildlife resource values and provision of a wildlife water source (guzzler) would mitigate for this unavoidable loss. Therefore, the project is expected to result in no significant adverse impact to the human environment.

In selecting a plan of improvement, economic justification, degree and completeness of protection, public input, and implementability were considered. The recommended plan has net economic benefits, provides 100-year flood protection, has minimal impacts on the environment, and has the support of the local sponsor and community. Recreation development was considered in formulating the plans, and may be justified, but the local sponsor does not wish to provide recreation facilities as project features at this time.

The Corps recommends that, subject to certain conditions of non-Federal cooperation as outlined in this report, the proposal for flood control be approved for construction. The total financial cost of the recommended plan

is estimated at $6,197,000. The Federal share of the estimated cost would be limited to $4,000,000 in accordance with Section 205 of the 1948 Flood Control Act (PL 80-858) and its amendments, and the non-Federal share would be $2,197,000 of which $2,002,000 is for construction and $195,000 is for lands, easements and rights-of-way. The local sponsor of the project is the County of San Diego.

Annual charges for the recommended plan are estimated at $509,200. Annual benefits are estimated at $601,000, and the benefit-to-cost ratio is 1.2. Following construction, non-Federal interests would be required to operate and maintain all project features. Included in the annual charges are annual operation and maintenance costs, currently estimated at $15,000.

TABLE OF CONTENTS

	Page
SYLLABUS	i
INTRODUCTION	1
Study Authority	1
Study Purpose and Scope	1
Prior Studies and Reports	2
PLAN FORMULATION	2
Assessment of Problems and Opportunities	2
Flood History	3
Existing Conditions	4
Future Conditions	7
Discussion of Problems and Opportunities	8
Planning Objectives	9
Planning Constraints	9
Alternative Plans	10
Trade-Off Analysis	14
Selection of the Recommended Plan	15
DESCRIPTION OF THE RECOMMENDED PLAN	19
Plan Components	19
Design and Construction Considerations	20
Operation and Maintenance Considerations	20
Plan Accomplishments	20
Summary of Effects	21
PLAN IMPLEMENTATION	24
Institutional Requirements	24
Division of Responsibilities	24
Report Processing and Approval	25
Views of Local Interests	25
Views of Fish and Wildlife Agencies	25
SUMMARY OF COORDINATION, PUBLIC VIEWS, AND COMMENTS	26
RECOMMENDATION	27
FINAL ENVIRONMENTAL ASSESSMENT	
Finding of No Significant Impact	EA -i
Summary	EA -1
Alternatives	EA -2
Affected Environment	EA -5
Environmental Effects/Proposed Mitigation	EA-13
Compliance with Environmental Requirements	EA-20
References	EA-24
List of Preparers	EA-24
Attachment A. Section 404 (b)(1) Water Quality Evaluation	EA-A1
Attachment B. Letter Comments and Responses	EA-B1

TABLE OF CONTENTS (Cont'd)

Page

Tables

1. Discharge-Frequency Relationship..... 8
2. Evaluation of Plans..... 15
3. Project Investments/Costs for Alternative Plans..... 18
4. Summary of Annualized Benefits and Costs of Alternative Plans..... 18
5. Recommended Plan Economics..... 21
6. Cost Apportionment..... 26

EA-1. Comparison and Summary of Alternative Plans..... EA -4

EA-2. Habitat Quality Values of Existing Habitat..... EA-10

EA-3. Average Channel Widths of Alternative Plans..... EA-14

Figures

1. Design and Construction Schedule..... 29

EA-1. Project Location Map..... EA- 6

EA-2. General Habitat Map..... EA- 8

EA-3. Mitigation Lands Map..... EA-20

Plates

1. Drainage Area
2. Overflow Area
3. Recommended Plan Design Concept

Photographs

A collection of 15 photographs showing flood damage in the study area.

Draft Agreement

Appendixes*

1. Environmental
2. Hydrology
3. Engineering, Design, and Cost
4. Geotechnical
5. Concrete Materials
6. Economics

*Appendixes 2 through 6 published under separate cover.

INTRODUCTION

The community of Lakeside is located in the western foothills of the Cuyamaca Mountains, adjacent to the San Diego River, about 21 miles northwest of the City of San Diego. For many years, Lakeside has remained a small rural community. It is known for its horses, chicken ranches, hay and dairy farming along the river bottom lands, and tree crops such as olives, citrus fruits, avocados, peaches, and apricots in the nearby uplands. Despite tremendous pressures toward urbanization, the community of Lakeside retains a rustic character while accommodating a population of 24,000 (1980).

Within this setting flows Los Coches Creek, which originates at an elevation of 2,200 feet just below the El Capitan Reservoir. From there it flows through the community of Lakeside before joining the San Diego River. The Los Coches Creek drainage basin is approximately 9 miles long and 2 miles wide, draining an area of 16 square miles (see Plate 1). The upstream reach of Los Coches Creek is well-defined as it flows through a steep, rocky canyon. However, downstream reaches have been drastically altered to make way for residential, commercial and highway development.

Prior to 1978, Los Coches Creek was not considered to pose a major threat to the community of Lakeside. However, floods in 1978, 1979, 1980, and each year since have caused substantial flood damages and trauma to people living adjacent to the creek. These recent flood damages and the concern expressed by the local sponsor and the community prompted this report.

This report presents alternative solutions to the flood problem, and recommends a plan that is believed to be the best solution for the area. The recommended plan meets the planning objectives expressed by the Lakeside community, the local sponsor and the Federal and non-Federal agencies involved. The report discusses the plan formulation process, impacts, benefits and costs of the preferred plan, and also describes the necessary coordination and responsibilities to be fulfilled before design and construction of the project may be completed.

STUDY AUTHORITY

In an effort to expedite improvements along Los Coches Creek through the Community of Lakeside, the San Diego County Board of Supervisors requested in December, 1981, that the Los Coches Creek study be separated from the San Diego County Streams Survey Study program and accomplished as a small project under the continuing authority of Section 205 of the 1948 Flood Control Act (PL 80-858), as amended. Under the small project authority, Federal funds of up to $4 million may be allocated for a flood control project if authorized by the Chief of Engineers.

STUDY PURPOSE AND SCOPE

The purpose of this study is to determine the flood damage reduction needs along Los Coches Creek, in the Lakeside community, and to recommend an implementable plan for meeting those needs. The principal study area is located along a 2-mile reach of Los Coches Creek, through the community of

Lakeside, from Los Coches and Ha-Hana Roads to the creek's mouth at the San Diego River. Areas adjacent to the creek are included in population projections, economic data, and water resource forecasts.

Studies performed for this report were intended to identify water resouce needs of the study area, to develop alternative solutions to the problems and needs identified, and to select a flood control plan that maximizes benefits to the surrounding community within the guidelines established by Federal laws and policies. Economic, engineering, social, and environmental studies were conducted in sufficient detail to determine the functionality, economic justification, environmental and social acceptability of the various alternatives.

Prior Studies and Reports

Several streams in San Diego County, including Los Coches Creek, have been studied under the authority of Section 4 of the Flood Control Act of August 18, 1941. Previous reports prepared by the Corps of Engineers on these streams include:

"Environmental Working Paper, San Diego County Streams, Jan. 1976" and "San Diego County Streams Reconnaissance Study, Sept. 1978".

These preliminary studies indicated a lack of economic justification for channel improvement in the Community of Lakeside.

After a series of floods in 1978, 1979, and 1980, a reconnaissance study of Los Coches Creeks was undertaken and a report completed in December 1980. This new evaluation of the flooding problem along Los Coches Creek indicated that Federal participation in providing flood control measures could be economically justified.

PLAN FORMULATION

ASSESSMENT OF PROBLEMS AND OPPORTUNITIES

The main purpose of this study has been to assess existing and projected water and related land resource management problems and opportunities in order to develop and recommend a solution to the flooding problems associated with Los Coches Creek which is satisfactory to all concerned. Public participation has been an important and integral aspect of this study in identifying opportunities and problems, establishing planning objectives, formulating and selecting plans; first as part of the general investigation of the San Diego County Streams Study, and then under the Small Project Authority (Section 205 of the 1948 Flood Control Act). Input was received in: 1) the data collection phase, from a coordinated flood damage survey involving the Los Coches Creek Flood Victims Association; 2) the plan formulation phase, during a series of community meetings workshops, in the summer and autumn of 1979; and 3) the plan refinement and selection phase - since the project has been pursued under the Small Project Authority in February 1982 - through a series of meetings in the spring and summer of 1982, and regular correspondence with the flood

victims association. The following discussions of the study area's flood history, existing, and future conditions identify the problems and opportunities as a basis for formulating objectives and plans.

Flood History

The mean annual precipitation for the Los Coches Creek watershed ranges from about 14 inches, near the confluence with the San Diego River, to about 17 inches in the higher elevations. Most of the rainfall occurs from November through April, with the greatest frequency and intensity normally in the period from December through March. Typically, these storms which originate over the Pacific Ocean and move eastward over the watershed, last for several days and result in widespread precipitation.

General summer storms have occurred during the summer and autumn months, usually in the form of tropical storms which originate off the western coast of Mexico and move northward and eastward into Southern California. Local storms, which cause most of the major flooding in the Los Coches Creek basin, can occur at any time of the year, either during general storms or as isolated phenomena. These storms concentrate over the watershed and result in high intensity precipitation for durations of six hours or less.

Little historical information is available regarding floods in San Diego County along the smaller streams of the county before the mid-1900's. Moderate to heavy rainfall affected the area during the intense storms of March 3-6, 1943 and March 8, 1968. During the period of February 27 through March 5, 1978, a series of low-latitude Pacific storms moved into Southern California from the subtropics. Intermittent rain fell throughout the period, with several heavy cloudbursts. The total precipitation for the week ranged from about 2.5 inches in the city of San Diego to over 15 inches at Mount Palomar. On Los Coches Creek, at Julian Avenue, a peak discharge of an estimated 1000 cfs (10-year frequency storm) occurred on March 5 and the community of Lakeside suffered substantial flood damage.

Near the end of January 1979, a cold upper-level, low pressure center moved into the area, dropping moderately heavy rain and snow. On the morning of January 31, high intensity precipitation fell in the region, with about 3 inches at the coast and 6 inches in the foothills and mountains. Runoff from the storm was locally quite high, with a measurement along Los Coches Creek of 1500 cfs near Old Highway 80, while at Los Coches Road the estimated peak flow was about 2000 cfs (15-year frequency).

The storm of mid-February 1980 was one of the worst storms in history to hit San Diego County. Like the preceding storms of late January 1979, the February 1980 event developed as massive surges of tropical Pacific moisture moved into the region from the southwest. A total of six storm impulses crossed the County during the period--some producing very high intensity rainfall for short and intermediate durations. The total 9-day precipitation in San Diego County ranged from just over 2 inches along the coast around Chula Vista to more than 24 inches in the Cuyamaca Mountains. Late on the night of 20 February, 2.05 inches fell within a 3-hour period at nearby Flinn Springs. This was recorded on a county rain gauge located in the Los Coches Creek watershed.

Just after midnight, on 21 February, an estimated peak discharge of 5,000-6,000 cfs (nearly 100-year frequency) occured on Los Coches Creek. Resultantly, Lakeside sustained damages in excess of $6 million to residential and commercial property as well as road damages. Flooding has occurred in subsequent years, though to a lesser degree.

EXISTING CONDITIONS

Topography and Drainage

Los Coches Creek, a tributary of the San Diego River, originates in San Diego County near El Capitan Reservoir. It flows in a westward direction along Interstate 8, then turns north through the community of Lakeside where it joins with the San Diego River. The 16 square mile drainage basin is about 9 miles long, with an average width of about 2 miles (see Plate 1). Elevations range from about 400 feet at the mouth of the creek to over 2,200 feet on the higher peaks. The average elevation in the headwaters is about 1,600 feet. The periphery of the watershed is generally quite steep and rocky. The Los Coches Creek main stem ranges in gradient from about 50 to 150 feet per mile (0.95% - 2.8%).

Existing Channel Conditions

The existing Los Coches Creek channel is inadequate to contain even minor floodflows. In the upstream reach, through the low density residential area, the channel is well-defined. However, in the downstream reach, the existing channel has been drastically obstructed by highway and commercial development. Box culverts or dip crossings have been constructed so that streets may cross the creek. Further downstream, 2 shopping centers are situated directly in the path of the channel. Low flows occur in a swale within the parking area of one of these shopping centers. The nondamaging flood is estimated to have a discharge of about 300 cfs (a 3-year flood). In other words, flows over 300 cfs would be expected to cause damages.

Geology and Soils

The Los Coches Creek bed consists of alluvial soils of Holocene age overlying quartz diorite, granodiorite, and granite rock of cretaceous age. The San Diego River bed consists of an alluvial deposit of silt, sand, and gravel approximately 200 feet thick. The bedrock underlying the alluvial deposit is granite.

Groundwater

The water table varies with the season, the duration and amount of streamflow and the depth to bedrock in the stream channel, upstream of Del Sol Road, (sta. 76+59), continuous streamflow in an area of shallow bedrock, has saturated the stream sediments. Downstream of Del Sol Road, the stream channel becomes wider and the depth to bedrock increases. The depth to water increases from 6 feet below ground surface near Del Sol Road, to about 20 feet below ground surface near the confluence with the San Diego River.

Biological Resources

Much of Los Coches Creek, from Ha-Hana and Los Coches Roads to Highway 67, contains a variety of riparian and upland species. The environment appears most natural at the upstream (south) end of the project area with development increasing in magnitude moving downstream. Habitat on the east side of the creek is limited due to low density residential development along the upper reach. Upland vegetation consists of scattered coastal sage scrub species such as California buckwheat (Eriogonum fasciculatum), elderberry (Sambucus sp.), broom baccharis (Baccharis sarathroides), and coast live oak (Quercus agrifolia). Native and introduced grasses and various weedy annuals are found in disturbed areas. Willow (Salix sp.) is the dominant riparian species, with occasional stands of giant reed in and adjacent to the stream channel. Raptors and passerines have been obeserved in the area.

The U.S. Fish and Wildlife Service (FWS) reports that there are no known listed threatened or endangered species located in the project area considered by the Corps. For additional detailed biological information, the attached Environmental Assessment (EA) and Appendix 1 should be consulted.

Cultural Resources

Cultural resources studies within the Los Coches Creek Study area have revealed five archeological sites. Two are prehistoric, one is historic and the other two incorporate components from both these periods. The prehistoric sites and components all consist of bedrock milling surfaces but differ substantially in size with the smallest site consisting of a single milling surface while the largest exhibits at least twenty-nine. Although no archeological artifacts were noted on the surface of the ground at these sites, minimal subsurface testing at one site indicated that the ground around these boulder outcrops may contain further evidence of prehistoric activities. The ages represented by these sites may vary from 7,500 years to only several hundred years. The historic sites and components consist of several structures and a small dam across Los Coches Creek that were built in the early 1900's.

Health and Safety

A serious flood threat exists along Los Coches Creek through the community of Lakeside. Residential and commercial developments, highways and roads, as well as utilities located in the floodplain are subject to flooding, erosion, and deposition with little notice.

During a one-hour period on the night of 20 February, 1980, Los Coches Creek became 60-feet wide and 10-feet deep. At the peak period, over 1,500 acres in Lakeside were covered with up to 8 feet of water. On several occasions the sewer line running along the creek has broken as a result of flooding, causing a serious health hazard to the community.

Several storms since 1978 have demonstrated that there is a severe continuing threat to the inhabitants of the flood prone area from the direct impact of floodwaters and from the threat that transportation, communication, and utilities of the area could be damaged when they are most needed.

Aesthetics

The project area can be divided into three reaches to describe aesthetic quality. The upstream reach, from the Los Coches Road bridge to Castle Court Drive is a fairly natural riparian area. In this area the creek bed and the riparian vegetation are visible and visually attractive. Development adjacent to the creek is low density residential/single family homes. The appearance of the middle reach has been altered by limited flood control construction and commercial development. The downstream reach, located between the commercial area and the San Diego River has been altered by Highway 67 and sand and gravel mining operations.

Human Resources

The community of Lakeside has undergone extremely rapid growth in the past decade, largely from combined immigration and suburbanization. The population of Lakeside roughly doubled from 11,991 in 1970 to 23,921 in 1980. Up to 50,000 people are expected to reside in Lakeside and in surrounding areas by 1995.

Economic Resources

The rural-residential open space character sought by Lakeside's residents is made evident by the fact that Lakeside is predominatly residential. Lakeside's business community includes 62 outlets within the flood prone area. The major sources of income in the community are from retail and service businesses and from the extractive industry, principally sand and gravel operations along the San Diego River. Lakeside is largely a "bedroom community" though, with most of the labor force working in the City of San Diego or in the La Mesa-El Cajon areas.

Land Use

The general character of Lakeside is low density residential, with about 70 percent of the total 8572 housing units being owner-occupied, single-family dwellings. Large residential lots support home gardens, equestrian facilities and other rural amenities. The region has experienced accelerated population growth and urban development in the past 15 years, modifying Lakeside's past rural character. The goals of the city, as stated in the Lakeside Community Plan, are the protection of Lakeside's unique environment and preservation of rural way of life and cultural heritage.

Goals for flood plain development are to reduce flood hazard, and to promote limited housing and business development, agriculture, recreation, and open space as the highest and best use. Development which does occur should minimize environmental degradation and flood hazard. Preservation of specialized flora and fauna habitats, historic sites, and natural landscapes is also of prime importance. Zoning for the provision of flood control works to adequately protect existing urban development is made in the Lakeside Community Plan. Equestrian trials, bike paths and hiking trails connected to appropriate recreation facilities, parks, and open space via flood plains, drainage channels, and other public rights-of-way are provided for in the Community Plan.

FUTURE CONDITIONS

Lakeside is determined to retain its rustic residential character as a part of future development plans. Despite tremendous pressure toward urbanization, and as a result of periodic flooding, the citizens of Lakeside have limited development to date in an effort to combat uncontrolled urban sprawl. However, the overriding community consensus and sentiment is to manage future urban growth in Lakeside in a manner that will allow for greater residential, recreation, commercial, and industrial development while preserving a rustic community character and sense of spaciousness. County and community planners believe that these goals can be accomplished while accommodating a population of about 50,000 people by 1995.

Current plans call for revitalizing and enhancing business in the Town Center, particularly along Maine and Woodside Avenues; improving and constructing new recreation facilities, including parks, trail networks (pedestrian, equestrian, and bicycle paths), and a community center; rehabilitating and developing new housing, including single and multifamily dwellings, condominiums, and garden apartments; and generally improving the aesthetic appearance of the built and natural environment.

Future Flooding

Los Coches Creek has recently and frequently been affected by floods which have resulted in millions of dollars of damage and trauma to the local residents of Lakeside. If no flood protection action is taken, the community can expect continued flooding, damages, and hazard to life, health, and safety. Future flooding would definitely impair Lakeside's development plans and economy.

To predict the future flood threat from Los Coches Creek, a regional discharge-frequency analysis has been performed. Relationships between the magnitude of future floods and their probability of occurrence have been determined. In addition, the standard project flood has been developed. The standard project flood is the flood that would result from the most severe combination of meteorological and hydrological conditions considered reasonably characteristic of the region. It is normally larger than any past recorded flood and can be expected to be exceeded in magnitude only on rare occasions. The SPF thus constitutes a standard for design that will provide a high degree of flood protection. The following table presents the discharge-frequency relationships for selected future floods (with and without a project).

Table 1

Discharge-Frequency Relationship
Los Coches Creek at the Mouth

	DRAINAGE AREA (sq. mi.)	PEAK DISCHARGE (cfs)					
		SPF	500-YR FLOOD	100-YR FLOOD	50-YR FLOOD	25-YR FLOOD	10-YR FLOOD
WITHOUT PROJECT	16.0	9,500	11,200	5,500	4,000	2,700	1,500
WITH PROJECT (100-YR DESIGN)	16.0	10,400	12,200	6,200	4,500	3,000	1,700

The current value of development subject to inundation from the SPF, 100-year, and 50-year floods is estimated as $26.8 million, $25.5 million, and $25.0 million, respectively (not including roads and utilities). Under present conditions of development, a SPF is estimated to cause damage amounting to about $8.3 million; a 100-year flood would cause damages of about $6.4 million; and a 50-year flood would cause damages of about $5.6 million.

DISCUSSION OF PROBLEMS AND OPPORTUNITIES

The preceding description of existing and projected resource conditions provides a basis from which forecasts and evaluations can be made regarding the effects of alternative plans. An important factor in the formulation of the plans for Los Coches Creek is the urgency in providing flood protection to an area that was severely flooded in 1978, 1979 and 1980 and received additional flood damage each year since. If no flood protection is provided then the continued threat of destruction by floods will remain as the capacity of the existing channel is about a 3-year flood.

The flooding problem in the study area has led the San Diego County Board of Supervisors to impose a moratorium on development in the Los Coches Creek watershed. Permit processing of subdivision maps is allowed, but construction is prohibited until implementation of flood control improvements on Los Coches Creek are assured by either the Corps of Engineers or some other entity (County of San Diego, California-Board of Supervisors Policy I-87). The provision of flood control facilities on the creek would allow: 1) the building moratorium to be lifted; 2) the resumption of planned development activities consistent with the currently accepted Lakeside Community Plan; 3) a higher sense of social and economic well-being for residents of the area; 4) a measurable contribution to the total plan of national economic development; 5) significantly improved health and safety conditions; and 6) opportunities for enhancing leisure, recreation, and cultural activities (at local expense).

PLANNING OBJECTIVES

The principal planning objective addressed by the Corps of Engineers was a program that would provide the community of Lakeside with a high degree of flood protection along the presently developed area beside Los Coches Creek, downstream from Los Coches Road to the confluence with the San Diego River, consistent with the objectives of the local sponsor and community goals as expressed in the community plan, and within the confines of the Section 205 authority. In developing the program additional consideration was given to (1) meeting recreational needs through joint use of flood control facilities; (2) groundwater resources; (3) maintenance and preservation of natural, cultural, and aesthetic resources and ecological systems; (4) contribution to the national economic development.

National Economic Development (NED)

The national economic development objective is identified by several general guidelines. Contributions to national economic development are increases in the net value of the national output of goods and services, expressed in monetary units. Contributions to NED are the direct benefits and costs that accrue in the planning area and the rest of the nation. Contributions to NED include increases in the net value of those goods and services that are marketed, and also those that may not be marketed. Contributions to NED by a flood control project include the value of the damages to goods which would have suffered flooding, as well as the increased productivity of land which is flood free.

PLANNING CONSTRAINTS

The safe, efficient and economical conveyance of floodflows to alleviate injury and damage currently expected from major storms is the primary motivation for this study. The seriousness of the flood problem along Los Coches Creek dictates that only those alternative plans which provide a high degree of protection be seriously considered. It is both the policy of the local sponsor and the desire, along with the local community, to provide a minimum of 100-year flood protection along Los Coches Creek in the study area. In the interest of expediting the implementation of flood control for Lakeside, local interests have requested developing a project under the Small Project Authority of the 1948 Flood Control Act, as amended. This authority allows the development and construction of small flood control works without specific authorization of Congress. However, the project is subject to the limitations of being complete in itself and not committing the Federal Government to more than $4 million. San Diego County has agreed to be the local sponsor for the project, and has indicated the willingness and ability to assume all related costs above $4 million. Among the chief concerns and constraints are engineering, environmental and economic factors.

Engineering

Engineering design constraints require that any solution developed be complete and acceptable. The development of a solution is constrained by (1) limited rights-of-way in view of existing building and road encroachments, (2) design considerations of the channel's slope, projected sediment, debris loads, and high velocity flows, and (3) construction considerations.

Environmental

Construction of a flood control channel would unavoidably alter wildlife, habitat, and aesthetic values in and along the creek, especially in the upstream reach. However, it would be possible to mitigate for adverse impacts through the acquisition of suitable habitat outside the project area and provision of a wildlife water source/guzzler adjacent to the recommended channel. Lands for mitigation purposes would need to be acquired outside the project area because land adjacent to the channel is not available.

In order to achieve the primary goal of flood protection the local sponsor and community have indicated their willingness to provide any compatible recreation facilities and beautification efforts sometime after project construction, at no cost to the Corps of Engineers/Federal Government.

Economic

A project for flood control involving Federal funds must satisfy basic benefit-cost criteria. That is, the dollar value of benefits provided by a project must exceed the project cost. The test of this condition is expressed by a ratio of benefits to costs. Generally, this ratio should be greater than one to justify Federal participation in a project proposal.

ALTERNATIVE PLANS

A broad variety of plans were formulated and evaluated for reducing flood damages along Los Coches Creek, through Lakeside, consistent with the planning objectives expressed by the Corps, the local sponsor, and the local community. In the plan formulation process consideration was given to: a) nonstructural measures, including flood plain management, floodproofing and relocation of structures; b) structural measures, including improvements to increase the carrying capacity of the existing stream through modification or construction of a new channel; c) a combination of various structural and nonstructural measures and; d) taking no action, in recognition of the existing Federal flood insurance program and local land use plans. No reservoir site was apparent or appropriate. A flood warning system has recently been instituted in the study area as part of a county-wide flood warning network.

The views, needs, and concerns of the local sponsor and community were solicited and integrated throughout the plan formulation and selection process, through a series of meetings and workshops. In addition to the Corps interdisciplinary planning and design team, the principal participants in formulating plans of improvement were the County of San Diego, the Los Coches Flood Victims Association, the Lakeside Planning Group, the Lakeside

Resident's Coalition (and other concerned individuals and interest groups in Lakeside), the U.S. Fish and Wildlife Service, and the State of California Department of Fish and Game. In compliance with the Water Resource Council's Principles and Guidelines for Water and Related Resources Planning, attention was given to environmental quality, cultural and aesthetic values, social well-being, regional development, and identifying a plan which would produce the greatest contribution to national economic development. The following twelve plans were initially formulated in response to the identified planning opportunities and constraints. During the latest stage of the reiterative formulation/refinement process Plans 2, 4, and 9 were considered in greater detail than the others for technical and economic reasons, as discussed in the Selection Process section of this report.

Plan 1. This plan would consist of a rectangular concrete channel, inlet and outlet structures, and provide 100-year flood protection through the community of Lakeside. The entire project length is 2.1 miles, from just downstream of the Los Coches Creek bridge, at Los Coches Road and Ha-Hana Road, to the San Diego River. The upstream channel reach of about 1.4 miles (upstream from a point near Woodside Avenue) would be approximately 32 feet wide and 10 feet deep, while the downstream 0.5 mile of channel would be 60 feet wide and 8 feet deep. The channel would control the 100-year peak discharge of 6200 cubic feet per second (cfs) through Lakeside.

An inlet structure would be constructed immediately downstream of the bridge at Los Coches Road. It would consist of a compacted earth embankment and a rectangular spillway chute extending 1200 feet, designed to convey the standard project flood peak discharge of 10,400 cfs.

An outlet structure would be located at the confluence with the San Diego River. It would consist of a 600-foot long by 90-foot wide trapezoidal sediment basin, with side slopes protected by grouted riprap.

Plan 2 (NED Plan). This plan would consist of a rectangular concrete channel, inlet and outlet structures, and provide 50-year flood protection through the community of Lakeside. The entire project length is 2.1 miles, from just downstream of the Los Coches Creek bridge, at Los Coches Road and Ha-Hana Road, to the San Diego River. The rectangular concrete channel would be about 1.8 miles long, with base widths ranging from 23 to 34 feet, and with a depth of 9.5 feet. The channel would control the 50-year peak discharge of 4500 cfs and include a 1300-foot long covered section and five closed box culverts at road crossings.

An inlet structure would be constructed immediately downstream of the bridge at Los Coches Road to guide floodflows into the channel. The inlet would convey the standard project flood peak discharge and consist of: a graded compacted earth embankment; a trapezoidal grouted stone apron and; a concrete trapezoidal transition channel with a combined length of about 600 feet, which would collect and convey floodflows into the rectangular channel.

An outlet structure would be located adjacent to the existing river bank at the confluence with the San Diego River. It would consist of a trapezoidal sediment basin, 63 feet by 600 feet.

Plan 3. This plan would consist of a rectangular concrete channel, inlet and outlet structures, and provide 100-year flood protection from Castle Court Drive to the San Diego River. The total project length is about 1.0 mile and would protect the downstream half of the study area. The upper reach of channel would be about 0.5 miles long, 32 feet wide, and 9 feet deep, while the lower reach would be 0.5 miles long, 60 feet wide, and 7.5 feet deep. Structures located in the flood plain, upstream of the proposed channel and inlet structure, would remain subject to inundation and channel erosion and failure.

An inlet structure similar to the one described for Plan 1 would be constructed immediately upstream of Castle Court Drive and convey the standard project flood.

The outlet would also be similar to the structure described in Plan 1.

Plan 4 (Recommended Plan). This plan would consist of a rectangular concrete channel, inlet and outlet structures, and provide 100-year flood protection through Lakeside. The entire project length is 2.1 miles, from just downstream of the Los Coches Creek bridge, at Los Coches and Ha-Hana Roads, to the San Diego River. The main rectangular concrete channel would be about 1.8 miles long, with base widths ranging from 25 to 36 feet, and with wall heights varying from 12 to 13.5 feet. The channel would control the 100-year peak discharge of 6200 cfs and include a 1300-foot long covered section and five closed box culverts at road crossings (see Plate 3).

An inlet structure would be constructed immediately downstream of the bridge at Los Coches Road to guide floodflows into the channel. The design would convey the standard project flood peak discharge and consist of: a graded compacted earth embankment; a trapezoidal grouted stone apron and; a concrete trapezoidal transition channel with a combined length of about 600 feet.

An outlet structure, of grouted stone, would be constructed adjacent to the existing river bank at the confluence with San Diego River.

Plan 5. This plan would consist of a rectangular concrete channel, inlet and outlet structures, and provide SPF (standard project flood) protection. The total project length is 2.1 miles, from just downstream of the Los Coches Creek bridge, at Los Coches and Ha-Hana Roads, to the San Diego River. The rectangular concrete channel would be about 1.8 miles long. The upstream 1.3 miles of channel would be 32 feet wide and 12 feet deep; the downstream 0.5 mile of channel would be 60 feet wide and 9 feet deep. The channel would control the SPF peak discharge of 10,400 cfs, and include a 1300-foot long covered section and five closed box culverts at road crossings.

An inlet structure, identical to that described in Plan 4, would be constructed to convey SPF flows into the rectangular concrete channel.

An outlet structure would be constructed at the confluence of Los Coches Creek and the San Diego River which would consist of a 90 feet by 900 feet trapezoidal sediment basin.

Plan 6. This plan would consist of a rectangular concrete channel, about 1.0 mile long, inlet and outlet structures, and provide SPF protection from Castle Court Drive to the San Diego River. The channel widths are the same as those described in Plan 3, but the upstream depth would be 11.5 feet and the downstream depth would be 9.0 feet.

The inlet and outlet structures would also be similar to those described for Plan 3 and convey the SPF peak flows.

Plan 7. This plan is a nonstructural plan. Floodproofing methods would be implemented to protect development throughout Lakeside, from the Los Coches Creek bridge to the San Diego River. These methods would include construction of floodwalls for residential, commercial, and industrial structures, and/or earthen dikes around commercial, industrial, and public structures. Due to the spatial development pattern of the Los Coches flood plain, it would be more practical to floodproof individual structures than to provide floodwalls for groups of structures. For the plan to function properly, the Corps would advise that development in the floodway be prohibited, and that all new construction in the flood fringe be built above the 100-year flood plain.

Plan 8. This plan combines floodproofing measures as described in Plan 7 for the upper reach with the channel plan as described in Plan 3 for the lower reach. Future development in the floodway would be prohibited and all new construction in the flood fringe would be built above the 100-year flood plain.

Plan 9. This plan would consist of a trapezoidal concrete channel along the upper 1.0 mile reach and a rectangular concrete channel along the lower reach (similar to Plan 4), inlet and outlet structures, and provide 100-year flood protection. As in Plans 2, 4, and 5, the total project length is 2.1 miles, from the Los Coches Creek bridge to the San Diego River. The upstream 1.0 mile of concrete channel would be trapezoidal, with a base width of 32 feet, a top width of 60 feet, and a depth of 10 feet. The lower 0.8 mile reach would begin at the box culvert at Julian Avenue and conform to the design described for Plan 4, with a rectangular concrete channel, 12 feet deep, and base widths ranging from 29 feet to 34 feet. The 100-year peak discharge of 6200 cfs would be controlled and the channel design would include a 1300-foot long covered section, four closed box culverts and two bridges at road crossings.

An inlet structure would be constructed as described for Plan 4, except that the transition section would tie-in to the proposed trapezoidal concrete channel instead of the rectangular channel described for Plan 4. As in Plans 2, 4, and 5, the inlet would convey SPF flows into the channel.

An outlet structure would be constructed exactly as described for Plan 4.

Plan 10. This plan would consist of a trapezoidal soft-bottomed channel, inlet and outlet structures, and provide 100-year flood protection through Lakeside. As in Plans 2, 4, 5 and 9, the entire project length would be 2.1 miles, from the Los Coches Creek bridge to the San Diego River. The upstream reach of the channel would be 32 feet wide at the base, 90 feet wide at the top, and 14.5 feet deep; while the downstream reach would be 60 feet

wide at the base, 116 feet at the top, and 14 feet deep. Precise inlet and outlet designs were not fully developed as preliminary investigations indicated that this plan would be economically unjustifiable.

Plan 11. This plan is a relocation plan which would involve removing existing structures from the floodway and relocating the structures outside of the 100-year flood plain. A preliminary analysis of the flood plain indicated that relocation would prove to be infeasible in view of the number and value of structures involved.

Plan 12. This plan is a no-action plan. It was developed to allow a comparison of the effectiveness of all plans. The no-action plan considers no additional Federal action in reducing or eliminating the flood problem. Under this plan the flood problem would likely continue unabated and reliance would be placed on local flood plain management measures and flood insurance compensation. Flood plain management practices under the National Flood Insurance Program require that no development take place in the floodway area and that any habitation in the floodway fringe area be floodproofed to the 100-year flood plain level.

Other Actions Considered

Among other plans considered were a flood warning system, a program for removing obstructing bridges, and mitigation for lost habitat. A flood warning system was to be an integral part of all nonstructural plans, but is now unnecessary as a system has been installed by the County of San Diego. In 1982 the County (local sponsor) instituted a county-wide flood warning network which includes monitoring Los Coches Creek. An electronic stream gauge and radio transmitter relay information to the County's Flood Control District Computer and Emergency Center.

Preliminary investigations revealed that removing obstructing bridges along the existing channel would not significantly modify overflow conditions in the flood plain. On that basis, there is no justification in reconstructing the bridges except as a feature in an overall plan for channel improvement.

A variety of plans were developed to mitigate for losses of habitat associated with the previously described plans of improvement, in compliance with Federal laws and regulations. The proposed mitigation plan for the recommended plan is presented in the description of the Recommended Plan section of this report and in the Final Environmental Assessment.

Trade-off Analysis

The relationships of the impacts of alternative plans to the planning objectives were determined through evaluation and trade-off analysis. The recommended plan (Plan 4) was resolved to best satisfy the stated planning objectives, in addition to national economic development objectives, and is consistent with regional development objectives of non-Federal agencies (see Table 2 and the following plan selection discussion).

SELECTION OF RECOMMENDED PLAN

Plan Selection Rationale

Selection of the plan recommended for implementation is based on: (1) completeness, the extent to which a plan accounts for all necessary investments; (2) effectiveness, the extent to which a plan solves problems; (3) efficiency, the extent to which a plan is cost effective; and (4) acceptability, the compatibility of the plan with existing laws, regulations, public policies, and public opinion. Plans were evaluated for their engineering, economic, social and environmental merits, in light of the planning problems, constraints and objectives. Consideration was given to selecting a plan that produces the greatest contribution to national economic development while fulfilling the local sponsor's and community's primary goal of providing flood protection. In addition to national economic values, environmental quality was taken into account, as well as social well-being and regional development goals, in formulating, comparing, and evaluating alternative plans.

Table 2, below, presents a summary evaluation of plans in accordance with the selection criteria of completeness, effectiveness, efficiency, and acceptability. Following Table 2 is a discussion of plan selection rationale regarding all twelve alternative plans. During the most recent phase of the plan formulation/refinement process it was determined that plans 2, 4, and 9 warranted consideration in greater detail than the others for technical, economic, and environmental reasons. Therefore, plans 2, 4, and 9 are emphasized in project costs and benefits evaluations (see Tables 3 and 4 following discussion of plan selection rationale and Appendix 6) and in the attached Environmental Assessment (EA). An evaluation and comparison of the environmental impacts/effects of the alternative plans may be found in chapters 2, 3 and 4, and Table EA-1 of the EA.

Table 2

EVALUATION OF PLANS IN ACCORDANCE WITH SELECTION CRITERIA*

	Completeness	Effectiveness	(B/C Ratio 1) Efficiency	Acceptability
Plan 1	+	+	-	-
Plan 2**	+	+	+	-
Plan 3	-	+	-	-
Plan 4**	+	+	+	+
Plan 5	+	+	-	+
Plan 6	-	+	-	-
Plan 7	-	+	-	-
Plan 8	+	+	-	-
Plan 9**	+	+	-	-
Plan 10	+	+	-	-
Plan 11	+	+	-	-
Plan 12	N/A	N/A	N/A	N/A

*The (+) symbol indicates that the criterion has been satisfied and the (-) symbol indicates that the criterion has not been satisfied.

**Plan was considered in higher level of detail.

A review of Table 2 reveals that only Plan 4 satisfies all of the selection criteria, as further supported by the following discussion.

Plan 5 is economically and technically unjustified. While Plans 1, 9, and 10 would provide a high level of protection, their costs were found to be prohibitive due to excessive rights-of-way widths and related relocation problems. Under plans 3, 6 and 8 the structures within the flood plain, upstream of the proposed channel and inlet structure, would remain vulnerable to high flood waters and channel erosion and failure. Also, the inlet structure would only capture floodflows conveyed by the existing channel and not flows which occur across the flood plain or which may breakout of the channel. Thus, these plans are infeasible and unacceptable.

Plan 7, the floodproofing plan, is both infeasible and unacceptable. Along the upstream reach of the flood plain residential spacing is such that a system of individual floodwalls for each unit would be required. Earthen dikes and floodwalls would be required continguous to the downstream reach starting from Castle Court Drive. High maintenance required to remove sediment deposited from high water along flood protection devices accompanied with an undesirable B/C ratio, result in the decision to discontinue further consideration.

Plan 11 examined the idea of structure relocation along Los Coches Creek. It was found that relocation of the residential structures was not economically justified due to the number and value of the structures, especially in view of the intensive nature of existing development along the downstream reach.

Plan 12, the no action plan, developed primarily for use as a financial comparison, relies heavily on the National Flood Insurance Program. Although this plan provides the best protection for the wildlife in the area, both the County of San Diego and community of Lakeside have strongly expressed that a flood control project is a necessity. Acknowledging five consecutive years of flooding and strong community support for flood protection, the Corps recognizes the immediate importance associated with flood prevention here. If no action is taken to reduce flood damages in this area, continuing flood damage and hazard is expected.

This selection process yielded Plans 2, 4, and Plan 12 (no action) as the only viable alternatives, as all other plans considered proved to be economically unjustified. Plan 2, which provides a 50-year level of protection would provide maximum net benefits (the NED plan). However, Plan 4 is preferred over the NED plan because it provides a substantially higher degree of flood protection to the community of Lakeside and is strongly supported by the local sponsor. In addition, the 100-year level of protection offered by Plan 4 would reduce the non-Federal eligibility requirements for the National Flood Insurance Program (NFIP) and would reduce future net subsidized reimbursements for flood losses, both insured and uninsured. Furthermore, the local sponsor will assume all costs associated with the project in excess of the $4 million Federal limit in order to achieve the desired level of protection. Therefore, Plan 4 is recommended as the best selection for resolving the Los Coches Creek flood problem and satisfying the primary planning objectives.

Plans not shown in the following Tables 3 and 4 were eliminated from more detailed consideration during recent phases of the planning process because they were found to be technically or economically infeasible. Table 3 presents project costs/investments and Table 4 summarizes the annualized NED benefits and costs for plans 2, 4 and 9.

Reasons for Not Recommending the NED Plan:

a. Approximately 40 percent of the residents within the existing 100-year flood plain would still be in the 100-year flood plain with the NED plan. Such flooding would affect 162 existing commercial, residential and public structures. Flood depths due to a 100-year event in the existing study reach are as high as eight feet. Such flooding would again seriously affect the merchants and residents in the flood plain with sudden misfortune and destruction, threats to life and health, and disruption of activities in the area.

b. The incremental costs are not unreasonable. Net annual benefits for the recommended plan total $91,800 compared with $133,700 for the NED plan. The increase in total project cost between the NED plan and the recommended plan is $866,700.

c. The recommended plan would reduce eligibility requirements for NFIP because 162 structures would remain in the post-NED plan 100-year flood plain as compared with the recommended plan.

d. The recommended plan has the potential to reduce future net subsidized reimbursements for flood losses due to the potential for reduced residual flooding that exists with the recommended plan compared with the NED plan. Approximately 162 commercial, residential and public structures would remain in the post-NED plan 100-year flood plain.

e. The with-project damage potential, including the potential for induced damages, is not higher with the 100-year plan because:

(1) the recommended improvement consists of an almost entirely entrenched concrete channel and or box culverts, and

(2) there are only eighteen acres that would become developable in the 2.1 miles project reach. Further, these eighteen acres would become developable with both the recommended plan and the NED plan.

Risks and Uncertainties

If the plan recommended in this report is implemented then no significant risks or uncertainties are anticipated.

Table 3

Los Coches Project Investment

	Plan 2 Channel NED Plan	Plan 4 Recommended Plan	Plan 9 Trap/Rect Channel
1. Construction cost	$3,869,650	$4,549,880	$4,858,800
2. Construction contingency Costs	464,350	545,990	583,200
3. Post Authorization Planning and design costs	232,179	272,993	291,528
4. Administrative services costs	232,179	272,993	291,528
5. Fish & Wildlife Habitat mitigation costs	80,000	80,000	80,000
6. Historical and archaeological salvage operation costs	0	0	0
7. Land, water, and mineral rights costs	195,000	195,000	1,734,000
8. Relocation costs	0	0	408,000
9. Interest during installation period at rate of 8.125%	139,517	162,714	226,794
Total Investment	$5,212,875	$6,079,570	$8,473,850

Price Level - October 1983; Installation Period - 9 months; Period of Analysis - 100 years.

Table 4

Summary of Annualized NED Benefits and Costs for Alternative Plans
(October 1983 Price Level, 8.125%, 100-year Project Life)
($1,000's)

Project Benefits and Costs	Plan 2 Channel NED Plan	Plan 4 Recommended Plan	Plan 9 Trap & Rect. Channel
Flood Hazard reduction benefits:			
Inundation:			
Physical	$454.9	$478.8	$478.8
Business and Emergency	7.6	8.0	8.0
Total	462.5	486.8	486.8
Savings in Cost of Fill	4.0	7.3	7.3
Locations Benefits	102.7	102.7	102.7
Savings in Flood Insurance Administration	3.2	4.2	4.2
Total Project Benefits	$572.4	$601.0	$601.0
Project Costs	438.7	509.2	706.3
Net Benefits	$133.7	$ 91.8	$-105.3
Benefits Cost Ratio	1.3	1.2	0.85

DESCRIPTION OF THE SELECTED PLAN

PLAN COMPONENTS

The plan recommended for selection (Plan 4) consists of an inlet structure, a rectangular concrete channel, an outlet structure, a 1300-foot long covered section and five box culverts. This plan would provide 100-year flood protection, with peak discharge of 6,200 cubic feet per second, through lower Los Coches Valley and the community of Lakeside. The entire project length is 2.1 miles.

The inlet structure, located just downstream of the Los Coches Creek bridge and adjacent to Los Coches and Ha-Hana Roads, would be provided to guide floodflows into the proposed channel. It would consist of a graded compacted earth embankment to collect and guide flows into a trapezoidal grouted stone apron 12 feet deep, 120 feet wide and 60 feet long. The water would then flow into a concrete trapezoidal channel 40' long and then into a trapezoidal transition channel 200' long which would tie the earthen embankment to the rectangular channel.

The channel would consist of a 1.8 mile long rectangular concrete channel with base widths ranging from 25 to 36 feet and with depths ranging from 12 feet to 13.5 feet. Channel depths include a minimum freeboard of 2 feet. The alinement of the proposed channel would generally follow the existing natural channel. Predicted velocities associated with the 100-year peak discharge of 5800 to 6200 cfs would range between 6 and 28 fps. Spiral transitions and super elevations are incorporated into the design upstream and downstream of Sta. 48+35 to direct water smoothly around the curves. Invert grades would be designed to minimize channel excavation while keeping the channel entrenched deep enough to collect surface flows and to maintain stable supercritical flows.

The channel would discharge into the San Diego River through a grouted stone outlet. Sediment would be deposited at an existing gravel pit located on the San Diego River downstream of the outlet. The gravel pit would have the capability of containing the expected 20 acre-feet of sediment. The pit (37.2 acre-feet capacity) is larger than the design sediment amount (20 acre-feet) to accommodate the uneven sediment deposition expected to occur in the pit.

Closed box culverts would also be constructed to carry flows under Winter Gardens Road, Woodside Avenue, Julian Avenue, Del Sol Road, a private road and a crossing. The lengths of the box culverts would be 380 feet, 1300 feet, 62 feet, 27 feet, 26 feet, and 33 feet respectively. All of the box culverts are double box culverts except for the culvert under Woodside which is a triple box culvert. Refer to Appendix 3 for more detailed description and project plans.

Mitigation

Provision by the local sponsor of about thirty acres of riparian and wetland habitat would provide suitable mitigation for the project impacts. Due to the unavailability of suitable land adjacent to the project, lands would be acquired outside the project area. The specific mitigation site, selected through coordination with the local sponsor and the USFWS, is located within Guajome Regional Park in northern San Diego County. Funds not to exceed $80,000 will be provided by the San Diego Department of Public Works to improve the wetland and riparian habitats for wildlife. Also, a wildlife water source or "guzzler" would be constructed adjacent to the west side of the recommended channel, between Del Sol Road and the Los Coches Creek bridge at Los Coches Road. More information on the mitigation program may be found in Chapter 4 of the attached Environmental Assessment, and Appendix 1.

DESIGN AND CONSTRUCTION CONSIDERATIONS

In developing the design of the recommended plan, the alignment was chosen to provide maximum protection at minimum cost, with the least impact on existing development and habitat. Measures will be taken during all phases of construction to minimize impacts to ecological resources; safeguard cultural resources; minimize social disruption due to construction activities (e.g. noise and mobility); and minimize loss of aesthetic values.

OPERATION AND MAINTENANCE CONSIDERATIONS

The recommended plan is designed so that the entire flood control system would function properly with minimum operation and maintenance requirements under required standards, at the lowest possible cost. Decisions regarding the types of facilities needed in the project area have been coordinated with local interests. Following construction by the Corps, operation and maintenance would be the responsibility of the local sponsor.

PLAN ACCOMPLISHMENTS

Flood Protection

The recommended plan would provide the community of Lakeside with a high level of flood protection. The flood control project would protect existing and projected development. The proposed project would significantly reduce the hazard to life from the occurrence of devastating floods and the possible spread of infections disease caused by flood damage to sewer and water systems; would help prevent interruptions to normal community activities, transportation, business, communication, and reduce the possibility of isolation of the community due to the interuption of services and utilities.

National Economic Development (NED)

The national economic development (NED) objective is to provide the greatest net benefit from project implementation (the difference between benefits and costs).

The NED and environmental quality criteria would be met by the recommended plan. The B/C ratio is 1.2. Annual flood damages of $486,800 would be prevented by the project.

The difference in total project costs between the recommended plan (plan 4) and the NED plan (plan 2) is about $866,695. Although the proposed flood control works would not maximize NED, it would improve national economic efficiency by $91,800 (annual flood control benefits minus annual flood control costs).

SUMMARY OF EFFECTS

Economic Effects

The major economic benefit of implementing the recommended plan will be the elimination of flood damages estimated to average $486,800 annually. The elimination of the flood hazard will also lift restrictions on development and result in additional development worth about $102,700 annually. Other quantified benefits total $11,500. In addition, the elimination of flood hazard will have a significant stabilizing effect on a community which has been disrupted by serious flooding in three of the last six years.

The adverse economic effects of implementing the proposed plan are a project investment of $6,079,570 and operation and maintenance costs of $15,000 annually. Project investment is not identical to the financial project cost. It includes interest during the installation period, but does not include the cost of the Detailed Project Report. The average annual charges are $509,200.

The net annual benefits of the recommended plan are $91,800. The benefit-cost ratio is 1.2. These were calculated at an interest rate of 8.125% over a project life of 100 years. The economic data is summarized in Table 5 below. Additional detail is presented in Appendix 6 - Economics.

Table 5

Recommended Plan Economics
($1000)*

Project Investment	
Construction, Contingencies	$5,095,870
Right-of-way	195,000
Mitigation	80,000
Interest During Installation Period	$ 162,714
Total Economic Cost	$6,079,570
Average Annual Charges (8 1/8%, 100-year life)	
Interest and Amortization (incl. interest during constr.)	$ 494,165
Operation and Maintenance	15,000
Total Average Annual Charges	$ 509,165

Table 5 (Cont'd)

Equivalent Annual Benefits	
Flood Damage Reduction	$ 486,800
Savings in Cost of Fill	7,300
Location	102,700
Savings in Flood Insur. Admin.	4,200
Total Equivalent Annual Benefits	$ 601,000
Net Annual Benefits	$ 91,800
Benefits-to-Cost Ratio	1.2

* October 1983 price level

Environmental Effects

The recommended plan would have direct and indirect impacts on environmental resources in the project area. Direct impacts are defined as those which would result solely from the project. Construction of the recommended plan will result in the direct elimination of about 18 acres of habitat. This includes all the wetland and riparian habitat within the project area (7.6 acres). In addition, 6.4 acres of old field habitat and 4.2 acres of man-altered habitat would be destroyed by construction of the project. The man-altered habitat found in the project area is not considered a significant biological resource, and its loss need not be mitigated. These numbers were caluculated from aerial photography and the alinements of the proposed flood control plan. A separate calculation was made for each plan considered in detail. Indirect impacts are those that would be expected to occur as a result of project completion; such impacts might include induced urban development that otherwise may have been delayed because of the flood problems. Land within the 100-year flood plain, not currently developable under a San Diego County Board of Supervisors' policy, presumably would be developed in accordance with the existing local community plan. If this occurs, old field habitat would become residential housing. For the recommended plan, this would be a loss of 65 acres of old field habitat. This quantity was computed from aerial photography and the existing 100-year flood plain of Los Coches Creek.

Potential environmental impacts that were considered in association with the recommended plan include: loss of habitat, wildlife access to water, groundwater recharge, aesthetic values, archeologic or historic sites; changes in land use; and impacts to local air and water quality in the project area. Of these potential impacts, only the loss of habitat and wildlife access to water were judged significant and adverse (prior to consideration of mitigation). However, the planned wildlife water source/guzzler and acquisition of about thirty acres of riparian and wetland habitat would satisfactorily mitigate for this unavoidable loss. The specific mitigation site, selected through coordination with the local sponsor and the USFWS, is a 30-acre parcel located within Guajome Regional Park in northern San Diego County. U.S. Fish and Wildlife Service reports that there are no known endangered plants or animals

located in the project area. None of the five cultural sites identified in the project area would be impacted by the construction or operation of the proposed plan. Appropriate measures would be taken to minimize temporary impacts of vegetation loss, noise and dust generated, and any traffic circulation problems during construction activities. See Chapter 4 in the Environmemtal Assessment or Appendix 1 for a detailed discussion of impacts.

Effects on Groundwater Recharge

There are no records of the amount of groundwater recharge along Los Coches Creek. At present the recharge occurs primarily along the lower reaches of Los Coches Creek, from Del Sol Road (station 76+50) downstream to the San Diego River (station 8+45). Upstream of Del Sol Road, the bedrock outcrops, which are scattered throughout the floor and both sides of the channel walls, restrict recharge. After completion of the project, no recharge will occur along the channel alinement due to the concrete lining. The water, which now recharges along Los Coches Creek, will instead infiltrate directly into the San Diego River after leaving the concrete channel. Loss of groundwater recharge was determined to be insignificant compared to the regional infiltration.

Other Social Effects

a. The proposed project would not pose any long-term threats to man's health and safety. Rather, health and safety factors could be greatly improved by a project in this area.

b. The land-use pattern in the proposed project area is primarily residential. It cannot be foreseen that there will be any future displacement of people due to this development. At present there are few, if any, dwelling units within the proposed project area that might be affected by the proposed project. Access to and through the affected commercial establishments could significantly reduce any potential for displacement of affected business.

c. There are no significant housing problems associated with the proposed project. Additionally, no problem is foreseen as it relates to housing for project personnel.

d. Nothing in the proposed project can be foreseen to disrupt community cohesion now existing in the proposed project area.

e. The proposed project may have a limited direct negative impact on mobility in and through the project area during construction of the project. However, the completion of the project would have a positive impact in that access to and through the project area will be significantly improved.

PLAN IMPLEMENTATION

INSTITUTIONAL REQUIREMENTS

The proposed project is in compliance with the following Federal, State, and local requirements. Consideration of environmental laws, Executive Orders, and other policies in the planning process is summarized below (and discussed more thoroughly in the Environmental Assessment).

Federal

a. National Environmental Policy Act of 1969 (PL 91-190)
b. Clean Water Act of 1977 (PL 95-217)
c. Endangered Species Act of 1973, as amended
d. Fish and Wildlife Coordination Act
e. Clean Air Act
f. National Historic Preservation Act of 1966, as amended
g. Executive Order 11988, Flood Plain Management
h. Executive Order 11990, Protection of Wetlands
i. CEQ Memorandum, August 1980, Analysis of Impacts on Prime or Unique Agricultural Lands, Implementating NEPA

State

a. California Environmental Quality Act (CEQA)

Local

The relationship of the proposed project to local ordinances, policies, and plans is discussed elsewhere in this report and in the Environmental Assessment.

DIVISION OF RESPONSIBILITIES

Legislative and administrative policies have established the basis for the division of Federal and non-Federal responsibilities in the construction, operation, and maintenance of Federal water resource projects.

Federal/Non-Federal Cost Allocation

The division of Federal and non-Federal responsibilities of the project would be in accordance with current criteria. All monies alloted for this project are required for the purpose of flood control. Federal responsibilities include construction of the channel. Non-Federal responsibilities include relocating utilities; acquiring lands, easements, rights-of-way; operation and maintenance of all features after construction; and the mitigation feature. Cost sharing for this project is further defined by the Federal limit of $4 million under Section 205 of the 1948 Flood Control Act (PL 80-858) and its amendments. Table 6 shows the apportionment of the first costs between Federal and non-Federal interests for the recommended plan.

Table 6

Cost Apportionment

Item	First Cost	Federal	Non-Federal**
Construction (incl. mitigation)	$6,001,856*	$4,000,000	$2,001,856
Relocations & Utilities	0	0	0
Rights-of-way	195,000	0	195,000
Total	$6,196,856	$4,000,000	$2,196,856

*Includes $280,000 for Detailed Project Report

**The local sponsor for this project, San Diego County, would also assume responsibility for all operation and maintenance costs, now estimated to be about $15,000 annually.

REPORT PROCESSING AND APPROVAL

The steps that would need to be followed in constructing the recommended plan of improvement are summarized as follows. After this report is reviewed by local, state and Federal agencies and the public it would be forwarded to the office of the Chief of Engineers, via the South Pacific Division, for approval. Following approval and funding, preparation of final plans and specifications would be accomplished by the Los Angeles District, bids invited, and a construction contract awarded. At that time, implementation of the necessary local actions would be required, including formal cooperation agreements with the Federal Government in compliance with Section 221 of the Flood Control Act of 1970, Public Law 91-611. A proposed schedule for project implementation is shown in Figure 1.

VIEWS OF LOCAL INTERESTS

The local project sponsor, County of San Diego, endorses the project and has indicated the willingness to assume legal and financial responsibilities to meet the specific local cooperation requirements. A resolution of the San Diego County Board of Supervisors supporting the project and agreements is included in this report. Additionally, the proposed project is endorsed by a number of local interest groups, including the Los Coches Creek Flood Victims Association and the Lakeside Planning Group. Strong, well organized, effective public support for a flood control project in the community of Lakeside, accompanied by several successive years of flooding, has influenced the County of San Diego to designate the Los Coches Creek flood control project as their number one priority.

Views of Fish and Wildlife Agencies

This study and report have been coordinated with the U.S. Fish and Wildlife Service and the California Department of Fish and Game. Coordination with the U.S. Fish and Wildlife Service (USFWS) concerning mitigation has occurred during the planning process to ensure equal consideration of fish and wildlife conservation. In summary, the USFWS finds that: 1) 8 acres of

wetland, 65 to 71 acres of old field habitat, and about 4 acres of man-altered area will be lost directly or indirectly as a result of the project; 2) fish and wildlife utilizing these habitats would be eliminated or displaced during channel construction; 3) the abundance and diversity of wildlife and fish would be reduced in the project area; and 4) access to the creek as a source of water for certain species, may be precluded by construction of a channel.

Therefore, the USFWS has recommended mitigation measures to avoid or minimize the adverse impacts of the project upon public fish and wildlife resources, including the acquisition of riparian or wetland habitat and the provision of a wildlife water source ("guzzler") to be located adjacent to the recommended flood control channel.

The mitigation program detailed in the Draft EA was reformulated and is described in Chapter 4 of the EA. The reformulated program was coordinated with USFWS and CDFG. The USFWS Coordination Act Report (dated September 1981) is filed in the Corps Los Angeles District Office and a Supplement (dated September 1983) may be found in the Environmental Appendix of the attached Environmental Assessment.

SUMMARY OF COORDINATION, PUBLIC VIEWS, AND COMMENTS

In formulating plans for Los Coches Creek, the needs and concerns of all affected interest groups, agencies, and individuals were sought through a series of meetings and workshops. In addition to the Corps interdisciplinary planning and design team, the principal participants in formulating plans to reduce Los Coches Creek's flood damages were the County of San Diego (the local sponsor), the Los Coches Creek Flood Victims Association, the Lakeside Planning Group, and the U.S. Fish and Wildlife Service. Throughout the study process, the Corps coordinated with these and other interested organizations and individuals in developing and refining a number of plans that led to the selection of the recommended plan in this report. Appendix 7 presents public views received in response to the draft version of this report.

Recommendation

RECOMMENDATION

As District Commander, Los Angeles District, Corps of Engineers, I have reviewed and evaluated in regard of the overall public interest, all significant engineering, socio-economic, and environmental aspects of the recommended plan for Los Coches Creek, as well as the stated views of other interested agencies and concerned public. I find that there exists a definate need for Federal involvement in measures to reduce flood damages from Los Coches Creek, in the community of Lakeside, California, as recommended in this report. I believe the overall public interest would best be served by implementation of this action. The total first cost of the recommended plan (Plan 4) is currently estimated at $6,197,000 of which the Federal share would be $4,000,000. Prior to implementation, the County of San Diego, as local sponsor, shall agree to perform the required items of cooperation, as follows:

a. Provide, without cost to the United States, all lands, easements, and rights-of-way necessary for construction of the project, including lands necessary for mitigation for project effects, and borrow and spoil disposal areas.

b. Provide, without cost to the United States, all necessary modification or relocation of structures, transporation facilities, bridges, utilities and drainage facilities required in connection with the project.

c. Provide, without cost to the United States, all necessary modification, operation, and maintenance of the mitigation lands estimated to be about 30 acres.

(1) The operation and maintenance (O&M) of the mitigation area is to be performed for the purpose of protecting wildlife resource values and O&M plans are subject to Corps and USFWS review; only those activities compatible with wildlife protection shall be allowed.

(2) Land use management of the adjacent wetlands shall protect the natural resource values of those wetlands to the maximum extent practicable.

d. Contribute a cash contribution for all funds in excess of the Federal limitations in Section 205 of the 1948 Flood Control Act (PL 80-858) and its amendments.

e. Maintain and operate all the works after completion in accordance with regulations prescribed by the Secretary of the Army.

f. Hold and save the United States free from damages caused by the construction and operation of the project, excluding damages due to the fault or negligence of the United States or its contractors.

g. Adjust all water-rights claims resulting from construction of the project.

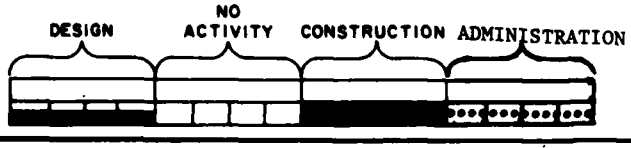
h. Prescribe and enforce regulations to prevent obstruction or encroachment on flood control works that would reduce their flood-carrying capacity or hinder maintenance and operation.

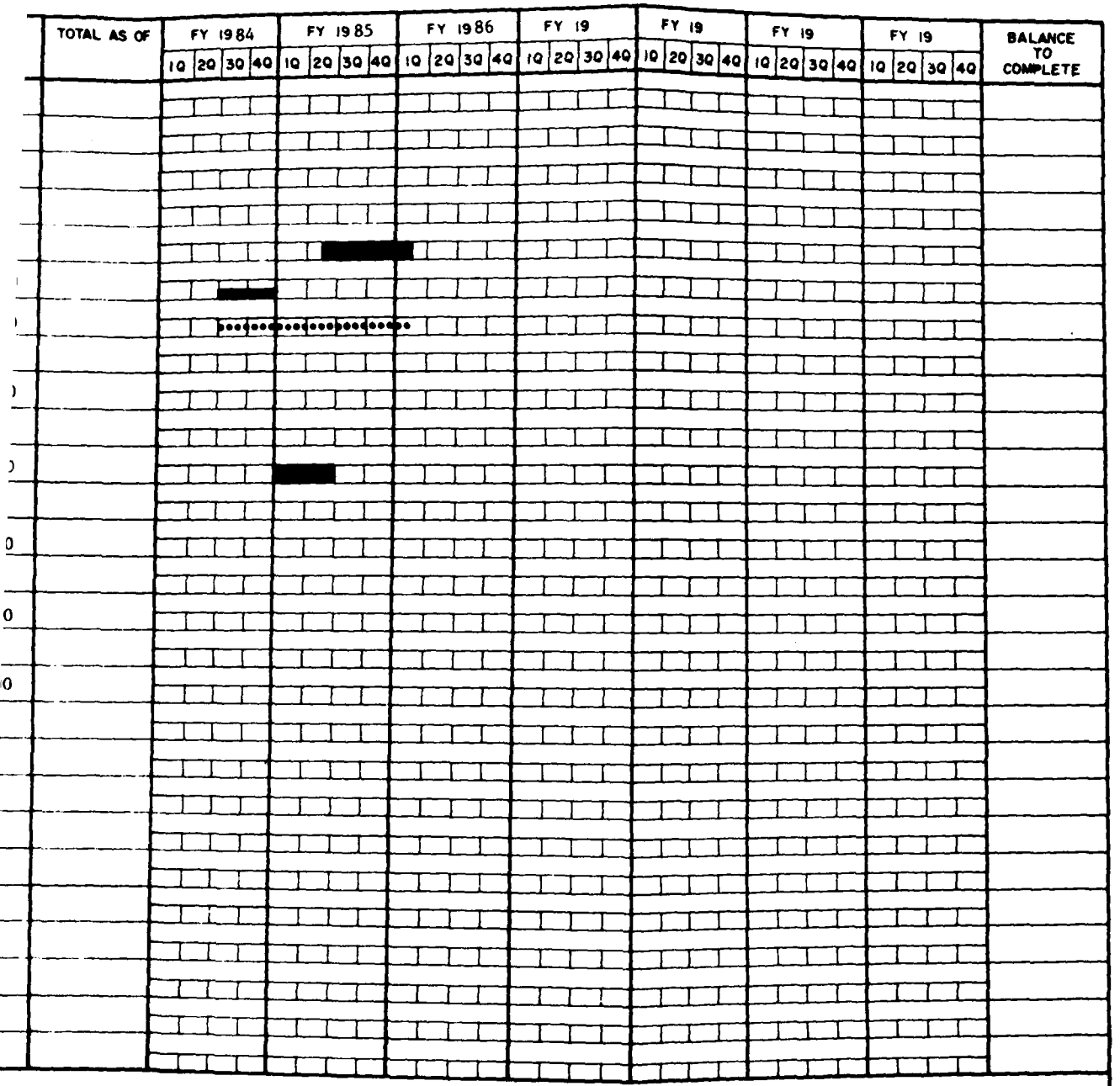
I recommend the approval and implementation of the preferred plan for flood control described in this report, with such modifications thereof as in the discretion of the Commander, USACE may be advisable.

DENNIS R. BUTLER
Colonel, CE
Commanding

LINE NO	UNIFORM COST CLASSIFICATION	FEATURE ITEMS	PROJECT COST ESTIMATE	TOTAL AS OF	FY 1984				FY 1985				FY 1986			
					1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	
1																
2																
3																
4	09	Fish & Wildlife Mitigation Costs	80,000													
5	09	Channel Construction	5,095,900													
6	30	Plans & Specifications	273,000													
7	31	Supervision & Administration	273,000													
8																
9		TOTAL DESIGN & CONSTRUCTION	5,721,900													
10																
11	01	Land Easements & Rights-of-Way	195,000													
12																
13		TOTAL FIRST COST	5,916,900													
14																
15		TOTAL FIRST COST (FEDERAL)	4,000,000													
16																
17		TOTAL FIRST COST (NON-FEDERAL)	1,916,900													
18																
19																
20																
21																
22																
23																
24																
25																
26																
27																

FUNDS IN THOUSANDS OF DOLLARS





Los Coches Creek
San Diego County, CA

DESIGN AND CONSTRUCTION SCHEDULE

U.S. ARMY ENGINEER DISTRICT
LOS ANGELES, CORPS OF ENGINEERS

TO ACCOMPANY DESIGN MEMORANDUM NO.
DATED August 1984 SHEET 1 OF 1

Environmental Assessment

FINDING OF NO SIGNIFICANT IMPACT
for proposed
LOS COCHES CREEK FLOOD CONTROL PROJECT
SAN DIEGO COUNTY, CALIFORNIA

The U.S. Army Corps of Engineers, Los Angeles District, has conducted an impact analysis of the proposed flood control plan for Los Coches Creek, San Diego County, California. This analysis is documented in the attached Environmental Assessment dated August 1984.

A number of potential impacts are associated with the recommended plan. These include impacts to habitat, the water supply of local wildlife, endangered species, cultural resources, groundwater recharge, aesthetic quality of the project area, land use in the watershed, and air and water quality. Prior to consideration of mitigation, none of these impacts were judged significant and adverse except impacts to wetland, riparian, and old field habitat and the loss of access to water for wildlife caused by channelization of the creek.

R Mitigation of these impacts is included as a part of the project. The loss of habitat due to the project will be mitigated by the designation and maintenance of approximately 30 acres of wetland and riparian habitat outside the project area for the protection of wildlife resource values. Loss of water to wildlife will be mitigated through construction of a wildlife water source or "guzzler" adjacent to the proposed channel. These plans have been coordinated with the U.S. Fish and Wildlife Service.

Consideration of the information provided in the Environmental Assessment, including coordination with other agencies, indicates that with mitigation for these impacts included as a part of the project, the recommended plan would not significantly affect the quality of the human environment. An Environmental Impact Statement will not be required for this proposed action.

4 SEP 84
Date

DENNIS F. BUTLER
COL, CE
Commanding

FINAL ENVIRONMENTAL ASSESSMENT

LOS COCHES CREEK
SAN DIEGO COUNTY, CALIFORNIA

U.S. Army Corps of Engineers
Los Angeles District

August 1984

FINAL ENVIRONMENTAL ASSESSMENT

LOS COCHES CREEK
SAN DIEGO COUNTY, CALIFORNIA

		Page
1.	SUMMARY	EA- 1
	Major Conclusions and Findings	EA- 1
	Need for the Proposed Action	EA- 1
	Previously Prepared Reports/Study Authority	EA- 1
2.	ALTERNATIVE PLANS	EA- 2
	Plans Eliminated from Detailed Study	EA- 2
	No Action	EA- 3
	Plans Considered in Detail	EA- 3
	Selection of the Recommended Plan	EA- 5
3.	AFFECTED ENVIRONMENT	EA- 5
	General	EA- 5
	Biological Resources	EA- 7
	Threatened or Endangered Species	EA-11
	Groundwater	EA-11
	Aesthetics	EA-11
	Cultural Resources	EA-11
	Land Use	EA-12
	Water Quality	EA-12
	Air Quality	EA-12
4.	ENVIRONMENTAL EFFECTS/PROPOSED MITIGATION	EA-13
	Biological Resources	EA-13
	Mitigation	EA-15
	Threatened or Endangered Species	EA-18
	Groundwater	EA-18
	Aesthetics	EA-18
	Cultural Resources	EA-19
	Land Use Changes	EA-19
	Water Quality	EA-19
	Air Quality	EA-21
5.	COMPLIANCE WITH ENVIRONMENTAL REQUIREMENTS	EA-21
	Relationship to Environmental Protection Statutes and Other Environmental Requirements	EA-21
	Public Involvement	EA-23
	List of Recipients	EA-23
R	Letters of Comment and Response	EA-25
6.	REFERENCES	EA-26
7.	LIST OF PREPARERS	EA-26

CONTENTS (Continued)

Page

TABLES

EA-1 - Comparison and Summary of Impacts of Alternative Plans..... EA- 4

EA-2 - Habitat Quality Values of Existing Habitat..... EA-10

EA-3 - Average Widths of Proposed Concrete Channels Upstream of Castle Court Drive..... EA-14

FIGURES

EA-1 - Project Location Map..... EA- 6

EA-2 - General Habitat Map..... EA- 8

R EA-3 - Mitigation Lands Map, Guajome Regional Park..... EA-20

ATTACHMENT A. Section 404(b)(1) Water Quality Evaluation..... EA-A1

R ATTACHMENT B. Letter Comments and Responses..... EA-B1

ENVIRONMENTAL APPENDIX

Correspondence

Calculation of Mitigation Requirements

Supplemental Fish and Wildlife Coordination Act Report

Corps Response to the Supplemental Fish and Wildlife Coordination Act Report

1. SUMMARY

1.1 Major Conclusions and Findings

The U.S. Army Corps of Engineers, Los Angeles District, has studied the flood control needs of Los Coches Creek, in the community of Lakeside, San Diego County, California. The results of this study are contained in the attached Detailed Project Report. Alternatives considered included a reservoir plan, removal of obstructing bridges, a flood-warning system, floodproofing, relocation, no action, and channelization of the creek. Of this array, only three alternatives, all concrete channel plans, were considered feasible enough to study in detail. The recommended plan is a rectangular concrete channel, with a total length of 2.1 miles including the inlet and outlet structures. This channel, designed to convey a 100-year flood, would solve the local flooding problem. Potential environmental impacts associated with this plan include loss of riparian, wetland, and old field habitat in the project area, loss of wildlife access to water in the creek, loss of groundwater recharge, loss of aesthetic values, impacts to archeologic and historic sites, changes in land use, and impacts to local air and water quality. Of these potential impacts, prior to consideration of mitigation, only the loss of habitat and the loss of wildlife access to water were judged significant and adverse. However, the designation and maintenance of approximately 30 acres of riparian and wetland habitat formerly zoned for turfed multi-use game fields to be converted to "wildlife preserve" or similar classification and the construction of a wildlife water source or "guzzler" would mitigate for these losses. Therefore, the project is expected to result in no net significant adverse impact to the human environment.

1.2 Need for the Proposed Action

A flooding problem exists in the community of Lakeside. During three consecutive years, 1978-1980, damaging flows occurred in Los Coches Creek. The largest of these floods, in 1980, caused about $6 million in damages. The existing channel has, in the reach through downtown Lakeside, been substantially altered by existing development. The non-damaging flood has a discharge of 300 cubic feet per second (cfs), and a return interval of three years. Under current conditions, estimated damages are about $10,000,000 for a standard project flood (10,400 cfs), $7,000,000 for a 100-year flood (6,200 cfs), and about $6,000,000 for a 50-year flood (4,500 cfs). The flooding problem has led San Diego County to place a moratorium on subdivision and development within the Los Coches Creek watershed until flood control measures are taken.

1.3 Previously Prepared Reports/Study Authority

Three reports concerning Los Coches Creek have been prepared by the Corps of Engineers:

"Environmental Working Paper, San Diego County Streams, 1976"

"San Diego County Streams Reconnaissance Study, 1978"

"San Diego County Streams Flowing into the Pacific Ocean, Stage 2 Report, 1981"

When these reports were written, Los Coches was studied as a part of the "San Diego County Streams Flowing into the Pacific Ocean" project. Since then, Los Coches Creek has been separated from this project, and is currently under study as a small project under the continuing authority of Section 205 of the 1948 Flood Control Act, as amended.

2. ALTERNATIVE PLANS

2.1 Plans Eliminated from Detailed Study

2.1.1 Early in the planning process for the project several alternatives were eliminated from detailed study. No feasible reservoir site was apparent. The county has already instituted a flood warning system as part of a county-wide flood warning network; this system, by itself, is not considered sufficient to solve the flooding problem. Preliminary investigations indicated that the removal of obstructing bridges along the existing channel would not significantly modify overflow conditions in the flood plain.

2.1.2 During the final stage of the plan formulation/refinement process a number of plans were eliminated from detailed study. These plans are discussed in the Plan Formulation section of the attached Detailed Project Report. The plans are summarized and reasons for eliminating the plans from detailed study are given below:

2.1.2.1 Plan 1 - Plan 1 is a concrete channel, 2.1 miles long including inlet and outlet structures, and is designed to convey a 100-year flood into the San Diego River. This plan, different from the recommended plan in some design details, particularly channel widths, proved to be economically unjustified.

2.1.2.2 Plans 3, 6, and 8 - These plans all involve a shorter concrete channel, 1.0 miles long. These plans proved technically infeasible and unacceptable to the local community. Inlets would only capture floodflows conveyed by the existing channel, not flows on the flood plain or from breakouts from the channel further upstream. Additionally, these plans were unacceptable to the local community because upstream residents would have no flood protection.

R 2.1.2.3 Plan 5 - This plan consists of a rectangular concrete channel and inlet and outlet structures, and would provide protection from the standard project flood (SPF). This plan was originally one of the plans considered in detail in the Draft EA and Draft Main Report, but was deleted from consideration after continuing study revealed that this plan is economically and technically unjustified.

2.1.2.4 Plan 7 - This is a floodproofing plan. High costs for floodproofing structures (earthen dikes and floodwalls) and high maintenance requirements to remove accumulated sediment and debris make this plan infeasible.

2.1.2.5 Plan 10 - This plan is an earthbottom trapezoidal channel. The large right-of-way requirements make this plan economically infeasible.

2.1.2.6 Plan 11 - Plan 11 is a relocation plan. The number and value of existing structures make this plan infeasible.

2.2 No Action

Under this alternative (Plan 12 in the Detailed Project Report), the Corps of Engineers would take no action to control flooding. This plan would result in no adverse environmental impacts. Protection from financial losses due to flooding would depend on the National Flood Insurance Program. If this plan is adopted, the County of San Diego may decide to independently construct a flood control system. Until a flood control plan is implemented, the existing county ordinance prohibits new development within the Los Coches Creek watershed. This plan was not recommended because both San Diego County and the community of Lakeside have expressed a belief that a flood control project is needed, and a no-action alternative does not meet the planning objective to solve flooding problems caused by Los Coches Creek.

2.3 Plans Considered in Detail

Three plans merited detailed evaluation, based on technical and economic considerations, as well as acceptability to the local community. These are plans 2, 4, and 9, also discussed in the Plan Formulation section of the attached Detailed Project Report. Plan 5 has been deleted from further study (see Section 2.1.2.3). Comparative impacts of these alternatives, and the base and without conditions, are shown in Table 1. Two without conditions are shown, because a local agency may or may not implement a flood control plan if no Federal action is taken. Mitigation requirements are also shown in Table 1. Alternatives considered in detail are discussed below:

2.3.1 Plan 2 - (see Plate 3). This plan would consist of a rectangular concrete channel, inlet and outlet structures, and would provide 50-year flood protection. Project length is 2.1 miles, from the San Diego River to just downstream of Los Coches Creek Bridge on Los Coches Road. The rectangular concrete channel would be 1.8 miles long with base widths ranging from 23 to 34 feet with a depth of 9.5 feet. The inlet structure, consisting of a graded compacted earth embankment at the upstream end, then a trapezoidal grouted stone apron, then a concrete trapezoidal transition channel, would have a length of about 600 feet. The outlet would consist of a trapezoidal sediment basin, 63 by 600 feet. The channel would convey a 50-year flood of 4,500 cfs. See Table EA-1 for a summary of environmental impacts.

2.3.2 Plan 4 - (see Plate 3). This plan would consist of a rectangular concrete channel and inlet and outlet structures, and would control a 100-year flood. The length, and beginning and ending locations of the channel are identical with Plan 2. Base widths range from 25 to 36 feet with depths of 12 to 13.5 feet. The inlet design is identical to plan 2 (inlets must be capable of passing a standard project flood discharge). The outlet is a trapezoidal sediment basin, 330 by 400 feet, 17 feet deep, with 3:1 side slopes. The concrete channel would convey the 100-year flood of 6,200 cfs. Environmental impacts are summarized in Table EA-1.

LOS COCHES CREEK, SAN DIEGO COUNTY
TABLE EA-1 - COMPARISON AND SUMMARY OF

BASE CONDITION AND ALTERNATIVES	HABITAT LOSS RIPARIAN & EMERGENT WETLAND(ACRES) Direct	Indirect	OLD FIELD HABITAT(ACRES) Direct	Indirect	WILDLIFE ACCESS TO WATER IN LOS COCHES CREEK	GROUNDWATER RECHARGE	AESTHETICS
Base Condition	8 Existing		71 Existing		Wildlife has access to Los Coches Creek.	Recharge into lower Los Coches Valley.	Upper reach project are scenic ripa area.
Without Condition #1 (No action to solve flooding problems)	No impact		No impact		No impact.	No impact.	No impact.
Without Condition #2 (Local action to solve flooding problem)	Unknown impact		Unknown impact		Unknown impact.	Unknown impact.	Unknown imp
Plan 2 (50 year rectangular concrete channel)	8	None.	3	Less than 68	Access cut off.	No recharge into lower Los Coches Valley.	Loss of sce riparian ar
Plan 4- The Recommended Plan (100 year rectangular concrete channel)	8	None.	6	65	Access cut off.	No recharge into lower Los Coches Valley.	Loss of sce riparian ar
Plan 9 (100 year trapezoidal/ rectangular concrete channel)	8	None.	9	62	Access cut off.	No recharge into lower Los Coches Valley.	Loss of sc riparian a

SAN DIEGO COUNTY, CALIFORNIA
I AND SUMMARY OF ALTERNATIVE PLANS

	AESTHETICS	CULTURAL RESOURCES	LAND USE CHANGES	WATER QUALITY	AIR QUALITY	MITIGATION	
ıes	Upper reach of project area-scenic riparian area.	5 cultural resources sites.	Rural/Residential predominates.	Good water quality indicated.	Acceptable air quality.	------	
	No impact.	No impact.	No impact.	No impact.	No impact.	None.	
:.	Unknown impact.	Unknown impact.	Additional development.	Unkown impact.	Probable short and long term minor negative impacts.	To be determined by local agency.	
ıto ıes	Loss of scenic riparian area.	No impact.	Additional development (less than plans 4 and 9).	Temporary degradation.	Short and long term minor negative impacts.	Approximately 30 acres of riparian and wetland habitat to be protected for wildlife and a guzzler.	**R**
ıto ıes	Loss of scenic riparian area.	No impact.	Additional development.	Temporary degradation.	Short and long term minor negative impacts.	Approximately 30 acres of riparian or wetland habitat to be protected for wildlife and a guzzler.	**R**
ıto ıes	Loss of scenic riparian area.	No impact.	Additional development.	Temporary degradation.	Short and long term minor negative impacts.	Approximately 30 acres of riparian or wetland habitat to be protected for wildlife and a guzzler.	**R**

2.3.4 Plan 9. This plan would consist of a trapezoidal concrete channel for the upper 1.0 mile reach, a rectangular channel for the lower reach (similar to Plan 4), and an inlet and outlet structure, and is designed to convey a 100-year flood. Length and location of this channel are identical to the other channel plans. The inlet would be similiar to inlet structures of other plans, but would tie into a trapezoidal rather than a rectangular channel. The outlet structure would be identical to plan 4. The channel would control a 100-year flood. Environmental impacts are shown in Table EA-1.

2.4 Selection of the Recommended Plan

Plan 4 has been selected as the recommended plan. All three plans considered in detail are adequate solutions to the flooding problems. The reasons for not selecting the no-action alternative were given in section 2.2. Plan 9 proved to be economically unjustified upon further study. Plan 2 has a favorable cost-benefit ratio but is not considered acceptable to the local community, which desires 100-year protection. Plan 4 is technically and economically justifiable, and is supported by the local sponsor and the local community. Although no action is preferable from an environmental standpoint, all the structural alternatives are environmentally acceptable with suitable mitigation.

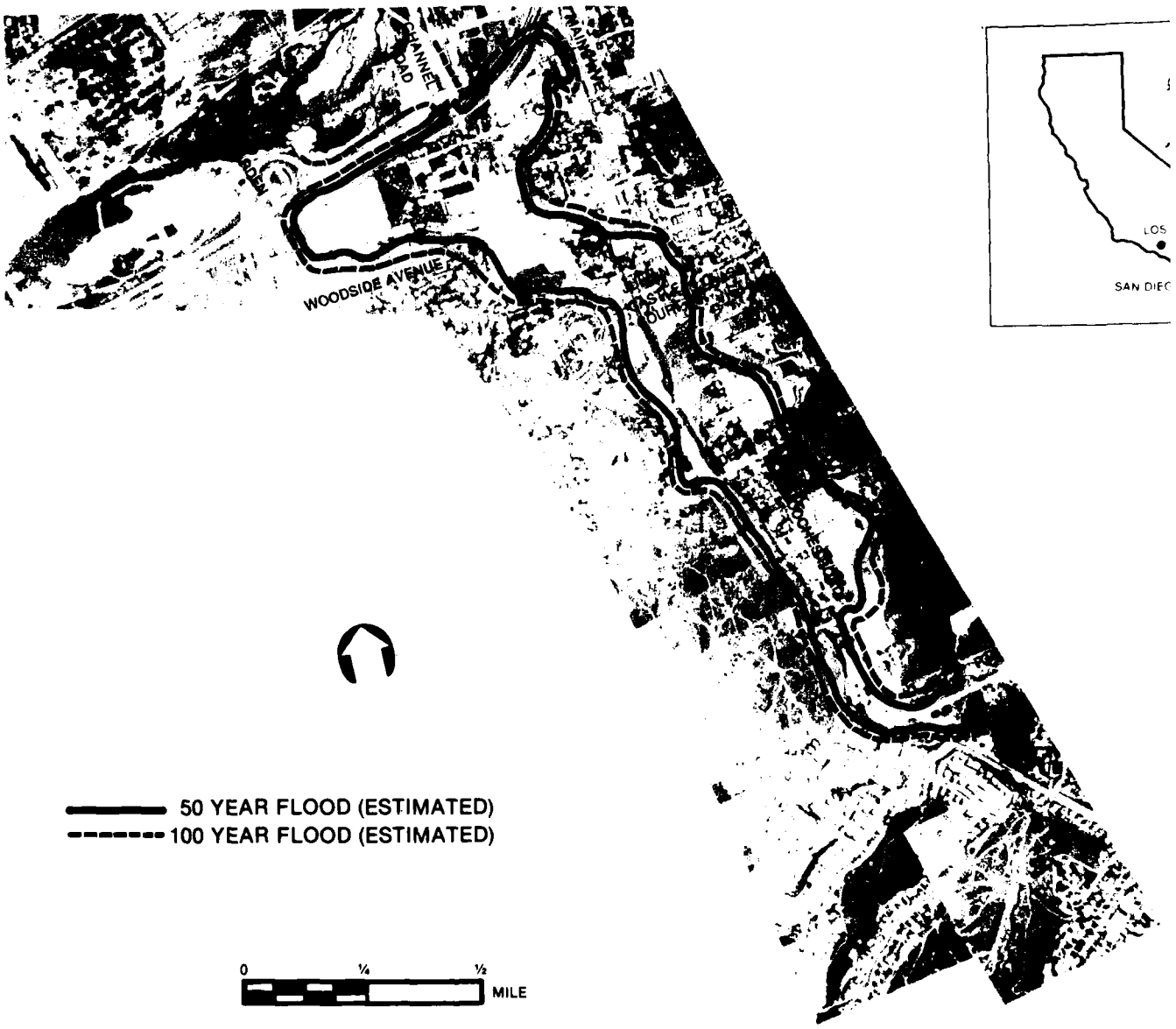
3. AFFECTED ENVIRONMENT

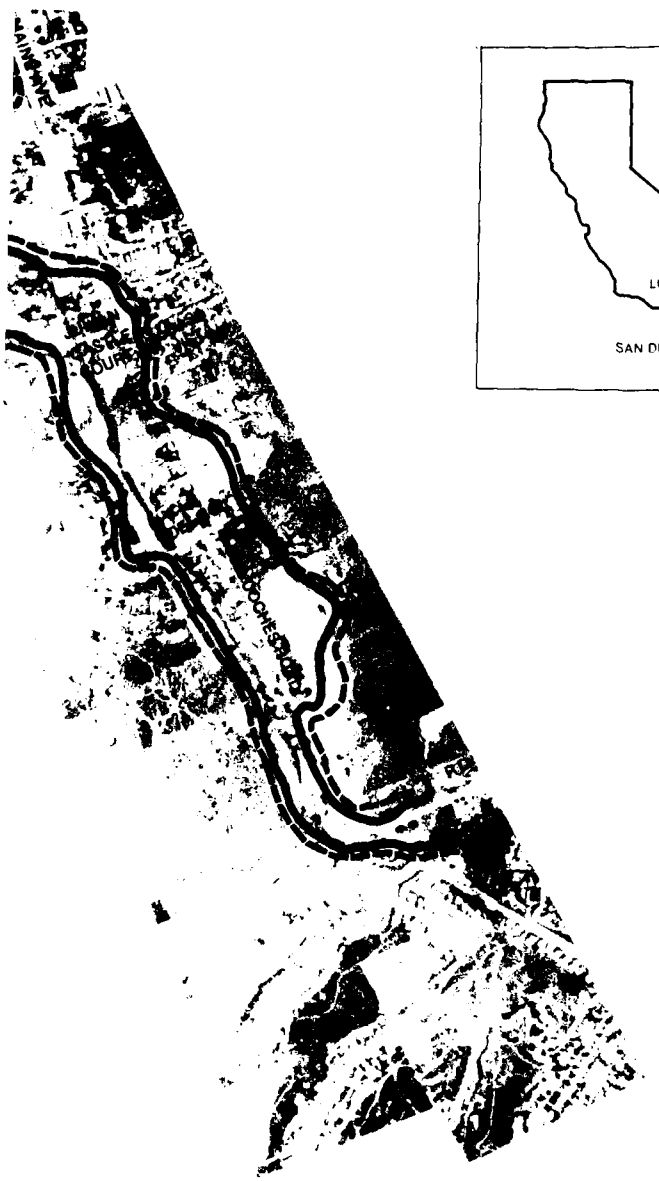
3.1 General

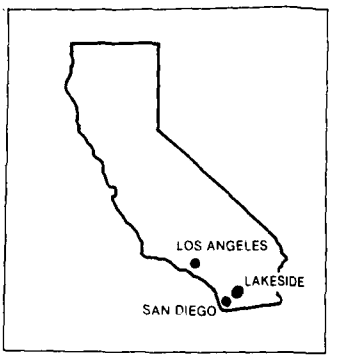
3.1.1 Los Coches Creek is a tributary of the San Diego River located in and near the community of Lakeside (see Plate 1). The creek originates west of the El Capitan Reservoir and flows in a westerly direction. After the creek crosses Los Coches Road it flows to the north until it reaches Woodside Avenue, where it again flows west until it joins the San Diego River. The Los Coches Creek watershed is about 8 miles long and 2 miles wide.

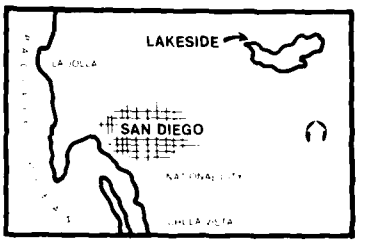
3.1.2 The project area (shown in figure EA-1) is the lower 2.1 miles of the creek, beginning near the intersection of Los Coches and Ha Hana Roads and ending at the confluence of the creek and the San Diego River. Elevations in the project area range from 380 to 450 feet above sea level. Upstream of Julian Avenue the creek is in a fairly natural state. In this reach the creek is entrenched about 10 feet, and the average width, which varies greatly, is about 40 feet. Downstream from Julian Avenue, the creek has been altered by channelization and by encroachment of urban development (in one place the creek has been paved over and is a small swale in a parking lot).

3.1.3. The Los Coches Creek watershed is generally a rural-residential area. Within the project area, the reach south of Woodside Avenue is primarily a residential area with some open space. Along Woodside Avenue is downtown Lakeside, primarily a commercial area. Downstream from Lakeside, where the creek enters the San Diego River, the land is used for sand and gravel mining.


CHANNEL ROAD
WOODSIDE AVENUE
50 YEAR FLOOD (ESTIMATED)
100 YEAR FLOOD (ESTIMATED)
0
¼
½
MILE







LOS COCHES CREEK
SAN DIEGO COUNTY, CALIFORNIA

PROJECT AREA

US ARMY CORPS OF ENGINEERS
LOS ANGELES DISTRICT

FIGURE EA-1

3.2 Biological Resources

3.2.1 The vegetation along Los Coches Creek and in adjacent areas has been grouped into five habitat types: (1) emergent wetlands and riparian; (2) old field; (3) sycamore-coast live oak riparian woodland; (4) coastal sage scrub; and (5) man-altered. These altered habitat types are described in the following paragraphs. In addition, please, refer to the Supplemental Fish and Wildlife Coordination Act Report in the Environmental Appendix of this assessment. The general location and areal extent of each habitat type is shown in Figure EA-2, General Habitat Map.

3.2.2 Although many portions of the project area have been impacted by development, Los Coches Creek and its surrounding flood plain and associated fringe area habitats retain important local ecological values in terms of biological diversity and productivity for both resident and migratory wildlife resources. Because wetlands and interfacing undeveloped floodplain habitats are relatively scarce in southern California, they have increased importance to wildlife.

3.2.3 In the original 1981 Coordination Act Report, the U.S. Fish and Wildlife Service (USFWS) developed a subjective scale by which different habitat types can be categorized based upon their importance to wildlife. The degree to which a habitat is important for wildlife is referred to as a "Habitat Quality Value". Habitat quality values range from 0.1 (lowest value possible) to 1.0 (highest value possible). A habitat assigned a value of anywhere from 0.1 to 0.3 would have a relatively low ecological value and would generally not support a high abundance nor diversity of vegetation or wildlife (e.g. severly disturbed habitats). Habitat types with values between 0.4 and 0.7 would have a relatively medium ecological value and would generally support significant vegetation and wildlife populations. Values ranging between 0.8 and 1.0 would be assigned to those habitats with high ecological values. These high value habitat types may either support a high diversity and/or abundance of plants and animals, or be extremely scarce or vulnerable. The USFWS has assigned habitat quality values to the emergent wetland, riparian, and old field habitats that occur within the project area. These habitat quality values were based upon existing habitat conditions and factors within the project area. Factors considered in assigning habitat quality values include: diversity and numbers of plants and animals; size and interrelationships of various habitats; local and regional abundances or scarcity of habitats; habitat vulnerability and replaceability; edge effect; food, cover and water resources; and human disturbance and alteration of habitats. The habitat quality values for the wetland, riparian, and old field habitats are discussed in the following paragraphs, and are listed in Table EA-2 (pg. 10). The Corps of Engineers environmental staff concurs with the USFWS's assigned values.

3.2.4 Emergent Wetlands and Riparian Habitat. Approximately 3 acres of emergent wetlands and 5 acres of riparian habitat occur within the project area along Los Coches Creek (Figure EA-2). These two habitat types have been mapped together in Fig. EA-2 as "willow-reed wetlands and riparian habitat,"

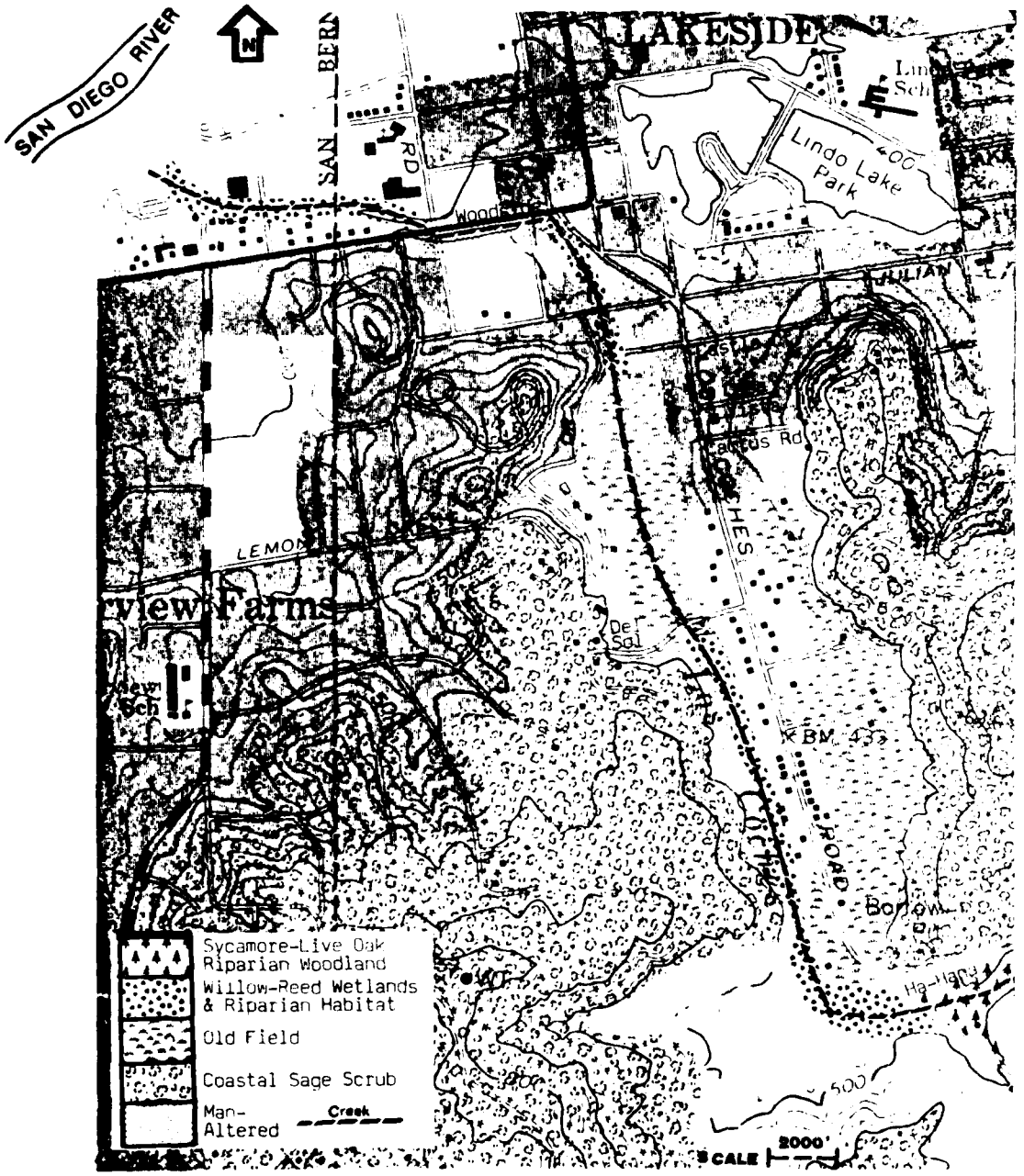
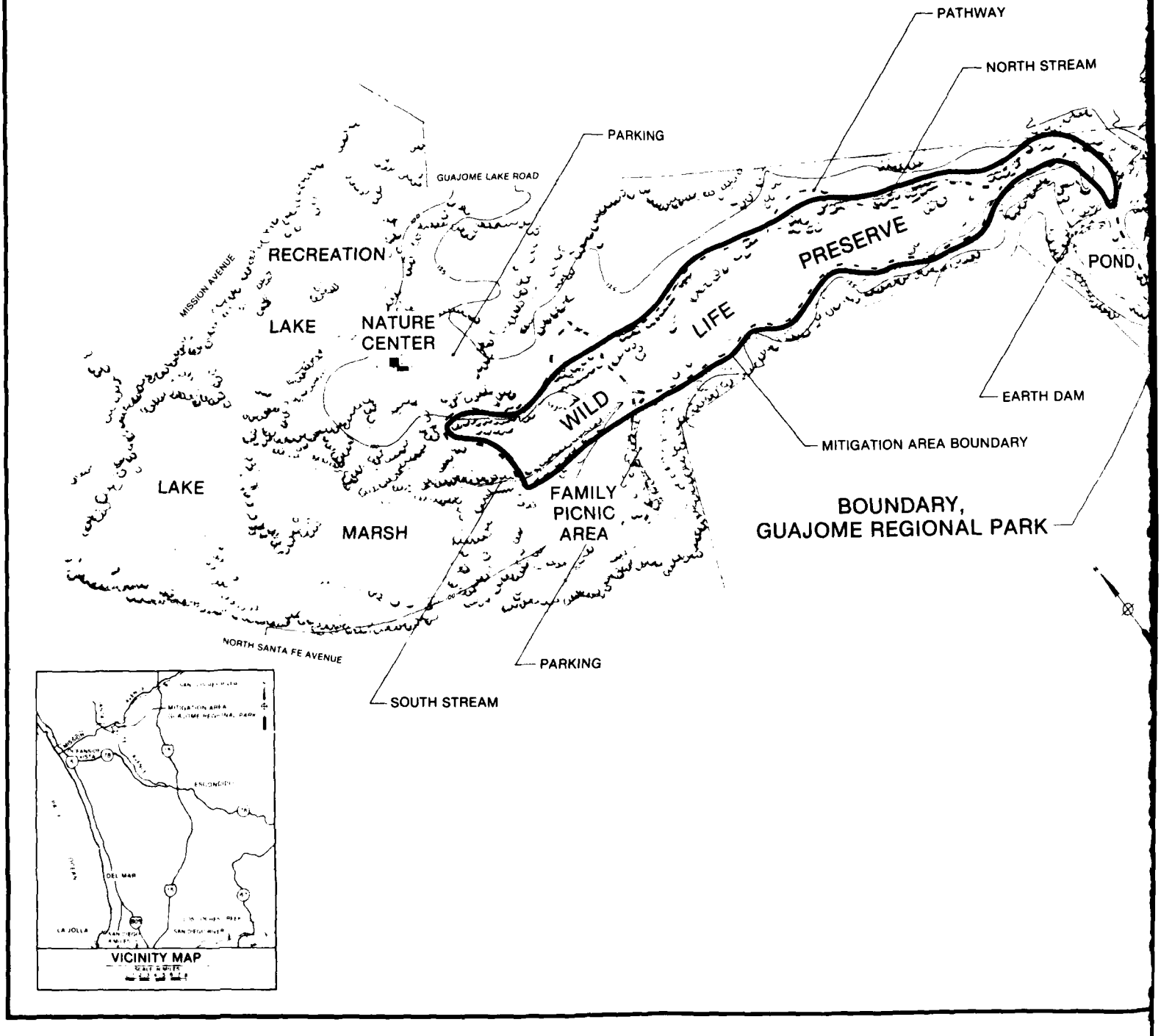
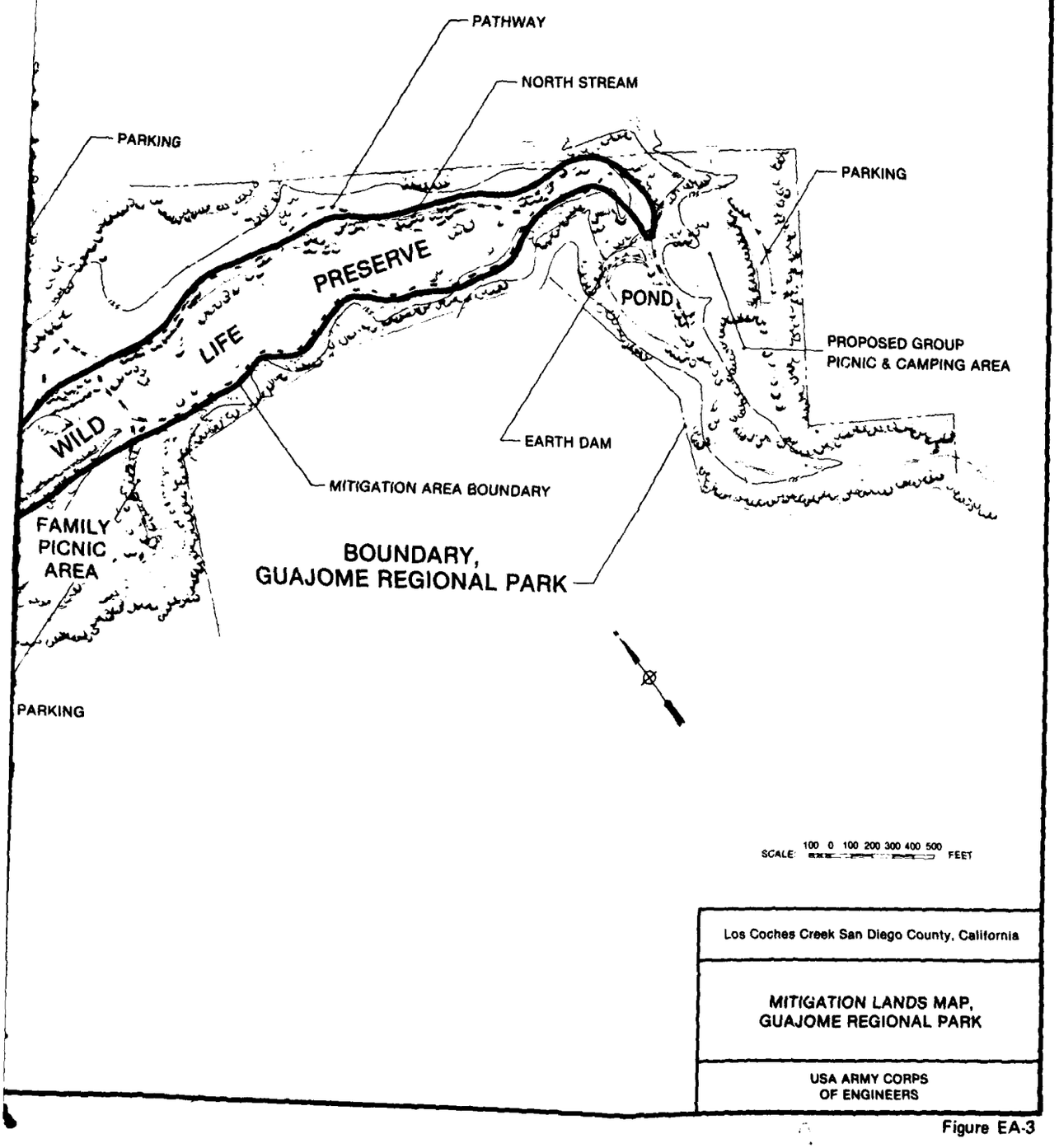


Fig. EA-2. GENERAL HABITAT MAP

Revision of Fig. I.1 from Atlantis Scientific Co., 1980.


PATHWAY
NORTH STREAM
PARKING
GUAJOME LAKE ROAD
RECREATION
MISSION AVENUE
LAKE
NATURE
CENTER
WILD
LIFE
PRESERVE
POND
EARTH DAM
MITIGATION AREA BOUNDARY
LAKE
MARSH
FAMILY
PICNIC
AREA
BOUNDARY,
GUAJOME REGIONAL PARK
NORTH SANTA FE AVENUE
PARKING
SOUTH STREAM
VICINITY MAP



Los Coches Creek San Diego County, California

MITIGATION LANDS MAP, GUAJOME REGIONAL PARK

USA ARMY CORPS OF ENGINEERS

Figure EA-3

since they coexist in a mosaic pattern along the edge of the creek and cannot be mapped as separate units. The highest quality wetlands and riparian habitat are upstream of Castle Court Drive and extend to Los Coches Road bridge. Due to the limited water resources downstream of Castle Court Drive, the creek in this reach supports sparser vegetation, and therefore, a lower species diversity than the upstream reach.

3.2.5 Emergent freshwater wetland species, such as watercress (Rorippa nasturtium - aquaticum) and cattail (Typha latifolia) occur along the creek bed. These wetland species provide habitat for aquatic insects, mosquito fish, and tadpoles which in turn provide forage for racoons, herons, king fishers and numerous other bird species. The wetlands upstream of Castle Court Road have been assigned a habitat quality value of 0.5 (medium ecological value), and those downstream have been assigned a value of 0.2 (low ecological value). See Table EA-2.

3.2.6 The riparian habitat which extends downstream of Los Coches Creek bridge to Casa Vista Road is dominated by willows (Salix spp.) and mulefat (Baccharis glutinosa). Open stands of mature cottonwood and sycamore trees and elderberry shrubs also occur along the banks and between the residences immediately outside the channel. Between Casa Vista Road and Julian Avenue, willow and mulefat are replaced by dense stands of giant reed (Arundo donax). The riparian habitat upstream of Castle Court Drive provides good cover and forage for many species of insects, reptiles, and mammals, such as the western fence lizard, opossum, and coyote (Atlantis Scientific Co., 1980). The large trees provide valuable nesting and perching sites for several species of passerines and raptors, including such sensitive riparian associated species such as warblers and red-shouldered hawks. The riparian habitat upstream of Castle Court Drive has been assigned a habitat quality value of 0.7 (medium ecological value). The riparian habitat downstream of Castle Court Road has been assigned a value of 0.2 (low ecological value). See Table EA-2.

3.2.7 Old Field Habitat. Approximately 71 acres of old field habitat occur within the project area (Figure EA-2). About 65 of these acres are of a high quality. This high quality old field habitat is found upstream of Castle Court Drive adjacent to Los Coches Creek and along the creek channel between Del Sol and Casa Vista Roads. The remaining 6 acres are located downstream of Castle Court Drive among many commercial and residential flood plain developments, and therefore are more disturbed areas. Old field habitat consists primarily of fallow croplands, disturbed grasslands, roadsides, and cleared areas. Characteristic vegetation includes various weeds and grasses, of which Emex spinosa, a broadleaf exotic weed, is dominant. Eucalyptus trees within the old field habitat between Del Sol and Casa Vista Roads provide perching sites for many species of raptors.

3.2.8 Old field habitat supports a lower abundance and diversity of wildlife than the wetlands and riparian habitat; however, it provides valuable cover and forage for not only resident birds and mammals, but also for many transient predatory species, such as the coyote. In addition, this habitat serves as a link between adjacent habitats and as an access route to water in Los Coches Creek. The old field habitat downstream of Castle Court Drive provides only limited cover, forage, breeding, and nesting sites for wildlife,

due to continual human disturbance. A habitat quality value of 0.4 (medium ecological value) was assigned to the old field habitat upstream of Castle Court Road, and a value of 0.2 (low ecological value) was assigned to the downstream reach. See Table EA-2 (pg 10).

3.2.9 Sycamore-Coast Live Oak Riparian Woodland. A sycamore-coast live oak riparian woodland occurs within the shallow canyon immediately upstream of Los Coches Creek bridge, just outside of the project area (Figure EA-2). Mature California sycamores (Plantanus racemosa) and coast live oak (Quercus agrifolia) form the primary overstory. The understory is dominated by willows and mulefat. Cottonwoods are also present but are confined to the creek channel. These trees provide important shelter and nesting habitat for numerous species of raptors and passerines. This riparian-woodland habitat supports a high species abundance and diversity, as it provides excellent habitat for numerous insect and wildlife species (Atlantis Scientific Co., 1980).

3.2.10 Coastal Sage Scrub Habitat. Approximately 2 acres of coastal sage scrub habitat occur within the project area, primarily upstream of Los Coches Road along the east-west facing hillsides above Los Coches Creek. Hundreds of acres of this habitat can also be found immediately outside the project area (Fig. EA-2). The coastal sage scrub community is composed of low growing stands of scrub and brush dominated by California buckwheat (Eriogonium fasciculatum), and coastal sagebrush (Artemesia californica). This plant community provides forage and cover for both resident and migratory reptiles, birds and mammals. Los Coches Creek is an important source of water for wildlife that live in the coastal sage scrub.

3.2.11 Man-Altered Habitat. The greatest concentration of man-altered habitat that occurs within the project area can be found downstream of Cactus Road (Figure EA-2). Most of the climax plant community which originally existed in the natural flood plain has been eliminated by development. Characteristic vegetation includes various species of grasses, weeds, and exotic landscape species. This habitat provides limited cover and forage for wildlife. It is primarily inhabited by urbanized animal species, such as feral cats and dogs, and rodents. Wildlife receives more value from the rural, man-altered habitat upstream of Castle Court Drive, since this area is intermixed with old field habitat.

TABLE EA-2
HABITAT QUALITY VALUES OF EXISTING HABITAT*

Habitat	HABITAT QUALITY VALUE: Upstream of Castle Court Road	Downstream of Castle Court Road
Emergent Wetlands	0.5	0.2
Riparian Habitat	0.7	0.2
Old Field	0.4	0.2

*Ecological value: High, 0.8 - 1.0; Medium, 0.4 - 0.7; Low, 0.1 - 0.3.

Based on data from U.S Fish and Wildlife Coordination Act Report, 1981.

3.3 Threatened or Endangered Species

3.3.1 It has been determined that no listed or proposed endangered or threatened species occur within the project area. Coordination with the U.S. Fish and Wildlife Service and the California Department of Fish and Game (CDFG) was conducted pursuant to the Endangered Species Act (see section 5.1.3).

3.4 Groundwater

3.4.1 Groundwater conditions vary in the project area. Upstream from Woodside Avenue depth to groundwater is only a few feet. Downstream from Woodside the groundwater depth increases to about 20 feet near the confluence with the San Diego River. Groundwater is recharged by stream flow in the reach downstream from Del Sol Road. This groundwater then flows toward the San Diego River. Upstream from Del Sol Road shallow bedrock prevents any significant recharge and causes perched groundwater conditions. Groundwater is not used in the project area, since all local water districts have converted to imported water. Well records were disposed of at the time of conversion. (See the Geotechnical Appendix for detailed information.)

3.5 Aesthetics

3.5.1 The project area can be divided into three reaches to describe its aesthetic quality. The upstream reach, from the Los Coches Creek bridge to Castle Court (1.2 miles) is a fairly natural riparian area. In this area the creek bed and associated riparian vegetation are visually attractive. The appearance of the middle reach, within the community of Lakeside (0.6 miles), has been altered by flood control structures and commercial development. This reach is not judged a significant natural visual resource. The downstream reach, located between Lakeside and the San Diego River (0.4 miles), is a somewhat natural appearing reach, altered by Highway 67 and sand and gravel operations. Vegetation along the creek acts to hide mining operations from view (Atlantis Scientific Co., 1980).

3.6 Cultural Resources

3.6.1 A cultural resources survey of the Los Coches Creek Project area was conducted in 1979 by San Diego State University under contract to the Los Angeles District Army Corps of Engineers (Pettus, 1979). In July of 1983 a field check of the project area by a Corps archeologist confirmed the recorded site locations. According to these sources five cultural resource properties occur near project boundaries on Los Coches Creek. Two are prehistoric, one is historic and the other two incorporate components from both these periods. The first prehistoric site, SDi-5055, is a single milling surface on an outcrop on a hill above the creek. The area is presently highly disturbed due to its location in a dense residental area. The other prehistoric site, SDi-5047, consists of five milling surfaces on one large member of a boulder outcrop next to the creek. Subsurface testing of the site revealed a very light artifact density occurring in a highly disturbed context. One of the multi-component sites, SDi-5046, is also a bedrock milling station but is much more complex with at least 29 milling surfaces. The areal extent of this site

is also greater, extending 200 meters along the south side of the creek edge to a historic dam built across the creek in the early 1900's. Part of the prehistoric component also extends to the other side of the creek. Both of these milling complexes probably date to late prehistoric times as evidenced by the presence of mortars. The other multi-component site, SDi-5048, includes the remains of a burned house, a historic trash midden and three milling basins near the edge of a terrace overlooking the creek. Although much of the debris is recent, some appears to be from the 1930's. Also burned timbers revealed some square nails, several of which date to the early part of the century. The prehistoric component may be indicative of an Early Milling Stone Horizon occupation as no mortars were present. This horizon occurred about 7,500 to 3,000 years ago. The historic site, SDi-6883, consists of four associated structures and the yard in which they stand. According to local sources three of these buildings were built in the early 1900's and the fourth was trucked in at some later time.

3.7 Land Use

3.7.1 There are several categories of land use within the project area. The area within the 100-year flood plain upstream of Castle Court is a rural-residential area. Homes in this area are single-family dwellings. Much of the land in this area is open space (the old field habitat discussed in Section 3.2.1). This land is zoned as "Residential" (4.3 dwelling units per acre) in the current Lakeside community plan. Downstream from Castle Court is the commercial area of the community of Lakeside. This area is zoned as "General Commercial" in the 1983 Lakeside Community Plan. The lowest reach of the creek, adjacent to the San Diego River, is an area currently zoned as "Impact Sensitive" (1 dwelling unit per 4, 8, or 20 acres).

3.7.2 The flooding problem along Los Coches Creek has led the San Diego County Board of Supervisors to impose a moratorium on development in the Los Coches Creek watershed. Permit processing of subdivision maps is allowed, but construction is prohibited until construction of Los Coches Creek channel by either the Corps of Engineers or some other entity (County of San Diego, California-Board of Supervisors Policy I-87). Most of the land in the watershed is rural or residential. Some of this land is zoned as "Estate" (1 dwelling unit per 2 and 4 acres).

3.8 Water Quality

3.8.1 No data is available on the water quality of Los Coches Creek, but the existing water quality is presumed to be good. The presence of mosquito fish (Gambusia affinis) indicates that water quality is reasonably good. In addition, no permits for the discharge of wastewater into Los Coches Creek are in existence (David Barker, Regional Water Quality Control Board, San Diego Region, Personal Communication).

3.9 Air Quality

3.9.1 The air quality monitoring station nearest to the project area is in El Cajon, about 7 miles from Lakeside. The elevation of the two areas is similar, and air quality at El Cajon should reflect conditions in the project

area. The 1982 data from the El Cajon station (Air Pollution Control District, San Diego County) indicated that Federal standards for nitrogen dioxide, sulfur dioxide, and carbon dioxide were not exceeded during the year. In addition, there were no smog alert days (days when the ozone level exceeds 20 parts per hundred million, by volume) at the El Cajon station during 1982. During 12 days in 1982, ozone levels indicated unhealthful air quality at the El Cajon station.

4. ENVIRONMENTAL EFFECTS/MITIGATION

R The following analysis does not include potential impacts from plans eliminated from detailed study.

4.1 Biological Resources

4.1.1 Emergent Wetland and Riparian Habitat. Construction of a concrete channel, including an allowance for right-of-way, for plan 2, 4, or 9 would eliminate about 8 acres of emergent wetland and riparian habitat, essentially all of the wetland and riparian habitat in the project area (Table EA-1). Access requirements for the proposed concrete channel for plans 2, 4, or 9 would require an average of about 12 feet of right-of-way along the east side and about 8 feet along the west side of the channel. This right-of-way would be cleared of vegetation at all times. Efforts would be made, however, to preserve any mature cottonwoods, sycamores, or other large trees along the right-of-way where possible. The removal of this vegetative cover would reduce wildlife shelter, cover, forage, resting, and breeding sites, and therefore, decrease the overall wildlife habitat potential for the general area. Wildlife that are slow-moving, aquatic or hibernating would experience direct mortality. This group would include many species of reptiles and amphibians, and some rodent and mammal species (Atlantis Scientific Co., 1980). Other wildlife inhabiting and/or utilizing these habitats would be displaced. In the event that surrounding habitats have already reached their carrying capacities, animals attempting to relocate would also be eliminated. Loss of the high quality wetland and riparian habitat upstream of Castle Court Drive would adversely impact migratory and resident bird species dependent upon these wetlands for forage, nesting, and cover, (e.g., green heron, killdeer, and red-winged blackbirds). Elimination of the wetlands along the creek would also reduce water supplies for wildlife dependent upon the project area. Each of the plans would create a barrier to cross-channel wildlife migration routes. Impacts to migration routes along the creek bottom to and from the San Diego River would be less severe since these routes may already be substantially blocked by development within the town of Lakeside. The animal populations that may be most affected by barriers to their feeding and/or migration routes are the coyote, opossum, and skunk (Atlantis Scientific Co., 1980). Should any of the plans lead to a significant reduction in groundwater recharge and a decrease in watertable elevation, riparian trees adjacent to the right-of-way, such as cottonwoods, willows and sycamores, could be eliminated.

4.1.2 Adverse impacts to the biological resources downstream of Castle Court Drive would be less severe, since the wetland and riparian habitat in this area is continually disturbed by man and supports a lower abundance and diversity of wildlife.

4.1.3 Although each plan considered in detail would require the clearance of all of the wetland and riparian habitat along the 2.1 mile reach (about 8 acres), the greater widths of some of the plans considered in detail would result in greater irreversible losses of riparian vegetation. Area cleared for right-of-way can revegetate; area cleared for the concrete channel is an irreversible loss. Table EA-3 lists the average widths of the proposed concrete channels for plans 2, 4, and 9 in the reach upstream of Castle Court Road. The trapezoidal concrete channel for plan 9 would result in twice the irreversible loss of riparian habitat than the recommended plan. This may result in the elimination of additional large phreatophytes (e.g., cottonwoods and sycamores), which are intermixed with the old field and man-altered habitats that edge the creek.

TABLE EA-3
AVERAGE WIDTHS OF PROPOSED CONCRETE
CHANNELS UPSTREAM OF CASTLE COURT ROAD

Plan	Average width upstream of Castle Court Road (Feet)*
2	23
4	27
9	60

*Widths do not include right-of-way (about 20 feet)

4.1.4 Old Field Habitat. Construction of a concrete channel for plan 4 would directly eliminate about 6 acres of old field habitat. Plan 2 would directly eliminate about 3 acres of this habitat, whereas plan 9 would directly eliminate approximately 9 acres. Wildlife inhabiting and/or utilizing these habitats would be eliminated or displaced. The most significant adverse impact upon the biological resources of old field habitat as a result of the direct removal of vegetation and destruction of burrows would occur upstream of Castle Court Drive, where the vegetative abundance and diversity and wildlife habitat potential are highest. The majority of the old field habitat directly eliminated by each of the four plans is located in this upstream reach. All of the proposed plans would impose a substantial barrier to wildlife feeding, watering, and/or migration routes across and, to a lesser degree, along the creek.

4.1.5 Impacts to the biological resources of old field habitat downstream of Castle Court Drive would be less severe. Much of this old field habitat is intermixed with man-altered habitat and has a substantially lower overall wildlife value. Therefore, the consequent decline in species abundance and diversity in this downstream section would be markedly less than that which occurs upstream, and is not considered significant.

4.1.6 Since the recommended plan (4) and plan 9 would remove the existing flooding threat, it is presumed that old field habitat that is presently protected would be developed in accordance with the local community plan (See Section 4.7). Should all of the old field habitat within the 100-year flood plain be converted to residential use, approximately 65 acres of old field habitat would be eliminated as an indirect impact of the recommended plan.

About 62 acres of old field habitat could be destroyed by project induced development should plan 9 be implemented. Indirect impacts associated with project-induced development in the flood plain for plan 2 would be less than for the recommended plan. Because plan 2 offers only 50-year flood protection, construction within the 100-year flood plain would still be restricted. The 100-year flood plain for the concrete channel proposed for plan 2 would be considerably smaller than the existing flood plain. Exact acreages that could be impacted are unkown at this time since the 100-year flood plain of plan 2 has not been delimited. Mitigation measures proposed for the loss of old field habitat are discussed in section 4.2.

4.1.7 Sycamore-Coast Live Oak Riparian Woodland. No direct impacts to the sycamore-coast live oak riparian woodland are anticipated since this habitat is located just upstream of the construction zone. However, if plans 2, 4, or 9 cause a significant lowering of the groundwater table upstream of Los Coches Road bridge, an indirect loss of this habitat and its associated wildlife may occur. This impact, however, is not anticipated.

4.1.8 Coastal Sage Scrub. Impacts to coastal sage scrub habitat would be indirect, no coastal sage scrub would directly eliminated by any of the proposed plans. Since this habitat provides cover and forage for wildlife from the adjacent old field and wetland habitats, the coastal sage scrub habitat may experience an increase in wildlife population sizes as a result of the relocation of some of the transient animals from impacted habitats. This impact is minimal and is not considered significant. Mammals, reptiles and amphibians that inhabit the coastal sage scrub would lose access to the water in Los Coches Creek. This impact is judged to be significant. Mitigation is discussed in Section 4.2.

4.1.9 Man-Altered Habitat. Approximately 4 acres of man-altered habitat would be eliminated by the recommended plan. Plan 2 would eliminate about 2 acres of man-altered habitat, whereas the increased width for plan 9 would require elimination of approximately 6 acres. Man-altered habitat has a very low ecological value, and, therefore, any impacts to this habitat are not considered significant. No mitigation measures are necessary.

4.2 Mitigation.

4.2.1 Mitigation Program Development in Draft Report. The above impacts to the emergent wetland, riparian, and old field habitat are judged to be adverse and significant if not mitigated. Therefore, the following measure was considered by the Corps of Engineers and the U.S. Fish and Wildlife Service to mitigate for the loss of these habitats by the recommended plan, or plans 2 and 9:

Acquire and preserve an approximately 20-acre parcel of wetland and/or riparian habitat that is presently threatened by development along the San Diego River, or restore 20 acres of damaged wetland or riparian habitat.

4.2.2 The above 20-acre estimate was obtained using the following method:

1) Multiply the acres of habitat directly and indirectly eliminated by each plan (Table EA-1), by the existing habitat quality value (Table EA-2).

2) For old field habitat, multiply the product obtained in step 1 by an adjustment factor of 4/7. The purpose of this adjustment factor is to attain the acreage of wetland and riparian habitat (value of 0.7) that could be preserved in place of old field habitat value of 0.4).

3) The acres required for mitigation for wetland and riparian habitat, and for old field habitat were then added together to obtain a total of about 20 acres.

Calculation of mitigation requirements is discussed in detail in the environmental appendix. A sample calculation for plan 4 is included here:

Sample Calculation

Habitat Type	Acres Directly and Indirectly Eliminated By Plan 4		Existing Habitat Existing Habitat Quality Value	Total Acres Required for Mitigation
Wetland & Riparian				
Upstream of Castle Court Road	5.3	x	0.63*	= 3.3
Downstream of Castle Court Road	2.3	x	0.2	= 0.5
Old Field				
Upstream of Castle Court Road	65	x	0.4 (4/7)	= 15
Downstream of Castle Court Road	6	x	0.2 (4/7)	= 0.7
		Total		20

* The existing habitat quality value for the emergent wetland and riparian habitats upstream of Castle Court Road are 0.5 and 0.7, respectively. Due to the co-existence of these two habitat types along the creek, a weighted, combined value of 0.63 was used.

The preservation of one, relatively unified parcel of wetland and/or riparian habitat--habitat types which provide substantial habitat values--is considered environmentally preferable to preserving smaller, separate parcels of wetland and old field habitats.

R 4.2.2 Revised Mitigation. The tentative mitigation described above has been revised and recoordinated since the October 1983 draft report with the local sponsor (the County Public Works Department), the County Parks and Recreation Department, CDFG and USFWS because no suitable acreage could be found for mitigation along the San Diego River. The final selected mitigation site is located in Guajome Regional Park near the City ofOceanside in northern San Diego County (see Figure EA-3). The site consists of approximately 30 acres of wetland and riparian habitat adjacent and upstream of Guajome Marsh, an inland, freshwater marsh.

R 4.2.3 The mitigation area includes a larger area than the 20 acres discussed in 4.2.1 because the site is currently under some protection by virtue of being within a county park and the protection afforded the area under the Corps' authority under Section 404 of the Clean Water Act. However, because the wetland receives less than 5 cfs a year on the average, the area could fall under the less-stringent 'Nationwide' permitting process. Under the Nationwide permitting process, some types of development can occur in wetland areas.

R 4.2.4 The 30 acre mitigation area is composed of three primary components: (1) a 2,000-foot long, 400-foot wide parcel of wetland area which includes a riparian corridor which forms the main portion of the mitigation site, (2) a 700-foot-long, 400-foot wide downstream corridor bordered by two drainage streams and linking the Guajome Marsh with the main wetland parcel described (1), and (3) an 800-foot-long, 100-foot wide upstream corridor which continues along the existing drainage stream to the water source of the main wetland parcel.

R 4.2.5 The main wetland parcel in the mitigation area is currently designated in the Park Master Plan as "play area' and has been proposed to become turfed multiuse game fields. The two corridors composing the remainder of the mitigation site are not clearly designated for any particular land use in the Park Master Plan. The mitigation program consists of changing the existing designation in the Park Master Plan to "wildlife preserve" or a similar classification for the entire 30 acre area and maintaining and operating this acreage to protect the existing wildlife resource values of the wetland and riparian habitat areas for the life of the project. Only those activities compatible with wildlife protection will be allowed.

R 4.2.6 The San Diego Department of Public Works will also provide the San Diego Department of Parks and Recreation a sum of money not to exceed $80,000.00 to be spent to upgrade the wetland areas. Modifications could include such activities as widening the riparian corridors, excavating ponds in the main wetland area to allow for year-round ponds, and providing plantings to diversify the vegetation of the area. The detailed modification plan will be jointly developed with USFWS, CDFG, and the San Diego County Department of Parks and Recreation.

R 4.2.7 The San Diego County Department of Parks and Recreation will continue to operate and maintain the mitigation area as an integral part of the existing Guajome Regional Park. The operation and maintenance will be performed for the purpose of protecting wildlife resource values at no cost to the Federal Government and will be subject to review by the Corps and the USFWS.

R 4.2.8 Because of the mitigation area's location relative to an existing marsh, lake, and the San Luis Rey River, the site has very high wildlife resource values. However, the high wildlife resource values of the wetland mitigation area are dependent upon the maintenance of the high wildlife resource values of Guajome Marsh itself and the absence of noncompatible land uses adjacent to the site. It is anticipated that with upgrading and

protecting the resource values of the mitigation wetland area, in conjunction with the existing marsh, the two areas will operate as one system and will consequently support even greater numbers of wildlife.

4.2.9 Wildlife in the areas surrounding Los Coches Creek will be denied access to water by construction of the concrete channel. This impact can be mitigated through construction of a wildlife water source or "guzzler" which could be activated by wildlife to provide a flow of drinking water. The guzzler would be located on the western bank of the flood control channel between Del Sol Road and the Los Coches Creek Bridge. Such a guzzler would cost approximately $3,000.00. The guzzler would be maintained by the San Diego Department of Public Works.

R

4.3 Threatened or Endangered Species

4.3.1 None of the proposed plans would have an impact upon any species listed as Endangered or Threatened, or related critical habitat. No endangered or threatened species currently inhabit or utilize the project area.

4.4 Groundwater

4.4.1 All plans considered in detail would impact groundwater recharge along lower Los Coches Creek. In the project area, groundwater recharges in the reach downstream from Del Sol Road, a distance of about 1.3 miles. All alternatives, except no action, would eliminate this recharge by substituting an impermeable concrete channel for the natural, permeable substrate.

4.4.2 Impacts to groundwater recharge are not considered significant for two reasons. First, water would be conveyed down to the San Diego River, where groundwater recharge would occur. This is the eventual destination of groundwater that currently recharges into lower Los Coches Creek. Therefore, no net impact to the area's groundwater is expected. In addition, groundwater is not used in the project area because local water districts have converted to imported water.

4.5 Aesthetics

4.5.1 Aesthetic impacts of the project vary between the three reaches discussed in Section 3.5. In the upstream reach, all plans considered in detail, except no action, would result in a substantial alteration of the creek's appearance. The natural appearing creek and vegetation would be replaced with a concrete channel. This would be a negative impact, although along most of this reach the channel is visible only to adjacent local residents. The impact of the trapezoidal channel, Plan 9, would be somewhat greater because the trapezoidal channel is more visible. Through the middle reach, in downtown Lakeside, no negative aesthetic impacts from any alternative are anticipated because the natural channel has been obliterated. Channelization of the downstream reach is also not judged significant, because the visual attractiveness of the area has been reduced by Highway 67 and sand and gravel mining, and the broader vegetated area of this reach would help conceal the channel. The overall impact of the project on visual aesthetics is not judged significant.

4.6 Cultural Resources

4.6.1 SDi-5408 and SDi-5055 are located on a hill and terrace respectively. They are both away from and well above project boundaries and will incur no effect due to construction activities. SDi-5046, located east of Los Coches Road, is not within or adjacent to project boundaries. However, given its proximity to project boundaries and the flat clear area it provides, contract specifications will stipulate that no construction related activities will occur in this area. Both SDi-6883 and SDi-5047 are adjacent to project boundaries. Again, contract specifications will protect these sites from all construction and related activities. Therefore, the proposed project would not impact any cultural resources.

4.7 Land Use Changes

4.7.1 Channelization of Los Coches Creek would remove the existing constraints on development within the Los Coches Creek watershed. The 100-year flood plain would be reduced to the channel unless plan 2, a 50-year channel was constructed. If plan 2 is built, the 100-year flood plain would be substantially reduced. In addition, construction of any of the proposed plans would result in the removal of the existing moratorium on development for the Los Coches Creek watershed (see Section 3.7-Land Use).

4.7.2 As a result, construction of a channel is expected to lead to increased development in the project area. Land upstream of Castle Court Road would presumably be developed in accordance with the revised Lakeside Community Plan (1983). This would result in existing open space (the old field habitat described in section 4.1.4) becoming "Residential," zoned for 4.3 dwelling units per acre. Increased commercial development would become possible in Lakeside. Changes in land use are not judged an adverse impact since they would occur in accordance with an approved community plan.

4.7.3 Since the existing moratorium on development is for the entire watershed, potential land use changes induced by the project also are drainage-basin wide. However, the Lakeside Community Plan calls for maintenance of a rural-residential character for the Lakeside area (San Diego County General Plan 1990-Part IV, Lakeside Community Plan, 1975, Revised 1979). Much of the land upstream of the project is zoned as "Estate" (1 dwelling unit per 2 and 4 acres) or "Multiple Rural Use" (1 dwelling unit per 4, 8, and 20 acres) (Lakeside Community Plan, 1983). Since land would develop in accordance with an approved community plan, changes in land use are not considered significant.

4.8 Water Quality

4.8.1 The project is expected to have both short and long term impacts on water quality of Los Coches Creek. Short term degradation of the creek's water quality is anticipated due to increased erosion and siltation caused by construction. This is not expected to reach a level of significance. The construction specifications would require the construction contractor to avoid polluting the creek with fuels, oils, bitumens, calcium chloride, acids, or any other harmful materials. The potential long-term impact on water quality

would be a reduction of turbidity due to replacement of an erodible bed and banks with concrete; this is not considered a significant impact. A Section 404(b)(1) Evaluation has been prepared in compliance with the Federal Water Pollution Control Act Amendments of 1972 (Public Law 92-500), as amended by the Clean Water Act of 1977 (Public Law 95-217) and is attached as Attachment A to this assessment.

4.9 Air Quality

4.9.1 Air pollutants emitted by equipment during construction of the project would have a temporary negative impact on local air quality. This is not expected to reach a level of significance. Construction specifications would require the contractor to comply with Federal, State, and local laws and regulations for control of dust and vehicular emissions.

4.9.2 Increased development in the project area induced by the flood control project (see Section 4.7-Land Use Changes) may result in long-term negative air quality impacts. Because of the local nature of such induced development, long term air quality impacts are not expected to reach a level of significance.

5. COMPLIANCE WITH ENVIRONMENTAL REQUIREMENTS

5.1 Relationship to Environmental Protection Statutes and Other Environmental Requirements

5.1.1 National Environmental Policy Act (Public Law 91-190). This assessment has been prepared in accordance with the requirements of the National Environmental Policy Act. The assessment includes a description of the need for the project, alternatives considered, environmental effects of the project, and documentation of required coordination. This assessment has been subject to a 30 day public review commencing in December 13, 1983.

R

5.1.2 Clean Water Act of 1977 (Public Law 95-217). The project will result in the discharge of materials into the waters of the United States. Therefore, a formal evaluation under Section 404(b)(1) of the Act has been prepared and is attached to this assessment. The 404 evaluation has been reviewed by the California Regional Water Quality Control Board, San Diego Region.

5.1.3 Endangered Species Act of 1973, as amended. A request was made, by letter dated 11 July 1983, of the U.S. Fish and Wildlife Service, Sacramento Endangered Species Office, for any listed and proposed endangered and threatened species that may occur within the project area. According to the U.S. Fish and Wildlife Service response dated 4 August 1983, no listed or proposed species are within the project area. Request and reply were written in accordance with Section 7(c) of the Endangered Species Act of 1973, as amended. Both letters are included in the Environmental Appendix.

5.1.4 Fish and Wildlife Coordination Act. The Los Angeles District has funded the U.S. Fish and Wildlife Service to write the Coordination Act Report (September 1981) and Supplemental Coordination Act Report (September 1983).

The supplement is included in the Environmental Appendix. This report has been coordinated with the California Department of Fish and Game.

R The USFWS in their letter dated January 24, 1984 (see Attachment B) responding to the EA indicated that the mitigation proposed in the Draft Report and EA did not adequately address the concerns of the USFWS. The Department of Fish and Game in the letter dated February 3, 1984 (see Attachment B) responding to the EA indicated a similar concern. Continued coordination with both these agencies has resulted in a revised mitigation program which takes into consideration USFWS and CDFG concerns. As of the printing of this document, coordination with CDFG and USFWS is continuing and it is expected that a letter of support from the USFWS for the revised mitigation program will be forthcoming and copies would be on file at the Los Angeles District, Army Corps of Engineers.

5.1.5 National Historic Preservation Act of 1966, as amended. The project is in compliance with this and all other applicable cultural resources statutes. Potential impacts are discussed in Section 4.6 of this assessment. In addition, the Corps has coordinated, by letter dated 17 August 1983, with the State Historic Preservation Officer (SHPO). The SHPO has concurred (concurrence dated 26 August 83) with the Corps' finding that the project would have no effect on any cultural resource site (see Environmental Appendix for letter and concurrence).

5.1.6 Clean Air Act. A copy of the Draft Environmental Assessment and the attached Draft Finding of No Significant Impact was sent to the Regional Administrator of the Environmental Protection Agency, Region IX, to request agency comments under Sections 176(c) and 309 of the Clean Air Act. Because adverse impacts to air quality associated with the project are not expected to reach a level of significance, no coordination was initiated with the Air Quality Management District.

5.1.7 Executive Order 11988, Flood Plain Management. A relocation alternative was considered, and a determination was made that this is not a practicable solution to the flooding problem along Los Coches Creek.

5.1.8 Executive Order 11990, Protection of Wetlands. Alternatives were considered that would not impact wetlands in the project area. A determination was made that these alternatives were not feasible in terms of solving the flood control problem. For each alternative that impacts wetlands, suitable mitigation measures are proposed.

5.1.9 Council on Environmental Quality Memorandum, 11 August 1980, Analysis of Impacts on Prime and Unique Agricultural Lands. The Los Angeles District requested, by letter dated 14 July 1983, that the U.S. Soil Conservation Service (SCS) identify any Prime or Unique Agricultural Lands. In reply, dated 2 August 1983, the SCS stated that no Prime or Unique Farmlands were located in the study area. The request and reply are presented in the Environmental Appendix.

5.2 Public Involvement

Council of Environmental Quality regulations for the implementation of the National Environmental Policy Act direct Federal agencies to involve the public in the planning process. Public participation has been an important aspect of this study, first as part of the general investigation of the San Diego County Streams study, and then under the Small Project Authority (Section 205 of the 1948 Flood Control Act). The public has been actively involved throughout the study process, including collection of data, plan formulation, and selection. Input was received in (a) the data collection phase, from a coordinated flood damage survey involving the Los Coches Creek Flood Victims Association; (b) the plan formulation phase, during a series of workshops, in Lakeside, in the summer and autumn of 1979; and (c) the plan refinement and selection phase, since the project has been studied under the Small Project Authority, in February 1982, through a series of meetings in the spring and summer of 1982 and regular correspondence with the Los Coches Creek Flood Victims Association.

5.3 Mailing List of Recipients

Agencies, groups, and individuals to whom the Draft Detailed Project Report and Environmental Assessment was sent for review are listed below.

Federal

Department of Agriculture
- Soil Conservation System

Department of Commerce
- Economic Development Administration, Western Regional Office
- National Oceanic and Atmospheric Administration
  - River Forecast Center, Sacramento
  - Regional Hydrologist, Western Region

Department of Health and Human Services
- Assistant Secretary for Health and Surgeon General
- Regional Environmental Officer

Department of Housing and Urban Development
- Federal Insurance Administration
- Federal Housing Administration
- San Diego County Comprehensive Planning Organization
- Regional Administrator, Region IX
- Small Business Adminstration

Department of the Interior
- Office of Environmental Review
- Special Assistant to the Secretary, Pacific Southwest Region
- U.S. Fish and Wildlife Service
- U.S. Geological Survey

Environmental Protection Agency
Administrator, Region IX
Office of Environmental Review

State

Clearing House (for distribution to appropriate state agencies)
Department of Fish and Game
Department of Water Resources
Office of Historic Preservation
Regional Water Quality Control Board, San Diego Region
State Air Resources Board

San Diego County

Paul Fordham, Supervisor
Leon L. Williams, Supervisor
Board of Supervisors
District Attorney
Department of Air Pollution Control
Community Services Agency
Integrated Planning Office
Department of Transportation
Government Reference Library
Chief Administrative Officer
Community Services Agency
Department of Public Works
Director
Environmental Services Unit
Department of Flood Control and Sanitation
Department of Land Use and Environmental Regulation
Library Headquarters

Other Interested Organizations and Individuals

Audubon Society
Lakeside Union School District
League of Women Voters
Local residents and property owners
Los Coches Creek Flood Victims Association
Lakeside Chamber of Commerce
Sierra Club
Comprehensive Planning Organization
San Diego Historical Society
Southern California Association of Governments
Mr. R. Honberger, San Diego County,
Washington Representative
Lakeside Public Library
Lakeside Planning Committee

R 5.4 Letters of Comment and Response

The following letters of comment and their responses are included as Attachment B in the Final EA.

U.S. Environmental Protection Agency
U.S. Fish and Wildlife Service
State of California
- Office of Resources, Energy, and Permit Assistance
- The Resources Agency
- Office of Planning and Research

San Diego County
- Association of Governments
- Department of Health Services
- Flood Control District - Zone Advisory Commission
- Board of Supervisors Resolution

City of Santee
Lakeside Chamber of Commerce
Lakeside Community Planning Group
Lakeside Residents' Coalition
Los Coches Creek Flood Victims Association
Conrock Co.
Drs. Samuel Sloan and Susan Homesley
Ms. Irene Basel
Mrs. Dorothy Robinette
Ms. Doris Wynne
Gray, Cary, Ames, and Frye

6. REFERENCES

Air Pollution Control District, County of San Diego, 1983, San Diego Air Pollution: 1982 Scorecard; News Release.

Atlantis Scientific, 1980, Final Report, Significant Environmental Factors for the Proposed Flood Control Alternatives for Los Coches Creek, San Diego County: Unpublished report contracted by the U.S. Army Corps of Engineers, Los Angeles District.

Pettus, R.E., 1979, A Cultural Resources Survey of Portions of the Los Chollas, South Los Chollas, Los Coches, Forester, and Loma Alta Stream Basins in San Diego County, California: Prepared by the San Diego State University Foundation for the U.S. Army Corps of Engineers, Los Angeles District.

San Diego County, 1975, Revised 1979, San Diego County General Plan, Part IV - Lakeside Community Plan.

San Diego County, 1983, General Plan Amendment of the San Diego County General Plan, Part IV - Lakeside Community Plan.

U.S. Fish and Wildlife Service, 1981, Fish and Wildlife Coordination Act Report: Flood Control Project, Los Coches Creek, San Diego County, California.

7. LIST OF PREPARERS

The following people were primarily responsible for preparation of this Final Environmental Assessment.

Name	Expertise	Experience	Professional Discipline
Jim Duff	Environmental Coordinator, Draft EA	Environmental Resources Branch, Corps, 2 years.	Geographer
John Kennedy	Supervisory Review	Environmental Resources Branch, Corps, 8 years.	Community Planner
John Ferguson	Groundwater	Geotechnical Branch, Corps, 26 years.	Geologist
Taffe Semenza	Cultural Resources	Environmental Resource Branch, Corps, 3 months.	Archeologist
William Van Peeters	Biology	Environmental Resources Branch, Corps, 4 years.	Ecologist
Julia Witz	Biogeography	Environmental Resources Branch, Corps, 3 months.	Geographer
Deborah Harmon	Environmental Coordinator, Final EA	Environmental Resources Branch, Corps, 1-1/2 years.	Geographer

ATTACHMENT A

SECTION 404(b)(1)
WATER QUALITY EVALUATION

LOS COCHES CREEK DETAILED PROJECT REPORT
FINAL ENVIRONMENTAL ASSESSMENT

SECTION 404(b)(1) WATER QUALITY EVALUATION

Los Coches Creek Project, San Diego County, California

Introduction - The following evaluation is provided in compliance with Section 404(b)(1) of the Federal Water Pollution Control Act Amendments (Public Law 92-500) as amended (Public Law 95-217). The evaluation was prepared in accordance with Environmental Protection Agency Guidelines for Specifications of Disposal Sites for Dredged or Fill Material (Federal Register, 24 December 1980). This evaluation covers the recommended plan, Plan 4 in the Detailed Project Report and Environmental Assessment.

1. PROJECT DECRIPTION

a. General Description. The proposed action is a rectangular concrete flood control channel, inlet and outlet, extending 2.1 miles along Los Coches Creek upstream from the confluence of the creek and the San Diego River. The project is authorized as a small project under section 205 of the 1948 Flood Control Act, as amended.

b. General Description of the Fill Material. The fill material will consist of earth materials excavated from the existing channel and concrete. A total of 315,000 cubic yards of earth materials (predominantly silty sands, with minor occurrences of clayey sands, sandy clays, and poorly graded sands in sporadic lenses) would be excavated from the existing channel. Sixty-thousand (60,000) cubic yards of this material would be used as backfill for the channel. The remainder would be disposed of at a designated site in San Diego County, outside of any waters of the United Staes. If necessary, a supplemental 404(b)(1) evaluation will be prepared when the disposal site is selected. Concrete (24,320 cubic yards) would be used in construction of the project. This includes 104,245 cwt of cement and 700 tons of grouted stone.

c. Description of the Proposed Discharge Site. The discharge site is the lower 2.1 miles of Los Coches Creek. In the past, surface flows have typically occurred from December through June. In recent years the creek has been perennial, due to irrigation runoff associated with developments in the upper watershed. The total area to be channelized (including right-of-way to be excavated and backfilled) is about 18 acres. There are several habitat types in the discharge site; about 3 acres of emergent wetlands, 5 acres of riparian habitat, 6 acres of old field habitat, and 4 acres of man-altered habitat. Detailed descriptions of these habitats are found in the attached Draft Environmental Assessment and the U.S. Fish and Wildlife Coordination Act Report and Supplement (Environmental Appendix). Existing local flood control features and other man-caused encroachments on the creek are found in the lower reach of the project area.

d. Description of the Discharge Method. Local flood control features and the existing natural channel would be replaced by a rectangular concrete channel 1.8 miles in length (the inlet and outlet have a combined length of about 0.3 miles). Conventional construction methods would be used. Construction would take place over a 9 to 12 month period. The discharge site should require no future modification after completion of the project.

2. FACTUAL DETERMINATION

a. Physical Substrate Determination. Construction of the project would result in the replacement of the existing substrate with a reinforced concrete channel. In areas not altered by the existing flood control structure, this would eliminate erosion of the existing natural stream bed and banks. This would also result in the elimination of any benthic community in the stream.

b. Water Circulation, Fluctuation, and Salinity Determinations. Construction of the project would not have a significant effect on the salinity, water chemistry, clarity, color, odor, taste, dissolved gas levels, nutrients or eutrophication of water of Los Coches Creek. Waters would no longer percolate through the creekbed into groundwater in lower Los Coches Valley; instead, they would be conveyed into the San Diego River where recharge would occur.

c. Suspended Particulate/Turbidity Determinations. The proposed project is expected to have both short and long-term effects on the creek's turbidity. Construction activities should result in increased turbity due to disruption of the existing environment. Once the project is completed, turbidity should decrease because the bed and banks will not be erodible.

d. Contaminant Determinations. No contaminants would be introduced to Los Coches Creek as a result of the project. Since the discharge material is uncontaminated, it is exempt from further chemical or biological testing (Federal Register, 24 December 1980, 40 CFR Part 230).

e. Aquatic Ecosystem and Organism Determination. The proposed project would result in the destruction of all existing habitat along the creek within the project area. This would include the elimination of about 3 acres of emergent wetlands. There are no endangered species within the project area (see USFWS letter dated 4 August 1983 in the Environmental Appendix). The project would also deny wildlife in the vicinity of the project area access to Los Coches Creek. To mitigate for this (and other) impacts of the project, 20 acres of suitable riparian or wetland habitat would be acquired and preserved outside of the project area and a wildlife water source or "guzzler" would be constructed west of the creek between Del Sol Road and Los Coches Creek bridge.

f. Proposed Disposal Site Determinations. The project would violate no applicable water quality standard and would not affect human use of the creek. The water of Los Coches Creek is not used for any municipal or private water supply. The creek is not suitable for either fishing (the only fish observed in the creek are mosquito fish--*Gambusia affinis*) or water related recreation. Aesthetic impacts of the project are adverse in the upstream reach of the project area, where the natural-appearing channel would be replaced by a concrete channel. No Parks, National and Historic Monuments, National Seashores, Wilderness Areas, Research Sites, or similiar areas are located in the project area.

g. Determination of Cumulative and Secondary Effects on the Aquatic Ecosystem. Not applicable.

FINDING OF COMPLIANCE FOR THE LOS COCHES CREEK REPORT

1. No significant adaptations of the guidelines were made relative to this evaluation.

2. No feasible alternative was available that would have had a lesser impact on the project area. No-action would not solve the existing flood problem. Relocation and floodproofing are not economically feasible. An earth bottom channel was not feasible from an engineering standpoint. A shorter channel was neither technically feasible nor acceptable to the local community. The four alternatives studied in detail all had very similiar impacts to the project area (see the Detailed Project Report and the Environmental Assessment for additional details).

3. The proposed project would not violate any applicable State water quality standard or the Toxic Effluent Standards of Section 307 of the Clean Water Act.

4. The proposed project would not harm any endangered species.

5. The proposed project would not result in significant adverse effects on human health and welfare, including municipal and private water supplies and recreation or commercial fishing. Significant adverse impacts on the ecosystem of the creek would be mitigated through the preservation of offsite lands for mitigation; 30 acres of riparian and wetland habitat is the coordinated, proposed mitigation for this project. In addition a wildlife water source or "guzzler" would be constructed.

6. On the basis of the guidelines, the proposed channelization of Los Coches Creek is in compliance with Section 404(b)(1) of the Clean Water Act with the inclusion of appropriate mitigation for adverse impacts on the aquatic ecosystem.

ATTACHMENT B

LETTER COMMENTS AND RESPONSES

LOS COCHES CREEK DETAILED PROJECT REPORT
FINAL ENVIRONMENTAL ASSESSMENT

R

Letters of Comment

U.S Environmental Protection Agency

U.S. Fish and Wildlife Service

State of California

Office of Resources, Energy, and Permit Assistance
The Resources Agency

County of San Diego

Association of Governments
Department of Health Sercices
Flood Control District - Zone Advisory Commission
Board of Supervisors Resolution

City of Santee

Lakeside Chamber of Commerce

Lakeside Community Planning Group

Lakeside Residents' Coalition

Los Coches Creek Flood Victims Association

Conrock Co.

Drs. Samuel Sloan and Susan Homesley

Ms. Irene Basel

Ms. Dorothy Robinette

Ms. Doris Wynne

Gray, Cary, Ames and Frye

United States
Environmental Protection
Agency

Regional Administrator
215 Fremont Street
San Francisco CA 94105

Region 9
Arizona, California
Hawaii, Nevada
Pacific Islands

EPA

JAN 3 0 1984

Carl P. Enson, Chief
Planning Division
Army Corps of Engineers - Los Angeles District
P.O. Box 2711
Los Angeles, CA 90053

Dear Mr. Enson:

The Environmental Protection Agency (EPA) has reviewed the Draft Environmental Assessment (DEA) and associated documents for LOS COCHES CREEK FLOOD CONTROL, SAN DIEGO COUNTY, CALIFORNIA. EPA's comments are enclosed.

We appreciate the opportunity to comment on these documents and request three copies of the Final EA or any other National Environmental Policy Act documents which the Department of the Army might prepare for the proposed project. If you have any questions, please contact me at (415) 974-8188 or FTS 454-8188.

Sincerely yours,

Loretta Kahn Barsamian

Loretta Kahn Barsamian, Chief
EIS Review Section

Enclosure (1 page)

cc: Mr. Larry Salata
U.S. Fish and Wildlife Service, Laguna Niguel

EPA Region 9 Comments on Draft EA for Los Coches Creek Flood Control, San Diego County, California.

Section 404 Comments

1 The Draft EA identified the loss of riparian/wetland habitat as being significant and adverse if the loss was not mitigated. A mitigation plan was developed in coordination with the U.S. Fish and Wildlife Service (FWS). The FWS proposal would require that twenty acres of upland area be acquired, excavated and revegetated to create wetlands. The mitigation plan proposed by the Army Corps in this DEA appears to differ from FWS's recommendation in that it does not specifically require the creation of riparian wetlands, but rather the acquisition of existing riparian wetlands. It is unclear whether the Army Corps' mitigation plan would be adequate to compensate for the destruction of all existing habitat along the creek in the project area. EPA recommends that Army Corps consult with FWS to determine whether the proposed mitigation will be acceptable to FWS.

Dredged Material Comment

2 At EA-A2, it is stated that the dredged material is uncontaminated. Future NEPA documents should substantiate this statement.

Response to the January 30, 1984 Letter from Environmental Protection Agency:

1. Subsequent to preparation of the Draft EA, the Corps recoordinated the mitigation program of the project with U.S. Fish and Wildlife Service and jointly developed the proposed mitigation program outlined in the final EA (see 4.2). The revised mitigation program consists of upgrading existing wetland habitat. The USWFS has indicated that the proposed mitigation program is acceptable (see letter dated August 20, 1984 in Attachment B).

2. The majority of fill material will be clean fill material, consisting primarily of silty sands as required by law. Approximately 60,000 cubic yards of fill material would be obtained from the channel itself and used for backfill material. Core samples taken of material proposed for excavation from the channel indicated that the material did not contain contaminated materials.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
ECOLOGICAL SERVICES
24000 Avila Road
Laguna Niguel, California 92677

January 24, 1984

Mr. Carl F. Enson
Chief, Planning Division
Corps of Engineers
Los Angeles District
P.O. Box 2711
Los Angeles, California 90053

Re: Draft Detailed Project Report and Draft Environmental Assessment (EA) for the Los Coches Creek Project in San Diego County, California

Dear Mr. Enson:

We have reviewed the referenced document and offer the following comments. The Fish and Wildlife Service (FWS) concurs with the Corps of Engineers (CE) conclusion that with appropriate mitigation included as part of the project, the recommended plan would not significantly affect the quality of the human environment.

As a result of coordination between our two agencies at the staff level and in accordance with FWS mitigation policy, a 3-point plan to avoid or minimize adverse project impacts upon public fish and wildlife resources was developed and included in our supplement to the Fish and Wildlife Coordination Act report for this project. The recommended FWS mitigation plan prescribed the creation of 20 acres of riparian wetland as well as a monitoring program to evaluate revegetation success. However, our recommendations are not mentioned in the draft EA. Instead, reference (see page i, paragraph 3; p. 20, par. 6; p. 26, par. 4; p.EA-i, par. 3; p. EA-1, par. 1; and p. EA-15, par. 5) is made to the "acquisition" of existing riparian wetland as project mitigation. Further, on page A1-19 it is acknowledged in SPLPD-RP Memorandum for Record that the FWS recommends acquisition of upland habitat to create a riparian wetland; yet, the CE staff response implies our concurrence with acquisition of existing wetlands that are subject to development as appropriate mitigation. Before we can evaluate your staff's alternate concept of mitigating the loss of wetlands by acquiring an existing wetland that was threatened by development, we need to understand why these wetlands would not be adequately protected by the Corps' authority under Section 404 of the Clean Water Act.

Given the scarcity and continuing loss of riparian wetland habitat in southern California, we continue to recommend that 20 acres of riparian wetland be created and revegetated with wetland plants to achieve the FWS mitigation goal of no net loss of habitat value while minimizing the loss of in-kind habitat value.

We are interested in working with you to reach an agreement on an acceptable mitigation plan. If you have any questions concerning these comments, contact Larry Salata or me at FTS 796-4270.

Sincerely yours,

Dale A. Pierce

Dale A. Pierce
Acting Field Supervisor

cc: CDFG, Reg. 5, Long Beach, CA (Attn: Jack Spruill)

Response to the January 24, 1984 Letter from the U.S. Fish and Wildlife Service:

Continued coordination with the U.S. Fish and Wildlife Service staff has resulted in an offsite mitigation area acceptable to USFWS. Guajome Regional Park, because of its unique wildlife resource values in conjunction with Guajome Marsh, has been determined by USFWS to be appropriate mitigation. The site would fall under Corps' authority under Section 404 of the Clean Water Act; however, because the drainage flowing through the mitigation area is less than 5 cfs on the average, the area could fall under the less stringent 'Nationwide' permitting process. The larger acreage proposed for the mitigation measures and protection takes into consideration the issues raised in this letter.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
ECOLOGICAL SERVICES
24000 Avila Road
Laguna Niguel, California 92677

August 20, 1984

Colonel Dennis F. Butler
District Engineer
Los Angeles District, Corps of Engineers
P.O. Box 2711
Los Angeles, California 90053

Attention: Debra Harmon, Environmental Resources Section

Re: Agreement Between U.S. Government and the County of San Diego, Board of Supervisors Concerning Fish and Wildlife Mitigation for Los Coches Creek Project

Dear Colonel Butler:

We have been closely working with your agency concerning a fish and wildlife mitigation plan for the Los Coches Creek Project, San Diego County, California. As part of your coordination efforts on this project, you provided our office a copy of a draft agreement between the U.S. Government and the County of San Diego for Los Coches Creek Project for your review and comment (see enclosure). Our comments on this agreement are presented below.

Section "C"
We believe this section should be rewritten to read as follows (note all changes or additions are underlined below).

C. Provide, without cost to the United States, all necessary modification, operation and maintenance of the mitigation lands estimated to be about 30 acres (see attached map).

1) No changes in wording required;

2) The wetlands adjacent to the mitigation lands should be dedicated for wildlife preservation purposes (see attached map). Land use management of the adjacent wetlands shall protect the natural resource values of these wetlands to the maximum extent practicable.

We are requesting changes or additions in the language of the agreement and the addition of a map for several reasons. The Fish and Wildlife Service believes that the 30 acres of mitigation lands at Guajome Regional Park are acceptable only because they are closely associated with existing high value wetlands areas. The mitigation lands and the existing Guajome wetlands must be managed and protected as a biological unit.

A map is necessary to clearly define to all parties involved what lands have been set aside for the purposes of fish and wildlife mitigation and to delineate the boundary of the adjacent wetlands. This map will be extremely important in formulating future management plans for Guajome Regional Park by the county.

Please keep our office informed of the latest progress of this mitigation planning effort. Also please provide a copy of the final agreement and maps. We also look forward to working with you in prioritizing enhancement measures which may be applied to the mitigation lands in the future.

If you have any questions concerning this matter, please call Martin Kenney of my staff at FTS 796-4270.

Sincerely yours,

Nancy M. Kaufman
Field Supervisor

Enclosure

ENCLOSURE

a. Provide, without cost to the United States, all lands, easements, and rights-of-way necessary for construction of the project, including lands necessary for mitigation for project effects, and borrow and disposal areas.

b. Provide, without cost to the United States, all necessary modification or relocation of structures, transportation facilities, bridges, utilities and drainage facilities required in connection with the project.

c. Provide, without cost to the United States, all necessary modification, operation, and maintenance of the mitigation lands estimated to be about 30 acres.

(1) The operation and maintenance (O&M) of the mitigation area is to be performed for the purpose of protecting wildlife resource values and O&M plans are subject to Corps and USFWS review; only those activities compatible with wildlife protection shall be allowed.

(2) Land use management of the adjacent wetlands shall protect the natural resource values of those wetlands to the maximum extent practicable.

d. Contribute a cash contribution for all funds in excess of the Federal limitations in Section 205 of the 1948 Flood Control Act(PL 80-858) and its amendments.

e. Maintain and operate all the works after completion in accordance with regulations prescribed by the Secretary of the Army.

Response to the August 20, 1984 letter from the U.S. Fish and Wildlife Service:

Coordination with USFWS and the County of San Diego will continue to ensure that the concerns of all parties involved will be addressed.

STATE OF CALIFORNIA—OFFICE OF THE GOVERNOR GEORGE DEUKMEJIAN, Governor

OFFICE OF RESOURCES, ENERGY AND PERMIT ASSISTANCE
1400 TENTH STREET
SACRAMENTO CA 95814

January 30, 1984

Mr. Jim Duff
Corps of Engineers, L.A. District
P.O. Box 2711 (Room 6640)
Los Angelos, CA 90053

Subject: SCH #83122118, Los Coches Creek, San Diego County, California

Dear Mr. Duff:

The State Clearinghouse submitted the above named environmental document to selected state agencies for review. The review period is closed and none of the state agencies have comments.

This letter certifies only that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act (EIR Guidelines, Section 15161.5). Where applicable, this should not be construed as a waiver of any jurisdictional authority or title interests of the State of California.

The project may still require approval from state agencies with permit authority or jurisdiction by law. If so, the state agencies will have to use the environmental document in their decision-making. Please contact them immediately after the document is finalized with a copy of the final document, the Notice of Determination, adopted mitigation measures, and any statements of overriding considerations.

Once the document is adopted (Negative Declaration) or certified (final EIR) and if a decision is made to approve the project, a Notice of Determination must be filed with the County Clerk. If the project requires discretionary approval from any state agency, the Notice of Determination must also be filed with the Secretary for Resources (EIR Guidelines, Sections 15082(f) and 15085 (b)).

Sincerely,

Terry Roberts

Terry Roberts
Manager
State Clearinghouse

Response to the January 30, 1984 Letter from the California Office of Resources, Energy and Permit Assistance:

No response required.

Resources Building
1416 Ninth Street
95814

(916) 445-5656

Department of Conservation
Department of Fish and Game
Department of Forestry
Department of Boating and Waterways
Department of Parks and Recreation
Department of Water Resources

GEORGE DEUKMEJIAN
GOVERNOR OF
CALIFORNIA

THE RESOURCES AGENCY OF CALIFORNIA
SACRAMENTO, CALIFORNIA

Air Resources Board
California Coastal Commission
California Conservation Corps
Colorado River Board
Energy Resources Conservation and Development Commission
Regional Water Quality Control Boards
San Francisco Bay Conservation and Development Commission
Solid Waste Management Board
State Coastal Conservancy
State Lands Commission
State Reclamation Board
State Water Resources Control Board

Colonel Paul W. Taylor
Army Corps of Engineers
Post Office Box 2711
Los Angeles, CA 90053

February 3, 1984

Dear Colonel Taylor:

The State has reviewed the draft Detailed Project Report and EA, Los Coches Creek Project, submitted through the Office of Planning and Research. Review was coordinated with the State Water Resources Control Board, State Lands Commission, and Departments of Conservation, Fish and Game, Parks and Recreation, Water Resources, Health Services, and Transportation.

The Department of Fish and Game (DFG) comments that the project could result in significant destruction of wildlife habitat and disruption of wildlife needs by affecting their ability to obtain food and shelter. DFG does not condider the Corps' proposed *measures to offset* the loss of wildlife habitat as adequate, especially the acquisition of existing riparian-wetland when more positive alternative measures are available.

1

The recommendations of the U.S. Fish and Wildlife Service, as described on pages A1-15 and 16, are considerably more effective than the Corps' proposal and provide better compensation for adverse project impacts to riparian-wetland resources. The USFWS recommendations include the acquisition of 20 acres of uplands adjacent to the San Diego River that would be modified to create new riparian-wetlands as a replacement habitat area. DFG would concur with the project if the USFWS recommendations for compensation for habitat losses are included as part of the project.

Questions regarding DFG's comments should be *directed to* Fred Worthley, Regional Manager, 245 West Broadway, Suite 350, Long Beach, CA 90802.

The Department of Transportation comments that the impoundment of substantial amounts of sediment could lead to scouring downstream and to the possible undermining of State highway facilities. Therefore, the "sediment basin" outlet structure portion of the project should be designed primarily for energy dissipation and *should* allow sediment to pass through. This would minimize scouring and the resultant impact to State highway facilities.

2

The Department of Water Resources (DWR) concurs in the findings and recommendations contained in the subject report.

DWR understands that the total cost of the recommended plan is estimated to be $6,916,000, of which the Federal share is $4,000,000. Of the remaining costs, $2,721,000 would be for construction and $195,000 for lands, easements, and rights-of-way.. DWR is not making findings at this time concerning State financial assistance to local sponsors of the project, the County of San Diego. This will be considered after the Chief of Engineers authorizes the project.

Questions regarding DWR's comments should be directed to John Pariewski, 849 South Broadway, Los Angeles, CA 90055, or (213) 620-3951.

Sincerely,

Gordon F. Snow, Ph.D
Assistant Secretary for Resources

cc: Office of Planning and Research
1400 Tenth Street
Sacramento, CA 95814

(SCH 83122113)

Response to the February 3, 1984 Letter from the Resources Agency of California:

1. Continued coordination with staff from U.S. Fish and Wildlife Service, California *Department of Fish and Game* and County of San Diego has resulted in the proposal of a mitigation program acceptable to all the concerned parties.

2. The Corps has determined that the design detailed in the Main Report is the most feasible plan for reducing the flood hazard on Los Coches Creek. An energy dissipator is part of the design and it is expected that some sediment will continue to be conveyed to San Diego River.

San Diego
ASSOCIATION OF
GOVERNMENTS

Suite 524 Security Pacific Plaza
1200 Third Avenue
San Diego, California 92101
(619) 236-5300

January 13, 1984

Ron Ganstried
U.S. Army Corps of Engineers
P. O. Box 2711
Los Angeles, CA 90053

Subject: Executive Committee Action on Draft Detailed Project Report for Los Coches Creek and Draft Environmental Assessment

Dear Mr. Ganstried:

On January 13, 1984, the SANDAG Executive Committee considered your Draft Project Report and Environmental Assessment. Based on review of the Project Report, the Executive Committee has determined that further review by SANDAG is unnecessary.

If you have any questions, please contact Ruth Potter of the SANDAG staff at 236-5300.

Sincerely,

STUART R. SHAFFER
Director of Land Use & Public Facilities

SRS/RP/rw

Enclosure

NI-84-51

San Diego Association of Governments

PROJECT NOTIFICATION

DATE: January 13, 1984 ITEM No.: NI-84-38-49
51-58

TO: Executive Committee

FROM: Executive Director

SUBJECT: Project Notifications Submitted to Areawide Clearinghouse December, 1983

(B) NI-51 Draft Project Report and Environmental Assessment, Los Coches Creek/U.S. Army Corps of Engineers NOT REVIEW

Total Cost:	$6,916,100
Federal Funds:	4,000,000
Local Funds:	2,916,100
Funding Program:	Section 205 Flood Control Act of 1948 As Amended/Small Project Authority Corps of Engineers

Reviewed pursuant to State of California Intergovernmental Review Procedures
Deadline: January 13, 1984

The Draft Detailed Project Report and Environmental Assessment for Los Coches Creek has been prepared by the Corps of Engineers. The 2.1-mile long project recommended consists of an inlet structure, a 1.8-mile long rectangular concrete channel, an outlet structure, a 1,286-foot long covered section and five box culverts. The project begins at the Los Coches Creek bridge on Los Coches Road and ends at the San Diego River in Lakeside. The proposed project would provide 100-year flood protection to about 1,500 acres, which includes some 62 commercial establishments as well as residences, all valued at $25.5 million. The project benefit-cost ratio is 1.04 to 1, allowing participation by the Corps of Engineers to the maximum permitted under the Small Projects Authority.

In order to mitigate the impacts of loss of riparian or wetland habitat, 20 acres will be acquired elsewhere along the San Diego River.

The project has been encouraged locally following the floods of 1978 and 1979, and especially 1980. It has been widely discussed, and staff recommends no further review.

Response to the January 13, 1984 Letter from San Diego Association of Governments:

No response required.

COUNTY OF SAN DIEGO

DEPARTMENT OF HEALTH SERVICES
1700 Pacific Highway, San Diego, CA 92101
JAMES A. FORDE, Director

DIVISION OF ENVIRONMENTAL HEALTH PROTECTION
(619) 236-2243

February 1, 1984

Department of the Army
Los Angeles District,
Corps of Engineers
P.O. Box 2711
Los Angeles, CA 90053

Attention: SPLPD-WA (Ron Ganzfried)

Dear Sir:

This is in response to your request for our department's comments regarding the Draft Detailed Project Report for Los Coches Creek.

Based on a survey conducted in 1980, the following dwellings are connected to a subsurface sewage disposal system:

HOUSES CURRENTLY ON SEPTIC		APN#
12507	Castle Court Drive	394-280-45
12507½	Castle Court Drive	394-280-46
9572	Los Coches Road	394-290-07
9580	Los Coches Road	394-290-08
9608	Los Coches Road	394-290-10
9628	Los Coches Road	394-290-12
9630	Los Coches Road	394-290-13
9560	Los Coches Road	394-290-18
9532	Los Coches Road	394-290-20
9542	Los Coches Road	394-290-25
12361	Lemon Crest	394-290-28
12501	Del Sol Road	394-420-21
9358	Los Coches Road	394-420-28
12500	Del Sol Road	394-420-34
9366	Los Coches Road	394-420-37
12435½	Lemon Crest	394-421-02
12435	Lemon Crest	394-421-03
12443	Lemon Crest	394-421-04
9466	Los Coches Road	394-421-06
9456	Los Coches Road	394-421-07
9446	Los Coches Road	394-421-08
9428	Los Coches Road	394-421-10
9272	Los Coches Road	394-430-11
9278	Los Coches Road	394-430-12

HOUSES CURRENTLY ON SEPTIC		APN#
9184	Los Coches Road	397-030-24
9254	Los Coches Road	397-030-26
9268	Los Coches Road	397-030-27
9228	Los Coches Road	397-030-28
9208	Los Coches Road	397-030-36
9011	Los Coches Road	397-060-34
9119	Los Coches Road	397-060-66
12933	Ha-Hana	397-060-68
12927	Ha-Hana	397-060-69
9106	Los Coches Road	397-060-71
13121	Ha-Hana	397-070-10
13119	Ha-Hana	397-070-11
13237	Ha-Hana	397-070-13
8976	Lakeview Road	397-120-01
8968	Lakeview Road	397-120-02
8971	Lakeview Road	397-162-17
13685	Highway 80	398-290-01
13661	Highway 80	398-290-27
13783	Highway 80	398-300-03
13839	Highway 80	398-300-16
13771	Highway 80	398-300-18
13431	Highway 80	398-310-06
13469	Highway 80	398-310-07
13423	Highway 80	398-310-09
13439	Highway 80	398-310-13

The proposed Plan 4 would require a five-foot horizontal setback for every foot of vertical channel height measured from the channel edge to the nearest part of the sewage disposal system or reserve. Such a setback may not be possible and there may be an adverse impact to the existing septic system such that connection to the public sewer would be required.

If you have any questions regarding the above, please phone me or Frank Gabrian, Supervising Sanitarian, at 579-3699.

Sincerely yours,

RICHARD J. RAMIREZ, Assistant Chief
Division of Environmental Health Protection

RJR:FG:dmc

cc: F. Gabrian

Response to the February 1, 1984 Letter from the County of San Diego, Department of Health Services:

The local sponsor, County of San Diego, Department of Flood Control will implement any necessary utility modifications and relocation in connection with the project.

COUNTY OF SAN DIEGO

FLOOD CONTROL DISTRICT

Zone Advisory Commission (0332)

R. J. MASSMANN
Secretary

County Operations Center, 5555 Overland Avenue, San Diego, California 92123 . . . . . Telephone 565 5186

July 24, 1984

Colonel Dennis F. Butler
U. S. Army Corps of Engineers
Los Angeles District
P. O. Box 2711
Los Angeles, CA 90053

Attention: Mr. Ron Ganzfried

Dear Colonel Butler:

Subject: Los Coches Creek

This letter is in response to your request for information related to our mitigation measures, your draft 211 agreement that was transmitted to us, and the final resolution of the channel outlet on the CONROCK Company property.

Mitigation Measures

The County of San Diego agrees to pursue the following mitigation measures for the Los Coches Flood Control Project:

1. Protect the wildlife resource values of approximately 30 acres of land currently slated for development in Guajome Regional Park.

2. Provide money to modify the preserved acreage and adjacent wetlands in Guajome Park to create a more valuable wildlife habitat.

3. Provide a source of fresh drinking water for the wildlife at the site of the Los Coches Flood Control Project.

Details of the three mitigation measures follows:

1. Initiate the process which will result in the changing of the designation of approximately 30 acres of the Guajome Regional Park Master Plan. The targeted 30 acres is currently shown as "play area" on the Master Plan and is slated to become turfed multi-use game fields. This area includes a rectangular 20+ acre parcel, plus a corridor that extends downstream to an existing marsh and upstream to an existing dam. The new designation would be "wildlife preserve" or a similar classification and only those activities compatible with wildlife protection will be allowed. This area has been reviewed by the Corps of

Engineers and the Fish and Wildlife Service who have determined that because of its location relative to an existing freshwater marsh, lake and the San Luis Rey River, this land has the potential to be a valuable environmental asset if it were to be preserved.

The San Diego County Department of Parks and Recreation has agreed to pursue the discussed modifications to the Park Master Plan. Changing the plan involves allowing the public to review and comment on the new proposal and then recommending the change to the San Diego County Board of Supervisors who have the authority to modify the Master Plan.

2. The San Diego Department of Public Works will provide the San Diego Department of Parks and Recreation with money (not to exceed $80,000) to be spent to environmentally modify the preserved acreage and adjacent wetlands. All modification activities will be carried out to the satisfaction of U. S. Fish and Wildlife, the California Department of Fish and Game and the San Diego County Department of Parks and Recreation. All operation and maintenance of the mitigation areas will be performed for the purpose of protecting wildlife resource values and will be subject to review by the Corps and the U. S. Fish and Wildlife Service.

3. The County also agrees to construct and maintain a device on the Los Coches Creek flood control alignment that will provide drinking water for the wildlife in the area. This device is commonly known as a "guzzler" and can be activated by animals to provide a flow of fresh drinking water. This will be located as indicated by the Fish and Wildlife Service.

Draft 221 Agreement

The Board of Supervisors has adopted a resolution of local cooperation for the project. This resolution was transmitted to you for inclusion in the Detailed Project Report. The concepts of the resolution will be included in an intergovernmental agreement providing specific detail of financial responsibility between the County and the Federal government. This agreement will be executed by both parties prior to construction. We are working with your staff to finalize a draft 221 agreement at this time.

CONROCK Company

Over the last few weeks we have met with the CONROCK Company and have established a final location for the channel across their property (see accompanying map). We are also going to provide them with a 32-foot wide bridge at the location shown to satisfy their access needs.

If you have any questions regarding the Los Coches Creek project, please contact Robert Summers at (619) 565-5166.

Yours truly,

R. J. MASSMAN, Secretary
County of San Diego
Flood Control District

RJM:RAS:seb

Attachment: Map on CONROCK Property

cc: CONROCK Company (Attn: Gene Block)
3200 San Fernando Road
P. O. Box 2950
Los Angeles, CA 90051

Response to the July 24, 1984 letter from the County of San Diego Flood Control District Zone Advisory Commission:

No response required.

COUNTY OF SAN DIEGO

FLOOD CONTROL DISTRICT

Zone Advisory Commission (0382)

R. J. MASSMAN
Secretary

County Operations Center, 5555 Overland Avenue, San Diego, California 92123 . . . . . Telephone: 565-3629

January 30, 1984

Col. Paul Taylor
District Engineer
Los Angeles District
Corps of Engineers
P. O. Box 2711
Los Angeles, CA 90053

Dear Col. Taylor:

Subject: Draft Detailed Project Report and Environmental Assessment of Los Coches Creek, San Diego County, California, October 1983

The following response expresses concerns with your Draft Detailed Project Report (DDPR) for Los Coches Creek in Lakeside, California.

We have reviewed the report in depth and make the following

Recommendations:

1. Find that the project has an overall insignificant environmental impact.
2. Approve the plans for the project that were prepared by Boyle Engineering in concert with the Corps of Engineers in 1981, and
3. Authorize the County of San Diego to be the contracting agency under a Federal-County Intergovernmental Agreement.

The above recommendations address what we believe to be the overriding issues in your DDPR. The following comments support our recommendations.

Comment on Recommendation #1:

1 There is no threatened or endangered species known to occur within the project area. There are also no rare and endangered plants in the project area. This coupled with the fact that there is no evidence to support that adjacent habitats in the project area are at, or exceed, their "carrying capacity".

Our major concern is the 20 acres of replacement land that is being recommended for acquisition by the local sponsor. We are currently looking into alternatives and have been working closely with your people. However, if we are unable to find suitable replacement land at a reasonable cost, we request to be relieved from this responsibility.

We believe the mitigation of acquiring riparian wetland, "...of an environmental nature..." and the requirement, "...a study to develop riparian establishment techniques should be funded for a five year period...with annual reports and a final report," to be excessive and outside the intent of the project.

Comment on Recommendation #2:

2 In 1981 we hired the consulting firm of Boyle Engineering of San Diego to prepare construction plans for the Los Coches Creek Project. Boyle was directed to coordinate their efforts with your office. They were further directed to design the project in accordance with approved design practices, existing conditions, and on engineering criteria set forth in EM1110-2-1601.

Boyle had numerous public meetings and private meetings with property owners along the channel to satisfy their concerns. They completed the plans in late 1981, and a copy of right-of-way and construction plans were sent to your office. The plans were completed at County expense (approximately $150,000) in order to save time and speed the start of construction. We were told that the Draft Detailed Project Report would be completed by 1983, and the project would be under construction in 1984.

We now learn that, in the meantime, the Corps had adopted more conservative design criteria. We now are faced with a wider channel at an additional local cost that exceeds $100,000. In addition, a sediment basin is proposed at the outlet of the project that jeopardizes the operations of one of the major sand mining corporations (Conrock) in the San Diego River. The price tag (local funds) on this is unknown at this time, but the owner of the property upon which the sediment basin is proposed strongly objects. It is Conrock's estimate that the additional cost will exceed $200,000.

After all the coordination over a number of years on the alignment, grade and size of the facility, the Corps is now proposing numerous changes that increase local costs potentially beyond our ability to fund.

We request that the Corps use the original plans prepared by Boyle Engineering with minor modifications to the downstream end. I am greatly concerned about the impact of the proposed changes. Added costs could jeopardize the project.

Comments on Recommendation #3:

3 The County of San Diego has been the contracting agency on scores of projects funded by Federal agencies. We have worked under many different specifications.

We, therefore, request the the U. S. Army Corps of Engineers authorize the County of San Diego, Department of Public Works, to act as the contracting agency to construct the Los Coches Creek project.

We believe that substantial savings in administrative costs could be made by approving this request.

We request your early response to our recommendations and ask that in-depth meetings between our staff be scheduled as soon as possible.

Very truly yours,

Original Signed By
M. J. MASSMAN

M. J. MASSMAN, Secretary
San Diego County Flood Control District

RJM:RAS:seb

cc: Board of Supervisors (A500)
Zone 2 Commission (0382)
Bill Walker, Conrock Co., P.O. Box 3098, San Diego, CA 92103

Response to the January 30, 1984 Letter from the County of San Diego Flood Control District Zone Advisory Commission:

1. Under the National Environmental Policy Act (NEPA), the Corps is required to examine the environmental impacts of a proposed action and to recommend mitigation where appropriate. The draft Environmental Assessment (EA) concluded that there was the potential for significant, adverse impacts if the Los Coches Creek channelization project was completed. The findings also stated that with appropriate mitigation, it was determined that the impacts would no longer be considered significant. The mitigation program described in the final EA (refer to Chapter 4) has been coordinated closely with members of your staff.

2. The Plans for the project that were prepared by Boyle Engineering under contract to San Diego County were not in conformance with Corps criteria, standards, and practices as the County was informed throughout the planning and design process. This issue has been resolved through continuing coordination and the appropriate modifications have been incorporated in the design presented in this report (refer to Appendix 3).

3. It is the Corps' policy to construct or to act as the contracting agency to construct Corps-funded projects.

RESOLUTION REAFFIRMING
LOCAL COOPERATION FOR THE FEDERAL FLOOD CONTROL PROJECT ON
LOS COCHES CREEK

ON MOTION of Director Eckert , seconded by Director Boarman the following resolution is adopted:

WHEREAS, on November 24, 1981 (4) the Board of Directors of the San Diego County Flood Control District by resolution expressed the intent of San Diego County to provic assurances of local cooperation for a proposed Federal Flood Control Project on Los Coches Creek; and

WHEREAS, the planned project is in the unincorporated area of the County of San Diego; and

WHEREAS, it is also a requirement of the Federal government that local agencies comply with Section 221 of the Flood Control Act of 1970, Public Law 91-611;

NOW THEREFORE, BE IT RESOLVED by the Board of Directors of the San Diego County Flood Control District that it reaffirms its support for only that project for flood control along Los Coches Creek that is defined in the Corps of Engineers final report.

BE IT FURTHER RESOLVED that the County Board of Directors recommends that the Chief of the Corps of Engineers allocate $4.0 million for the completion of construction of the Federal Flood Control Project on Los Coches Creek in the FY 85 budget under the Corps "Small Project" Program.

BE IT FURTHER RESOLVED that it is the intent of this Board to provide the following assurances to the Federal government.

1. Provide, without cost to the Federal government, all lands, easements, and right-of-way necessary for the construction of the project including both flood control and recreation features.

2. Bear the expenses of all necessary construction, modification, or relocation of highways, bridges, utilities, and other facilities as required in connection with the project.

3. Maintain and operate all flood control and recreation facilities after completion of installation in accordance with regulations to be prescribed by the Secretary of the Army.

4. Hold and save harmless the United States from damages due to the construction works.

5. Adjust all water rights claims resulting from the project.

6. Prevent any obstruction, encroachment, or operation which could interfere with the proper functioning of the project, or which could cause changes in stream regimen that could damage the structural integrity of the project.

7. Provide guidance and leadership in preventing unwise future development of the flood plain by use of appropriate flood plain management techniques to reduce flood losses

8. Assure access to all persons on equal terms for approved recreational use.

9. Provide adequate policing of the area.

10. Comply with the requirements of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, Public Law 91-646.

11. Comply with Section 221 of the Flood Control Act of 1970, Public Law 91-116.

PROVIDED, HOWEVER, that the above-referenced assurances are given to the extent the County has power to give same, and subject to their respective budget appropriations and the requirements of all applicable laws.

PASSED AND ADOPTED by the Board of Directors of the San Diego County Flood Control District, State of California, this 21st day of February, 1984, by the following vote:

AYES: Directors Hamilton, Boarman, Williams and Eckert
NOES: Directors None
ABSENT: Director Fordem

STATE OF CALIFORNIA)
COUNTY OF SAN DIEGO) ss.

I, PORTER D. CREMANS, Clerk of the Board of Directors of the San Diego County Flood Control District, State of California, hereby certify that I have compared the foregoing copy with the original resolution passed and adopted by said Board at a regular meeting thereof, at the time and by the vote therein stated, which original resolution is now on file in my office; that the same contains a full, true and correct transcript therefrom and of the whole thereof.

Witness my hand and the seal of said San Diego County Flood Control District this 21st day of February, 1984.

PORTER D. CREMANS
Clerk of the Board of Directors
San Diego County Flood Control District

By Beatrice Mitchell
Deputy

(SEAL)

FEB 21 1984 #2 U. S. Flood Control

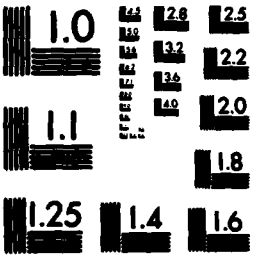
Response to the February 21, 1984 Letter from the Board of Directors of the San Diego County Flood Control District:

No response required.

AD-A170 305 LOS COCHES CREEK SAN DIEGO COUNTY CALIFORNIA DETAILED PROJECT REPORT FOR..(U) ARMY ENGINEER DISTRICT LOS ANGELES CA AUG 84 2/2

UNCLASSIFIED F/G 13/2 NL

END
DATE FILMED
9-86
DTIC



CITY OF SANTEE

December 29, 1983

Mr. Rudy Massman, Director
Department of Public Works
County of San Diego
9555 Overland Avenue, Bldg 2
Mail Station 0386)
San Diego, CA 92123

Attention: Mr. Robert A. Summers
Principal Civil Engineer

Dear Mr. Summers,

The City of Santee is very concerned about the 20 acre riparian habitat that is proposed for the San Diego River in the Edgemoor property.

We understand that the County proposes to excavate a channel in the floodway from Cuyamaca Bridge to 1500' easterly of the bridge.

As you are aware, in order for this work to proceed, a grading permit from the City of Santee is required under Section 87.201 (e) (Permit Required ~ Exceptions) of the City's Grading Ordinance. Because it is within the floodway a thorough hydraulic analysis will be required; as well as the appropriate environmental review in accordance with *Section 87.107 of the* Grading Ordinance.

Please note that the exception under *87.201 (e) does not apply to the* County of San Diego, The City of Santee has been substituted for the County of San Diego in our ordinance.

If you have any questions regarding this matter please contact our Director of Public Works, John P. Sullivan, at 562-6153.

Very truly yours,

RONALD L. BALLARD,
City Manager

Co:1 (b)~24
ek

cc: James Duff, Geographer
Army Corps of Engineers

10765 Woodside Avenue • Santee, California 92071-3198 • (619) 562-6153

Response to the December 29, 1983 Letter from the City of Santee:

The Edgemoor property is no longer being considered as a potential mitigation site for the Los Coches Creek project.

January 12, 1984

Carl F. Enson
Chief, Planning Divison
Department of the Army
Los Angeles District, Corps of Engineers
P.O. Box 2711
Los Angeles, California 90053

Attention: Ron Ganzfried (Study manager)

Dear Mr. Enson:

The Lakeside Chamber of commerce has at its office, available for public study, the Corps of Engineers' Draft Detailed Project Report and Environmental Assessment, dated Oct, which was discussed at its Board Meeting of January 9. 1984.

Flooding in Lakeside, particularly that of Los Coches Creek, is of greatest importance to this Chamber and the business community. The organization which has taken the initiative and leadership in this matter is the Los Coches Creek Flood Victims Association. Our major effort is to help muster community and commercial support to that organization and its efforts.

Accordingly, representing the business community, we would wholeheartedly support any suggestions by that organization, and we feel this would represent the attitude of all Lakesiders, particularly those most affected by recurring flood crisies.

We are advised that the Los Coches organization has suggested the possiblility of using a portion of Cactus Park in Lakeside to fulfill the plan's requirements for riparian land. This sounds to us like a good idea, and we would commend it to you for your consideration.

Urgent as it is for Lakeside, completion of this project is a very important first step in solving the problem of the San Diego River bed, including that of Mission Valley. Getting started as soon as possible with your plan now will prevent a great deal of danger and destruction in the future.

We look forward to the day when we and all of Lakeside can stand with you at the dedication ceremonies of the long awaited flood relief project that this report proposes.

Sincerely,

LAKESIDE CHAMBER OF COMMERCE

Woody Underwood
President

Response to the January 12, 1984 Letter from the Lakeside Chamber of Commerce:

Cactus Park was studied as a potential mitigation site for the proposed action. However, the Park did not meet the necessary criteria for being a viable and suitable mitigation area. The primary problem was that the proposed mitigation area was in a floodway, an area which is inundated regularly and thus, no lasting protection or upgrading of the site could be performed.

LAKESIDE COMMUNITY PLANNING GROUP
County of San Diego

H.O.(Hal) Story, Chairman
14716 El Monte Road
Lakeside, California 92040
Phone: (619) 443-0935

Col. Paul W. Taylor,Commander
Los Angeles Division
U.S. Army Corp of Engineers
P.O. Box 2711
Los Angeles, California 90053

January 20, 1984

Subject: Los Coches Creek Detailed Project Report Draft

Col. Taylor,

The Facilities & Services Subcommittee of the Lakeside Community Planning Group has reviewed the Los Coches Creek Detailed Project Report Draft report for the flood control and environental assessments. We are pleased that this project is finally becoming a reality in the not too distant future. We are in the most part in agreement with the report and want nothing to interfer with the progress of this project.

There are three areas of concern to us. They are:

1 1- Mitigation of the twenty acres should not be considered outside the Lakeside Planning area. We strongly recommend it be designated within Cactus Park on Ashwood Ave. We also feel the Rehabilitation Plans of the local Sand Industries (Woodward Sand, for example) could be incorporated.

2 2- There are eleven remaining properties that will be split with no access to their back section. We recommend these properties have private foot crossings and a diagram showing the recommended crossing structure allowed be included.

3 3- We oppose any requirement of horse trail along the channel, there is ample allowance for our planned trails along the right of way on Los Coches Road. I enclose acopy of the letter I sent on 7/1/80 concerning the trails.

Respectfully,
Vivien L. Mundt
Vivien L. Mundt,Chairman
Facilities & Services Subcommittee
Lakeside Community Planning Group

cc: Supervisor Paul Fordem
Rudy Masseman, S.D. County DPW

ENCLOSURE

July 1, 1980

Mr. Joe Gonzales
U.S. Army Corp of Engineers
P.O. Box 2711
Los Angeles, California 90053

Dear Mr. Gonzales,

As Chairman of Public Facilities and Services Sub Committee of the Lakeside Planning Committee, I would like to be brought up to date on the Corps activities on Los Coches Creek. I have not had any correspondence with the Corp. since our public meeting of 11/7/79.

One item of concern has been brought to our attention by the Transportation Dept. of San Diego County. That is the importance of horse trails being put on, along the Los Coches Creek Channel. While this is a horse oriented community and we are interested in trails, our main concern is getting an adequate flood channel as far upstream as possible. We certainly do not want to jeopardize that by costly horse trails. As one land owner on the creek said, "I'll gladly give my land for a flood channel, but not for a horse trail."

Are there any further public meetings planned? I would certainly appreciate what information you can give me.

Respectfully,
Vivien L. Mundt
Vivien L. Mundt, Chrm.
Facilities and Services Sub Committee
Lakeside Planning Committee
12178 Gay Rio Terrace
Lakeside, California 92040
Phone: (714) 443-5732

Response to the January 20, 1984 Letter from Lakeside Community Planning Group:

1. Cactus Park was studied as a potential mitigation site for the proposed action. However, the Park did not meet the necessary criteria for being a viable and suitable mitigation area. The primary problem was that the proposed mitigation area was in a floodway, an area which is inundated regularly and thus, no lasting protection or upgrading of the site could be performed.

2. Under the proposed local cooperation requirements, the local sponsor would provide, without cost to the Federal Government, all necessary modifications or relocation of bridges/accessways required in connection with the project. The specific locations of these accessways will be identified during the preparation of final plans and specifications.

3. There will be no equestrian trails following the Los Coches Creek Channel in connection with this project.

LAKESIDE RESIDENTS' COALITION
Post Office Box 1424
Lakeside, California 92040

January 12, 1984

Mr. Ron Gunsfried, Study Manager
Department of the Army,
Los Angeles District, Corps of Engineers,
P.O. Box 2711,
Los Angeles, CA. 90053

Dear Ron:

For our conversation at the Zone 2 Flood Control Meeting. I am sending you a copy of the Lakeside Residents' Coalition stationery.

We are a citizens group who are interested in anything that pertains to the Lakeside area, and would appreciate receiving any information on the status of the Los Coches Creek Flood Channel in the future.

Sincerely,

Al Meyer, Chairman
Lakeside Residents' Coalition

443-1866

AM/jo

Response to the January 12, 1984 Letter from the Lakeside Residents' Coalition:

No response required.

LAKESIDE RESIDENTS' COALITION
Post Office Box 1424
Lakeside, California 92040

January 12, 1984

Mr. Ron Gansfried, Study Manager
Department of the Army,
Los Angeles District, Corps of Engineers,
P. O. Box 2711,
Los Angeles, CA. 90053

Dear Mr. Gansfried:

At our meeting on January11, 1984, we discussed the Draft Detailed Project Report for Los Coches Creek.

The Lakeside Residents' Coalition believes that the EIR is incomplete because it did not comment on

1. Mitigating circumstances, i.e., why not have the 21 acres of wetlands area at Cactus Park in the Lakeside area instead of at the Edgemore area in Santee. We believe this should be kept in the Lakeside area.

2. The EIR did not comment on San Diego County's portion of the study. It is our understanding that all EIR's should be complete, therefore, this EIR should include San Diego County's portion of the EIR, or as a minimum, reference the supporting county documentation.

3. There was no comment on access to rear lots of homeowners who live alongside Los Coches Creek.

4. The EIR was unclear on the number of crossings that will be constructed across the creek.

We wish to express our appreciation for your concern and support of the flooding problems in the Los Coches watershed area.

Sincerely,

Al Meyer, Chairman
Lakeside Residents' Coalition
443-1866

AM/jo

Response to the January 12, 1984 Letter from the Lakeside Residents Coalition

1. Cactus Park was studied as a potential mitigation site for the proposed action. However, the Park did not meet the necessary criteria for being a viable and suitable mitigation area. The primary problem was that the proposed mitigation area was in a floodway, an area which is inundated regularly and thus, no lasting protection or upgrading of the site could be performed.

2. The document prepared by the Corps and examines only the Federal action. San Diego County would be preparing an EIR for the other proposed action.

3. Under the proposed local cooperation requirements, the local sponsor would *provide, without cost of the Federal Government*, all *necessary* modifications or relocation of bridges/access ways required in connection with the project. The specific locations of these accessways will be identified during the preparation of final plans and specifications.

4. Refer to page 19 of the Main Report, "Description of Selected Plan". Close box culverts would be constructed to carry flows under Winter Gardens Road, Woodside Avenue, Julian Avenue, Del Sol Road, and a private road.

Los Coches Creek Flood Victims Assoc.
P.O Box 1495
Lakeside, CA 92040

January 11, 1984

Col. Paul W. Taylor, Commanding
Los Angeles District
United States Army Corps of Engineers
300 North Los Angeles Street
Los Angeles CA 90012

Dear Col Taylor:
It is with great happiness and relief we have reviewed the Detailed Project Report Draft on Los Coches Creek in Lakeside, San Diego County, California.

As a Association formed to solve our flooding problem we hope to see all our work for the past four years have a positive effect.

However, we have three recommendations we would like incorporated into the final DPR.

1 1. Page 21, Design and Construction Consideration:
In the present proposed flood control plan there are four crossings provided. That leaves eleven properties that will be split. Most of these crossings will only be for foot traffic. We will furnish you with the parcel numbers at your request, please advise. We would like all affected properties to be furnished with crossings and added to the final DPR.

2 2. Environmental Effects: Page 23, Paragraph 2
Mitigation of twenty acres being considered in Santee, CA We recommend your staff consider Cactus Park in the Community of Lakeside, located at Ashwood Ave. and the San Diego River.

3 3. The Lakeside Community Plan calls for Riding, Hiking and Horse Trails to follow all streams where ever possible. The County of San Diego owns eighty-four feet as a right of way

Los Coches Creek Flood Victims Assoc.
P.O Box 1495
Lakeside, CA 92040

along Los Coches Road in the Los Coches Valley. There is enough land there to accommodate all the trails anyone could think of. Please add the stipulation that no trails will follow the flood channel, in the DPR.

We thank the United States Army Corps of Engineers, Los Angeles District for the dedication and concern they have shown in preparing this most welcome report.

Soon now (we pray) we will be able to live normal lives and not live in fear every time it rains.

Very Truly Yours,

Mary Allison, President.

Response to the January 11, 1984 Letter from the Los Coches Creek Flood Victims Association:

1. Under the proposed local cooperation requirements, the local sponsor would provide, without cost to the Federal Government, all necessary modifications or relocation of bridges/accessways required in connection with the project. The specific locations of these accessways will be identified during the preparation of final plans and specifications.

2. Cactus Park was studied as a potential mitigation site for the proposed action. However, the Park did not meet the necessary criteria for being a viable and suitable mitigation area. The primary problem was that the proposed mitigation area was in a floodway, an area which is inundated regularly and thus, no lasting protection or upgrading of the site could be performed.

3. There will be no equestrian trails following the Los Coches Creek channel in connection with this project.

CONROCK CO.
3200 SAN FERNANDO ROAD / P.O. BOX 2950 / LOS ANGELES, CALIFORNIA 90051 / (213) 258-2777

January 12, 1984

Mr. Ron Ganzfried
U. S. Army Corps of Engineers
Planning Department
300 North Los Angeles Street
Los Angeles, California 90053

Re: Los Coches Creek Flood Control Project, Corps Draft Detailed Project and Environmental Assessment Report, October 1983

Gentlemen:

The purpose of this letter is to comment on one particular item in the above referenced report. We will respond to the remainder of the Corps' report under separate cover.

Reference is made to Plate 1 in Appendix 5 of the Corps' Report. We have enclosed a copy of a portion of Plate 1 for your easy reference. There are several errors and omissions on Plate 1 as relates to CONROCK CO.'s operation as listed hereafter:

1. Our corporate name has been changed from "Consolidated Rock Products Co., Inc." to CONROCK CO., note that we use all capital letters.

2. "San Diego Consolidated" is now CONROCK CO.

3. "Lakeside" is also CONROCK CO.

4. "Triangle Rock Products," San Bernardino, is now CONROCK CO.

5. "Consolidated Rock Producuts Co.," Orange, is CONROCK CO., but is no longer extracting rock, sand and gravel. We do have a sales yard and ready mixed concrete batch plant at our Orange location.

6. "Mountain Rock Co.," Upland, is now CONROCK CO.

7. "Consolidated Rock Products Co.," Claremont, is now CONROCK CO., but is no longer operational.

8. "Consolidated Materials Co.," El Monte, is no longer in operation.

9. "California Materials Co.," Sun Valley, is now CONROCK CO., and is no longer operational.

10. "Consolidated Rock Products Co.," Sun Valley, is CONROCK CO.

11. "Consolidated Rock Co.," Saticoy, is CONROCK CO.

12. There are several CONROCK CO. operations that are not shown on Plate 1, namely our Palmdale, Reliance, Durbin, San Juan, Pala and Carroll Canyon aggregate plants and all of our ready mixed concrete plants. We have, therefore, attached a complete list of all CONROCK CO. operations, which provide a Source Of Construction Materials for inclusion in Plate 1, Appendix 5 of the Corps' Report.

We suspect that the information provided on Plate 1 has come from a standard plate within the Corps' file. We request that this standard plate also be corrected as regards CONROCK CO.'s operations.

Should you have any further information, please contact the undersigned.

Sincerely,

Jock M. Scott
Manager-Engineering

JMS:bjg
Enclosures

cc: Bill Walker
Gene Block

Response to the January 12, 1984 Letter from Conrock Company:

The corrections are noted.

CONROCK CO.
3200 SAN FERNANDO ROAD / P O BOX 2950 / LOS ANGELES, CALIFORNIA 90051 / (213) 258 2777

January 13, 1984

Mr. Ron Ganzfried
U.S. Army Corps of Engineers
Planning Department
300 North Los Angeles Street
Los Angeles, California 90053

Re: Los Coches Creek Flood Control Project, Confluence with San Diego River on CONROCK CO.'s Lakeside Property, Project No. 0030-8301, Corps Draft Detailed Project and Environmental Assessment Report.

Gentlemen:

The purpose of this letter is to restate the major points discussed during our November 18, 1983 meeting on the above referenced subject. This letter should also be considered CONROCK CO.'s formal response and comments regarding the Draft Detailed Report dated October 1983 by the Corps on this subject.

We are offering the following facts and statements to provide a clear record of our position with the genuine desire that this will assist the Corps from this point forward in the planning and design of the much needed Los Coches Creek Flood Control Project and in coordinating with other related projects, such as the San Diego River Project now being developed by the County of San Diego.

GENERAL COMMENTS

1. CONROCK CO. is the Fee owner of property extending about 2,000 ft. upstream and downstream of the confluence of Los Coches Creek and the San Diego River. We are currently operating a sand extraction, processing, washing and distributing plant and a ready mixed concrete batching plant on this property. For clarity, we have attached an aerial photo of this property. The photo dated March 9, 1981 shows our property outlined in red and the processing area outlined in orange. The scale of the photo is approximately 1" = 200'. This photo is Figure No. 1 attached.

2. It is CONROCK CO.'s intent to conduct our sand and ready mixed concrete operation at this site as long as market, economic and other private enterprise considerations make it feasible.

3. CONROCK CO.'s long term development plans for our Lakeside property will include multiple commercial and industrial land uses on earth fill, filled to an elevation above the 100 year flood plain. These plans are similar to the multiple use development now under construction at our Mission Valley site, also on filled property adjacent to the San Diego River.

4. The present discharge of Los Coches Creek is on our property and there are no public facilities to control this discharge. There is an existing flood control easement on our property, however CONROCK CO. has controlled the flood discharge from this creek for the past several years at considerable expense to us. Our property and facilities have also been susceptible to considerable damage on several occasions from flooding of the San Diego River. We are, therefore, very interested in the development and implementation of adequate flood control systems for these two waterways.

5. CONROCK CO. has coordinated with San Diego County Flood Control and the local community to promote and develop an overall flood protection concept for the San Diego River. A copy of this plan, entitled "SAN DIEGO RIVER PROJECT Conceptual Master Plan" dated August, 1983 was given to the Corps during the November 18, 1983 meeting. This plan is now in the County's approval and funding process. It is being supported by local cities (San Diego and Santee) and the private sector.

6. The SAN DIEGO RIVER PROJECT addresses aesthetic, recreational, wildlife, water conservation, flood protection and a variety of other public and private concerns. It proposes that the CONROCK Lakeside and adjoining property ultimately be developed for commercial office and industrial uses. Some of the adjoining properties have already been filled and developed with commercial facilities.

7. CONROCK CO. has worked closely with San Diego County Flood Control to modify the Boyle Engineering design of the terminal end of the proposed improvement to Los Coches Creek to accommodate

CONROCK

CONROCK CO.'s existing sand and ready mixed concrete operations and our future land development plans, and to coordinate the Los Coches Creek improvement with the SAN DIEGO RIVER PROJECT. CONROCK CO. has developed a terminal end design for Los Coches Creek which has San Diego County concurrence and is shown on the attached CONROCK CO. Dwg. No. 30-17-2.2, a copy of which was also given to the Corps during our November 18th meeting. Both CONROCK CO. and County feel the design of the terminal end of Los Coches Creek as shown on Dwg. No. 30-17-2.2 is acceptable and should replace the Corps' present design for this part of the facilty. In addition, San Diego County is now reviewing plans prepared by CONROCK CO. showing the final alignment and channelization of the San Diego River, the final earth fill and reclamation of CONROCK CO.'s property, and a future modification of the terminal end of Los Coches Creek. Copies of these plans, though PRELIMINARY and not yet approved by County, are provided herewith and listed below for the Corps' use and file. The drawings below address the changing conditions that will occur as CONROCK CO., at sometime in the future, converts its land use from extractive to commercial and industrial developments, and as the County, CONROCK CO. and other local public and private interests work together to bring about the construction of the San Diego River Project.

1

Dwg. No.	Rev. No.	Title
30-17-1	1	Proposed San Diego River Improvement Plan
30-17-2	1	Proposed Improvement to Los Coches Creek and San Diego River Channels
30-17-2.1	0	Temporary CONROCK CO. Bridge Crossing Improved Los Coches Creek Channel.

8. When channelized, The Los Coches Creek facility will bisect CONROCK CO.'s sand and ready mixed concrete operation. It will be necessary that the Los Coches Creek Flood Control Project provide adequate truck bridges in locations prescribed by CONROCK CO. so that we may continue our operations and ship our products to market. The locations of these bridges and a detailed bridge design is shown on the drawing referenced in item 7 above.

CONROCK

9. We understand that the proposed channelization of Los Coches Creek upstream of the CONROCK-Lakeside site will alter the characteristics of flood waters entering our property, such as increasing the flow rate, its velocity, and changing the direction of flow. Construction of the terminal end facilities to contain and control the altered flood water flow is necessary prior to construction of upstream facilities if damage to our property and facilities is to be avoided.

SPECIFIC COMMENTS ON CORPS' REPORT

1. The Corps' Report indicates that the improved Los Coches Creek will discharge adjacent to the existing river bank. This statement is incorrect in that the discharge and stilling basin as shown on Plat 1, Appendix 3 in the report occurs in the exact middle of CONROCK CO.'s sand processing and ready mixed concrete facilities. To demonstrate more clearly this oversight, we have attached a second aerial photo showing our plant operation area with the proposed stilling basin and right of way shown in yellow. This photo is labeled Figure No. 2. The photo scale is about 1" = 100' and it is dated February 8, 1979.

2

2. The Corps' Report places the responsibility for acquiring all necessary right of way, easements, mineral rights and so forth on the County of San Diego as local sponsor, and estimates the total project cost of such acquisition to be $195,000. Based on our appraisals, we feel the cost of obtaining only the amount of CONROCK CO. property necessary for the present stilling basin design will far exceed the estimated project total of $195,000.

3

3. The Corps' Report also requires that the local jurisdiction (County) provide all necessary funds for relocations. The report indicated that no such funds were required or budgeted. The Corps' present design of the stilling basin at the discharge end of the channel will require the relocation of CONROCK CO.'s truck scale and scale house, and the relocation of our entire ready mixed concrete batching facilities and related equipment, modification to our sand processing facilities and the installation of a major bridge(s) to access the sand plant. We feel these could total more than one million dollars.

4

4. The Corps' Report made reference to CONROCK CO.'s Mission Valley Plant, located at 2240 Stadium Way, San Diego as well as other aggregate and concrete producers. The report failed to mention that CONROCK CO. has a ready mixed concrete plant and sand and rock sales facility in Lakeside, located at 12060 Highway 67, Lakeside, California 92040 (619) 443-0575 or (619) 298-0551.

5

5. The Corps' Report indicated that the major sources of income in the community are from the sand and gravel extraction industries. Yet the large amount of land required from CONROCK CO. for the construction of the stilling basin will essentially require cessation of our sand, gravel and ready mixed concrete operations in Lakeside. The report also predicts an increase in local population of 26,000 people by 1995. As a marketing guide, this population increase will result in an additional demand of 22,100 cubic yards of concrete per year. Therefore, the removal of our existing facilities would both hinder future growth and reduce revenues generated for the community.

6

6. The Corps' Report did not address the possibility of constructing a sediment basin at the inlet to the improved channel. There appears to be adequate area in the vicinity of the inlet property right of way shown on Plate 10 of Appendix 3 to construct such a basin. This approach may reduce the land acquisition cost as discussed in Item 2 above, as well as providing additional savings by not having to deal with debris build up within the channel before or during major floods.

7

7. The Corps' Report indicates that the project meets the needs of all affected interest groups and individuals, and that all alignment revisions were coordinated with local interests. However, the Corps' Draft Report was only issued to the County Sanitation and Flood Control District, and Corps had not sought CONROCK CO.'s input at anytime before publishing the Draft Detailed Project and Environmental Assessment Report. We request that the Corps coordinate all of its future planning and design activities relating to the discharge of Los Coches Creek with CONROCK CO. on a timely basis as the project progresses.

8

The present Corps' design of the terminal end of Los Coches Creek employs a 3.03 acre silt collecting and stilling basin. The construction of this basin as shown would necessitate the removal

of CONROCK CO.'s sand and ready mixed concrete facilities which would effectively put CONROCK CO. out of business at this site. CONROCK CO. must, therefore, firmly oppose the Corps' current design of this portion of the project. If necessary, CONROCK CO. will oppose any further development of this and related upstream projects if they result in our not being able to continue our business operations at this location.

9

We request that the Corps modify its design of the terminal end of this facility to accommodate CONROCK CO.'s existing operations and to conform to the conceptual land use and San Diego River Project plans now being developed locally by the governmental and private sectors in the area. We also request copies of all pertinent reports on this project and the opportunity to comment thereon. CONROCK CO.'s efforts have been and will continue to be directed towards realization of an adequate flood control facility for Los Coches Creek and the San Diego River within our property that meets the needs and requirements of CONROCK CO., the County, the Corps and other affected parties.

10

Sincerely,

Jock M. Scott
Manager-Engineering

JMS:bjg
Enclosures

cc: Roger F. Walsh
Joe Hill
Bill Walker
Gene Block

Response to the January 13, 1984 Letter from Conrock Company:

1. As a result of continuing coordination with the County, the Corps has modified the design of the terminal end of the recommended channel to accommodate Conrock Company's existing operations and to conform to the conceptual land use and San Diego River Project plans now being developed locally by the governmental and private sectors in the area (refer to July 24, 1984 letter from the County of San Diego Flood Control District).

2. Refer to Response 1 above.

3. Comment noted.

4. Refer to Response 1 above.

5. No response required.

6. Refer to Response 1 above.

7. Refer to Response 1 above.

8. Coordination with Concrock Co. was pursued via the local sponsor for the project.

9. Refer to Response 1 above.

10. Refer to Response 1 above.

CONROCK CO.

5000 SAN FERNANDO ROAD / P.O. BOX 2950 / LOS ANGELES, CALIFORNIA 90051 / (213) 258-2777

January 24, 1984

Mr. Ron Ganzfried
U.S. Army Corps of Engineers
Planning Department
300 North Los Angeles Street
Los Angeles, California 90053

Re: Lakeside, Los Coches Creek Flood Control Project
CONROCK CO. Project No. 0030-8301

Gentlemen:

During our meeting this morning, we reviewed and discussed the various stages of improvement of the terminal end of the improved Los Coches Creek, CONROCK CO.'s land use, and the San Diego River Project. To assist the Corps in understanding the sequential development and coordination necessary in these projects, we have prepared an overlay of each phase on the enclosed aerial photo labeled Figure No. 3.

The area outlined in yellow on Figure No. 3 is an outline of the present Corps' design of the discharge of Los Coches Creek. In lieu of the Corps' design, we are requesting the channel be constructed as shown in red on Figure No. 3. The area in red represents the channel as shown on our drawing no. 30-17-2.2.

The area shaded blue on Figure No. 3 is an extension of Los Coches Creek that will occur in the future as CONROCK CO. begins to develop its property with office and industrial buildings. This extension would require removal of about 200 feet of the end of the channel shaded red.

The two red lines located about 160 feet north and south of CONROCK CO.'s north property line represent the limits of the future channelized San Diego River. As the river project is constructed, the blue extension of Los Coches Creek would also occur even if CONROCK CO. had not yet begun its land development projects. In this case the north line of the blue area would extend to the north river side line.

While CONROCK CO.'s land development plans, the San Diego River Project, and the extension of Los Coches Creek are obviously in the early stages of planning and mutual public and private sector coordination, we feel the concepts shown on the

CONROCK

the Figure No. 3 must be considered by the Corps in its design of the present Los Coches Creek Flood Control Project.

Sincerely,

Jock M. Scott
Manager-Engineering

JMS:bjg
Enclosure

cc: Gene Block
Bill Walker

Response to the January 24, 1984 Letter from Conrock Company:

Refer to the response to the January 13, 1984 letter to Conrock Company.

DR. SAMUEL S. SLOAN
DR. SUSAN HOMESLEY
OPTOMETRISTS

9788 CACTUS STREET
P.O. BOX 310
LAKESIDE, CALIFORNIA
466-1070

January 10, 1984

Carl P. Enson
Chief, Planning Division
(Attention Ron Gansfried, Study Manager)
Department of the Army
Los Angeles District, Corps of Engineers
P. O. Box 2711
Los Angeles, California 90053

Dear Mr. Enson:

The Draft Detailed Project Report and Evironmental Assesssment of October 1983 regarding Los Coches Creek is at hand, and it is a very encouraging development. For years the threat of a repeat of previous floods has hung over our heads. Each day I look out of our window to see what is happening in the creek, and when I see it running all year round, rising rapidly and ominously with even the smallest rainfalls, I must confess that I am terribly worried. Now at last we hope from this report that relief will soon be coming our way.

Being discussed around town is the problem of acquiring riparian or wetland habitat. Much as I enthusiastically endorse considerations of environment and habitat, these factors must be held in proper perspective when considering the lives, health, safety and economic well being of literally thousands of people. Nevertheless, it would be well to keep in mind that there are actually thousands of such riparian acres in the Lakeside area itself, noteably along the route of the San Diego River, much of which is presently in public hands, most of which will never be available for anything but river bottom uses, such as parks. One area seems to stand out as a very obvious example: the area known as Cactus Park, in the vicinity of El Capitan High School. It is right in the river bed, and belongs to the county. Although other land in the same area may be in the hands of other agencies, surely some way can be found to transfer the ownership of such lands to the proper agency, when the lives and fortunes of a whole community are involved.

I am personally impressed and appreciative of the work that has gone into this excellent report. Please, do not let the momentum stop. Keep this operation going so that we may have relief --and safety--as soon as possible!

Sincerely yours,

SAMUEL S. SLOAN, O. D.

Response to the January 10, 1984 Letter from Drs. Sloan and Homesley:

Cactus Park was studied as a potential mitigation site for the proposed action. However, the Park did not meet the necessary criteria for being a viable and suitable mitigation area. The primary problem was that the proposed mitigation area was in a floodway, an area which is inundated regularly and thus, no lasting protection or upgrading of the site could be performed.

Irene M. Basel
12502 Castle Ct Dr
Lakeside, Ca 92040

Dept of the Army
Los Angeles District, Corps of Engineers
P.O. Box 2711
Los Angeles, Ca. 90053

Dear Sirs:

First, I want to thank you for your efforts on our behalf, in the matter of the disastrous flooding along Los Coches Creek. This is a matter for concern, not only for those who live along the creek, but for everyone who lives in this community, or surrounding territory. It is gratifying, therefore, to see a plan such as Plan 4 (recommended by the Army Corps of Engineers) brought before the proper authorities for approval.

I studied your Detailed Project Report, and I find Plan 4 to be a workable plan. Although I am not schooled in the arts of flood control, I do know Los Coches Creek very well, having lived here for many years. I feel that this entire valley would eventually have to be abandoned, if the waters of Los Coches Creek are not brought under control.

I would like to add one more comment. In my opinion, the Los Coches Bridge at Ha-Hanna Rd & Los Coches Rd. should be included in the project. It needs to be made stronger, as the approaches to it wash out when the rains are heavy. Los Coches Rd is an important arterial, and needs to be protected.

Thank you again for your efforts on our behalf.

Yours Truly

Irene M. Basel

Response to the Letter from Irene Basel:

As of this printing, the County of San Diego has proceeded in the issue of constructing a bridge at Ha-Hana and Los Coches Road without Corps involvement.

Lakeside Calif
Jan 10, 1984

Dear Sir

I am one of the flood victims close to the Los Coches Creek.

We will be so glad to have the channel built.

We hope you consider Cactus Park in Lakeside for the acreage you need.

It has been quite an expense keeping flood insurance on a small pension, besides the worry of flooding every year. I have lived in my home for 39 years.

Yours

Mrs Dorothy Robinette
9719 Los Coches
P O Box 55
Lakeside Ca 92040

Member of the Los Coches Flood Victim Association

Response to the undated letter from Mrs. Dorothy Robinette:

Cactus Park was studied as a potential mitigation site for the proposed action. However, the Park did not meet the necessary criteria for being a viable and suitable mitigation area. The primary problem was the proposed mitigation area was in a floodway, an area which is inundated regularly and thus, no lasting protection or upgrading of the site could be performed.

9337 Lavell St
La Mesa, Calif 92041
Dec 29, 1983

To District Corps of Engineers
P.O. Box 2711
Los Angeles, Calif 90053

Gentlemen:

I am interested in procuring a copy of the Draft Detailed Impact Report (DIR) for Forrester Creek in Lakeside, Calif.

Please indicate how I may obtain this report; and send the information to:

Doris Wynne
9337 Lavell St.
La Mesa, Calif 92041

Thank you for your consideration.
Sincerely,

Doris Wynne

Response to the Letter from Doris Wynne:

No response required.

GORDON GRAY (1877 - 1967)
W. P. CARY (1903 - 1943)
WALTER AMES (1893 - 1980)
FRANK A. FRYE (1904 - 1970)

GRAY, CARY, AMES & FRYE
ATTORNEYS AT LAW
525 B STREET SUITE 2100
SAN DIEGO, CALIFORNIA 92101
TELEPHONE (619) 699-2700
TELECOPIER (619) 236-1048
TELEX 18 910 335-1073

OTHER OFFICES
IN
LA JOLLA
EL CENTRO

WRITER'S DIRECT LINE
699-2720

February 15, 1984

Mr. Ron Ganzfried
Department of the Army
Los Angeles District, Corps of Engineers
Post Office Box 2711
Los Angeles, CA 90053

Re: Los Coches Creek Flood Project

Dear Mr. Ganzfried:

I represent Mr. Gilbert Llanos, whose property is intersected by Los Coches Creek. Mr. Llanos' property is adversely affected by the Flood Control Project described in the Draft Detailed Project Report ("DPR") and accompanying appendices referred to in the Corps' letter to residents dated November 13, 1983. As the enclosed detail from the plan shows, Los Coches Creek separates Mr. Llanos' house and one-half acre of his property from the remaining two acres. (Mr. Llanos' property is outlined in red.)

As presently planned, the Los Coches Project will make the Creek impassible and will effectively isolate the back two acres of Mr. Llanos' property.

The DPR calls for construction, at taxpayers' expense, of a County-approved bridge, but it appears that the bridge will begin and end on neighboring property. If this is true, Mr. Llanos will not be able to use it. After the Project is completed, there will be no access to Mr. Llanos' land on the other side of Los Coches Creek, other than across this bridge.

I realize the construction of this bridge is a small detail in a very complex and expensive project. I am not writing in order to make your job more difficult. I simply want to call to your attention the serious consequences for

Mr. Llanos if your DPR is adopted as drafted. The DPR correctly recognizes that a bridge is necessary to create access to the isolated properties on the opposite side of Los Coches Creek. However, if such a bridge is to be provided by taxpayer funds, it should be available for use by all of the residents of Los Coches Creek who require access to the property on the other side of the Creek. Otherwise, the Project will effectively condemn the rear two acres of Mr. Llanos' property.

The simplest solution to this problem is to construct a bridge centering on the property line between Mr. Llanos' and his neighbor's properties, so that the neighbor could not prevent Mr. Llanos from using the bridge. In any event, some assurance must be provided that Mr. Llanos will be able to use any bridge that is constructed to get to his land on the other side of Los Coches Creek.

Although the Corps' letter to residents was dated November 13, 1983, Mr. Llanos did not receive it until December 20. He came in to see me at the first of the year, and I telephoned the Corps' office in Los Angeles. I was informed that the final DPR would not be submitted to San Francisco until April, and that our comments still would be timely.

I hope you will give this matter your careful attention. I look forward to hearing from you.

Very truly yours,

Daniel G. Lamb, Jr.
For
GRAY, CARY, AMES & FRYE

DGL:saw

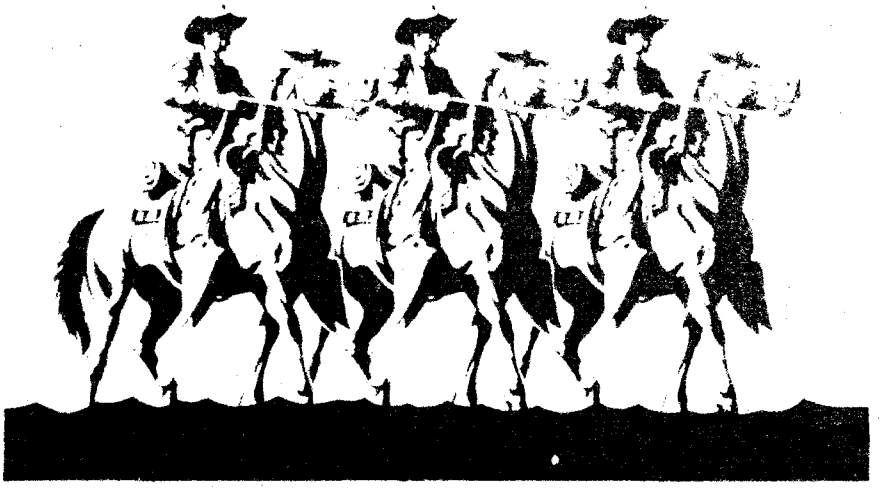
Enclosure

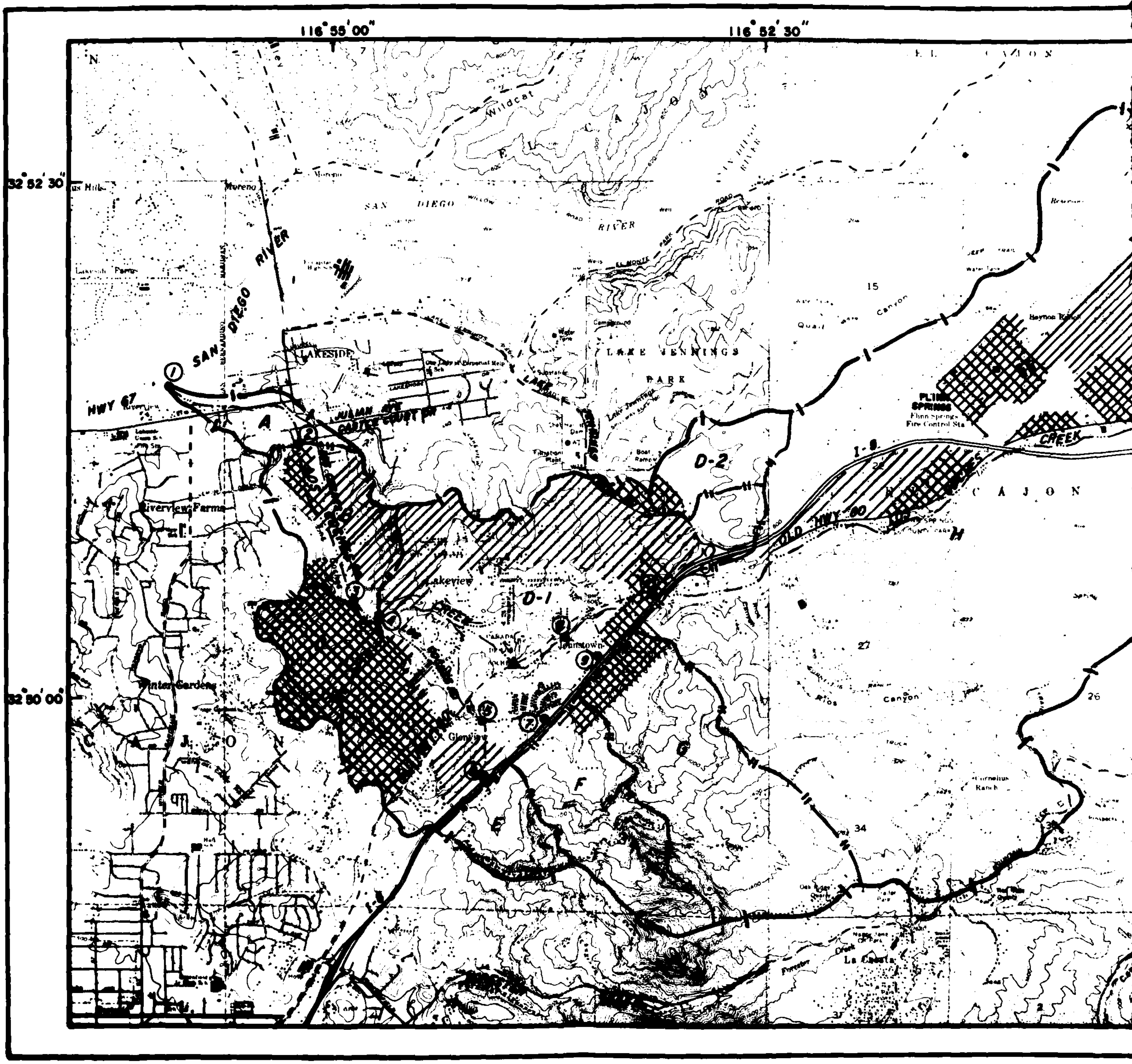
cc: Mr. Gilbert Llanos

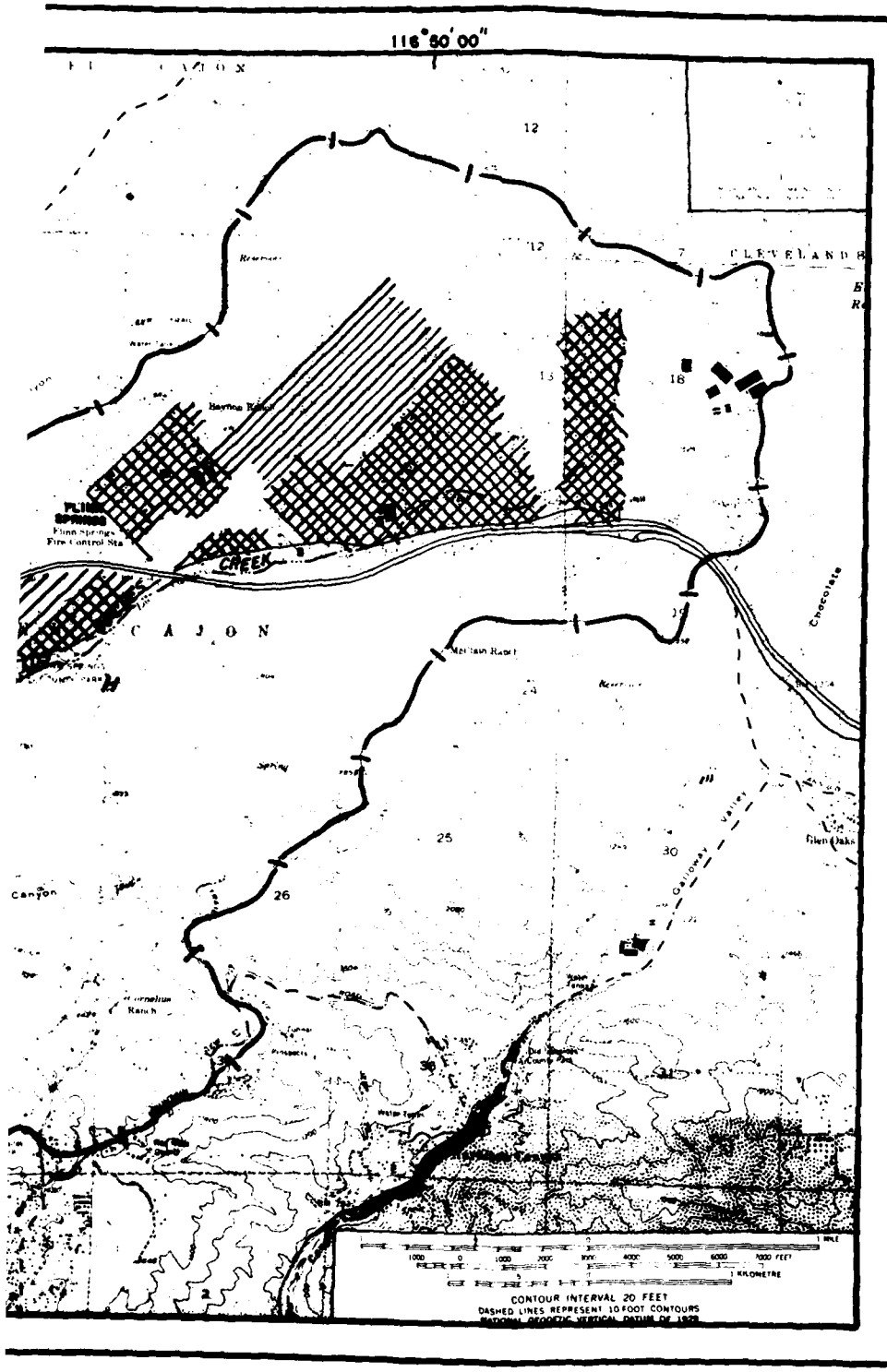
Response to the February 15, 1984 Letter from Gray, Cary, Ames, and Frye:

Final details concerning accessways will be formulated during the plans and specifications phase of the project. Refer to the response to the January 11, 1984 letter from the Los Coches Creek Flood Victims Association.

Plates

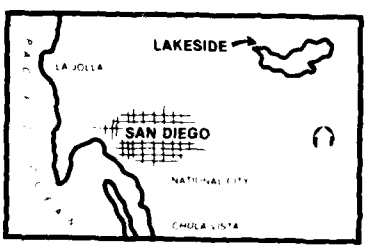



116°55'00"
116°52'30"
32°52'30"
32°50'00"
N
SAN DIEGO RIVER
RIVER
Wildcat
EL CAJON
LAKESIDE
LAKE JENNINGS
PARK
HWY 67
JULIAN AVE
CASTLE COURT DR
A
D-1
D-2
F
I-8
OLD HWY 80
CREEK
FLINN SPRINGS
Flinn Springs
Fire Control Sta
Lakeview
Johnstown
Glenview
Riverview Farms
Winter Gardens
La Cresta
Quail
Canyon
Rios
Cornelius Ranch
Haynon Ranch
CAJON
15
27
26
34



LEGEND

- BOUNDARY OF DRAINAGE AREA
- BOUNDARY OF DRAINAGE SUBAREA
- B — SUBAREA DESIGNATION
- ② — CONCENTRATION POINT AND/OR LOCATION NUMBER
- UPDATED EXISTING URBANIZATION AS OF 1980
- EXPECTED MAXIMUM DEVELOPMENT BY 1985
- ▲ — STREAM GAGE

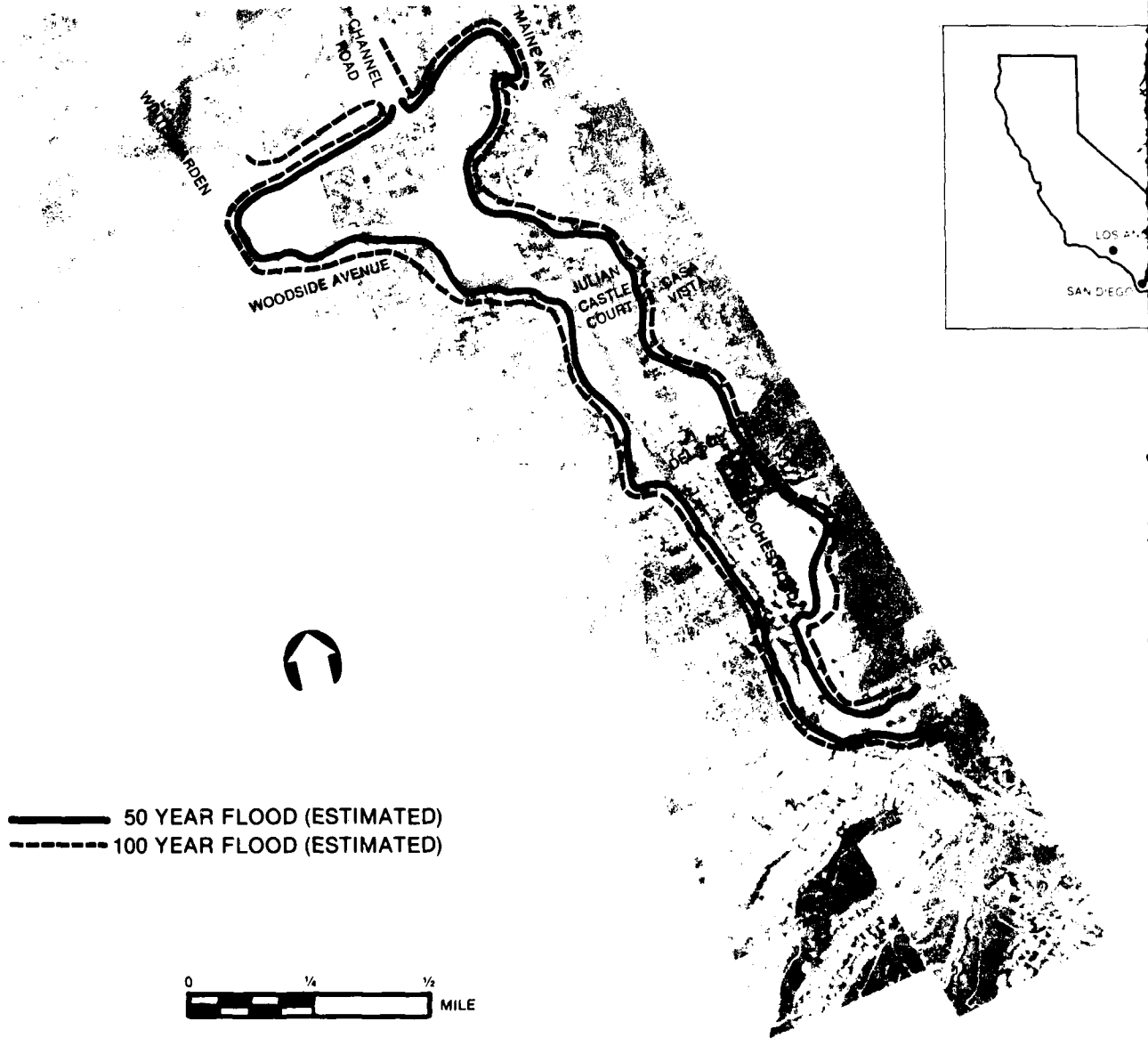


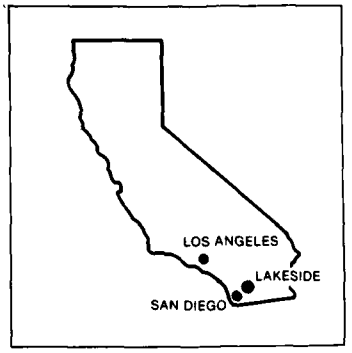
LOS COCHES CREEK
SAN DIEGO COUNTY, CALIFORNIA

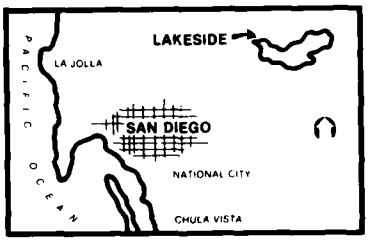
DRAINAGE AREA BOUNDARIES

US ARMY CORPS OF ENGINEERS
LOS ANGELES DISTRICT

PLATE 1


CHANNEL ROAD
MAINE AVE
WOODSIDE AVENUE
JULIAN CASTLE COURT
50 YEAR FLOOD (ESTIMATED)
100 YEAR FLOOD (ESTIMATED)
0
¼
½
MILE





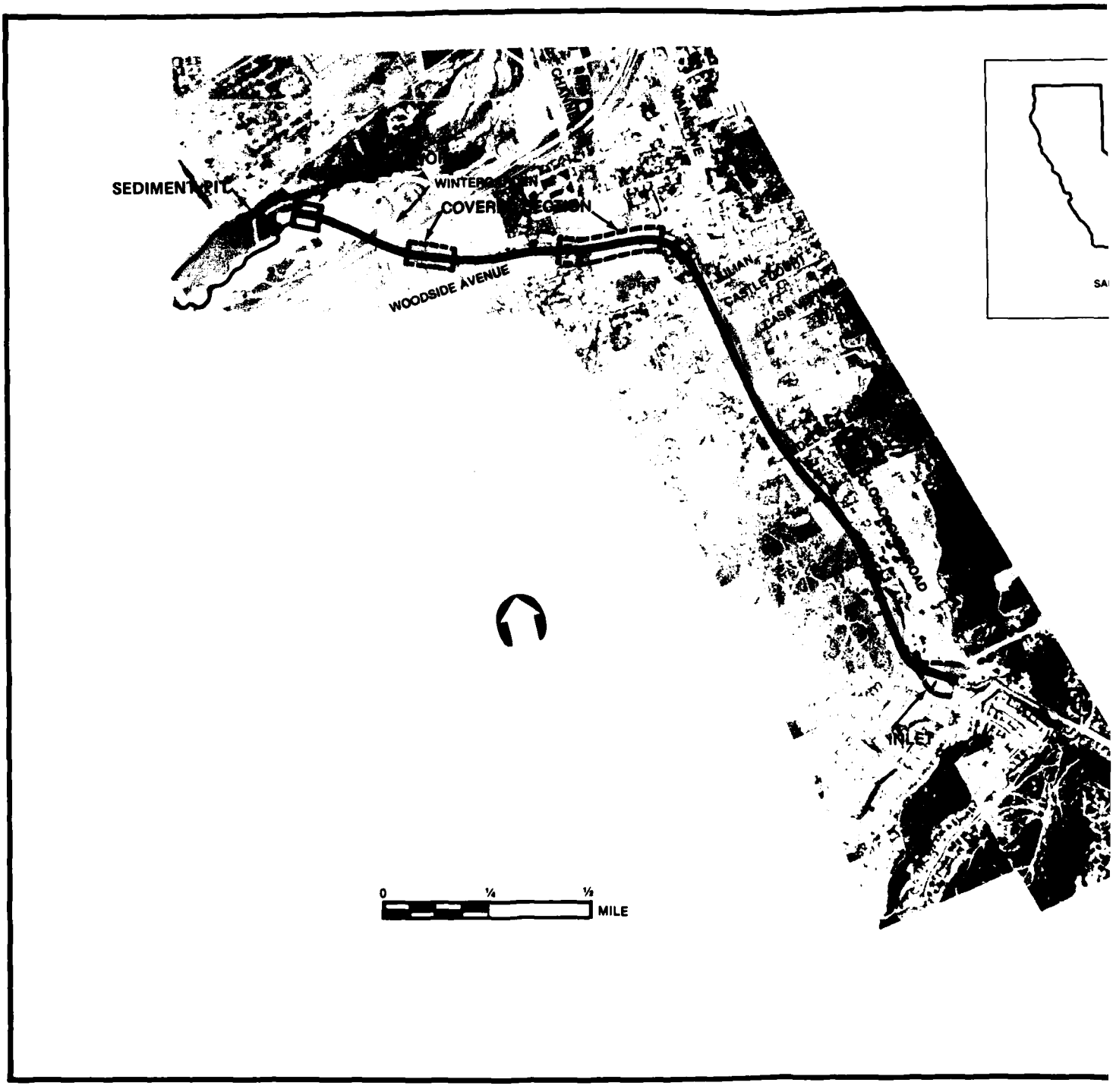
ILE

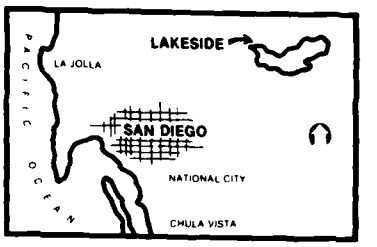
LOS COCHES CREEK
SAN DIEGO COUNTY, CALIFORNIA

OVERFLOW AREA

US ARMY CORPS OF ENGINEERS
LOS ANGELES DISTRICT

PLATE 2


SEDIMENT PIT
WINTER
COVER
WOODSIDE AVENUE
CASTLE
0
¼
½
MILE



LOS COCHES CREEK
SAN DIEGO COUNTY, CALIFORNIA

RECOMMENDED PLAN
DESIGN CONCEPT

US ARMY CORPS OF ENGINEERS
LOS ANGELES DISTRICT

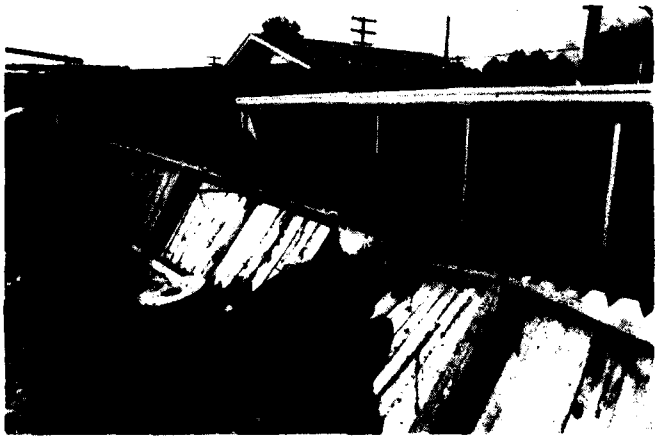
PLATE 3

Photographs

Floodwaters from the February 1980 flood overtop the Julian Avenue crossing.

Floodwaters from the February 1980 flood completely fill the channel and barely clear this bridge by the Harvest Temple located on Woodside Avenue.

Flooding due to the February 1980 storm.

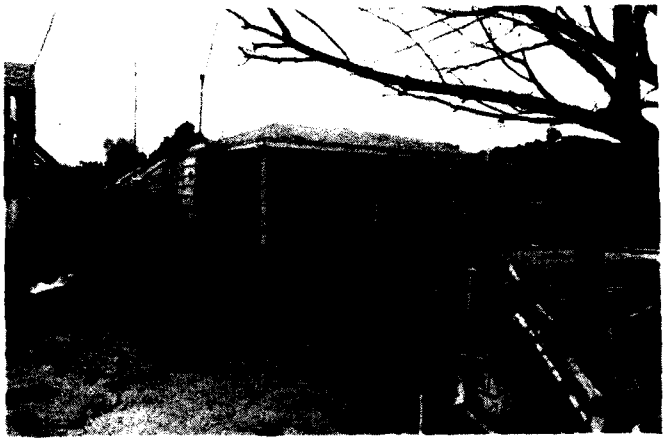


Broken fence due to the February 1980 flood. Note high water marks on porch screens.

Fences at this residence on Castle Court acted like a debris trap (February 1980 flood).

Note the high water mark on this fence on Julian Avenue caused by the February 1980 flood.

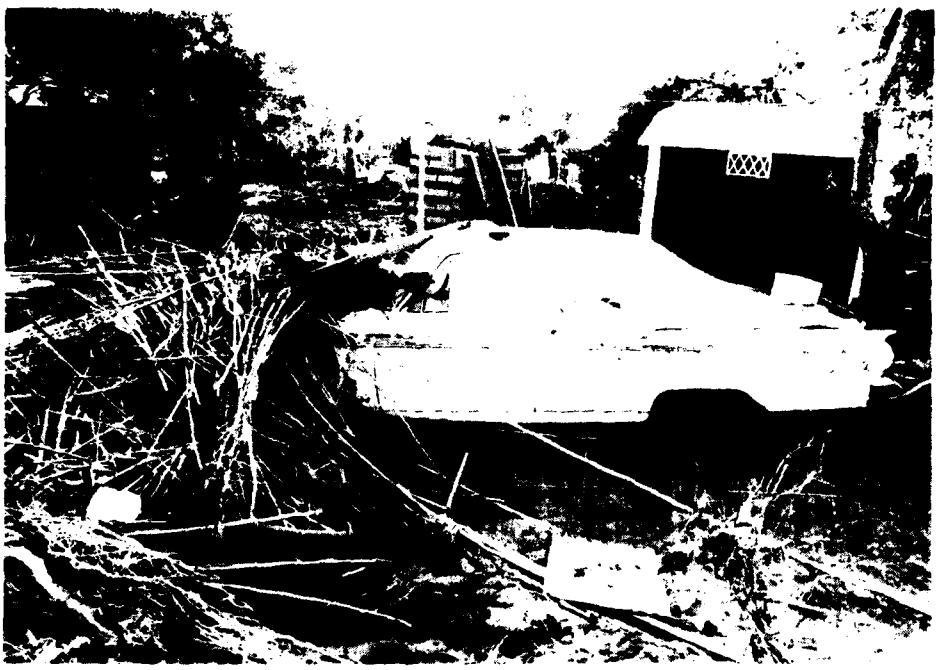
An aerial view of the February 1980 flood damages in Lakeside, at Channel Road and Highway 67.



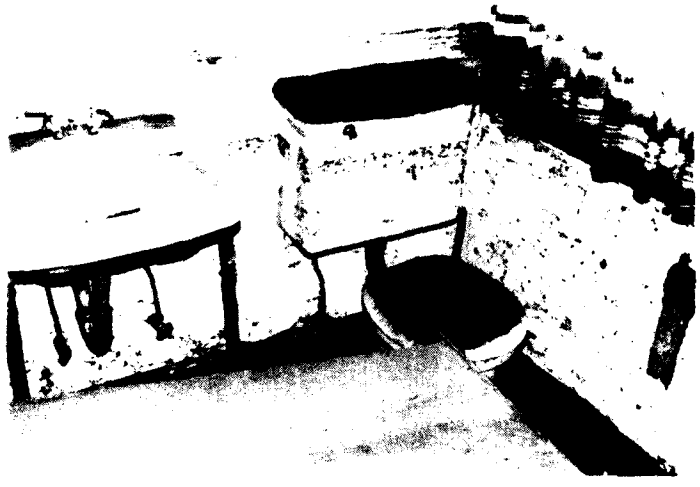
Mud and debris from the February 1980 floodwaters buried this fence at a residence on Julian Avenue.

Floodwaters from the February 1980 flood undercut the foundation of this structure causing it to slip into the channel.

Local resident shovels mud deposited by the February 1980 flood from the side of his house on Julian Avenue.



Mud and debris from the February 1980 flood covered this car at a residence on Castle Court.



Floodwaters from the February 1980 flood inflicted interior damage to a residence on Los Coches Road. Note high water mark.

Similar interior damages from the February 1980 flood are made evident by the high water mark at a Julian Avenue residence.

Looking east on flooded Woodside Avenue from the Security Pacific Bank parking lot during the February 1980 flood.

Looking downstream from Del Sol Road during the 1979 flood.

Draft Agreement

16 July 1984

DRAFT AGREEMENT BETWEEN THE UNITED STATES OF AMERICA

AND THE COUNTY OF SAN DIEGO, BOARD OF SUPERVISORS

THIS AGREEMENT entered into this _____ day of _____ 19__, by and between the UNITED STATES OF AMERICA (hereinafter called the "Government"), represented by the Contracting Officer executed this Agreement, and the County of San Diego, Board of Supervisors (hereinafter called the "county").

WITNESSETH THAT:

WHEREAS, construction of the Los Coches Creek Flood Control Project (hereinafter called the "Project") was authorized by the Chief of Engineers, U.S. Army on the _____ day of _____ 19__; and in accordance with Section 205 of the 1948 Flood Control Act (PL 80-858) and its amendments; and

WHEREAS, the County hereby represents that it has the authority and capability to furnish the non-Federal cooperation required by applicable law.

NOW, THEREFORE, the parties agree as follows:

1. The County agrees that, if the Government shall commence construction of the Los Coches Creek Flood Control Project under the authority of Section 205 of the 1948 Flood Control Act and its amendments substantially in accordance with the Detailed Project Report authorizing such work, the County shall, in consideration of the Government commencing construction of such Project, fulfill the requirements of non-Federal cooperation specified in applicable law, to wit:

a. Provide, without cost to the United States, all lands, easements, and rights-of-way necessary for construction of the project, including lands necessary for mitigation for project effects, and borrow and spoil disposal areas.

b. Provide, without cost to the United States, all necessary modification or relocation of structures, transportation facilities, bridges, utilities and drainage facilities required in connection with the project.

c. Provide, without cost to the United States, all necessary modification, operation, and maintenance of the mitigation lands estimated to be about 30 acres.

(i) The operation and maintenance (O&M) of the mitigation area is to be performed for the purpose of protecting wildlife resource values and (O&M) plans are subject to Corps and USFWS review; only those activities compatible with wildlife protection shall be allowed.

(ii) Land use management of the mitigation area and adjacent wetlands shall protect the natural resource values of those wetlands.

d. Contribute a cash contribution for all funds in excess of the Federal limitations in Section 205 of the 1948 Flood Control Act (PL 80-858) and its amendments.

e. Maintain and operate all the works after completion in accordance with regulations prescribed by the Secretary of the Army.

f. Hold and save the United States free from damages caused by the construction and operation of the project, excluding damages due to the fault or negligence of the United States or its contractors.

g. Adjust all water-rights claims resulting from construction of the project.

h. Prescribe and enforce regulations to prevent obstruction or encroachment on flood control works that would reduce their flood-carrying capacity or hinder maintenance and operation.

2. The County hereby agrees that it will comply with all applicable provisions of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, Public Law 91-646, approved January 2, 1971, in acquiring lands, easements, and rights-of-ways for construction and subsequent maintenance of the Project, and inform affected persons of pertinent benefits, policies and procedures in connection with said Act. All records concerning acquisition under Title III of the Law and the offering of and payment of Title II benefits available under the law are to be made available to the Government for review and approval.

3. The County hereby gives the Government a right to enter upon, at reasonable time and in a reasonable manner, lands which the County owns or controls, for access to the Project for the purpose of inspection, and for the purpose of repairing and maintaining the Project, if such inspection shows that the County for any reason is failing to repair and maintain the Project in accordance with the assurances hereunder and has persisted in such failure after a reasonable notice in writing by the Government delivered to the County official. No repair or maintenance by the Government in such event shall operate to relieve the County of responsibility to meet its obligations as set forth in Paragraph 1 of this Agreement, or to preclude the Government from pursuing any other remedy by law or equity.

4. This Agreement is subject to the approval of the Chief of Engineers, U.S. Army

IN WITNESS WHEREOF, the parties hereto have executed this contract as of the day and year first above written.

THE UNITED STATES
By_____
Colonel, Corps of Engineers
District Commander
Contracting Officer

DATE:_____

APPROVED:

_____
FOR THE CHIEF OF ENGINEERS

COUNTY OF SAN DIEGO
By_____
Chairman, Board of Directors

ATTEST:

By_____
Clerk of the Board of Directors

DATE:_____

I, _____, do hereby certify that I am
(name)
the Chief Legal Officer of the County of San Diego that the County of San Diego is a legally constituted public body with full authority and legal capability to perform the terms of the agreement between the United States of America and the County of San Diego in connection with Los Coches Creek Project, and to pay damages, if necessary, in the event of the failure to perform in accordance with Section 221 of Public Law 91-611 and that the person(s) who have executed the contract on behalf of the County of San Diego have acted within their statuary authority.

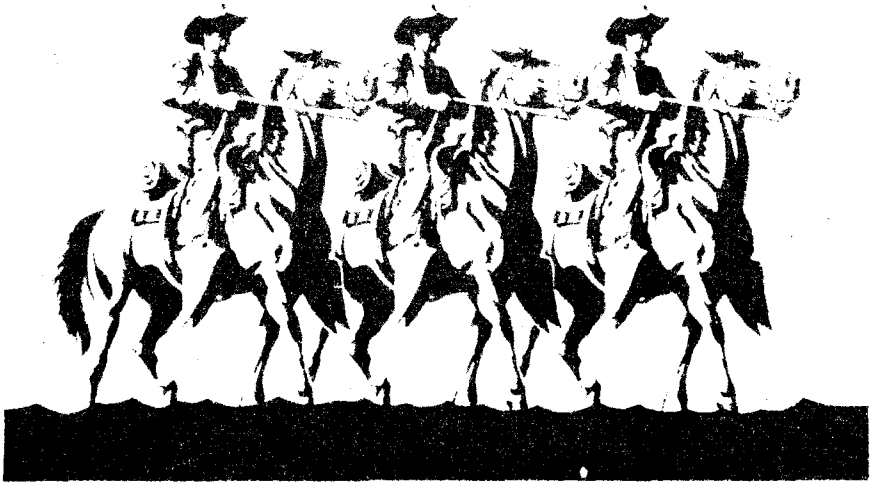
In Witness Whereof, I have made and executed this Certificate this

_____ day of _____

_____
County Counsel, San Diego County

Environmental

Appendix 1



APPENDIX I

ENVIRONMENTAL

CORRESPONDENCE.....1

Calculation of Mitigation Requirements.....6

Supplemental Fish & Wildlife Coordination Act Report.....10

Corps Response to F&W Coordination Act Report.....19

July 11, 1983

SPLPD-RP

Mr. Gail Kobetich
Area Office, Fish and Wildlife Service
1230 N. Street, 14th Floor
Sacramento, California 95814

Dear Mr. Kobetich:

The U. S. Army Corps of Engineers, Los Angeles District, is conducting investigations concerning flood control for two projects in San Diego County, California. One is Los Coches Creek, located in the community of Lakeside. The other is the "San Diego County Streams Flowing into the Pacific Ocean" project. Streams currently being studied under this second authority are Las Chollas Creek in the city of San Diego and Loma Alta Creek in the city of Oceanside. Project maps are enclosed.

Please advise the Los Angeles District of any rare, threatened, or endangered species which should be considered in the planning effort for these projects. If you have any questions, please contact Jim Duff in the Environmental Planning Section at FTS 798-5421 or commercial number (213) 688-5421.

Thank you for your assistance in this matter.

Sincerely,

Carl F. Enson
Chief Planning Division

Enclosures

United States Department of the Interior

FISH AND WILDLIFE SERVICE

SACRAMENTO ENDANGERED SPECIES OFFICE
1230 "N" Street, 14th Floor
Sacramento, California 95814

AUG 4 1983

In reply refer to: SESO
#1-1-83-SP-517, #1-1-83-SP-518,
#1-1-83-SP-519

Mr. Carl F. Enson
Chief Planning Division
Department of the Army
Los Angeles District
Corps of Engineers
P.O. Box 2711
Los Angeles, California 90053

Subject: Request for List of Endangered and Threatened Species: Los Coches Creek (#1-1-83-SP-517), Las Chollas Creek (#1-1-83-SP-518), and Loma Alta Creek (#1-1-83-SP-519)

Dear Mr. Enson:

This is in reply to your letter of July 11, 1983, requesting a list of listed and proposed endangered and threatened species that may occur within the area of the subject project. Your request and this response are made pursuant to Section 7(c) of the Endangered Species Act of 1973 as amended (PL 95-632).

We have reviewed the most recent information and to the best of our knowledge there are no listed or proposed species within the area of the project. We appreciate your concern for endangered species and look forward to continued coordination. If you have further questions, please contact Mr. Ralph Swanson of our office at (FTS) 448-2791 or (916) 440-2791.

Sincerely,

Gail C. Kobetich

Project Leader

July 14, 1983

SPLPD-RP

Mr. Leroy Parkins
District Conservationist
Soil Conservation Service
1132 North Second Street
El Cajon, California 92021

Dear Mr. Parkins:

The Los Angeles District, U.S. Army Corps Engineers is currently studying flood control of Los Coches Creek in the community of Lakeside and Las Chollas Creek in the city of San Diego. In accordance with recommendations from the Council on Environmental Quality, we are requesting your assistance in identifying any prime or unique farmlands in the project areas, and in determining any impacts associated with construction of any of the proposed alternatives.

Maps of the project areas are enclosed, one for delineating prime or unique farmlands for us and one for your records. If you have any questions, please contact Mr. Jim Duff, in Environmental Planning Section, at (213) 688-5421 or FTS 798-5421.

Thank you for your assistance in this mattter.

Sincerely,

Carl F. Enson
Chief, Planning Division

United States Department of Agriculture

Soil Conservation Service

1132 North Second
El Cajon, CA 92021
Phone: 442-0559

August 2, 1983

Carl F. Enson
Chief, Planning Division
Depart. of the Army
Los Angeles District, Corps of Engineers
P.O. Box 2711
Los Angeles, CA 90053

Dear Mr. Enson,

In response to your request for assistance, dated July 14, 1983, to identify any prime or unique farmlands on two flood control areas, we have reviewed the designated sections of Los Coches Creek, near Lakeside, and Las Chollas Creek in San Diego.

Our first observation is that none of the land in the designated reaches is currently being used for farmland. Then study of soil maps shows us that none of the land fits criteria for either prime, statewide importance, or unique farmlands.

Leray M. Parkins
District Conservationist

C

DEPARTMENT OF THE ARMY
LOS ANGELES DISTRICT, CORPS OF ENGINEERS
P. O. BOX 2711
LOS ANGELES, CALIFORNIA 90053

August 17, 1983

RECEIVED
AUG 19 1983
OHP

REPLY TO
ATTENTION OF
SPLPD-RP

Dr. Knox Mellon
State Historic Preservation Officer
P.O. Box 2390
Sacramento, California 95811

Dear Dr. Mellon:

The Corps of Engineers plans to construct a concrete channel in the floodway of Los Coches Creek west of Los Coches Road from near Ha-Hana Road to the San Diego River. Construction is scheduled to begin in 1984.

A cultural resources survey that was performed in 1979 by San Diego State University under contract to the Corps identified three archeological and two historic sites near the project area. These are described in the enclosed report submitted to the Corps by San Diego State University and previously provided to your office in 1981 (Encl 1). Subsequently, the Department of Public Works, County of San Diego, resurveyed the project area, relocating three of these sites (Encl 2). In the original report, SDi-5048 was described as a historic site. However, in the later survey, a prehistoric component was noted. Department of Public Works archeologists also inventoried and tested SDi-5047, which is located near project boundaries. They determined that the artifact density is very light and is in a disturbed context. In July of 1983, a field check of the project area by a Corps of Engineers archeologist confirmed the recorded site locations.

Of the sites located in these surveys, none is located within the immediate impact zone. Three are well away from project boundaries. The site tested by Department of Public Works archeologists, SDi-5047, and a historic site, SDi-6883, are located near project boundaries. Construction specifications will stipulate that these two areas will be avoided by all construction activities. Therefore, the Corps of Engineers has determined that No Effect on significant cultural resources will occur as a result of the proposed project. The Corps requests your concurrence with this determination.

Sincerely,

for Carl F. Enson
Chief, Planning Division

Enclosures

I CONCUR Knox Mellon DATE 8/26/83

SPLPD-RP 21 October 1983

MEMORANDUM FOR RECORD

SUBJECT: Mitigation Required for the Loss of Habitat Caused by the Los Coches Creek Project.

1. The purpose of this memorandum is to describe how the recommended mitigation plan for habitat loss caused by the Los Coches Creek Project was developed. To develop this mitigation plan, existing habitat was evaluated, project impacts were quantified, and based on a U.S. Fish and Wildlife Service (USFWS) formula, mitigation requirements were developed.

2. Existing Habitat within the project area.

a. Areal extent of each existing habitat type in the project area was measured from aerial photography of the project area taken in 1980. Aerial photographs were checked against a 1981 USFWS habitat map of the reach of the project upstream of Castle Court. In addition, field checks in the summer of 1983 confirmed that the 1980 aerial photographs are a reasonable representation of current conditions in the project area. A 1981 San Diego County Ordinance prohibits new development in the Los Coches Creek watershed, due to the flooding problem.

b. The various habitat types found in the project area have been assigned quantitative values by the USFWS. These habitat values were developed by consideration of the existing habitat conditions and factors in the project area. Factors considered include the following:

(1) Diversity and number of plant and animal species.

(2) Size and interrelationship of various habitats.

(3) Local and regional availability of similar habitats.

(4) Habitat vulnerability and replaceability.

(5) Food, cover, and water resources.

(6) Human disturbance and alteration of habitats.

No formal habitat evaluation procedure was used, so the assigned habitat quality values are somewhat subjective based on best professional judgement. Table 1 gives the existing acreages and Table 2 the habitat quality values of the various habitat types subject to impacts by the project. In these tables, the project is separated into two areas (upstream and downstream of Castle Court Drive) because of the greatly different ecological value of habitats in the two areas.

Table 1 - Existing Habitat in the Los Coches Creek Project Area

Habitat Type	Existing Quantity		
	Upstream of Castle Court Drive	Downstream of Castle Court Drive	Total
Riparian/Emergent Wetland*	5.3	2.3	7.6
Old Field	65	6	71

*These two habitat types occur together in a mosaic pattern, and are difficult to separate on aerial photographs.

Table 2 - Quality of Habitat Types in the Los Coches Creek Project Area

Habitat Type	Habitat Quality Value	
	Upstream of Castle Court Drive	Downstream of Castle Court Drive
Riparian/Emergent Wetland	.63*	0.2
Old Field	0.4	0.2

*This is a weighted average of riparian (value 0.7) and emergent wetland (Value 0.5) habitats.

3. Project Impacts

a. Direct Impacts: Construction of the recommended plan will result in the direct elimination of about 18 acres of habitat. This includes all the wetland and riparian habitat within the project area (7.6 acres). In addition, 6.4 acres of old field habitat and 4.2 acres of man-altered habitat would be destroyed by construction of the project. The man-altered habitat found in the project area is not considered a significant biological resource, and its loss need not be mitigated. These numbers were calculated from aerial photography and the alinements of the proposed flood control plan. A separate calculation was made for each plan considered in detail.

b. Indirect Impacts: The project will also result in the indirect elimination of old-field habitat within the current 100-year flood plain of Los Coches Creek. This land, not currently developable under a San Diego County Board of Supervisor's policy, presumably would be developed in accordance with the existing local community plan. If this occurs, old field habitat would become residential housing. For the recommended plan, this

would be a loss of 65 acres of old field habitat. This quantity was computed from aerial photography and the existing 100-year flood plain of Los Coches Creek.

4. Mitigation Requirements

a. A USFWS method was used to calculate mitigation requirements for each alternative plan. Since the preservation of one unified parcel is preferable to the acquisition of several parcels of the various habitat types, mitigation acreages for old field habitat were converted to mitigation acreages for the higher quality riparian habitat using a ratio of the respective habitat quality values (0.4/0.7). Because of the greater habitat quality of riparian habitat, it is possible to adequately mitigate project-caused losses with fewer acres of riparian habitat than would be required if acreages were comprised of other, less valuable habitat. The calculation is made as follows:

(1) Take the number of acres of each type of habitat to be eliminated and multiply this by the habitat quality value. This total is the mitigation acreage for each habitat type.

(2) Take the old-field habitat acreage and multiply this value by the ratio of old field habitat quality value to the riparian habitat value (0.4/0.7). This converts the mitigation requirement for old field habitat into a riparian habitat quantity, resulting in fewer acres needed in order to mitigate impacts.

(3) Use of this method and the information in Tables 1 and 2 resulted in a total mitigation requirement of 20 acres for both direct and indirect impacts of the recommended plan.

b. The above calculation was done for each plan considered in detail. Impacts are essentially the same for each of the plans considered in detail. Calculations will be kept on file in the L.A. District Office.

5. Conclusion

The process outlined in this memorandum was used to determine a quantitative mitigation requirement for habitat loss caused by construction of the Los Coches Creek project. The process of assigning habitat quality values is somewhat subjective and depends upon the professional judgement of USFWS and Corps environmental staff personnel. However, it is the best method available since time and funding were not available for use of a formal

SPLPD-RP 21 October 1983
SUBJECT: Mitigation Required for the Loss of Habitat Caused by the Los Coches Creek Project.

habitat evaluation procedure. Project impacts, direct and indirect, of the recommended plan were calculated as 8 acres of riparian/emergent wetland habitat and 71 acres of old field habitat. Use of the formula in Section 4 results in a total mitigation requirement of 20 acres of riparian vegetation for the recommend plan and each alternative plan considered in detail.

Jim Duff

JIM DUFF
Geographer
Environmental Resources Branch

Julia Witz

JULIA WITZ
Geographer
Environmental Resources Branch

United States Department of the Interior

FISH AND WILDLIFE SERVICE

ECOLOGICAL SERVICES
24000 Avila Road
Laguna Niguel, California 92677

September 26, 1983

Commander
Los Angeles District
Corps of Engineers
P.O. Box 2711
Los Angeles, California 90053

Re: Supplement to Final Fish and Wildlife Coordination Act Report on the Los Coches Creek Flood Control Project, San Diego County, California

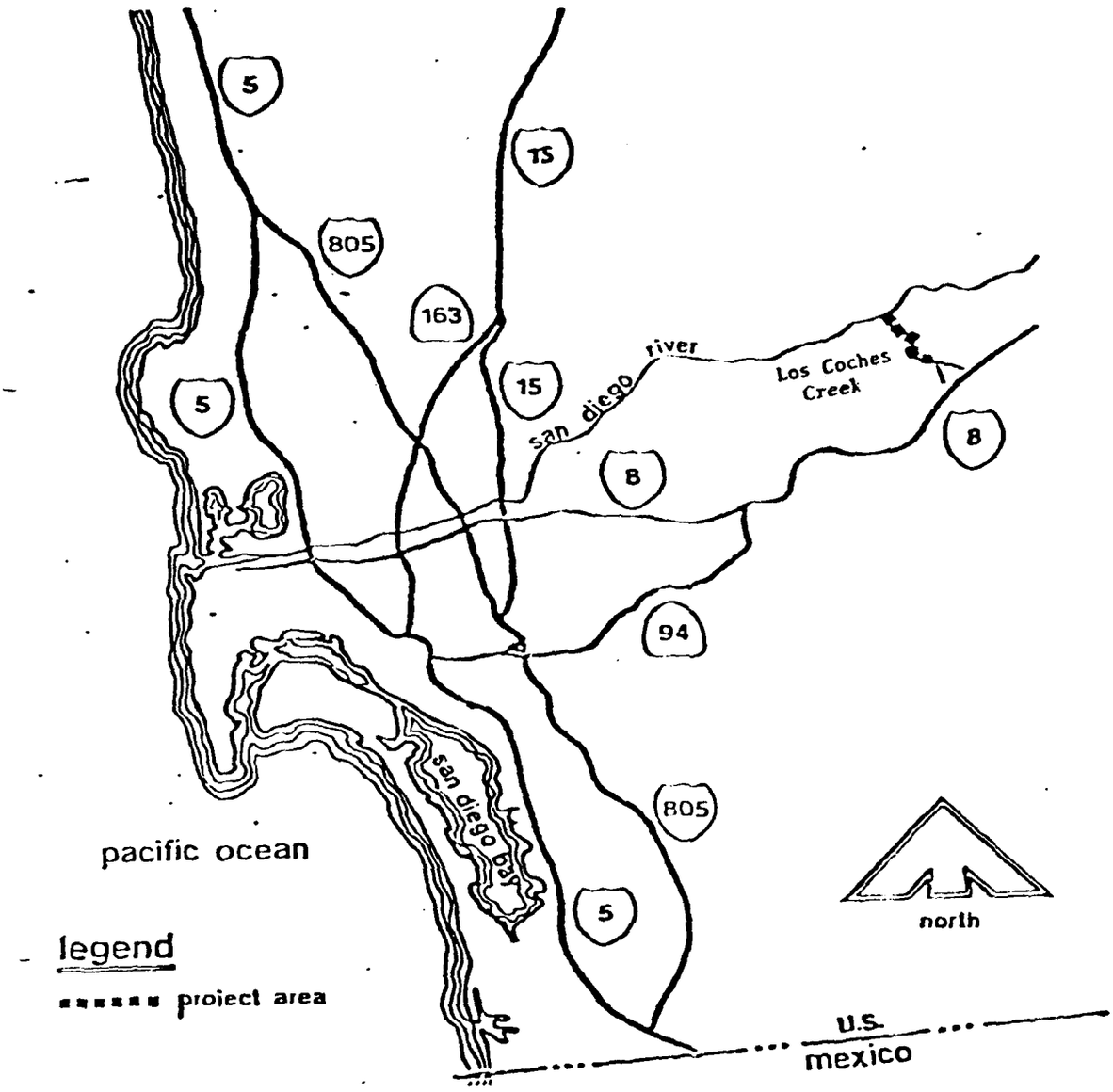
Dear Sir:

Enclosed is a supplement to the U.S. Fish and Wildlife Service (FWS) Final Fish and Wildlife Coordination Act Report on the Los Coches Creek Flood Control Project (dated September 1981), San Diego County, California. This document was prepared in accordance with the Fiscal Year 1983 Scope of Work agreed to by our agencies and it is being provided for equal consideration of fish and wildlife conservation in the planning of the project. Findings herein are based largely on information contained in the Final Fish and Wildlife Coordination Act Report, the County of San Diego Initial Study for Los Coches Creek Flood Control Channel dated January 5, 1982, project surveys on May 27 and July 26, 1983, and information provided by Corps of Engineers' (Corps) personnel. This document is of a planning aid nature and does not constitute the report of the Secretary of the Interior on the project within the meaning of Section 2(b) of the Fish and Wildlife Coordination Act (FWCA), P.L. 91-190.

A. PLAN DESCRIPTION

1. PROJECT LOCATION AND PURPOSE

The Corps - Los Angeles District is proposing a project to provide flood protection by structural means for existing and future developments along 2.1 miles of Los Coches Creek in the unincorporated community of Lakeside, San Diego County, California. Lakeside is located approximately 18 miles northeast of downtown San Diego (Fig. 1). The project area extends from Los Coches Creek Road to the San Diego River.



General Location Of Project Area

Figure 1

2. PROJECT ALTERNATIVES

Twelve project alternatives were initially formulated by the Corps. Four of these alternatives were considered in greater detail for technical, economic, and environmental reasons.

Plan 4, the selected alternative, consists of the following features: an inlet structure immediately downstream of the Los Coches Road bridge, a 1.8 mile rectangular concrete channel 12 feet deep and 26 to 34 feet wide, and an outlet structure adjacent to the San Diego River. The plan would provide 100-year flood protection for the community of Lakeside. Structures located in the floodplain upstream of the project would remain subject to inundation by flooding.

Other alternatives which were considered in detail include plans 2, 5, and 9. These alternatives are similar to the selected plan in that they would have a similar length, inlet structure, and outlet structure at the San Diego River. Plan 2 features include a rectangular concrete structure having a base width of 24 to 36 feet and a depth of 9.5 feet. The plan is designed to control the 50-year peak discharge. Plan 5, designed to control the SPF peak discharge, consists of a rectangular concrete structure with a base width of 32 to 60 feet and a depth of 9 to 12 feet. Plan 9 features would include 1 mile of trapezoidal concrete channel and 0.8 miles of rectangular concrete channel. The trapezoidal channel section would have a base width of 32 feet, a top width of 60 feet, and a depth of 10 feet. The rectangular channel section would be 12 feet deep and 29 to 34 feet wide. Plan 9 is designed to control the 100-year peak discharge.

B. BIOLOGICAL EVALUATIONS

1. EXISTING CONDITIONS

Existing conditions in the project area were adequately described in the final FWCA report but are briefly summarized here for readers not having ready access to the earlier report.

a. Aquatic Resources

The Los Coches Creek and its adjacent riparian vegetation comprise the wetlands within the 2.1-mile project length. These wetlands are sustained by seasonal rainfall and urban and agricultural runoff. In the past the creek has typically had surface flow from December through June, but in recent years flows have continued year-round due to irrigation runoff associated with new developments in the upper watershed. Only mosquitofish are known to inhabit the creek.

Most of the wetlands along Los Coches Creek have been previously altered by channel maintenance activities. Bank stabilization has been attempted along most of the residential areas bordering the creek using sandbags and rock gabion structures. Dense stands of giant reed grow along the top of the bank in many of these

stabilized areas. Giant reed occupies a significant acreage along the creek in the project area but provides low quality wildlife habitat.

About 3 acres of riverine and palustrine emergent wetlands occur along Los Coches Creek. Cattail, bulrush, and watercress are typical species found in these habitat types. Intermixed with the emergent wetlands are about 4 acres of forested and scrub-shrub wetlands, consisting of willow, cottonwood, sycamore, mulefat, and giant reed.

A diversity of animals are associated with the wetland habitats along the creek. Principal mammalian species include coyote, gray fox, bobcat, raccoon, striped skunk, opossum, ornate shrew, Audubon's cottontail, California meadow mouse, and pocket mouse. Bird species which utilize the creek wetlands include song sparrow, yellow-rumped warbler, Brewer's blackbird, red-winged blackbird, green-backed heron, Anna's hummingbird, marsh wren, house finch, brown towhee, mourning dove, California quail, killdeer, loggerhead shrike, northern oriole, northern mockingbird, bushtit, black phoebe, lesser goldfinch, black-headed grosbeak, phainopepla, northern rough-winged swallow, and house sparrow. Pacific treefrog, gopher snake, California kingsnake, side-blotched lizard, and western fence lizard are common amphibians and reptiles of the creek wetlands.

b. Terrestrial Resources

The terrestrial resources of Los Coches Creek consist of coastal sage scrub, old field, and man-altered habitats. Coastal sage scrub habitat occurs primarily on the east-west facing hillsides along Los Coches Creek and among areas of less disturbed old field habitat in the lower floodplain. About 2 acres of this habitat occurs within the project area. The coastal sage scrub community is dominated by California sagebrush, flattop buckwheat, and grasses. California quail, brown towhee, bushtit, loggerhead shrike, California thrasher, and red-tailed hawk are commonly observed bird species in this habitat. Common mammals include western harvest mouse, deer mouse, dusky-footed wood rat, Audubon's cottontail, and long-tailed weasel. Western fence lizard, side-blotched lizard, gopher snake, California kingsnake, and southern Pacific rattlesnake are expected reptile inhabitants.

Old field habitat is one of the most common habitat types found in the project area. It includes fallow cropland, disturbed grassland, roadsides, or cleared areas which assume the character of brushy or weedy fields. Common plant species include brome grasses, wild oats, dallis grass, bull nettle, red clover, pimpernel, coyote melon, mustards, wild radish, Russian thistle, sweet-clover, telegraph weed, sweet fennel, and tree tobacco.

Old field habitats support insect and seed-eating birds such as western meadowlark, horned lark, sparrows, house finch, and mourning dove. It also provides foraging habitat for raptors such as red-tailed and red-shouldered hawks and predatory mammals

including coyote, raccoon, and long-tailed weasel. This habitat type also serves as a corridor for wildlife moving between hillside habitats and the creek.

Man-altered habitat consists of open areas where man has eliminated natural communities. Vegetation is often sparse or conposed of exotic, weedy, or cultivated species. Common species include crabgrass, bermuda grass, common sunflower, Russian thistle, and telegraph weed. Habitat values for wildlife are low with species such as striped skunk, opossum, Norway rat, house mouse, feral cats and dogs, house finch, and house sparrow being common.

c. Sensitive Species

No threatened or endangered species are known to occur within the project area.

2. FUTURE WITHOUT THE PROJECT

Without the project the Los Coches Creek area would probably change very little. Lakeside zoning laws state that no further development will be permitted in the Los Coches Creek floodplain until flood protection is provided. The Lakeside community has also expressed a desire to maintain its rural character. Consequently, fish and wildlife habitat will remain much the same in quantity and quality. It is expected that continued channel maintenance activities will prevent any significant improvement in wildlife habitat and will keep the area in a rather disturbed condition. Development will undoubtedly continue outside of the floodplain thus reducing habitat for upland dwelling wildlife which use the creek as a source of water.

3. FUTURE WITH THE PROJECT

Project impacts would be quite similar with any of the various alternatives. As a result, impacts discussed in this section apply to all alternatives unless otherwise indicated.

Existing wildlife habitats within the channel right-of-way will be greatly altered by construction and greatly reduced in habitat value. Construction of a concrete channel and inlet structure would eliminate about 8 acres of wetland habitat, essentially all wetlands in the project area. Wildlife and fish utilizing these habitats would be eliminated or displaced during channel construction. The abundance and diversity of wildlife and fish in the project area would be reduced. Those animals forced to relocate may be totally eliminated if similar habitats in the region are already at their carrying capacity.

Terrestrial species which have in the past used the creek as a source of water may be precluded from drinking from the flood

channel after project construction. Most birds will probably continue to utilize the channel as a water source, but California quail chicks, mammals, and reptiles will be precluded from reaching the water by the 9-12 foot high vertical walls of the flood control channel. Elimination of this water source may cause these animals to rely more heavily on lawn and garden irrigation water at private residences or may cause them to abandon the area. Attraction to residential irrigation water may subject these species to a greater degree of predation by domestic dogs and cats.

Construction of plan 4 or 5 would directly eliminate 6 acres of old field habitat. Construction of plan 2 or 9 would result in the elimination of 3 and 9 acres of old field respectively. Development induced by the construction of the flood channel will probably eliminate the remainder of the old field habitat in the project area (about 71 acres). Under plan 2, 50-year flood protection, up to 65 acres will probably be developed. The loss of old field habitat through development is a secondary impact of the project.

Development of the old field habitat will result in the displacement and likely elimination of animals currently inhabiting this community. It will also mean the loss of foraging habitat for songbirds, raptors, and predatory mammals.

Under plans 4 or 5, four acres of man-altered area would be developed. Two acres of man-altered area would be lost with plan 2, and 6 acres would be developed with plan 9. Man-altered areas provide low habitat values for wildlife, so there would be no significant impacts under any of the above plans.

In summary, 8 acres of wetland, 65-71 acres of old field habitat, and about 4 acres of man-altered area will be lost directly or indirectly as a result of the project. In accordance with the FWS Mitigation Policy, we considered the habitat values within the project site and the concomitant mitigation goals. Evaluation species for the project area are migratory birds, raptors, and mammals. In the project area the wetland communities are within resource category 3. The associated mitigation goal is no net loss of habitat value while minimizing the loss of in-kind habitat value. The old field habitat and man-altered areas are within resource category 4. Its mitigation goal is to minimize the loss of habitat values.

C. RECOMMENDATIONS

After re-evaluating the project in light of current conditions and the FWS mitigation policy, we recommend the following measures be implemented to avoid or minimize the adverse impacts of the project upon public fish and wildlife resources.

1. Twenty acres of upland adjacent to the San Diego River wetlands near the project area should be acquired, excavated, and revegetated to create a riparian wetland.

2. The mitigation area riparian wetland should be experimental in nature and used to develop effective techniques for recreating or establishing riparian wetlands in coastal southern California.

a. The study to develop riparian establishment techniques should be funded for at least a 5-year period to allow for: the collection of baseline data; the establishment of several initial planting treatments; and the monitoring of the site for at least 3 years after planting.

b. Study proposals should be solicited from qualified southern California colleges and universities and recognized authorities in the field of riparian ecosystems.

c. Annual progress reports and a final report should be required of the contractor conducting the study.

d. The 20-acre compensation site should be totally revegetated prior to the conclusion of the study.

e. The FWS would like to work with the Corps in developing and evaluating the study proposal and in monitoring the progress of the study.

3. A wildlife water source ("guzzler") should be located on the west side of the flood channel about mid-way between Del Sol Road and the Los Coches Road bridge.

Please call Mr. Gary Wheeler or me at FTS 796- 4270, if you have any questions about the report.

Sincerely yours,

Wayne S. White
Acting Field Supervisor

cc: CDFG, Reg. 5, Long Beach, CA
CDFG, Reg. 5, Escondido, CA (Attn: Harold McKinnie)
CDFG, Sacramento, CA
CE, Env. Planning Br., Los Angeles, CA (Attn: Jim Duff)
CE, Water Resources Br., Los Angeles, CA

Appendix Table 1

COMMON AND SCIENTIFIC NAMES OF SPECIES
INCLUDED IN THIS REPORT

Common Name	Scientific Name
PLANTS:	
Bermuda grass	*Cynodon dactylon*
Brome grass	*Bromus* spp.
Bull nettle	*Urtica holosericea*
Bulrush	*Scirpus* sp.
California sagebrush	*Artemisia californica*
Cattail	*Typha* sp.
Common sunflower	*Helianthus annuus*
Cottonwood	*Populus* sp.
Coyote melon	*Cucurbita foetidissima*
Crabgrass	*Digitaria sanguinalis*
Dallis grass	*Paspalum dilatatum*
Flattop buckwheat	*Eriogonum fasciculatum*
Giant reed	*Arundo donax*
Mulefat	*Baccharis glutinosa*
Mustard	*Brassica* spp.
Pimpernel	*Anagalis arvensis*
Red clover	*Trifolium pratense*
Russian thistle	*Salsola iberica*
Sweet fennel	*Foeniculum vulgare*
Sweet-clover	*Melilotus indicus*
Sycamore	*Platanus racemosa*
Telegraph weed	*Heterotheca grandiflora*
Tree tobacco	*Nicotiana glauca*
Watercress	*Rorippa nasturtium-aquaticum*
Wild oats	*Avena* spp.
Wild radish	*Raphanus sativus*
Willow	*Salix* sp.
AMPHIBIANS:	
Pacific treefrog	*Hyla regilla*
REPTILES:	
California kingsnake	*Lampropeltis getulus*
Gopher snake	*Pituophis melanoleucus*
Side-blotched lizard	*Uta stansburiana*
Southern Pacific rattlesnake	*Crotalus viridis*
Western fence lizard	*Sceloporus occidentalis*
FISHES:	
Mosquitofish	*Gambusia affinis*
BIRDS:	
Anna's hummingbird	*Calypte anna*
Black phoebe	*Sayornis nigricans*
Black-headed grosbeak	*Pheucticus melanocephalus*
Brewer's blackbird	*Euphagus cyanocephalus*

Appendix Table 1 (continued)

Common Name	Scientific Name
Brown towhee	Pipilo fuscus
Bushtit	Psaltriparus minimus
California quail	Callipepla californica
California thrasher	Toxostoma redivivum
Green-backed heron	Butorides striatus
Horned lark	Eremophila alpestris
House finch	Carpodacus mexicanus
House sparrow	Passer domesticus
Killdeer	Charadrius vociferus
Lesser goldfinch	Carduelis psaltria
Loggerhead shrike	Lanius ludovicianus
Marsh wren	Cistothorus palustris
Mourning dove	Zenaida macroura
Northern mockingbird	Mimus polyglottos
Northern oriole	Icterus galbula
Northern rough-winged swallow	Stelgidopteryx serripennis
Phainopepla	Phainopepla nitens
Red-shouldered hawk	Buteo lineatus
Red-tailed hawk	Buteo jamaicensis
Red-winged blackbird	Agelaius phoeniceus
Song sparrow	Melospiza melodia
Western meadowlark	Sturnella neglecta
Yellow-rumped warbler	Dendroica coronata
MAMMALS:	
Audubon's cottontail	Sylvilagus audubonii
Bobcat	Lynx rufus
California meadow mouse	Microtus californicus
Coyote	Canis latrans
Deer mouse	Peromyscus spp.
Dusky-footed wood rat	Neotoma fuscipes
Gray fox	Urocyon cinerioargenteus
House mouse	Mus musculus
Long-tailed weasel	Mustela frenata
Norway rat	Rattus norvegicus
Opossum	Didelphis virginiana
Ornate shrew	Sorex ornatus
Pocket mouse	Perognathus spp.
Raccoon	Procyon lotor
Striped skunk	Mephitis mephitis
Western harvest mouse	Reithrodontomys megalotis

SPLPD-RP 19 October 1983

MEMORANDUM FOR RECORD

SUBJET: Response to U.S. Fish and Wildlife Recommendations in the Los Coches Creek Supplemental Coordination Act Report

1. This memorandum presents the Corps of Engineers environmental staff response to the recommendations found in the U.S. Fish and Wildlife Service (USFWS) Supplemental Coordination Act Report, for the Corps' proposed Los Coches Creek flood control project in San Diego, California.

2. Recommendation No. 1 - to acquire 20 acres of upland by the San Diego River and revegetate this land to create a riparian wetland. The Corps concurs with the acquisition of 20 acres of riparian or wetland vegetation. There are two methods of obtaining this land:

a. Acquire 20 acres of existing riparian habitat that is currently subject to development.

b. Acquire 20 acres of degraded habitat and restore this habitat as a part of the project.

3. Recommendation No. 2 - to study revegetation success of the mitigation lands. Implementation of this recommendation will depend on the type of habitat acquired. If good quality habitat is obtained, then a study is not considered necessary. If poor quality habitat is acquired, then a study of revegetation success may be appropriate. Such a study would be coordinated with the USFWS and the California Department of Fish and Game.

4. Recommendation No. 3 - to provide a wildlife water source or "guzzler." The Corps concurs with this recommendation. Funding should be provided for the guzzler.

Jim Duff

JIM DUFF
Geographer
Environmental Resources Branch

September 14, 1983

SPLPD-RP

Mr. R. J. Hassman, Director
San Diego County Department of Public Works
Building No. 2
5555 Overland Avenue
San Diego, California 92123

Dear Mr. Hassman:

This letter concerns the proposed flood control project for Los Coches Creek in the community of Lakeside, a joint effort of the San Diego County Department of Public Works and the U. S. Army Corps of Engineers, Los Angeles District. Current plans call for channelization of Los Coches Creek downstream from La Mana Road. The construction of a concrete channel will result directly in the destruction of about 8 acres of existing riparian or wetland habitat and about 6 acres of old field habitat. In addition, channelization of the creek would allow development of about 65 acres of old field habitat located within the project area that currently cannot be developed under the existing moratorium on subdivision and development within the Los Coches Creek watershed.

Compliance with current Federal laws and regulations indicates that mitigation will be required for the lost habitat if the Federal Government is involved in the project. Because the concrete channel will eliminate the natural channel, it appears that mitigation within the specific project area (onsite mitigation) is infeasible. Lands will need to be acquired outside the project area (offsite mitigation). This letter is to request that you assist us in locating suitable lands for offsite mitigation of habitat loss caused by channelization of Los Coches Creek.

Suitable lands should meet the following criteria. Suitable lands for mitigation should be either existing habitat in danger of being lost through impending development or damaged habitat that could be restored to good quality habitat as part of the project (for example, land formerly used for sand and gravel mining). The land would have to be acquired and dedicated to environmental purposes in perpetuity. Lands acquired for mitigation purposes may be either publicly or privately owned, so long as the land is not currently managed for environmental purposes. An estimate of the required acreage has been developed by Corps personnel in consultation with the U.S. Fish and Wildlife Service. About 20 acres of riparian habitat will provide mitigation for the project. Suitable habitat may be available in the San Diego River, near the project area, or further upstream along Los Coches Creek.

The cost of lands for mitigation is shared in the same manner as flood control costs. However, required mitigation does not change the maximum Federal contribution of $4 million for a small project. Since lands needed for mitigation would be owned and managed by the local sponsor, it is requested that you reply to this letter with a letter of intent stating that you are willing to acquire the necessary lands and provide assurance that these lands will be managed for environmental purposes.

Please coordinate this effort with our environmental planning staff. In this way, suitable mitigation lands can be located and acquired at a minimum expenditure of time and money. If there are any question, please contact Mr. Jim Duff, Environmental Coordinator, telephone (213) 688-5421. Thank you for your consideration in this matter.

Sincerely,

Carl F. Enson
Chief, Planning Division

Copies Furnished:

CDR
SPLPD
SPLPD-R
SPLPD-RP (2)
SPLPD-WA (Ganzfried)
USFWS

END

DATE
FILMED

9-86

DTIC