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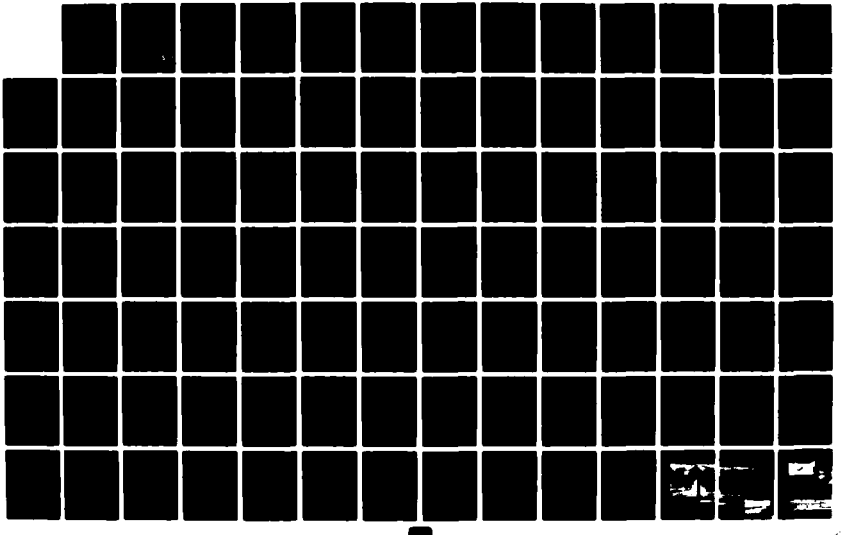

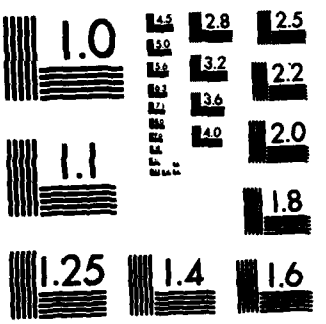

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FINAL ENVIRONMENTAL STATEMENT

CALLEGUAS CREEK
SIMI VALLEY TO MOORPARK
VENTURA COUNTY, CALIFORNIA

Prepared by
Office of the Chief of Engineers
Department of the Army
Washington, D.C. 20314

June 1976

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
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19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

This environmental statement for the proposed channel improvements for Calleguas Creek, Ventura County, California, is submitted in accordance with the National Environmental Policy Act of 1969 (Public Law 91-190). It presents detailed information on the environmental setting, the environmental impact of the proposed action and an evaluation of various alternative plans for the Callequas Creek drainage area from Simi Valley to Moorpark.

SUMMARY

CALLEGUAS CREEK, VENTURA COUNTY, CALIFORNIA

( ) Draft (X) Final Environmental Statement

RESPONSIBLE OFFICE: U.S. Army Engineer District, Los Angeles, California

1. NAME OF ACTION: ( ) Administrative (X) Legislative

2. Description: Adopt a program incorporating (a) 4.4-mile concrete-lined rectangular flood control channel in Simi Valley, together with 128 acres of park and trail development, including hiking and riding trails, picnic and play areas, a continuous linear park extending the full length of the channel, and rest and staging areas; (b) flood plain management in the area between Simi Valley and Moorpark to prohibit development which could be significantly affected by standard project flood flows and recreational trail development for continuation of the riding and hiking trails proposed for Simi Valley and Moorpark; and (c) a 1.6-mile concrete-lined rectangular flood control channel, a 1.4-mile earth-bottom trapezoidal flood control channel and 1.4 miles of flood plain management, together with 125 acres of park and trail development, including hiking and riding trails within the flood control rights-of-way, rest and staging areas, and picnic and play areas.

3a. ENVIRONMENTAL IMPACTS: Beneficial impacts include: (1) a high degree of flood protection of existing urban areas in Simi Valley and Moorpark; (2) the elimination of flood hazard to health and safety; (3) availability of 185 acres of flood plain for urban growths; (4) substantial increase in recreational parks and provision of riding and hiking trails along and adjacent to the channel areas; and (5) continued environmental and esthetic quality in the reach between Simi Valley and Moorpark.

3b. ADVERSE ENVIRONMENTAL EFFECTS: Adverse effects include the loss of 62 acres of riparian wildlife habitat due to construction of the flood control channel, and urbanization of 185 acres of open space and agricultural land within the Simi Valley and Moorpark flood plain. With respect to the latter effect, were it not for the project, urbanization would locate in surrounding areas which the county wishes to maintain as open space or agricultural lands.

4. ALTERNATIVES: The alternatives considered to the proposed project are: (a) no Federal project; (b) nonstructural measures; (c) concrete channels; (d) recreational dams and concrete channels; and (e) earth-bottom channels.

5a. COMMENTS RECEIVED (Field Level Review):

U.S. Department of Agriculture:
Soil Conservation Service
U.S. Department of Health, Education,
and Welfare
U.S. Department of Housing and Urban
Development
U.S. Department of Interior:
Bureau of Land Management
Bureau of Mines
Bureau of Sports Fisheries and Wildlife
Bureau of Reclamation
National Park Service
U.S. Geological Survey
U.S. Department of Transportation
Environmental Protection Agency
Federal Power Commission
Resources Agency of California
State Department of Transportation
California Regional Water Quality Control Board
Ventura County, Department of Public Works
Environmental Coalition of Ventura County
Lopez, Moorpark College
Oglesby, Pomona College
Sierra Club
U.C.L.A. Archeological Survey
Southern California Association of Governments

5b. COMMENTS RECEIVED (Departmental Review)

U.S. Department of Agriculture
U.S. Department of Health Education, and Welfare
U.S. Department of the Interior
U.S. Department of Transportation, U.S. Coast Guard
Environmental Protection Agency
Advisory Council on Historic Preservation
Resources Agency of California
California Regional Water Quality Control Board
County of Ventura, Public Works Agency
Simi Valley Recreation and Park District

6. Draft statement to CEQ October 11, 1973.
Revised draft statement to CEQ November 14, 1975.
Final statement to CEQ

FINAL ENVIRONMENTAL STATEMENT
CALLEGUAS CREEK, SIMI VALLEY TO MOORPARK, VENTURA COUNTY, CALIFORNIA

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FINAL ENVIRONMENTAL STATEMENT
CALLEGUAS CREEK, SIMI VALLEY TO MOORPARK
VENTURA COUNTY, CALIFORNIA

PROJECT DESCRIPTION

1. This environmental statement for the proposed channel improvements for Calleguas Creek, Ventura County, California, is submitted in accordance with the National Environmental Policy Act of 1969 (Public Law 91–190). It presents detailed information on the environmental setting, the environmental impact of the proposed action and an evaluation of various alternative plans for the Calleguas Creek drainage area from Simi Valley to Moorpark.

2. LOCATION. The proposed project area consists of the upper part of the Calleguas Creek drainage area in Ventura County from Royal Avenue in the city of Simi Valley to Hitch Boulevard in the community of Moorpark. Because the proposed project will have no significant impacts on the drainage area downstream from the proposed project, the primary study area for this environmental statement comprises the drainage subarea shown on plate 1.

3. The Calleguas Creek Basin encompasses an area of about 325 square miles. The entire drainage area lies within Ventura County, except for a 4-square-mile protrusion into Los Angeles County. Calleguas Creek commences in the Santa Susana Mountain range, approximately 25 miles northwest of the Los Angeles Civic Center, and outlets into the Pacific Ocean at Mugu Lagoon, about 50 miles west of the Los Angeles Civic Center and 8 miles southeast of Oxnard.

4. AUTHORIZATION. The study to review the report of the "Chief of Engineers on Calleguas Creek, California," was authorized by a resolution of the Senate Public Works Committee, adopted 22 June 1965.

5. Subsequent to the presentation of flood control alternative plans along the main reaches of Calleguas Creek (from Simi Valley to the Pacific Ocean) and Conejo Creek (from Arroyo Santa Rosa to Calleguas Creek) at a meeting on 31 May 1972, Ventura County submitted a resolution to the Corps of Engineers, Los Angeles District, on 20 September 1972. The resolution requested additional studies for the lowermost reaches of Calleguas Creek, and the preparation of an interim report covering the Simi Valley and Moorpark areas. Ventura County considers the need for flood control improvements in these areas urgent and requests early completion of an interim report for Congressional consideration at the earliest possible date.

6. THE PROPOSED PROJECT PLANS. The proposed project will involve Calleguas Creek from Simi Valley to Moorpark. This reach of stream has been subdivided into three reaches for simplicity of study. See plate 2.

7. The proposed plan for the Simi Valley reach, a 4.4 mile reach traversing through residential and commercial areas of the city of Simi Valley from Royal Avenue to Sycamore Canyon, will provide for a rectangular concrete-lined channel, 70 feet wide by 13 feet deep. The channel will have standard project flood capacity (discharge of 26,000 cubic feet per second and frequency of 250 years). The required rights-of-way will be 120 feet whereas the existing channel rights-of-way varies from 160 to 200 feet. The narrower channel will permit development of a linear park within the surplus rights-of-way. Features of the linear park are described in the following subparagraphs:

a. Recreation planned concurrently with flood control provisions is designed to make optimum use of available rights-of-way in Simi Valley. Joint planning efforts by Ventura County, the Simi Valley Recreation and Park District, and the Corps of Engineers have resulted in a comprehensive recreation plan comprised of a linear park, equestrian center and staging area, bicycle-staging area, picnicking areas, rest areas, and equestrian and bicycling trails to supplement and enhance existing parks along the project rights-of-way (see pl. 12). Pertinent details regarding each part of the comprehensive plan are given in the following paragraphs.

b. The linear park will involve offsetting the channel from side to side within the existing 160- to 200-foot wide county rights- of-way to provide optimum areas for park use. The offset channel will be no closer than 25 feet to the rights-of-way line, to provide for a 15- foot service road/trail and a 10-foot area for screening with trees and shrubs. On the opposite bank, an area varying in width from 50 to 90 feet will be converted to a linear park.

c. The parks will average about 1,800 feet in length between channel curves, and will range in area from 2.1 to 4.4 acres. Features of these park areas will include: (1) earth mounds located intermittently along the park length and planted with native turf, shrubs, and trees to create visual blocks to overcome the parks' narrow shape; (2) random plantings of trees for shading and screening at locations where picnic tables are placed; (3) extensive planting of trees and shrubs where the linear park adjoins existing and planned neighborhood parks, to create a transition between the two; and (4) the planting of trees along the rights-of-way line to provide a continuous screen between the park users and homes abutting the rights-of-way.

d. A service road/trail adjacent to the channel, with tributary trails meandering through the linear park and around the planted mounds, will be provided for hiking, bicycling, and horseback riding. Hiking and bicycling will share the trails on one side of the channel while horseback riding will have exclusive use of the trails on the other side. The hiking and bicycling trail service road adjacent to the channel will be paved with soil cement or asphalt. The equestrian trails will be compacted earth. The trails will pass through the linear parks as the channel switches from side to side at curves. A fence will be located at the channel wall, and underpasses will be provided at street crossings for the safety of the trail users. Play apparatus, picnic facilities, and park benches will be located in the vicinity of adjacent neighborhood parks to form an extension of these parks and a transition with the linear park. Additional picnic facilities and benches will be located at random along the trails between the district parks. The linear parks will serve as connecting corridors between the neighborhood parks, provide an important link in the adopted trail system of Ventura County and the Simi Valley Recreation and Park District, and thereby satisfy a portion of the trail and park needs of the area. The linear parks will be maintained by the Simi Valley Recreation and Park District.

e. An equestian center, which will provide access to the equestrian trail system and serve as a staging area, will be located on a 25-acre site adjacent to the channel inlet near Royal Avenue. Facilities at the center will be provided by the Corps of Engineers and Simi Valley Recreation and Park District. Those to be recommended as part of the comprehensive recreation plan of the project include a horse staging and grooming area, rest area, picnicking areas, comfort stations, playfields, tot lot, drinking fountains, parking for motor vehicles and horse trailers, and walkways throughout the center. Additional facilities

to be undertaken independently by the Simi Valley Recreation and Park District will include an equestrian show area, a riding and jumping school, boarding stables, tack shop, and horse rental stables. Landscaping of the center will utilize dense shrubs, and moderately tall trees in such a manner so as to divide the center into activity areas and separate the horses from the picnic areas for health and safety reasons. A conceptual drawing of the center is shown on plate 12. Access to the center will be provided by a road paralleling the trail from Royal Avenue, and also by a planned crossing of Calleguas Creek opposite the center.

f. The bicycle staging area is an integral part of the linear park, and will be located on a 1.2-acre site adjacent to Royal Avenue and Calleguas Creek. The staging area will include a comfort station and rest area with shade structures, a picnic area, park benches, drinking fountains, bicycle and an air compressor for inflating tires. Landscaping will be accomplished with native shrubs.

g. Frontier Park, which is a 2.6-acre limited-use neighborhood park adjoining the existing channel rights-of-way, about 1 mile downstream of the inlet near Royal Avenue, will be enlarged to 6.8 acres as an integral part of the linear park. A comfort station, playfield, and picnic area will be provided on the added area. As shown on plate 12, the trail system will meander through the park. Landscaping of the area will be in conformance with that existing in the park.

h. Tierra Rejada Park, comprising an area of about 30 acres just downstream from the outlet of the recommended channel in Simi Valley, is now largely undeveloped but contains a model airplane runway and a model rocket launching area. Strategically located along the recommended trail system in the Simi Valley and Moorpark areas, the recommended expanded park will serve as a rest area for trail users leaving or entering the 4.4 mile long trails between Simi Valley and Moorpark (there will be no additional staging or rest areas in this reach). In addition, the park will serve as a staging area for the planned equestrian oriented communities in the canyons tributary to Calleguas Creek. The existing park will be expanded to 47 acres and will include comfort stations, staging areas, picnic areas, campsites, a pond for model boats, and parking lots. The existing trees and shrubs will be supplemented with native plants.

8. The first cost of the proposed plan is $11,340,000. Of the first costs, $10,300,000 is flood control, $1,040,000 is recreation. The estimated average annual benefits are $1,480,000 and the estimated annual charges are $830,000, resulting in a benefit-cost ratio of 1.8.

9. The proposed plan for the 4.4-mile long reach between Simi Valley and Moorpark, from Sycamore Canyon to the downstream Southern Pacific railroad bridge at Virginia Colony is a nonstructural plan. In this reach no flood control improvement will be undertaken, and county management of the standard project flood plain is recommended so that no development or construction will interfere with the safe conveyance of the standard project flood flows from Simi Valley to Moorpark. The standard-project-flood peak discharge will be 26,000 cubic feet per second at the lower end of Simi Valley and 39,000 cubic feet per second at the upper end of the Moorpark reach. A status quo condition will exist and the threat of flood damages to existing property, consisting of a railroad and Highway 118, will continue.

a. The recreation program along this reach provides for the construction of hiking, bicycling, and equestrian trails that will link with the trails in Simi Valley and Moorpark to permit a continuous 13-mile trail system. As in Simi Valley, the hiking and bicycling trail will be on one side of the creek, and the equestrian trail on the other (see pl. 12).

b. Although the rights-of-way have not been accurately determined, it is proposed that recommended trails will be adjacent to the existing stream bottom but away from the riparian community. The hiking and bicycling trail will be surfaced with soil cement or hard-packed soil, whereas, the equestrian trail will be earth and identified by strategically placed signs along the rights-of-way. The recreation program for this reach provides for trail usage only; off-trail usage will be discouraged to avoid interference with wildlife and disturbance of habitat.

10. The plan proposed for the 4.4 mile reach of Calleguas Creek in Moorpark, from the downstream Southern Pacific railroad bridge at Virginia Colony to Hitch Boulevard, consists of 1.6 miles of open rectangular concrete-lined channel, 1.4 miles of trapezoidal earth-bottom channel with rock-lined banks and concrete drop structures and 1.4 miles of flood plain management. No construction is recommended for the lower reach. County management of the standard project flood plain is recommended so that no development or construction will interfere with the safe conveyance of the standard project floodflows to the end of the reach. The concrete channel transition to earth-bottom channel will be located near Spring Street. The average width for the concrete section will be 125 feet and the depth will be 13 feet. The earth-bottom section will have a top width of 300 feet and a depth of 19 feet. The channel will have standard project flood capacity (discharge of 40,500 cubic feet per second and a 400 year frequency). The required rights-of-way width for the concrete section will be 175 feet and for the earth-bottom section, 400 feet. The existing channel rights-of-way from the Southern Pacific railroad bridge downstream from Virginia Colony to Hitch Boulevard is 160 feet. Recreation features, including hiking, bicycling, and equestrian trails, staging area, and parks, and landscaping are a part of the recommended plan. These features are described in the following subparagraphs.

a. Two staging and rest areas, one each near the channel inlet and terminus, are recommended for the convenience of the trailusers. The facility near the inlet in the vicinity of Virginia Colony, will occupy a 14-acre area, isolated between the railroad tracks and a bend of Calleguas Creek. Conveniences of the facility will include comfort stations, picnic areas, parking areas, bicycle racks, watering troughs for the horses, and an area for overnight campers.

b. The downstream staging and rest area of about 4 acres will be adjacent to the existing channel rights-of-way on the right bank about 2,000 feet upstream of Hitch Boulevard. The facility will include an area for the unloading of horses and the parking of cars and horse trailers, a comfort station, watering troughs for horses, picnicking areas, and a rest area for trailusers. Landscaping of the staging and rest area will be accomplished with native trees and shrubs, with emphasis on large canopied broadleaf trees to offer shade and shelter.

c. Trail-based recreation will be provided along the proposed and existing channel service roads, and in the channel bottom of the earth-bottom channel. Hiking and bicycling will share the trails on one side of the channel, while horseback riding will have exclusive use of the trail on the opposite side. Along the earth-bottom channel, earthen ramps allowing access to the channel bottom and safe passage around drop structures and under bridges,

will be provided. Fences will be located at the channel walls of the concrete-lined channel and underpasses will be provided at street crossings for the safety of those using the trails along the concrete channel. Landscaping with native trees and shrubs will be provided along 10-foot wide strips on each side of the concrete channel, just outside of the service road/trails, and on similar strips on each side of the earth-bottom channel. The recreational areas will be maintained by the Ventura County Parks and Recreation Department. Drawings showing typical recreation and beautification features along the concrete and earth-bottom channels are included as plate 13.

d. Two community parks, in conformance with the adopted land-use plans for Moorpark, have been jointly planned by the Corps of Engineers and Ventura County to meet the current and forecast need for park areas (there are no existing parks in Moorpark). About 80 acres of park lands adjoining the channel rights-of-way, 25 acres between the Southern Pacific railroad tracks and Los Angeles Avenue (see pl. 12), and 55 acres about midway between Los Angeles Avenue and Hitch Boulevard (see pl. 12), are recommended. Facilities, to be provided at these sites as a part of the overall project for Moorpark, will include comfort stations, play fields, tot lots, and parking areas. In addition to fulfilling the need for parklands, these parks will supplement the staging and rest areas for trail users. Any other facilities, such as community recreation centers, will be subsequently provided by Ventura County. Landscaping at the park sites will be accomplished with native shrubs and trees, with emphasis to be placed on large canopied broadleaf trees to provide shade and shelter.

11. The first cost of the Moorpark reach proposed plan is $12,520,000. Of the first cost, $10,760,000 is flood control, $1,760,000 is recreation. The estimated average annual benefits are $1,950,000 and the estimated annual charges are $970,000 which gives a benefit-cost ratio of 2.0.

12. Cooperation efforts among the U.S. Fish and Wildlife Service, the California Department of Fish and Game, local interests, and the Corps of Engineers resulted in an agreement on a mitigation program for loss of wildlife habitat arising from project construction. The program will consist of:

a. A program of selective clearing to retain maximum densities and distribution of wildlife habitat throughout the channel invert of the earth-bottom sections, consistent with the primary purposes of flood control and of water conservation;

b. Trees, shrubs, and ground cover, planted outside the maintenance roads of the concrete-lined channels, to provide an esthetic appearance and wildlife habitat. Indigenous vegetation will be used and will require minimum maintenance. Local ordinances, such as fire regulations, will be considered in the selection of plantings and in the maintenance program;

c. The design and location of vehicular access ramps to the channel invert and of rights-of-way fencing to be cooperatively developed with local interests and wildlife agencies to minimize deer losses in concrete-lined channels;

d. Detailed planning studies which will give consideration to the preservation of the area's natural beauty and wildlife habitat in the selection of channel alinements and to the construction of tree wells and retaining walls to preserve existing trees; and

e. Coordination among the Corps of Engineers, the U.S. Fish and Wildlife Service, the California Department of Fish and Game, and local interests to be continued through the detailed planning of the project and in the development of the operation and maintenance manual to assure that the stated objectives of wildlife mitigation are achieved.

13. The proposed project along Calleguas Creek from Simi Valley to Moorpark is based on a 100-year economic life. The total first cost for the proposed project is estimated at $24,010,000. The estimated average annual charges are $1,840,000. The estimated annual benefits are $3,540,000. Therefore, the estimated benefit-cost ratio is 1.9. These amounts reflect 1973 price levels and an interest rate of 5-5/8 percent. Benefits are derived from prevention of flood damages, increased utilization of land, and recreation.

14. PROJECT PURPOSE. The proposed project will provide flood protection to urban and agricultural areas of Simi Valley, Virginia Colony, and Moorpark; will provide increased recreational opportunities; and will incorporate landscaping to provide an esthetic appearance.

ENVIRONMENTAL SETTING WITHOUT THE PROJECT

15. TOPOGRAPHY. Calleguas Creek Basin is bounded on three sides by mountain ranges – South Mountain and Big Mountain on the north, the Santa Susana Mountains on the east, and the Santa Monica Mountains on the south. The Pacific Ocean bounds the basin on the west.

16. In the study area, the rugged Santa Monica and Santa Susana Mountains contrast sharply with the gentle rolling Simi and Las Posas Hills. The Santa Susana Mountains range up to elevation 3,750. In the intermediate valleys, Simi Valley and Little Simi Valley (Moorpark area), alluvial fans merge with the older valley fill, giving a substantial grade from side to center, although the general aspect is fairly flat.

17. CLIMATE. The climate in the study area is typical of the semiarid coastal region of southern California, with a dry, warm summer season from May to September and a wet winter season from October to April. The average maximum temperature is 66 degrees Fahrenheit and the average minimum is 50 degrees Fahrenheit. The frost-free season in Simi Valley is about 292 days.

18. The mean seasonal precipitation in the study area ranges from 13 inches in the valley area to about 30 inches in the higher mountain elevations. Most precipitation occurs as a result of winter storms that originate over the Pacific Ocean and last for several days. Thunderstorms may result in intense precipitation of a few hours duration; thunderstorms occur on the average two or three times each winter. Summer thunderstorms occur infrequently. The prevailing winds are from the west, with an average velocity of 10 knots. Slightly stronger winds usually occur from December through May.

19. GEOLOGY. The study area lies at the western end of the Santa Monica Mountains, a portion of the Transverse Range Province of southern California. The ranges and valleys in the study area conform geologically to the east- west trend of that province (see plate 3). The predominant rock types in the area are sedimentary, described as marine sandstone, conglomerate, and shales of Tertiary age. Older Quaternary rocks include the Santa Barbara and San Pedro Formation. Younger Quanternary deposits include terrace and flood plain

deposits composed of clay, silt, sand, and gravel. Also found in the area are small exposures of volcanic rocks. All of the older rock units have been subjected to folding and faulting.

20. FAULTS. The major faults in the area are the Simi and the Santa Rosa Faults. These faults have an east-west trend, which is characteristic of most faults in this area. Several earthquakes with magnitudes ranging from 6.0 to 7.7 have occurred in the past forty years. The locations of these earthquakes are in the Santa Barbara channel (30 miles west of the project), in the White Wolf fault zone (50 miles north), and north of the city of San Fernando (approximately 20 miles east of the project).

21. MINERAL RESOURCES. Petroleum was first produced in Ventura County before 1875. By 1957, annual production reached 46 million barrels worth $150 million. Production than tapered off until 1968, when it began to rise again. The outlook is high for continued production.

22. In the study area, most of the oil and gas fields are along the Oak Ridge-Santa Susana fault and the Simi-Santa Rosa fault. Smaller productive faults branching off the Simi-Santa Rosa fault comprise the Moorpark and Oak Park fields and part of the Simi field. The Simi oil fields are relatively large.

23. Most of the commercial sand and gravel produced in Ventura County in 1972 was from the Santa Clara River bed. See pl. 1. Lesser amounts were produced from Moorpark-Grimes Canyon, from an area north of Simi Valley, and from other areas. The Simi Conglomerate has been mined for sand and gravel since 1965 in the Runkle Canyon area, almost one and one-half miles directly southeast of Royal Avenue and Sycamore Drive in Simi Valley.

24. An important source of crushed stone in the county has been the Tapo Alto (Gillibrand-Tapo) oyster shell limestone deposit in the Modelo Formation in Tapo Canyon. It is the only limestone deposit to have been mined in southern Ventura County. The product was used for agricultural purposes and in chicken feed. A fire in 1972 destroyed the milling facility, idling the operation.

25. Also found in the Simi Hills and Big Mountain are copper, amber, "mineral paint," and nickel. These resources are not mined in great quantity or were not actively mined in 1972.

26. SOILS. There are three predominating soil types in the study area. The first, Rincon–Huerhuero–Azule association, is found on the lower hills and consists of deep, well-drained clay loams overlying basic igneous rock. The second, Hambright–Igneous rock land–Gilroy association, is found on rocky slopes and consists of well-drained clay loams overlying basic igneous rock. The third, Camarillo–Hueneme–Pacheo association, found in valleys and in plains, is level, deep, poorly drained loamy sands to silty clay loams. Drainage in many valleys is poor due to heavy subsoils and soils.

27. The more productive agricultural soils lie in parts of the Moorpark area, and in the Oxnard Plain. Over one-half (52.5 percent) of the basin is classed as suitable for cultivation. (See plate 4.)

28. SURFACE FLOWS. Calleguas Creek, locally known as Arroyo Simi and Arroyo Las Posas in its upper and middle reaches, rises in the Santa Susana Mountains. The creek courses west, then southwest, for a distance of 37 miles before entering the Pacific Ocean at Mugu Lagoon.

29. Numerous smaller tributaries rise in the mountains in the study area and merge with Calleguas Creek as it flows to the Pacific Ocean. Calleguas Creek and its tributaries, for the most part, are intermittent. There is perennial flow for short distances downstream of sewage treatment plants. Streamflow in the basin usually occurs during and immediately after rainstorms. The mean annual natural runoff is estimated to be about 15,200 acre-feet.

30. FLOOD HISTORY. Until the 1960's, flood damage in the Simi Valley–Moorpark area was primarily to agricultural properties and monetary losses were small. Urbanization has changed the character of flood damages and substantial losses have been realized in recent floods. Flooding in 1962, 1965, 1967, 1969, and 1970 caused $95,000, $490,000, $510,000, $803,000 and $180,000 damages respectively, in the Simi Valley–Moorpark area. Ventura County was declared a national disaster area in 1962, 1965, and 1969. Local channel improvements in the Simi Valley–Moorpark area, damaged in the 1965 flood, were repaired and restored by the Corps of Engineers under Public Laws 99 and 875.

31. FLOOD PROBLEMS. Flood problems along the Calleguas Creek in the Simi Valley and Moorpark area result from waters exceeding the capacity of existing channels and overflowing onto adjacent lands. In both Simi Valley and Moorpark, the existing earth-bottom channels built under agricultural criteria and before the headwater areas were urbanized have created an illusion of flood security; and homes, particularly in Simi Valley, have been constructed immediately adjacent to the channel rights-of-way. The flood problems of each reach are discussed below.

a. Simi Valley Reach. The overflow area of this reach, about 945 acres, extends from about Royal Avenue to the confluence of Sycamore Canyon and Calleguas Creek. About 4 miles of the stream were channelized in the 1950's by the U.S. Soil Conservation Service, using agricultural criteria, to provide protection to the then existing agricultural lands. The channel is a trapezoidal earth-bottom channel with grade stabilizers and rock-revetted side slopes. The channel was designed to contain flows of 3,500 cubic feet per second. The flood that occurred on 25 February 1969, with a peak discharge of 6,300 cubic feet per second at Strathearn Bridge in Simi Valley, was the largest flood since the channel was completed. That flow was contained within the channel, but severe damage occurred to the invert grade stabilizers, and erosion took place in the channel bottom. The County presently regulates development within its estimate of the 50-year flood plain (15,000 cubic feet per second overflow area in Simi Valley) through subdivision regulations, ordinances, zoning practices, and water course encroachment regulations. However, no provisions are made for existing development. In Simi Valley, existing development occupies more than 50 percent of the 15,000 cubic feet per second overflow area. Ventury County is currently a participant in the National Flood Insurance program and, as such, is expected to regulate future development within the present 100-year flood limits (16,000 cubic feet per second in Simi Valley; 21,000 cubic feet per second in Moorpark). Future development will be required to conform with the Water Resource Council Guidelines, raising first floor elevations to the water surface elevation of the 100-year flood. Should a large flood occur today in Simi Valley, substantial damage would be realized in residential, commercial, and industrial properties. Transportation routes would be temporarily disrupted as flooding would block or damage major streets, highways, and bridges. Local businesses would face immediate losses due to flood damage to structures and merchandise and face additional losses from lack of business during the prolonged rehabilitation period. Flooding would close industrial plants temporarily, putting employees out of work until the plants can be restored. Mud, debris, and floodwater would invade residential and business

areas – damaging lawns, yards, automobiles, homes and contents of homes, and stock and merchandise of businesses. After floodwaters had subsided, a health and safety hazard and dust problems would persist while cleanup progressed and crews worked to restore water, sewage, and electric services. Due to lack of incentive or lack of finances to repair flood damages urban blight may appear in some neighborhoods after the flooding. Flooding would also tend to affect community morale. Flood problems will worsen in the future as development continues to take place.

b. The reach between Simi Valley and Moorpark. This reach of Calleguas Creek, with the exception of about 0.7 mile of an existing concrete channel, is unconfined and meanders for about 4.4 miles in the narrow flood plain of 540 acres between Sycamore Canyon and Virginia Colony, a residental settlement. The 0.7 mile of existing channel was built by private interest and was severely damaged by previous floods. The channel no longer functions as designed but will be left as is. Flooding within this reach results in relatively little economic damage. Flooding would severely damage the major highway and railroad connecting Simi Valley and Moorpark, the only major facilities in this reach subject to flood damage. The Simi Valley County Sanitation District treatment facility, which was recently expanded under an Environmental Protection Agency grant, now includes facilities that would provide protection from a flood of standard project flood magnitude.

c. Moorpark reach. This 4.4 mile reach of Calleguas Creek extends from Virginia Colony to Hitch Boulevard in the community of Moorpark. With the exception of 0.5 mile, the stream channel was confined by the U.S. Soil Conservation Service during the 1950's in a manner similar to the works in Simi Valley. The overflow area of 1,450 acres includes almost all of the urban development of Moorpark, which occupies about 330 acres of the flood plain. The largest flood of record in this reach occurred in November 1967, at which time the peak discharge was about 5,300 cubic feet per second at the Moorpark gaging station. Flood problems in the Moorpark area pose a serious threat to existing residential, commercial, and agricultural property and prevent the future development patterns outlined in the County master plan. If a large flood were to occur today, damages similar to those described for Simi Valley would occur to residential and commercial properties and to transportation facilities and utilities services. In addition, extensive agricultural properties would be flooded, causing damage to crops and equipment, as well as erosion of topsoil. Because of the severe flood threat, the master plan for development can never be realized, forcing development into other areas which the County wishes to remain in agricultural or open space. General plans for Moorpark indicate about 30,000 acres of open space and agricultural usage.

32. Voters in the Ventura County Flood Control District, Zone III, which comprises the Calleguas Creek Basin, approved a $32 million program in May 1967 to construct flood control improvements in the urban areas of Simi Valley, Thousand Oaks, Newbury Park, and Camarillo. Ventura County presently regulates developments within their estimate of the 50-year flood plain (15,000 cubic feet per second overflow area) through subdivision regulations, ordinances, zoning practices, and water course encroachment regulations. However, no provisions are made for existing development and the management program is of value only to future development. Ventura County has also qualified for the national flood insurance program, which could provide financial relief to property owners suffering damage from future floods. The flood insurance program has so far received only mild support from residents of the flood plain areas. Flood plain information has already been provided to the county, delineating the areas which are estimated to be flooded by the

100-year and the standard project floods. Future development is expected to conform to flood insurance program and Water Resource Council Guidelines by floodproofing structures to the present 100-year floodwater surface elevation.

33. SUBSURFACE FLOWS. In Simi Valley, ground water is derived from shallow alluvium containing lenses of sand and gravel in a silt and clayey material and from the underlying confined aquifer of more permeable sandy soil. The clay layer causes localized pressure in the ground water body. This results in flowing wells and springs during periods of high rainfall. The Simi and East Las Posas ground water basins are located in the study area. The ground water level has been rising subsequent to the cessation of pumping in Simi Valley when the area joined the Metropolitan Water District of Southern California and started receiving imported water. Continued percolation of surface flows to the ground water basin has resulted in local seepage problems in the western part of Simi Valley. If an intense earthquake were to hit the area, parts of the valley floor would tend to liquefy, producing similar characteristics to quicksand, according to a study "Groundwater Study (Phase II) of East and West Basin Areas, City of Simi Valley, Ventura County, California," by F. Beach Leighton and Associates, 22 November 1972. Ground water in the eastern part of the basin (mainly unconfined) has been static during the past year and will fluctuate according to seasonal influences. Shallow ground water or surface seepage occurs particularly in areas adjacent to Calleguas Creek.

34. WATER QUALITY. The streams of the Calleguas Creek drainage system discharge relatively minor amounts of water. Flows generally continue only for short periods of time following rainfall, making it difficult to evaluate the quality of surface water from storm runoff in this area.

35. During periods of low flow, Calleguas Creek and its tributaries contain sufficient concentrations of dissolved solids and sulfate to render them marginal or unsuitable for many uses. The primary sources of surface water degradation are minerals dissolved from geologic deposits and irrigation and urban runoff. Most of the surface water encountered in the study area during periods of low flow is secondary effluent discharge from the sewage treatment plants. This secondary discharge is of better chemical quality than the natural water of the area. See table 1.

36. The ground water basin of the Moorpark area (East Las Posas) has water of good quality. However, ground water quality sampling has shown that industrial waters, irrigation return water, and other water of poor quality have migrated downward into the water bearing zones and have impaired the quality of the ground water in localized areas. In the Simi ground water basin, the degradation is from semiperched waters moving downstream from a limited pressure area. It also is believed that poorly constructed or abandoned wells have allowed ingress of poor quality semiperched water into the pressure portion.

37. AIR QUALITY. The present air quality of the study area is described in terms of the number of days exceeding State and Federal standards. There are four sampling stations in the Calleguas Creek Basin-at Camarillo, Thousands Oaks, Oxnard and Simi Valley. Three stations are outside the study area but are representative of the air quality in the study area. Table 2 shows three station records for days exceeding Federal levels. Table 3 shows the State and Federal air quality standards.

38. Current pollutant emissions are predominantly caused by automobile use and agricultural operations. The source of emissions in the future would be predominantly the automobile. Future industrial operations would not be a major contributor to air emissions.

39. Recognizing the air pollution problems, and the population growth projected for California by the Department of Finance, the State has prepared an Air Implementation Plan to control air pollution to an acceptable level. This plan has been prepared to meet the Federal Clean Air Act. However, even with the stringent controls outlined in the Air Implementation Plan, the air basin will not be able to meet the standards of the Federal Clean Air Act by 1975. The Environmental Protection Agency proposed even more stringent controls in January 1973 to enable the air basin and State of California to meet the Federal standards. These proposals include gas rationing and a transportation control plan. This transportation control plan would call for a limit on transportation vehicle miles to be driven on critical smog days, special car pool and bus lanes on freeways, and/or prohibiting vehicles from certain areas. No decision has yet been made on a means to meet the required standards.

40. NOISE POLLUTION. The major source of community noise is the motor vehicle. Several measures have been enacted into law to reduce noise emissions from motor vehicles. Senate Bill 691 (Chapter 775, Statutes of 1971) requires city and county general plans to contain noise elements associated with transportation elements. This law could lead to improved planning of air and motor vehicle transportation systems.

41. In the area of occupational noise, the State of California has adopted the same criteria as the Federal Government, in which noise level limits were graded by duration of exposure to noise (90 decibels on a weighted "A" scale for 8 hours to 115 decibels on a weighted "A" scale for one-quarter hour). However, the State Department of Public Health recommended to the State Legislature that the basic criterion for noise exposure be at 75 decibels on a weighted "A" scale and be mandatory by 1 January 1980 for all industry because the present standards provide only incidental and limited protection for hearing frequencies above 2,000 cycles per second.

42. VEGETATION. The area encompassed within the Calleguas Creek Basin includes several plant associations: riparian or stream-associated, oak-chaparral and oak-grassland, coastal sage scrub, and coastal salt marsh. Vegetation in or along Calleguas Creek in the study area is typical of modified riparian growth. Vegetation on the watershed adjacent to the creek is oak-grassland, oak-chaparral, sage scrub, or plant species associated with agricultural or urban uses (i.e., introduced species). It should be noted that Ventura County presently conducts a continuous maintenance and operation program along the existing flood control channels of Calleguas Creek in the study area. This program includes flood damage repair and periodic clearing of all growth within the channel rights-of-way that would impair the performance of the structures. The frequency of channel clearing varies between every 2 or 4 years and depends upon how often a flood occurs that removes most of the growth within the channel. Common species of the plant associations found in the study area are listed in table 4. See plate 5 for the natural community distribution and plate 6 for existing visual quality of the stream area. The vegetative composition of the channel area, according to reach, is discussed in more detail in the following subparagraphs.

a. Simi Valley Reach. Urban development in the city of Simi Valley closely bounds the existing modified (earth-bottom) creek channel. See photo 1. The sparse and highly modified riparian growth in the upper part of the reach is characteristic of disturbed streamside areas in southern California. Mule fat, Russian thistle, tree tobacco, bulrush, pigweeds, cocklebur, and Bermuda grass are the dominant representatives identified within or along the channel. Downstream from Los Angeles Avenue a higher water table permits a sparse to heavy growth of broadleaved cattail, three-square bulrush, and occasional willow. Native and exotic vegetation, introduced as part of private landscaping or protective bordering, provides a vegetative edge along the channel embankments.

b. Reach between Simi Valley and Moorpark. This reach has the least disturbed riparian community along Calleguas Creek. In addition, the reach has the least urbanization or flood plain encroachment. A lush growth of willow, cattail, bulrush, mule fat, nettle, and some cottonwood and alder occupies the narrow flood plain. Effluent water from a sewage treatment plant at the upper end of the reach provides a continuous water flow, enhancing riparian growth. Upland habitat bordering the creek is pasture or other agricultural uses, or is oak-grassland or sage scrub vegetation. Wild buckwheat, live oak, grasses, some prickly pear and nolina, sumacs, and sages predominate. See photos 5, 6, and 7.

c. Moorpark Reach. Urban development has changed the character of this reach, eliminating considerable native and agricultural upland vegetation. The riparian growth and habitat does not approach the quality found in the reach between Simi Valley and Moorpark. The predominating species include tree tobacco, mule fat, Russian thistle, willow, cocklebur, wild sweet clover, nettles, and various grasses.

43. WILDLIFE. Flood plain encroachment through urbanization and agricultural uses has altered most areas along Calleguas Creek and the flood plain. These areas are generally not high quality wildlife habitat; the exceptions are the wetlands in the reach from Simi Valley to Virginia Colony and a few other wetland habitats in the drainage basin, but outside of the study area. See table 5 for wildlife species found in the study area. Wildlife is discussed in more detail, according to reach, in the following subparagraphs.

a. Simi Valley Reach. The marginal habitat through this urbanized reach has limited wildlife diversity and density. Vertebrate and invertebrate species activity is largely limited to the channel bottom and embankments. The ephemeral water supply characteristic of this and the other reaches limits aquatic and semiaquatic species diversity to those capable of existing in shallow pools of water, or with life cycles geared to seasonal flows. Song birds, doves, pigeons, crows, ground squirrels, small rodents, and reptiles (snakes and lizards) utilize the limited riparian habitat. Mosquito fish are generally introduced when water is ponded below the grade stabilizers in the lower part of the Simi Valley reach.

b. Reach between Simi Valley and Moorpark. In this reach, riparian habitat sustains a highly diverse wildlife population and has higher wildlife values than any other riparian section within the project area. Most of the reach has a continuous waterflow from sewage effluent. The lush riparian growth provides an excellent habitat for invertebrate life and associated vertebrate consumers. Small rodents, rabbits, song birds, quail, doves, raptors, wading birds, reptiles, deer, coyote, raccoon, fox, opossum, and skunks utilize this productive area. Wildlife species from the upland oak-chaparral and sage scrub areas are attracted to this wetland area for food, water, and cover. This reach remains an important

corridor for movement and dispersal or sanctuary for animals, especially large mammals (deer and coyote) and migratory birds. The great variety of birds (song birds, doves, quail, hawks, kites, herons, and bitterns) is indicative of the edge effect* provided by the riparian habitat and the absence of human disturbance and unaltered vegetative growth.

c. Moorpark Reach. The agricultural character of this reach, with some unaltered or slightly modified riparian and upland plant associations, favors small mammals, especially rodents and rabbits, birds, lizards, and scavenger–predators such as opossums and skunks. Development and disturbance of the streambed and watershed in the Moorpark reach limits wildlife diversity and density. See photo 8.

44. PROJECTED FUTURE WILDLIFE HABITAT VALUES. Without a flood control program, further encroachment upon the limited habitat through most of the Simi Valley reach is expected; however, the vegetative composition and associated wildlife species along the channel rights-of-way (90 acres) would probably remain in a setting similar of existing urban conditions. Continued urbanization of the overflow area in the reach would eliminate about 330 acres of open space that currently has minimal wildlife values. The reach between Simi Valley and Moorpark should experience little flood plain encroachment and should remain one of the best riparian wildlife habitat within the watershed. Increased development in the reaches above and below this reach would probably give this reach the character of a wildlife refuge. Continued urbanization in the town of Moorpark is certain to reduce the amount and quality of wildlife habitat in the Moorpark reach.

45. POPULATION. Ventura County is one of the fastest growing areas in the State of California, and most of the growth is taking place in the Calleguas Creek Basin. Between 1960 and 1970, Ventura County's population increased 89 percent, from 199,000 to 376,450. Sixty-two percent of the county population gain occurred within the Calleguas Creek Basin. By 2020, about 43 percent of Ventura County's population will be in the Calleguas Creek Basin.

46. Most of the increase to date in the Calleguas Creek Basin has been in the Simi Valley and the Thousand Oaks area. In 1969, Simi Valley incorporated to become the second largest city in Ventura County with 61,000 inhabitants. By 1973, it had increased to 71,000. The Thousand Oaks population grew from 9,000 to over 40,000 in the period from 1960 to 1970. Over 80 percent of this population growth resulted from in-migration primarily from the San Fernando Valley part of Los Angeles County. Projected growth of Moorpark and Simi Valley is presented in table 6.

47. EMPLOYMENT. Overall, the profile of employment in the Simi Valley and Moorpark area is as follows:

Government	13 percent	Construction	8 percent
Trade	20 percent	Utilities	6 percent
Service	13 percent	Finance	4 percent
Manufacturing	33 percent	Mining	1 percent
Agriculture	2 percent		

* An edge effect is a tendency for increased variety and density of wildlife species at community junctions.

48. The above pattern differs considerably among reaches. In Simi Valley, 50 percent of the labor force is engaged in manufacturing, with construction and trade in second and third place. Manufacturing employment is particularly high because of the area's proximity to Los Angeles County. The Simi Valley area is close enough to the industrial sections of San Fernando Valley to permit residents to commute to work. In Moorpark, agriculture is the prime economic activity.

49. LAND USE BY REACH. Existing and probable future land use in the Calleguas Creek flood plain from Simi Valley to Moorpark, without additional flood protection, is discussed in the following subparagraphs. Refer to plates 7 and 8 for existing and future land use of the basin; and to plates 9 and 10 and table 7 for the study area.

a. Simi Valley Reach. Urban development, consisting of mostly residential and commercial usage, occupies about 480 acres or 56 percent of the developable acreage in the standard project flood overflow area. The remaining acreage is devoted to agriculture (10 acres), open space (365 acres), and channel (90 acres). A 20-acre industrial park is now being constructed and new commercial development is locating along Los Angeles Avenue. By the year 1990, 820 acres are projected to be in urban use, the balance would remain in open space (35 acres) and channel (90 acres). Future development would be floodproofed against the 100-year flood.

b. Reach between Simi Valley and Moorpark. This reach is relatively undeveloped. Transportation facilities now occupy 15 acres of the 540-acre standard project flood overflow area. Other uses consist of agriculture (10 acres), open space (420 acres), and channel rights-of-way (95 acres). The area is zoned for industrial use but any development within the county 50-year flood line would have to be floodproofed. This reach will probably remain relatively undeveloped without additional flood control improvements. However, about 50 acres in the reach are expected to develop – 30 acres as a mobile home park and 20 acres as industrial.

c. Moorpark Reach. Urban development occupies 330 acres of the 1,450 acres standard project flood overflow area. The balance is devoted to agriculture (600 acres), open space (455 acres), and channel rights-of-way (65 acres). By the year 2000, without additional flood control, urban development will occupy 815 acres; agriculture, 435 acres; open space, 135 acres; and channel, 65 acres. Development of large tracts of commercially- and industrially-zoned vacant land adjacent to or near the recently (1970) constructed north-south freeway, Route 23, from Thousand Oaks, may be brought about by urban pressure. Future development will be floodproofed to protect against the 100-year flood.

50. TRANSPORTATION. Two freeway connections, U.S. Highway 101 and State Route 118, as well as State Route 1 (Pacific Coast Highway) link the Calleguas Creek Basin with the Los Angeles area. Route 118, known as the Simi Freeway, presently connects Simi Valley with Chatsworth in the San Fernando Valley—and is 11.5 miles in length. Another 3.5-mile extension westward to the Moorpark Junior College is scheduled for completion in 1975. In 1970, Route 23, a north-south freeway, was completed to connect Thousand Oaks to Moorpark; by 1980, Route 23 will extend another mile north to an interchange with the new Simi Valley Freeway.

51. The Southern Pacific railroad, which follows Calleguas Creek through the study area, provides intrastate, interstate, and transcontinental service. A second line, owned by the Ventura County Railroad Company, connects the Southern Pacific railroad with Port Hueneme and intermediate industrial parks, outside the study area.

52. Port Hueneme, about 8 miles northwest of Mugu Lagoon and outside the Calleguas Creek drainage basin, is important to the study area as it is the only deepwater general cargo harbor between Los Angeles and San Francisco.

53. The Ventura County Airport in Oxnard is the center of air transportation for the county. There is an expansion program underway (1973); the airport has potential for becoming a major coastal air link in California. A second general-utility airport is proposed in the Tierra Rejada Valley, 2 miles southeast of Moorpark. There are two small landing strips within the overflow area at Simi Valley and at Moorpark.

54. RECREATION. Several park and recreational areas, both existing and proposed, are in the study area. In the Simi Valley area, two existing neighborhood parks and a community recreational center are adjacent to Calleguas Creek. See photos 2 and 3. The channel is used as a horseback riding trail and as an informal recreational area. A 50-acre county regional park is in the area between the city of Simi Valley and the community of Moorpark. It is located out of the flood plain. Nearly the entire reach of Calleguas Creek is used for horseback riding trails and informal recreation, although no established riding and hiking facilities are within the overflow area. The Ventura County Planning Commission has proposed trail systems throughout the county which will connect with various parks and recreational areas.

55a. ARCHEOLOGICAL, HISTORICAL AND CULTURAL RESOURCES. The Calleguas Creek basin was occupied by prehistoric human populations for many hundreds of years before the arrival of European peoples into the area. The early populations have been characterized as principally big game hunters with a relatively simple band level of social organization, but by the time of European contact extremely complex economic and social systems had developed. At the time of European contact the Calleguas Creek basin was occupied by an Indian group known as the Inland Chumash. Following the arrival of Cabrillo in 1542, epidemics greatly reduced the Chumash population. By 1820, during the Mission era, the remaining Chumash were herded into the missions. During the Mexican era most of the remaining Chumash population was acculturated into Mexican society. By the American era only a few Chumash remained who had any knowledge of their cultural background.

55b. The entire project area lies within the limits of the first Spanish landgrant to be made in Ventura County. The Rancho Simi was granted to three brothers Pico in 1795. In 1842 the rancho was purchased by Jose de la Guerra y Noriega. The Rancho was principally used by both Pico and Jose de la Guerra for raising sheep and cattle. In the 1860's drought and declining cattle prices forced the sale of the rancho. Most of the rancho was bought by Thomas A. Scott, president of the Pennsylvania Railroad, who hoped to discover oil on the property. Little oil was discovered, and by 1895 portions of the rancho had begun to be sold and leased for agricultural activities. The orginal rancho continued to be subdivided for ranching and farming until the 1960's when major urban development began to replace the agricultural land uses. The present town of Simi Valley is the oldest population center in the valley, being the site of the de la Guerra and probably the earlier Pico homes and ranch buildings. The present town of Moorpark includes areas once occupied by three hamlets, the oldest of which, Epworth, had a post office established in 1893.

56. A cultural resource reconnaissance and search of available literature pertaining to the project area was conducted by the Institute of Archaeology of UCLA in May 1976. This reconnaissance revealed no cultural resources in or adjacent to the project area that were included on or currently being nominated to the National Register of Historic Places. The reconnaissance did locate fourteen recorded archeologic sites within the project area, each of which appears to meet the National Register criteria (36 CFR Part 800.10). The 6 acre Strathern Historical Park and Museum is located in an area 650 feet west of Calleguas Creek. The historical park, operated by the Simi Valley Recreation and Park District, contains the Strathern farmhouse (also known as the de la Guerra Adobe).

57. Geologic sites of scientific and educational values are also prevalent in the area. Some of the sites are important for fossil and vertebrate finds; some sites involve geological strata of significant interest. Most of the important geological sites are in the Las Posas Hills and in the Simi Hills. Plate 11 shows the general location of several of these sites; site 1 contains vertebrate fossils of the Eocene age; site 2 is a part of the Simi Fault, which exposes the interesting Sespe formation overlaying Miocene volcanics (see photo 4); site 3 contains significant Miocene fossil finds and shell fragments in volcanic sandstone.

RELATIONSHIP OF THE PROPOSED ACTION TO LAND USE PLANS

58. The recommended plans for the three reaches are in conformance with the general land use plans for the area and region. The recommended plans are consistent with the Simi Valley General Plan, the Ventura County Moorpark General Plan, the Southern California Association of Governments (SCAG) Development Guide Growth Forecast Selection, 1974, and SCAG 90 Land Use Plan from the Regional Development Guide Summary Report, 1972. The population projections are in agreement with the State Department of Finance Series D-100, 1973, and Ventura County projections. The land use maps shown in the appendix are based upon county general plans.

59. Nonstructural alternatives would conflict with master planning goals of the county. The flood plain lands in both Simi Valley and Moorpark play a significant role in future land use planning. General plans for Moorpark and Simi Valley indicate a desire to utilize the flood plains for future development, as this practice will allow new urbanization to be contiguous to existing development. This would realize a more efficient utilization of existing utilities and services, and would allow preservation of diminishing agricultural and open space resources in surrounding areas. If the flood plain was managed, the stated goals of the master plans would not be realized and some new development would be forced into outlying areas.

ENVIRONMENTAL IMPACT WITH THE PROJECT

60. The impacts of the proposed project are discussed in the following paragraphs by reach. There will be no impact on climate, topography, geology, minerals, or faults in any of the three reaches. The word "temporary" is used in the following discussions to mean from three to six months of construction activity for every mile of channel construction.

61. SIMI VALLEY REACH.

a. Soils. The concrete channel will not affect soil properties but will prevent erosion and soil loss of the creek banks and bottom.

b. Flooding. The 945-acre area subject to flooding will be eliminated by the proposed channel which will occupy 35 acres. The channel will have capacity of the standard project flood or 26,000 cubic feet per second. Average annual flood reduction benefits of $910,000 will be realized from the project. These benefits represent savings through reduction of the flooding to homes, businesses, industries, highways, utilities, and agricultural properties; plus the reduction of emergency costs and business losses. By confining all but the largest probable floods to the channel the community will not be faced with the health and safety hazards and the disruption of normal activities that large floods would cause.

c. Subsurface Flows. The proposed concrete channel will eliminate ground water recharge in the channel bottom, which will help alleviate the high ground water situation in the western part of Simi Valley (see paragraph 33). There will be no significant adverse effect from elimination of ground water recharge in the channel because other major ground water recharge areas are located outside the proposed project area and because of the limited usage of Simi basin ground water.

d. Water Quality. There will not be any substantial changes in water quality resulting directly from the concrete channel or indirectly from increased economic development in the flood plain because of the proposed project. It is recognized that subdivisions could, unless properly controlled, be potentially detrimental insofar as water quality is concerned. However, sanitary sewerage facilities, including sewage treatment plants, will be required for municipalities and urban areas in conformance with the Water Quality Control Plan (Interim) dated June, 1971, as issued by the California Regional Water Quality Control Board, Los Angeles Region. This plan, which strictly governs plant effluent quality requirements, will prevent careless water quality management and subsequent water quality deterioration in the future. The existing City of Simi Valley sewage treatment plant has been expanded under an Environmental Protection Agency grant to accommodate the projected population of Simi Valley.

e. Noise Pollution. Increased recreational areas will attract people, especially children, and will increase noise sources (such as children and cars picking up and delivering children from the surrounding residential area). Construction activity (use of power drills, tractors, trucks, etc.,) will cause temporary increases in noise levels. The construction hours will be normally from 8 a.m. to 5 p.m.

f. Air Pollution. Temporary increased air particulate levels will result from construction disturbance of the creek bottom and sides. Use of diesel powered equipment will add emissions to the air. The resulting population increase after project completion will have a small impact on air quality.

g. Downstream Areas. The plan in this reach will result in more rapid conveyance of runoff generated upstream of the area between Simi Valley and Moorpark and will cause slightly higher peak discharges than will be experienced under similar conditions but without the project. This effect will be more noticeable during the larger floods. During standard project flood conditions, and under conditions of future development, the peak discharge released from the Simi Valley channel improvement will be approximately 26,000 cubic feet per second. This is about 2,000 cubic feet per second more than would be expected under similar conditions but without the Simi Valley recommended channel improvement. This additional 2,000 cubic feet per second would not cause an appreciable rise in the water surface elevation during a standard project flood, nor would it cause an appreciable change in the overflow limits in the area between Simi Valley and Moorpark. At the inlet to the recommended plan for Moorpark, the channel improvements in Simi Valley will increase the standard project flood peak discharge by 4,000 cubic feet per second. This

additional 4,000 cubic feet per second will raise the standard project flood elevation no greater than 5 inches and will not result in significant incremental damage or inundation in the area between Simi Valley and Moorpark. The effect of the Simi Valley channel on increasing peak discharges will be less pronounced the smaller the area-coverage of the storm and the smaller the flood. Minor flows, mostly of nuisance type, that under existing conditions would percolate in this reach, will be conveyed to the Simi Valley to Moorpark reach, where percolation would probably take place. This will increase the amounts of pollutants and urban contaminants entering the Simi Valley to Moorpark reach. Most of the filtering out of pollutants will occur in the upper part of the reach.

h. Vegetation and Wildlife. About 35 acres of channel bottom land with its association of vegetation and wildlife habitat will be permanently lost, reducing wildlife populations. Terrestial wildlife will no longer be able to gain access to the invert of the channel (Concrete section), and local, non-mobile species, such as tadpoles and mosquito fish, dependent upon the intermittent water present in the channel will be eliminated. Loss of ground surface exposure will principally affect burrowing animals and reptiles. The plant and animal community interrelationship will also remain unbalanced for several years. Vegetative species dependent upon moderate continuous moisture (i.e., cattails, bulrush) will be eliminated by the hard bottom channels. The concrete-lined channel will have long-term effects of completely eliminating the edge effect of the stream communities. Construction will deny wildlife portions of the creek for feeding, water, and movements. The rectangular channel will also become a barrier to animal movement. In reference to the impacts of vegetative removal it should be noted that Ventura County presently conducts a continuous maintenance and operation program along the existing flood control channels of Calleguas Creek in the study area. This program includes flood damage repair and periodic clearing of all growth within the channel rights-of-way that would impair the performance of the structures. The frequency of channel clearing varies between every 2 or 4 years and depends upon how often a flood occurs that removes most of the growth within the channel. Landscaping as part of the recommended recreational development, will provide additional wildlife habitat. One hundred and twenty-eight acres of land will be landscaped with native trees and shrubs and will attract wildlife compatible with urban parks.

i. Population. There will be no impact on population growth in the county due to the recommended plan. The recommended plan will enable people to locate in an area planned for growth when they might otherwise have settled in outlying agricultural and open space areas. The Corps has used State Department of Finance population figures, Series D-100, 1973, and has coordinated with Southern California Association of Governments.

j. Health. Flood damage reduction will increase the mental and physical security of the people inhabiting the flood plain. Flood control will reduce the threat of human loss of life and injury. It will also reduce the possibility of disease and contaminated water due to flood damaged water and sewerage systems. The concrete channel will eliminate the ponding of water which are breeding areas for insect vectors. The recreational opportunities will benefit the health of residents as will the rest areas and picnic areas.

k. Esthetics. The existing trapezoidal earth-bottom channel with rock- revetted embankments will be replaced by a narrower rectangular concrete- lined channel and about 55 acres of linear park. The present channel averages about 75 feet wide at the bottom, 90 feet wide at the top, 6.5 feet in depth. It will be replaced by a channel 70 feet wide and 13 feet deep. The existing rights-of-way width of 160 to 200 feet will be fully utilized in the

flood control-recreation program. Landscaping, consisting of trees and bushes usually found in this type of environmental setting, will be implemented along the periphery of the rights-of-way, maintenance roads, and in the new recreational areas. This landscaping program will benefit trail recreationists and homeowners abutting the existing channel by screening out the array of backyard fences that now exist. The use of indigenous species will reduce maintenance requirements.

l. Recreation. Trail-based recreation comprising horseback riding, bicycling, and hiking will be provided for along the channel rights-of-way. The horse trails will be kept separate from bicycling and hiking for safety reasons. The channel will be offset from side to side within the existing rights-of-way to allow for larger park areas on alternating sides. These parks will be connected by the above trails to form a linear park the entire length of the channel in the reach. Convenience facilities, parking, and picnicking areas will be provided at various intervals. The 25-acre equestrian center, described under the recommended plan, will provide access to the equestrian trail system and serve as a staging area, as will the bicycle staging area. These two centers would provide necessary facilities for a comprehensive recreational plan. The existing park at Tierra Rejada will be expanded to 47 acres and will provide comfort stations, staging areas, etc., for the trailusers and other recreationists. The equestrian facilities will also benefit the equestrian-oriented communities in the tributary canyons to Calleguas Creek. The total recreation area in the reach will be about 128 acres.

m. Transportation. The proposed project will protect streets and bridges from flood damages and ensure the normal flow of transportation. The proposed trail system will supplement the local transportation system for pedestrians, bicyclists, horseback riders, etc., by providing an alternative to short motorized trips.

n. Land Use. The proposed concrete channel in this reach will result in a minor increase in urbanization. Urban uses will increase an additional 35 acres and open space will be decreased 35 acres. See table 7 for the land use projections. The projections and proposed channels are consistent and compatible with the General Plan for Simi Valley. The General Plan for Simi Valley was adopted by the city of Simi Valley in October, 1972; it is in conformance with State law and is consistent with the policy guidelines for orderly development adopted by the Board of Supervisors and the Local Agencies Formation Committee in 1969 and with the agricultural element of the county master plans. The plan encourages urban development of usable vacant and agricultural land now existing within the city of Simi Valley in order to contain urban expansion. This plan attempts to preempt helter-skelter sprawl which is costly and unattractive. Growth that would not take place within the planned urban area would most likely take place in the outlying agricultural areas. Such substitution would have an adverse impact on the county's agricultural resources. The growth within the city limits is considered to be a beneficial impact when weighed against the possible loss of prime agricultural land. Growth in the existing urban areas is also more beneficial in terms of long range community costs. The cost for providing urban services and facilities within the existing urban areas will be less since facilities already exist there.

o. Archeological, Historical and Cultural Resources. The proposed concrete channel and the Tierra Rejada Park development in this reach may have an adverse effect on three archeological sites located on either side of the proposed project right-of-way, which are part of an aboriginal village complex consisting of nine recorded sites. Additional cultural resource studies will be undertaken during detailed project design stages to better identify the areal extent of these affected sites. If the State Historic Preservation Officer determines that these sites appear to be eligible for inclusion in the National Register and would be

adversely affected by the proposed project, the Corps will afford the Advisory Council on Historic Preservation an opportunity to comment pursuant to the "Procedures for the Protection of Historic and Cultural Properties" (36 CFR Part 800). The proposed channel will protect the Strathern farmhouse from floods up to 26,000 cubic feet per second. Construction activity will not disturb the site nor will the channel be visible from the site.

62. REACH BETWEEN SIMI VALLEY AND MOORPARK. The reach will remain substantially in a status quo condition. The Corps of Engineers is recommending to Ventura County that it provide guidance and leadership in preventing unwise future development within the flood plain by use of appropriate flood plain management techniques to reduce flood losses. A floodway will be delineated, and no development or construction that will interfere with the safe conveyance of the standard project flood flows will be permitted.

a. Soils. The soil properties will not change, but soil erosion and scouring from flooding will continue. The riparian vegetation will offer some degree of protection against flood-caused soil erosion.

b. Flood Characteristics. Existing flood conditions will remain. This reach has a flood plain of 540 acres. The standard project flood peak discharge, under present conditions, will be 36,000 cubic feet per second.

c. Subsurface Flows. Ground water percolation will continue.

d. Air and Water Quality. The proposed plan for this reach will not affect water and air quality. However, more urban pollutants will be entering this reach from small flows no longer able to percolate in the Simi Valley reach. Much of the pollutants will be filtered out from the percolating water in the beginning of the reach.

e. Noise Pollution. The reach will remain as a low noise level zone.

f. Vegetation and Wildlife. Native riparian species usually regenerate quickly after flooding and the vegetation may actually benefit on a long- term basis from flooding. This plan will support the large wildlife population dependent on the riparian-marsh regime. Because this plan involves no structural alteration of the stream, it will contribute to the maintenance of the existing environment of the reach. The recreation plans for this reach recognize trail usage only; off-trail usage will be discouraged to minimize vegetation trampling and wildlife agitation. However, posting the area to limit off-trail use will not preclude all off-trail activity. The trails will be soil cement or hard-packed soil. The trails will increase human activity but by confining the trails to areas away from the riparian community, the most severe impacts of human activity on the nesting, breeding, and feeding of the riparian community will be avoided. Easily disturbed species may be eliminated and the population skewed to favor those species tolerant of man's presence. Increased recreational usage as a result of new freeways making the area more accessible has been accounted for in determining the impact of human activity in this reach. The new freeway will have an impact on the wildlife habitat through this reach. It will become a major obstacle to wildlife movement across the Little Simi Valley. The freeway will be located primarily in the hills to the north of the existing Route 118, occupying the flood plain only in the area of Moorpark College. The freeway interchange will eliminate some riparian habitat in this part of the reach. The Corps recreational facilities will increase human presence on the periphery of the riparian community. The accumulative impacts of both projects will stress wildlife in the area.

g. Downstream Areas. There will be no impact on areas downstream of the reach.

h. Population. The proposed floodway will limit or slow population growth and urbanization in this reach. The population density will remain low.

i. Esthetics. The area will retain its high esthetic values. The reach will provide open space and visual relief. Besides being attractive to the public it will continue to be attractive to wildlife.

j. Recreation. Proposed trails in the reach would connect with the recommended trails in the Simi Valley and Moorpark reaches. This would allow for a continuous trail system in the study area.

k. Health. This reach will give mental and physical relief from the surrounding urban areas. It will offer areas for recreational and educational opportunities. There will be no impact on the Simi Valley sanitary treatment facility, which was recently expanded under an Environmental Protection Agency grant. Standard project flood protection was provided as part of the expansion program.

l. Transportation. Flood damages to existing transportation routes will continue. The new Highway 118 will be elevated in this reach and will have protective embankments to prevent damages resulting from a standard project flood. The proposed trail system will supplement the local transportation system for pedestrians, bicyclists, horseback riders, etc., by providing an alternative to short motorized trips. The recreation plans will have no impact on the new Highway 118 which will occupy a portion of the Creek in the vicinity of Moorpark College.

m. Land Use. The 1989 land use projections for this reach are as follows: residential, 30 acres; industrial, 30 acres; transportation, 5 acres; agriculture, 10 acres; and open space, 465 acres – 95 acres of which will be within the streambed. There will be no impact on land use; a status quo condition will remain. See table 7.

n. Archeological, Historical, and Cultural Resources. The proposed project will not directly affect any cultural resources because no structural improvements are recommended in this reach. Introduction of recreation trails may indirectly affect three archeologic sites by increasing recreation traffic which cannot be constrained to the trail right-of-way. Additional cultural resource studies will be undertaken during detailed project design stages to determine the areal extent of these sites and to propose methods of preserving and protecting the sites from damage by vandals and recreation traffic. If the State Historic Preservation Officer determines that these sites appear to be eligible for inclusion in the National Register of Historic Places and would be adversely affected by the proposed project, the Corps will afford the Advisory Council on Historic Preservation an opportunity to comment pursuant to the "Procedures for the Protection of Historic and Cultural Properties" (36 CFR Part 800).

63. MOORPARK REACH.

a. Soils. The plan will prevent soil and creek bank erosion resulting from high velocity flood flows.

b. Flooding. The flood threat to the 1,450-acre area subject to flooding by the standard project flood will be eliminated by flood plain management and the proposed channel, which will occupy 150 acres. By containing floods up to and including 40,500 cubic feet per second, flood damages to residential, commercial, and industrial properties will be substantially reduced. Emergency costs and business losses will be reduced, as well as reduction of damage to highways, bridges, railroads, and utilities. Average annual flood control benefits of $1,240,000 will be realized. Elimination of the standard project flood overflow area will allow future development to take place as called for in the master plan. Open space and agricultural land in surrounding areas will thus be better assured of remaining.

c. Subsurface Flows. Ground water percolation will continue in the earth-bottom channel section. It will replenish the existing ground water which is used for domestic and agricultural activities. Along the 1.6 miles of rectangular-concrete channel no ground water recharge will occur.

d. Water Quality. The present water quality will not be affected by the earth-bottom channel. Sanitary sewage facilities, including sewage treatment plants will be required for municipalities and urban areas. Effluent from these plants will be in conformance with the Water Quality Control Plan (Interim) dated June 1971, issued by the California Regional Water Quality Board, Los Angeles Region. This plan, which strictly governs plant effluent quality requirements, will prevent careless water quality management and subsequent water quality deterioration in the future.

e. Air Pollution. Temporary increased air particulate levels will be due to construction disturbance of the creek bottom and sides. Use of diesel powered equipment will add emissions to the air. The growth resulting in the reach after completion of the flood control channel is within the bounds projected by the State Department of Finance and the State Air Implementation Plan. However, even with the stringent controls outlined in the Air Implementation Plan, the air basin will not be able to meet the standards of the Federal Clean Air Act by 1975. Utilizing a 1,000 figure for the population increase, air pollutant emissions were calculated for automobile use only, based on the assumptions that the population increase will occur in 1985 and that the emissions will follow the emission factors published by the Los Angeles Air Pollution Control District. For 1985, the 1,000 population figure would generate about 3.2 tons of nitrogen oxides emissions per year and about 2.4 tons of reactive hydrocarbon emissions per year. This compares with a range of 11,000 to 18,000 tons of emissions per year for the County, depending on population projections used. The project-induced air pollutant emissions are a very small portion of the county's total air emissions. The resulting population increase after project completion will have a small impact on air quality.

f. Noise Pollution. The increased urbanization of 150 acres will result in increased noise levels and more noise sources (mainly motor vehicles). Construction activity (use of power drills, tractors, trucks, etc.) will cause temporary increase in noise levels. Construction hours will normally be from 8 a.m. to 5 p.m.

g. Downstream Areas. There will be no impacts on the downstream areas, the environment of Mugu Lagoon, or on supply of sediment to the littoral zone. As a result of the recommended plan for Simi Valley and Moorpark, runoff generated upstream of terminus of the facilities will be conveyed more rapidly, resulting in slightly higher peak discharges (about 7 percent) than would be experienced under similar conditions, but

without the recommended project. This effect will be more noticeable during the larger floods. During standard project flood conditions, and under conditions of future development, the peak discharge at Hitch Boulevard at the lower end of the reach will be approximately 40,500 cubic feet per second. This is about 3,500 cubic feet per second greater than would be expected under similar conditions but without the recommended channel improvements. The maximum effect would be noticed near the mouth of Calleguas Creek where the standard project flood peak discharge would be raised by about 4,000 cubic feet per second. The net effect of the increase in peak discharge will not result in an appreciable rise in the floodwater surface elevation nor in the areal extent of the flood at any downstream point. The effect of the recommended plan in increasing peak discharge will be less pronounced the smaller the areal coverage of the storm and the smaller the flood. The frequency and volume of downstream floods will also be increased; however, it is difficult to measure changes in these parameters. The standard project flood will increase less than 2 percent in volume as a result of channelization and urbanization. Downstream velocities will not increase significantly because of upstream channelization. The proposed channels have been designed to release water into the downstream reaches at velocities which are no greater than those which would be experienced without channelization. The flood control channels would preclude streambed erosion, bank erosion, and reduce gully erosion through the improved reach. The net result will not be a significant change in downstream sedimentation or turbidity. Silt, clay, and fine sand particles, important to the littoral system, will continue to be carried in floodflows through the concrete and earth-bottom sections. The larger, coarser material will be caught in drop and stabilizer structures over a short-term period until the structures are filled to grade. After the drop structures are filled to grade, material will be carried downstream in the floodflows. Calleguas Creek from Simi Valley to Moorpark drains about 128 square miles. The total drainage area at Mugu Lagoon is about 325 square miles. The impact of .4 square miles (185 acres) of project-induced development on Mugu Lagoon would be indiscernible. Any size storm runoff will pick up street pollutants and carry them through the local storm-drain system to the channel. By preventing flood damages, there will be less urban debris (garbage, sewage, etc.) contaminating the channel flows. Large floodflows dilute the pollutants while smaller flows would settle out the pollutants through recharge in the reaches downstream of Simi Valley. The flood hazard to the oxidation ponds of the sewage plant, located immediately downstream of Hitch Boulevard, will continue. A flood plain management report prepared by the Corps of Engineers in July 1970 covering Calleguas Creek indicates the potential flooding from the 100-year flood and the 40,500 cubic feet per second standard project flood. The ponds of the treatment plant are subject to damage from flooding and from erosion due to high velocity flows. The increased standard project flood peak will not significantly increase the hazard to the plant. The potential already exists for large floods to severely damage the treatment ponds. The Moorpark County Sanitation District is reviewing various alternatives relating to this facility. The alternatives range from continuing in existence with flood protection to abandonment of the facility with various pipeline proposals to deliver sewage to other locations. The California Regional Water Quality Control Board presently recommends abandonment of the facility but may change its recommendation after reviewing the sanitation district's study.

h. Vegetation and Wildlife. About 27 acres of land in the channel bottom (the area that will be occupied by the concrete-lined channel), with its associated vegetation and wildlife habitat, will be permanently lost, reducing wildlife population. Terrestial wildlife will no longer be able to gain access to the invert of the channel (concrete section), and local, non-mobile species, such as tadpoles and mosquito fish, dependent upon the intermittent water present in the channel will be eliminated. Plant regeneration within and along the soft-bottom channel will permit a partial reestablishment of the riparian edge effect now present. Approximately 55 acres of existing plant and wildlife habitat will be disturbed temporarily by construction activity. Plant and animal community interrelationships will remain unbalanced for 3 to 5 years. Also, construction activity will deny wildlife portions of the creek for feeding, water and movement. Future urbanization will reduce wildlife habitat area on 150 acres of open space and agricultural lands. Ventura County conducts a continuous maintenance and operation program along the existing flood control channel from the downstream Southern Pacific railroad bridge to Hitch Boulevard bridge. This includes flood damage repair and periodic clearing of all growth within the channel rights-of-way that would impair the performance of the structures. The frequency of channel clearing varies between every 2 or 4 years and depends upon how often a flood occurs. The maintenance and operation program for the recommended earth-bottom channel will be one of selective clearing as described in paragraph 12, which will allow for the retention of wildlife habitat. The landscaping features of the proposed recreational development will provide additional wildlife habitat. One hundred and twenty-five acres of land outside the flood control rights-of-way, which is devoid of any meaningful vegetative growth, will be landscaped with native trees and shrubs and will attract wildlife compatible with urban parks.

i. Population. There will be no significant impact on county population as a result of the project. The flood plain, however, will realize an 800 to 1,000 increase in population.

j. Esthetics. The existing 150 foot wide earth-bottom channel will be replaced by a 300-foot wide earth-bottom channel, for 1.4 miles which will be trapezoidal. Upstream from the existing Soil Conservation Service earth-bottom channel, 1.6 miles of natural channel will be replaced by a rectangular concrete-lined channel about 125 feet wide and 13 feet deep. Landscaping, consisting of plants with high wildlife value usually found in this type of environmental setting, will be implemented along the maintenance roads and in the new recreational areas. The indigenous plants will require minimum maintenance.

k. Recreation. Recreation will include trail-based activities such as horseback riding, bicycling, and hiking, along the channel rights-of-way and channel bottom. The parks, described in the recommended plan, will provide about 80 acres for recreation. The parks will fulfill the need for parklands in the study area, and supplement the staging and rest areas for trailusers.

l. Health. Flood damage reduction in the reach will increase the mental and physical security of the people inhabiting the flood plain of Calleguas Creek. Flood control will reduce the threat of human loss of life and injury; it will reduce the possibility of disease and contaminated water due to flood damaged water and sewer systems. The recreational opportunities will benefit the health of the residents as will the rest areas and picnic areas.

m. Land Use. The flood plain consists of 1,450 acres. With flood control, urban development by 2009 will increase 150 acres more than without flood control. In addition, there will be an increase of 85 acres in channel area. Agriculture will decrease 120 acres and open space, other than the channel area, will be decreased within the flood plain (a loss of 115 acres). See table 7. This change in land use is consistent with the Moorpark general plan, which was adopted by Ventura County Board of Supervisors in May, 1972 and revised March 1974. The plan, in conformance, with State law, is consistent with the policy guidelines for orderly development adopted by the Board of Supervisors and Local Agencies Formation Committee (1969) and the agricultural element of the county general plan. The plan encourages urban development of usable vacant and agricultural land now existing within Moorpark in order to contain urban expansion. This plan attempts to preempt helter-skelter sprawl which is costly and unattractive. Growth that would not take place within the planned urban area would most likely take place in the outlying agricultural areas. Such substitution would have an adverse impact on the county's agricultural resources. The growth within the community limits is considered to be a beneficial impact when weighed against the possible loss of prime agricultural land. Growth in the existing urban areas is also likely to be more beneficial in terms of long range community costs. The cost for providing urban services and facilities within the existing urban areas will be substantially less since many of the basic facilities already exist there. The recommended plan is in conformance with the Ventura County Moorpark General Plan.

n. Transportation. With increased urbanization in the flood plain, additional roads will be required and traffic will increase. The proposed project will protect streets, bridge, and railroads from flooding ensuring the normal flow of transportation. The proposed trial system will supplement the local transportation system for pedestrians, bicycles, horseback riders, etc., by providing an alternative to short motorized trips.

o. Archeological, Historical, and Cultural Resources. The cultural resource reconnaissance did not locate any cultural resources within the proposed project right-of-way. Additional cultural resource studies will be undertaken during detailed project design stages to reassure that no cultural resources were overlooked in the reconnaissance.

ANY ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED SHOULD THE PROPOSAL BE IMPLEMENTED

64. The earth bottom of Calleguas Creek and the associated riparian community will be lost when replaced with about 62 acres of concrete structures in the Simi Valley reach and a part of the Moorpark reach. The concrete-rectangular channel will eliminate the edge effect of the stream communities, thus reducing wildlife populations and will become inaccessible and a barrier to animal movement. Recreation trails will result in some vegetation trampling and wildlife agitation and not all off-trail activity will be eliminated by posting trails to trail usage only. Increased recreation traffic will indirectly affect cultural resources. The urbanization resulting indirectly from the project will replace about 185 acres of agricultural and open space land. With respect to the latter effect, were it not for the project, this urbanization would be forced into surrounding areas which the county wishes to maintain as open space or agricultural lands.

ALTERNATIVES TO THE PROPOSED PROJECT

65. SIMI VALLEY REACH. The reach is 4.4 miles long and extends from Royal Avenue to Sycamore Canyon. Alternatives to the proposed project in this reach that were given detailed consideration are discussed in the following subparagraphs.

a. "No Action" Alternative. Under this alternative, the Federal Government would not participate to alleviate the existing flood problem. Existing local programs of flood plain management would continue, and future development would be protected or floodproofed against the 16,000 cubic feet per second flood. Their management program includes implementation of new channelization projects on tributary streams under an existing bond program. These channels would be designed to convey the Ventura County 50-year flood. The present channel along Calleguas Creek would probably remain as it is today. The channel in Simi Valley is able to convey flows of 3,500 cubic feet per second. This alternative would result in the following effects:

(1) Flood damages to developed property (50 percent of the overflow area in the Simi Valley reach); hazards to life and health; and disruptions of communications, transportation, and utilities would continue.

(2) Public and businesses could incur financial loss from property damage due to floods and the resulting loss of wages, sales, and production.

(3) Average annual damages of $1,000,000 would continue.

(4) Because no structural flood improvements of the stream would be involved, the alternative would enable 35 acres of open space to remain.

(5) "No Action" would not provide formal recreational facilities in the existing channel areas.

The "No Action" alternative was rejected because the disadvantages would outweigh the advantages.

b. Flood plain management was studied involving continuation of the county program together with floodproofing measures for existing development, flood insurance, flood warning and evacuation procedures. These nonstructural alternatives were not adopted for the following reasons:

(1) Floodproofing of existing and future development, through landfill to raise structures out of the flood plain or provisions for barriers to keep out floodwaters, was studied for Simi Valley. Two plans were considered to provide protection against 100-year

floods for future and existing development. Although the county is presently providing protection against their 50-year flood, 100-year floodproofing was considered to be consistent with the Federal Insurance Administration and the Water Resource Council's guidelines. To avoid diversion of floodwaters and compounding and worsening of the overflow situation, one alternative considered the construction of low floodwalls immediately adjacent to the perimeters of existing structures. In this manner, floodwaters would not be diverted into other properties that are not presently affected by flooding and the overflow depths would not be increased as a result of the protective works confining the floodflows. Floodproofing of large commercial, industrial, or institutional structures would be accomplished by construction of ring levees. This alternative was not considered acceptable. In residential areas, the plan would require floodwalls contiguous with the structure to be protected. Although the walls would be relatively low and could be beautified, they would nonetheless detract from the esthetics of the structure. As individual homeowners have very definite tastes in the appearance of their home, this plan may dictate modifications of the exterior of the home that may be completely unacceptable to the homeowner. This plan could also present several other problems. Openings in the flood wall must be provided at each doorway, crawlspace or ventilation space. During a flood, of course, these openings must be closed by a gate device. This places an operational requirement on the homeowner to install the device before a flood. A problem arises when the homeowner is not available during a flood or is elderly or incapacitated. This alternative also does not provide full flood protection. Damages to streets and highways, railroad and utilities would continue; erosion of land would occur; bodily injury and the threat of disease would persist. This alternative would require the ability to forecast flooding and would necessitate a plan for evacuation of residents to avoid the possibility of residents being trapped in their homes by rising floodwaters. The U.S. Weather Service has the capability to provide heavy rainfall advisories 6 to 8 hours in advance of storms approaching from the west. However, many heavy rainfall cells intensify in the headwater areas and the advanced warning time becomes shorter. Even with advanced warning temporary evacuation as a means for the prevention of flood damages becomes a difficult and costly procedure. Peak discharges for large floods along Calleguas Creek advance so rapidly that it becomes difficult to predict the magnitude of the flood in sufficient time to allow orderly evacuation. To avoid a situation where people may be trapped in their homes as floodwaters rise and ultimately overtop the floodproofing measures, evacuation should be considered whenever heavy rainfall advisories are issued. The other alternative plan for floodproofing considered raising the foundation of existing structures through jacking and construction of new foundations on landfill. Large commercial, industrial, or institutional facilities would continue to be protected through construction of ring levees. This alternative would still result in the same residential damages discussed above and would still require a flood warning and evacuation plan. It is more acceptable than the previous alternative because it places no operational requirement on the individual residents. This plan, however, did not generate an acceptable benefit to cost ratio. The plan would produce $290,000 in average annual benefits but would incur $600,000 in average annual cost. The benefit-cost ratio is .5 to 1.

(2) Flood insurance is presently available to the residents of Simi Valley and continuation of the flood insurance program was considered. Flood insurance does not prevent damage but does provide compensation for damages when they occur. In this report

it is a transfer rather than a prevention of economic losses. In addition to the flood losses, a dislocation of national resources would be necessary to administer the flood insurance program. The cost of the administration of the individual policies would be reflected in the premiums, whereas the cost of administering and implementing the national program would be borne by the Federal taxpayer. The flood insurance premiums and government costs would result in paying off the projected annual flood damage amount, which would be $1,000,000 in Simi Valley, plus administration costs of the program. The selected plan requires annual payments of $600,000 in Simi Valley for construction of the flood control features. Compared to the program of flood insurance, the selected plan realizes a national savings at least equal to the difference in annual cost of the two programs. Flood insurance is considered appropriate when other alternative means of flood control are not justified or can not be provided.

(3) Relocation, as a means of reducing flood damage, was not considered feasible for Simi Valley. Existing urban development occupies 480 acres of flood plain in Simi Valley. Any alternative designed to provide an acceptable level of protection would involve relocation of a significant portion of this urban development. Structural alternatives which required relocation of a small portion of the urban development were rejected by the local community early in the study. The relocation of homes and purchase of additional rights-of-way was deemed unacceptable to the community. Because the community lacked support for any structural alternative which called for relocation of homes, nonstructural alternatives which proposed significant relocation were considered unacceptable. The cost to relocate existing development (1973) in the 100-year flood plain in Simi Valley would be $31 million. In 1980, the first year a federally-funded flood control project could be implemented, the relocation costs would be $113 million.

(4) Flood plain management, together with floodproofing, flood insurance, evacuation and flood warning, would not offer a complete solution for the problems in Simi Valley. Because of the extensive existing development, the program would be overly expensive, as adapting existing sttuctures to floodproofing techniques would be difficult.

c. Alternative A. Alternative A is the currently proposed project, which has previously been discussed in this environmental statement.

d. Alternative B. This alternative would consist of 4.4 miles of earth-bottom channel with rock-lined banks and concrete drop structures. The channel would average 360 feet in top width and 15 feet in depth and would have standard project flood capacity. This alternative would result in the following effects:

(1) Construction of this alternative would disrupt wildlife and would destroy vegetation and wildlife habitat; however, vegetation would be able to re-establish in the channel bottom and afford habitat for wildlife that could adapt to the changed environment.

(2) As compared with the proposed plan, the earth-bottom channel would allow ground water recharge; would be less of an animal movement barrier; and would benefit the flora and fauna by exposing more surface area for vegetation and wildlife habitat. Other impacts that would result from this alternative would include the following:

(3) Residential and commercial property would receive flood protection.

(4) About an additional 35 acres of open space would become urbanized as compared to the "No Action" Alternative.

(5) The existing rights-of-way of 160 to 200 feet would have to be increased to 450 feet, requiring the relocation of 180 homes and businesses.

(6) The wider channel and rights-of-way would become a greater physical and psychological barrier to the community.

(7) The only developable recreation for this alternative would be trail-based recreation along the channel rights-of-way or channel bottom.

(8) The earth-bottom channel would allow runoff percolation which would aggravate the problems associated with the high water table in the western part of Simi Valley.

(9) The benefit-cost ratio would be 0.8 to 1. Although the alternative would provide the same degree of flood protection as the proposed plan, Alternative B would incur an additional project cost of $13.6 million and additional average annual charges of $800,000.

Alternative B was rejected because the adverse impacts would outweigh the beneficial ones. In addition, the plan costs would exceed the benefits, making this alternative economically unjustified.

e. Alternative C. Alternative C would provide a trapezoidal channel with a concrete bottom and rock-lined banks cemented with grout. The channel, which could contain a standard project flood, would have an average top width of 170 feet and an average depth of 15 feet. This alternative would result in the following effects:

(1) The channel would protect residential and commercial property from floods.

(2) The concrete bottom would prevent ground water recharge, thereby helping alleviate the high water table problem in Simi Valley.

(3) About 35 acres of open space would become urbanized or part of the channel rights-of-way.

(4) The channel area would permanently remove land from other uses, together with associated vegetation and wildlife habitat; however, proposed landscaping within the rights-of-way would provide wildlife habitat.

(5) The only developable recreation for this alternative would be trail-based recreation along the channel rights-of-way or channel bottom.

(6) The channel would hinder animal movement.

(7) The existing rights-of-way of 160 to 200 feet would have to be increased to 240 feet, requiring the relocation of 60 homes and businesses.

(8) The increased channel and rights-of-way would be a greater barrier to the community.

(9) Although Alternative C would provide the same degree of flood protection as the proposed plan, this alternative would incur an additional project cost of about $8.2 million and additional annual charges of $640,000. The benefit-cost ratio for this alternative would be 0.9 to 1.

Alternative C was rejected because the disadvantages would outweigh the advantages and because it would not be economically justified.

f. Alternative D. This plan would provide a rectangular concrete channel for the first 1.8 miles of the reach and a trapezoidal earth-bottom channel, with rock-lined banks, for the remaining 2.6 miles of the reach. The average width of the concrete section would be 70 feet, and of the top of the earth bottom section, 360 feet. The average depth of the channel would range from 13 to 15 feet. The channel would have a standard project flood capacity. This alternative would result in the following effects:

(1) Residences and businesses would receive flood protection.

(2) About 35 acres of open space would become urbanized or part of the channel rights-of-way.

(3) As compared with the proposed plan, this alternative would expose more surface area for vegetation and wildlife habitat, thereby benefiting flora and fauna.

(4) The earth-bottom section would be less of an animal movement barrier than the concrete section.

(5) Because the existing rights-of-way (160 to 200 feet) would have to be increased to 450 feet to accommodate the earth-bottom channel portion of this alternative, 20 homes and businesses would have to be relocated.

(6) The only developable recreation for this alternative would be trail-based recreation along the channel rights-of-way and along the channel bottom in the earth-bottom section.

(7) The wider channel and rights-of-way would form a greater physical and psychological barrier to the community.

(8) Vegetation and wildlife habitat would be permanently destroyed in the concrete section; however, this loss would be partly mitigated by landscaping along the channel; vegetation would reestablish in the earth-bottom section.

(9) The earth-bottom section would allow runoff percolation which would continue the problems associated with the high water table in the western portion of Simi Valley.

(10) As compared with the proposed plan, Alternative D would provide nearly the same economic benefits and would incur an additional project construction cost of about $10.2 million and additional average annual charges of $590,000. The benefit-cost ratio for this alternative would be 0.9 to 1.

Because of the adverse impacts and the unfavorable benefit-cost ratio, Alternative D was rejected.

g. Alternative E. This alternative would consist of two multipurpose flood control-recreational dams on tributaries to Calleguas Creek (Tapo and Las Llajas Creeks) and a rectangular concrete channel of standard project flood design along Calleguas Creek. The dams would enable the base width of the concrete channel to be about 20 feet less than the width of the proposed channel. The concrete channel in this alternative would have the same impacts that were previously discussed for the proposed channel. In addition, construction of the dams would result in the following effects.

(1) About 392 acres of the existing oak-grassland community would be permanently removed.

(2) The dam sites would provide recreational lakes, which would afford boating, fishing, swimming, and camping opportunities and which could create recreation-oriented employment.

(3) Recreation-oriented tourists would be attracted to the lakes and tourist-oriented development could be encouraged.

(4) The recreation lakes would have high esthetic value.

(5) The lakes would also be a water source for wildlife and would produce an edge effect.

Alternative E was rejected because it would be economically unjustified. The alternative would cost about $18.4 million more than the proposed plan and would have a benefit-cost ratio of 0.9 to 1. As compared with the proposed plan, this alternative would provide $360,000 in additional average annual benefits, but the additional average annual charges would be $1,240,000. On an incremental basis, the benefit-cost ratio for this plan would be 0.3 to 1.

h. Alternative F. This alternative is similar to Alternative E in all respects except that an earth-bottom channel would be provided instead of a concrete channel. The impacts associated with the lakes would be the same as those previously discussed under Alternative E. The impacts that would result from the earth-bottom channel would be similar to those previously discussed under Alternative B, except that the Alternative F channel would require a 350-foot rights-of-way, in lieu of 360 feet. The requirements for rights-of-way would necessitate the relocation of about 160 homes and businesses. Alternative F would cost about $22.6 million more than the proposed plan and would have a benefit-cost ratio of 0.8 to 1. As compared with the proposed plan, this alternative would provide $260,000 in additional average annual benefits, but the additional average annual charges would be $1,480,000. On an incremental basis, the benefit-cost ratio for this plan would be 0.2 to 1.

Alternative F was rejected because of its adverse impacts and its unfavorable benefit-cost ratio.

i. Alternative G. Alternative G would provide a trapezoidal earth-bottom channel with rock-lined banks and concrete drop structures. The channel would have an average top width of 200 feet and an average depth of 15 feet; it would have capacity for 15,000 cubic feet per second, which would have a recurrence interval of 71 years. Ventura County is using this flood in the management of the flood plain. This alternative would have a benefit-cost ratio of 1.2 to 1. It would cost about $3.0 million more than the proposed plan, resulting in increased average annual charges of $170,000, and would produce $320,000 less in average annual benefits than that under the proposed plan. The other impacts that would result from this alternative would be similar to those previously discussed under Alternative B, with the following exceptions:

(1) The channel rights-of-way would have to be increased to 250 feet, which would necessitate the relocation of 60 homes and businesses.

(2) There would be a continued threat from floods greater than 15,000 cubic feet per second.

Alternative G was not selected as the best plan because of its adverse impacts, its limited degree of protection, and the incremental justification of providing standard project flood protection.

j. Alternative H. This alternative is similar to Alternative G in that it would provide a trapezoidal earth-bottom channel that would have rock-lined banks, concrete drop structures, and an average depth of 15 feet. Under Alternative H, the rock-lined banks would be cemented with grout, permitting the top width of the channel to average 190 feet (10 feet less than that under Alternative G). This reduction in width would not significantly improve the characteristics of Alternative G. The impacts of Alternative H would be similar to those previously discussed under Alternative G. The only differences would be that the channel rights-of-way for Alternative H would be 240 feet (10 feet less than under Alternative G); and that Alternative H would incur an additional $170,000 in average annual charges as compared to the proposed plan and produce $320,000 less in average annual benefits than under the proposed plan.

Alternative H was rejected for the following reasons: its adverse impacts would outweigh the beneficial ones, it would not mitigate the flood threat from floods greater than the present 71-year flood or 15,000 cubic feet per second.

k. Alternative I. This alternative would provide a multipurpose flood control—recreational dam on Las Llajas Creek and a rectangular concrete channel along Calleguas Creek. The channel would be similar to the proposed plan with only a slight lowering of channel wall height. The concrete channel in this alternative would have the same impacts that were previously discussed for the proposed channel. Constructing the dam would permanently remove 82 acres of the existing oak-grassland community and would have other impacts similar to those previously discussed for Alternative E. Alternative I would cost about $7.7 million more than the proposed plan and would have a benefit-cost ratio of 1.3 to 1. However, on an incremental basis, the average annual cost of including Las Llajas Dam would amount to $580,000, and average annual benefits from flood control and recreation at the dam and lake would total $390,000. Therefore, the incremental benefit-cost ratio would be 0.7 to 1.

The Las Llajas Dam is a major element of Alternative I. Because the incremental benefit-cost ratio for this dam would not economically justify dam construction, and because a concrete channel similar to the proposed plan would be required under any case, the entire alternative was rejected.

l. Alternative J. The alternative would provide a rectangular concrete channel, averaging 50 feet in width and 13 feet in depth. The channel would have capacity for a 100-year flood or 18,500 cubic feet per second. The impacts that would result from this alternative would be similar to those previously discussed for the proposed plan, with the following exceptions:

(1) The channel for Alternative J (50 feet) would be narrower than that of the proposed channel (70 feet). Therefore, Alternative J would provide more area for landscaping and recreation.

(2) Alternative J, which would have a benefit-cost ratio of 1.8 to 1, would cost about $1.8 million less than the proposed plan.

(3) Alternative J would protect against a 100-year flood, thereby affording less flood protection than under the proposed plan, which will protect against a standard project flood.

Alternative J was rejected because an economic comparison of the proposed plan with Alternative J indicates that the additional cost of standard project flood protection is warranted. The proposed plan will have additional average annual charges of $90,000 and additional average annual benefits of $120,000. Comparing the additional benefits to the additional costs results in a benefit-cost ratio of 1.3 to 1.

66. REACH BETWEEN SIMI VALLEY AND MOORPARK. This reach is 4.4 miles long and extends from Sycamore Canyon in Simi Valley to the downstream Southern Pacific railroad bridge at Virginia Colony. The channel, which is unconfined except for about 0.7 mile of improved channel, meanders within the relatively narrow flood plain. Alternatives to the proposed plan considered in this reach are discussed in the following subparagraphs.

a. "No Action" Alternative. This alternative would involve no Federal participation to alleviate any of the existing flood problem. Ventura County would manage the flood plain according to the present 100-year floodline. This alternative would result in the following effects:

(1) Urban development would probably continue by filling where possible, above the 100-year floodline.

(2) Flood damages to developed property and disruption of transportation and utilities would continue.

(3) Because no structural flood improvements of the stream would be involved, the alternative would promote the maintenance of the existing environment.

The "No Action" Alternative was not considered to be an acceptable solution because it would not prohibit encroachment into the channel areas that are needed for the safe conveyence of design discharges (standard project flood) that will be released from the Simi Valley channel improvement.

b. Flood Plain Management. The flood plain management alternative is the currently proposed plan, which has previously been discussed in this environmental statement.

c. Alternative A. The concrete channel of this alternative would average 150 feet in top width and 11 feet in depth. It would be a trapezoidal channel and would have a standard project flood capacity. This alternative would result in the following effects:

(1) The channel would prevent ground water recharge.

(2) Existing industrial and public property would receive flood protection; it would permit urban development in the overflow area.

(3) The channel would require a 220-foot wide rights-of- way of which the service roads could be developed for horseback riding, bicycling, and hiking activities. No relocation of homes or businesses would be necessary;

(4) This reach is the best example of a riparian community in Calleguas Creek Basin. The channel and rights-of-way would eliminate about 117 acres of this riparian growth, which would adversely affect the wildlife of the riparian community.

(5) The educational value of the reach would be lessened and, eventually, lost because of urbanization.

(6) The channel would result in urbanization of the overflow area, which is presently open space.

(7) The industry that would build in the flood plain would support the tax base of the community outside the residential areas; however, the industry could be located in the general area outside the overflow area.

(8) The concrete channel would be a significant barrier to wildlife movement.

(9) The concrete channel would detract from the esthetic value of the area by eliminating 117 acres of riparian habitat and open space.

(10) The benefit-cost ratio for this alternative would be 0.1 to 1; the total project cost would be about $11.9 million.

Alternative A was rejected because it would destroy high quality riparian growth, its disadvantages would outweigh its advantages, and it would not be economically justified.

d. Alternative B. This alternative would provide a trapezoidal earth-bottom channel with rock-lined banks and concrete drop structures. The channel, which would have standard-project-flood capacity, would average 330 feet in top width and 19 feet in depth. This alternative would result in the following effects:

(1) Existing industrial and public property would receive flood protection; it would permit urban development in the overflow area.

(2) The channel would require a 450-foot rights-of-way which would be developed for recreational trail-based activities. The channel bottom would also be usable for recreation. No relocation of homes or businesses would be involved.

(3) This reach is the best example of a riparian community in Calleguas Creek Basin. The channel and rights-of-way would eliminate about 239 acres of this high quality riparian growth, which would have an adverse impact on the wildlife of the community. Some vegetation would be able to reestablish in the channel bottom and afford habitat for wildlife that could adapt to the changed environment.

(4) The channel would hinder wildlife movements.

(5) The earth-bottom channel would permit the continuation of ground water recharge.

(6) The overflow area would be urbanized, resulting in a loss of open space.

(7) The industry that would build in the flood plain would support the tax base of the community outside the residential areas; however, the industry could be located in the general area outside the overflow area.

(8) The educational value of the reach would be lessened and, eventually, lost because of urbanization.

(9) The channel structure would detract from the esthetic value of the area.

(10) This alternative would have a benefit-cost ratio of 0.3 to 1 and would cost about $12.1 million.

Alternative B was rejected because of its impact on the riparian community, its other adverse impacts, and its unfavorable benefit-cost ratio.

e. Alternative C. This alternative would provide a trapezoidal earth-bottom channel with rock-lined banks and concrete drop structures. The top width would average 180 feet and the depth, 14 feet. The channel would have a 100-year flood capacity. The impacts of Alternative C would be similar to those previously discussed under Alternative B in this reach. The only differences would be the following:

(1) The Alternative C channel and rights-of-way would eliminate about 160 acres of high quality riparian growth.

(2) Alternative C would not mitigate the flood threat from floods greater than the 100-year flood.

(3) The Alternative C plan would cost about $10 million and would have a benefit-cost ratio of 0.4 to 1.

Because the adverse impacts would outweigh the beneficial ones and because the plan would not be economically justified, Alternative C was rejected.

67. MOORPARK REACH. This reach, which is also 4.4 miles long, extends from the downstream Southern Pacific railroad bridge in Virginia Colony to Hitch Boulevard, Moorpark. An earth-bottom channel was studied for the upper 1.6 miles of the reach. However, transportation facilities and topographic constraints led to its rejection. Calleguas Creek has several sharp bends and a steep gradient in this area. The Southern Pacific Railroad crosses the Creek at two locations and freeway plans call for a future bridge. To negotiate the 1.6 miles utilizing an earth-bottom channel would require (1) excessive excavation in the southerly hills to accommodate the width of the channel; (2) replacement of two railroad bridges and additional construction expense for widening the freeway bridge; (3) realinement of the creek to eliminate the sharp bends; and (4) provisions for numerous concrete drop structures to accommodate the steep gradient with the low velocity of flow required in an earth-bottom section. Alternatives to the proposed plan in the Moorpark reach, which were considered in detail, are discussed in the following subparagraphs.

a. "No Action" Alternative. This alternative would involve no Federal participation to alleviate any of the existing flood problem. Ventura County would manage the flood plain through regulations and ordinances and to restrict development to the 100-year floodline. This alternative would result in the following effects:

(1) Flood damages to developed property; hazards to life and health; and disruptions of communications, transportation, and utilities would continue.

(2) The public and businesses could incur financial loss from property damage due to floods and the resulting loss of wages, sales, and production.

(3) Average annual damages of $1,180,000 would continue.

(4) Development of the Moorpark area, as foreseen in the adopted land use plan, would not take place. A like development would take place in the outlying agricultural areas to the detriment of planned community development.

(5) Planned recreation development would not take place.

The "No Action" Alternative was rejected because the disadvantages would outweigh the advantages and because structural flood-control measures would be economically justified.

b. Flood plain management was studied involving continuation of the county program together with floodproofing measures for existing development, flood insurance, flood warning and evacuation procedures. These nonstructural alternatives were not adopted for the following reasons:

(1) Floodproofing of existing and future development, through landfill to raise structures out of the flood plain or provision for barriers to keep out floodwaters, was studied for Moorpark. A plan was considered to provide protection against 100-year floods for future and existing development. (Although the county is presently providing protection against the county 50-year flood, 100-year flood proofing would be consistent with the Federal Insurance Administration and the Water Resource Council Guidelines.) To avoid diversion of floodwaters and compounding and worsening of the overflow situation, floodproofing would be accomplished by constructing low walls 6 to 12 inches from structures. In this manner, the floodwaters would not be directed onto other properties that are not presently affected by flooding and the overflow depths would not be increased as a result of the protective works confining the floodflows. Floodproofing of large commercial, industrial, or institutional structures would be accomplished by construction of ring levees. This alternative was not considered acceptable. In residential areas, the plan would require floodwalls contiguous with the structures to be protected. Although the walls would be relatively low and could be beautified, they would nonetheless detract from the esthetics of the structure. As individual homeowners have very definite tastes in the appearance of their home, this plan may dictate modifications of the exterior of the home that may be completely unacceptable to the homeowner. This plan would also present several other problems. Openings in the floodwall must be provided at each doorway, crawlspace, or

ventilation space. During a flood, of course, these openings must be closed by a gate device. This places an operational requirement on the homeowner to install the device before a flood. A problem arises when the homeowner is not available during a flood or is elderly or incapacited. This alternative also does not provide full flood protection. Damages to streets and highways, railroad, and utilities would continue. Erosion of land would occur; bodily injury and the threat of disease would persist. This alternative requires the ability to forecast flooding and would necessitate a plan for evacuation of residents to avoid the possibility of residents being trapped in their homes by rising floodwaters. The U.S. Weather Bureau has the capability to provide heavy rainfall advisories 6 to 8 hours in advance of storms approaching from the west. However, many heavy rainfall cells intensify in the headwater areas and the advanced warning time becomes shorter. Even with advanced warning, temporary evacuation as a means for the prevention of flood damages becomes a difficult and costly procedure. Peak discharges for large floods along Calleguas Creek advance so rapidly that it becomes difficult to predict the magnitude of the flood in sufficient time to allow orderly evacuation. To avoid a situation where people may be trapped in their homes as floodwaters rise and ultimately overtop the floodproofing measures, evacuation should be considered whenever heavy rainfall advisories are issued. The other alternative plan for floodproofing considered raising the foundation of existing structures through jacking and construction of new foundations on landfill. Large commercial, industrial, or institutional facilities would continue to be protected through construction of ring levee. This alternative would still result in the same residential damage discussed above and would still require a flood warning and evacuation plan. It is more acceptable than the previous alternative because it places no operational requirement on the individual homeowner. This plan, however, did not generate an acceptable benefit-cost ratio. The plan would produce $440,000 in annual benefits but would require annual cost of $460,000. The benefit-cost ratio is 0.9 to 1.

(2) Flood insurance was found impractical. Flood insurance is presently available to the residents of Moorpark and continuation of the flood insurance program was considered. Flood insurance does not prevent damage but does provide compensation for damages when they occur. In this report, it is a transfer rather than a prevention of economic losses. In addition to the flood losses, a dislocation of national resources would be necessary to administer the flood insurance program. The cost of the administration of the individual policies would be reflected in the premiums, whereas the cost of administering and implementing the national program would be borne by the Federal taxpayer. The flood insurance premiums and government costs would result in paying off the projected annual flood damage amount, which would be $1,180,000 in Moorpark, plus administration costs of the program. The selected plan requires annual payments of $640,000 in Simi Valley for construction of the flood control features. Compared to the program of flood insurance, the selected plan realizes a national savings at least equal to the difference in annual cost of the two programs. Flood insurance is considered appropriate when other alternative means of flood control are not justified or can not be provided.

(3) Relocation, as a means of reducing flood damage, was not considered feasible for Moorpark. Existing urban development occupies 330 acres of flood plain in Moorpark. Any alternative designed to provide an acceptable level of protection would involve

relocation of a significant portion of this urban development. Structural alternatives which required relocation of a small portion of the urban development were rejected by the local community early in the study. The relocation of homes and purchase of additional rights-of-way was deemed unacceptable to the community. Because the community lacked support for any structural alternative which called for relocation of homes, nonstructural alternatives which proposed significant relocations were considered unacceptable. To relocate existing development (1973) in the 100-year flood plain in Moorpark would be $32 million. In 1980, the first year a federally-funded flood control project could be impelemnted, the relocation costs would be $46 million.

(4) Flood plain management, together with floodproofing, flood insurance, evacuation, and flood warning, would not offer a complete solution for the problems in Moorpark. Because of the extensive existing development, the program would be overly expensive, as adapting existing structures to floodproofing techniques would be difficult.

c. Alternative A. This plan would provide 1.6 miles of rectangular concrete channel and 2.8 miles of trapezoidal concrete channel. The average width of the channel would be 125 feet for the rectangular section and 180 feet at the top of the trapezoidal section. The average depth for both sections would be 13 feet. The channel would have standard project flood capacity. This alternative would result in the following effects:

(1) The rectangular section, from Virginia Colony to about Spring Street, would require 175 feet of rights-of-way; the trapezoidal section, from Spring Street to Hitch Boulevard, would require 240 feet of rights-of-way. As compared with the proposed plan, Alternative A would allow more land to be developed in the flood plain at the expense of open space and agriculture.

(2) Residential, commercial, and industrial properties would receive flood protection.

(3) Landscaping would be provided within the rights-of-way, which would improve the appearance of the structure and introduce vegetation.

(4) The rights-of-way would be used to provide horseback riding, bicycling, hiking, and picnicking facilities.

(5) Ground water recharge would be eliminated, adversely affecting the surrounding area which depends on ground water for domestic and agricultural uses.

(6) The concrete structures would form a barrier to wildlife movement.

(7) About 130 acres of land with vegetation and wildlife habitat would be permanently lost.

(8) Alternative A would cost about $22,200,000. The alternative would result in annual charges of $1,610,000 and would produce $1,870,000 in average annual benefits. Therefore, the benefit-cost ratio would be 1.2 to 1.

This alternative was rejected for reasons given in paragraph 68.

d. Alternative B. The alternative would provide 1.6 miles of open rectangular concrete-lined channel and 2.8 miles of trapezoidal earth-bottom channel with rock-lined banks and concrete drop structures. The average width of the rectangular section would be about 125 feet and top width of 300 feet for the trapezoidal section. The rectangular section would have an average depth of 13 feet and the trapezoidal section an average depth of 19 feet. The impacts of Alternative B would be similar to those previously discussed for the recommended plan for this reach. The difference would be that this alternative would allow more land to be developed in the flood plain (about 200 acres) at the expense of open space, agriculture and wildlife.

Alternative B was originally the selected plan. However, a restudy of this alternative led to the conclusion that the downstream 1.4 miles of channelization could be abandoned in favor of flood plain management. In this 1.4-mile reach, the natural channel is well entrenched and the standard project flood can be conveyed with minor damage. Little development is projected along the channel banks in this area as agriculture will continue to be the dominant land use. This alternative would cost $16,930,000 with $1,240,000 in annual charges and $1,950,000 in annual benefits. Therefore, the benefit-cost ratio would be 1.6 to 1. As compared with the recommended plan, this plan would cost $4,400,000 more with almost no gain in benefits. Such additional expense is not warranted.

e. Alternative B-1. Alternative B-1 is the currently proposed plan, which has previously been discussed in this environmental statement.

f. Alternative C. The alternative would provide 1.6 miles of rectangular concrete channel and 2.8 miles of trapezoidal earth-bottom channel with rock-lined banks and concrete drop structures to control a 100-year flood or 23,000 cubic feet per second. The average width of the rectangular section would be 70 feet and the average depth, 13 feet. The trapezoidal section would have a top width of 180 feet and a depth of 15 feet. The impacts of Alternative C would be similar to those previously discussed for Alternative B in this reach. The difference would be as follows:

(1) The threat from floods greater than the 100-year flood would not be eliminated by Alternative C.

(2) Under Alternative C, the required rights-of-way for the rectangular section would be 120 feet (55 feet less than the proposed plan) and for the trapezoidal section, 240 feet (160 feet less than the proposed plan). Therefore, as compared with the proposed plan, Alternative C would allow the development of more open space and agricultural land.

(3) Alternative C would cost about $15,620,000. The alternative would result in annual charges of $1,160,000 and would produce $1,820,000 in average annual benefits. Therefore, the benefit-cost ratio would be 1.6 to 1.

Alternative C was rejected for reasons given in paragraph 68.

68. In the draft environmental statement Alternative B was the recommended plan for this reach. Comparison of Alternative B with Alternatives A and C were as follows. Alternative A would cost about $5,270,000 more than Alternative B. Alternative A would result in additional $370,000 annual charges and would produce $80,000 less in average annual benefits as compared with Alternative B. Therefore, the incremental benefit-cost ratio of Alternative A would be 0.2 to 1. This alternative was rejected because of the significant adverse impacts as compared with Alternative B and because the incremental benefit-cost ratio would be unfavorable. Alternative C was rejected because an economic comparison of Alternative B with Alternative C indicates that the additional cost of standard project flood protection is warranted. Alternative B would incur an additional average annual cost of $80,000 and additional average annual benefits of $130,000. Comparing the additional benefits to the additional costs results in an incremental benefit-cost ratio of 1.6 to 1. Because Alternative B was the best plan in the above comparisons with Alternatives A and C, it was not necessary to introduce similar alternatives of A and C with a shorter channel, as in the recommended plan.

RELATIONSHIP BETWEEN SHORT–TERM USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG–TERM PRODUCTIVITY

69. The proposed project will provide a high degree of flood protection to existing urban development, will provide increased recreational benefits, and will allow future urban development in accordance with land use plans adopted by local interests. With flood protection in Simi Valley and Moorpark reaches, urbanization will occur on an additional 185 acres that are now devoted to agriculture and open space, in accordance with the comprehensive land use plan developed by Ventura County. The urbanization will require increased public services and public facilities. The concrete channel sections and urbanization in the Simi Valley and Moorpark reaches will result in a permanent loss of wildlife habitat in these two reaches. The nonstructural measures in the reach between Simi Valley and Moorpark will maintain the environmental quality of the riparian community present in the reach. Increased development in the reaches above and below will probably give this reach the character of a wildlife refuge.

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

70. The proposed project will commit, in addition to the present Calleguas Creek channels, about 271 acres of land for use as a flood control channel with recreational features. Flood protection channels in the Simi Valley and Moorpark reaches will allow urban use and development of the entire flood plain of the standard project flood, resulting in irreversible commitments in land use; urbanization of 150 acres of the 1,450-acre flood plain in Moorpark and 35 acres of the 945- acre flood plain in Simi Valley is dependent on realization of the flood control project.

COORDINATION

71. Public meetings were held in December 1969 to solicit public participation in studying alternatives and to identify individuals and groups that could play an active, effective role in the planning process. All known environmental and special interests groups were invited to attend. As a result of the meetings, a group was formed of representatives of Simi Valley Recreation and Park District, Simi Valley Public Works Department, the U.S. Army Corps of Engineers, and local interest groups. The meetings of the group were concerned with developing alternatives for flood control along Calleguas Creek in the Simi Valley and Moorpark areas. After developing ten alternatives, the group agreed that if Simi Valley was to have flood control, it would have to be in the form of a rectangular concrete-lined channel. They recognized that rights-of-way restrictions would not permit the construction of an earth-bottom channel to control major floods. The group also suggested linear parks offset from side to side and beautification techniques such as tinting and sculpturing concrete, and the use of planters on bridges. (These techniques will be studied in the detailed design stage of the project.)

72. Two informal meetings, held 9 and 11 May, 1972, enabled all interests and public groups to ask about any and all facets of alternatives studied. A public meeting was held 31 May 1972 to present all alternative plans for the basin studied to date and obtain county preference of a plan that best met its needs and desires. At this meeting, very little comment was made relative to the alternative plans presented for the Simi Valley and Moorpark areas. Requests were made for further consideration of alternatives studied; the Simi Valley Recreation and Park District, requested further consideration of multipurpose reservoirs on Tapo and Las Llajas Canyons; a representative of the Simi Valley Homeowners Association requested further consideration of a multipurpose reservoir on Las Llajas Canyon; and a representative of the Southern Pacific Transportation Company requested further consideration of channel improvements along Calleguas Creek between Simi Valley and Moorpark. The City Engineer of Simi Valley endorsed the concrete-lined channel proposed for Simi Valley and added that the channel would assist the city in solving problems created by the high water table by eliminating recharge in the channel area. A homeowner of Simi Valley expressed concern over urbanization that is taking place in Ventura County at the expense of wildlife habitat and requested that flood plain management be continued as a means to preserve existing remaining habitat. An individual representing two groups, the Las Posas Chapter of the Sierra Club and the Alliance of the Ventura County Tomorrow Plan, stated that, while the group he represented desires the preservation of open space in Ventura County, flood control was necessary for the protection of the urban areas of Simi Valley.

73. Subsequent to the meeting, the Los Angeles District reviewed its findings with respect to the feasibility of a multipurpose reservoir on Las Llajas Canyon, and reaffirmed that the reservoir is not economically justified. Similarly, a review of channelization of Calleguas Creek between Simi Valley and Moorpark reaffirmed that channelization is not justified. A review of a multipurpose reservoir on Tapo Canyon alone will be made at a subsequent date; however, available data conclude that a reservoir on Tapo Canyon would not significantly affect the improvements proposed on Calleguas Creek.

74. Ventura County submitted a resolution adopted by the Board of Supervisors on 5 September 1972, requesting a restudy of a multipurpose reservoir on Tapo Canyon, and the study of additional alternatives on the lower reaches of Calleguas and Conejo Creeks. Recognizing that these studies would delay the completion date for a feasibility report, the county requested that the Simi Valley–Moorpark area be separated from the remaining study area so that a report limited to these areas could be prepared. The remaining areas of the basin would then be covered in a later report. The resolution recommended the Simi Valley and Moorpark programs including 4.4 miles of channelization in the Moorpark reach. Subsequent Corps restudies determined the possibilities of flood plain management through the lower reach. A letter from the Ventura County Flood Control District agrees that this plan would provide the same degree of protection and therefore complies with the original intent of the resolution from the Board of Supervisors. A resolution received from the City of Simi Valley similarly selected the proposed plan for the city. A letter of endorsement of the proposed plan for Simi Valley was also received from the Board of Directors of the Simi Valley Recreation and Park District.

75. A public meeting was held 11 December 1973 in Simi Valley, California, to present the results of the flood control study and to permit the public to voice their opinions of the proposed project. After the Corps presentation, the following statements were made.

a. Private Citizens. A property owner along the creek expressed hope for the project to go through. Several property owners were concerned about the costs to the local taxpayer. It was suggested that they discuss the matter with the County Flood Control District.

b. Citizens Representing Groups. The president of the Environmental Coalition read the letter of comments contained in Appendix A of this report. A representative of the Building Trades, Construction Trades Council of Ventura County said the Construction Council would like to go on record supporting the flood control project. He pointed out that it is preferable to construct such a preventive project rather than fix something that has been damaged. The research archeologist of the Ventura County Archeological Society stated that an archeological survey needs to be conducted in the project area and in probable areas of development in order to assess indirect impacts. (See paragraph 78a). The Sierra Club Los Padres Chapter representative submitted the letter contained in Appendix A of this report. He also asked questions (see paragraph 78e) concerning the start of the project, the economic life, benefit-cost ratios, feasibility of the 100-year project, the reasoning for using the standard project flood based on previous flood history, projected average annual damages in light of very low historical damages, project costs, and recreation as an integral part of the project. If recreation should be removed from the proposal, he would expect the project to be reevaluated from the beginning. There was also an apparent discrepancy in the Corps recreational plan acreages and the Moorpark general plan acreages for recreation (this has been corrected). The Sierra Club also wanted assurances for a formal agreement with the county for flood plain management in the Simi Valley to Moorpark reach (this has been accomplished). The Sierra Club representative was personally in favor of

the 100-year version of the project. The representative of the Oberg Construction Company supported the higher design discharge for the channel project. He pointed out that designs are, in many cases, underestimated. He said it would be embarrassing to come back in eight to ten years to reconstruct a channel because it was not adequate. The District Council of Carpenters in Ventura County, representative and resident of the valley, said members concurred 100 percent with this project. He believes the project to be the best proposal that he has seen in Simi Valley in the 12 years he has lived there.

c. Local Agencies. The administrative officer of the County Parks Department supports the principal of strip parks and hiking and riding trails as part of a flood control program. He wants to continue the close work with people of Moorpark and obtain input on their recreational needs. A representative of the State Department of Water Resources explained the role the department will play in development of this project. The state will reimburse local government for a part of the costs. The Ventura County Planning Department representative stated that the recommended project was in general conformance with the recreational element of the Moorpark Community Plan and with the county riding and hiking trails plan. He noted that the parkland as proposed is actually in greater amounts than is shown in the General Plan. (The plan has since been revised to fully conform to the General Plan.) The Chairman of the Simi Valley Recreation and Park District Board of Directors and the head of the Park District told of the joint effort to incorporate diversified opinions and ideas on channel structure, recreation, and landscaping. Although initially in favor of an earth-bottom channel, the study revealed the necessity of a concrete channel and the Park District is now in favor of the concrete channel plan. They indicated their efforts to enhance the concrete channel as much as possible and make the overall plan an asset to the community. The concrete channel plan offered the community the opportunity to develop parks and recreation facilities that they otherwise could not have realized. Cooperative planning efforts have developed a greenbelt park the length of Simi Valley that offers excellent recreational opportunities.

76. GOVERNMENT AGENCIES. The draft environmental statement was sent to the following government agencies, requesting their views and comments. Their letters of comment are included in Appendix A.

a. U.S. Department of Health, Education, and Welfare

Comment: A review of the material submitted with the statement indicates that there will be only a slight growth inducing factor in which currently unusable land will be available for development. It is stated that this will remove the pressure on lands adjacent to this area which the county has attempted to hold in open space. It is unlikely that this increased growth will be of a nature and scope to be of concern of this department.

Comment: We are impressed with the cost of this action, $29.96 million when it is indicated that over a 14 year period the total flood damage amounted to a little over $2 million and in fact, one part of the statement indicated "relatively little economic damage occurs in the reach between Simi Valley and Moorpark." Is there not a simpler, equally effective and more inexpensive way to provide the protection?

Response: Flood damages that have occurred in recent years are not indicative of flood potential. The flood damages that have occurred over the past 10 years were relatively low because the floods that occurred were minor. In Simi Valley and Moorpark, these flows were contained within the existing channels, but caused severe damage to the channels. In the past 10 years, Simi Valley and Moorpark have changed from agricultural to urban areas and potential flood damages have increased. Because there is little economic damage in the reach between Simi Valley and Moorpark, we are recommending a nonstructural solution of flood plain management.

b. U.S. Department of the Interior

Comment: Mineral production has been a factor in the area's economic development, but it is not discussed in the report or draft statement. The presence and availability of such resources should be added to the discussion of natural values.

Response: The environmental statement has been modified to discuss mineral resources in paragraph 21 through 25. The proposed project will have no impact on these resources.

Comment: The likelihood of oil or gas pipelines crossing the proposed channel should be considered.

Response: The location of any oil and gas pipelines crossing the proposed channel will be determined during detailed design of the project and provisions will be made for relocation. Relocation costs will be the responsibility of local interests.

Comment: Average annual cost of flood damage in Simi Valley-Moorpark area derived from figures on page 8 of the draft environmental statement is approximately $230,000, a sum significantly less than $723,000 cited on page 25 for Simi Valley reach and $1,873,000 mentioned on page 35 for Moorpark reach. This apparent discrepency should be corrected.

Response: The figures in the environmental statement on pages 8, 25, and 35 (now paragraphs 30, 65a(3), and 67a(3) are correct. The $230,000 figure you cited is an average of annual flood damages that have occurred over the past 10 years. The average annual damages are relatively low because the floods that have occurred in the past 10 years were minor. In Simi Valley and Moorpark, these flows were contained within the existing channels. The figures cited on pages 25 and 35 are average annual damages based over a 100-year period in the future. They include recognition of major floods which would overtop the existing channel. There is high potential for major floods in the future due to the increasing urbanization of the drainage area, resulting in decreased percolation and increased runoff.

Comment: We suggest that the proposed equestrian, cycling, and hiking trails between Simi Valley and Moorpark should not be asphalt-covered since it would detract from the area's natural setting. Trails should follow the rights-of-way perimeter away from Calleguas Creek to avoid loss of riparian habitat.

Response: The proposed trails between Simi Valley and Moorpark will be either soil cement or hard-packed soil and will be located away from the stream community to avoid adverse impacts. The environmental statement has been modified to reflect the comment.

Comment: The statement should include a discussion of possible trail impact on wildlife.

Response: Paragraphs 62f and 64 of the draft statement have been modified to address this comment.

Comment: Calleguas Creek sections to be converted to rectangular-concrete channel would not be attractive or accessible to many wildlife species, thus reducing populations. This fact should be included in the adverse environmental impact discussion.

Response: By eliminating the edge effect of the stream communities there will be reduction of wildlife populations. The statement has been modified to make this point clearer.

Comment: The draft feasibility report says that flooding can damage existing riparian habitat. However, the degree of protection against flood-caused soil erosion provided by this vegetation should be acknowledged.

Response: The draft feasibility report and the environmental statement have been modified to reflect the above comment.

Comment: The statement does not provide substantive archeological data. We suggest an area survey be conducted by professional archeologists. The subsequent report should be attached as an appendix to the statement.

Response: In March 1970, letters were sent to the Archeological Survey, UCLA, and the National Park Service, informing them of the current developments in the Calleguas Creek study. Subsequent correspondence with the Archeological Survey indicated "the construction of earth-lined and concrete-lined channels will probably not affect any archeological sites." The only possible exception is a site "in a Conejo Creek section." The National Park Service replied that they would undertake the necessary "complete survey of the project area in order to include knowledge of archeological values in the report." The Corps had the survey done with the understanding that the entire project area would be assessed and probable sites surveyed. In actuality, only the Conejo Creek site was assessed and surveyed. Through the National Park Service, a systematic archeological reconnaissance will be conducted by professional archeologists in order for proper archeological impact assessment to be made. The report will be attached to postauthorization environmental statements for Calleguas Creek, Simi Valley to Moorpark. Because the possibility of uncovering significant sites affected by the project is not considered high and because any required modification to the project can be made in detailed design stages, the survey will be conducted after Congressional authorization.

c. State of California, California Regional Water Quality Control Board-Los Angeles Region

Comment: The effects of the recommended project on Mugu Lagoon, in terms of increased mass emission rates of significant constituents such as nutrients, biostimulants, suspended and settleable solids, etc., should be investigated and discussed in the environmental statement.

Response: The environmental statement section on downstream effects, paragraph 63g, has been modified to reflect the above comment.

Comment: The economic feasibility of extending the proposed flood control improvements of the Simi Valley reach to include protection for the Simi Valley County Sanitation District treatment facility should be investigated.

Response: The Simi Valley County Sanitation District treatment facility has been expanded under an Environmental Protection Agency grant which also required the facility to provide its own standard project flood protection. We believe the facility to be properly protected.

Comment: The effects, if any, of the proposed flood control improvements of the Moorpark reach on the potential flood hazard to the Moorpark County Sanitation District treatment facility should be investigated and mentioned in the environmental statement.

Response: The effects have been included in the sections discussing the downstream impacts. The State has proposed abandonment of the Moorpark plant to merge with the Camarillo facility.

d. State of California, Department of Transportation

Comment: Some of the exhibit plates do not show the proposed Route 118 Freeway location; those that do failed to show the most recent design in the vicinity of Moorpark College. The location for the trails between Princeton Avenue and College View Avenue is in conflict with the proposed freeway.

Response: The exhibit plates have been modified to show the proposed Route 118 Freeway location and the most recent design. The trails will be relocated, if necessary, when the proposed project is in the detailed design stage.

Comment: The existing Arroyo channel improvement between the college and the City of Simi Valley is briefly discussed; however, the report does not state whether this damaged channel is to be removed, repaired or left as is.

Response: The existing damaged channel will be left as is. The environmental statement has been revised to reflect this statement.

Comment: A statement of financial responsibilities (Appendix) shows that a large portion of the cost would have to be carried by local agencies, both initial and the continuing costs of operation and maintenance. However, the report does not state that the county has indicated a willingness to bear these costs.

Response: The feasibility report contains a copy of a resolution passed by the Board of Supervisors in January 1974, indicating their support of the project and their willingness to bear the costs.

Comment: The proposed fully lined portland-cement-concrete channel where the future Route 23 Freeway will cross the Arroyo may make it possible to shorten the freeway crossing structure, which is presently planned to span the full flood plain. Coordination between the State and the Corps of Engineers in the development of their respective proposals will enable a more definite assessment of this possibility.

Response: We have coordinated with the Department of Transportation and will do so as the study continues.

e. State of California, The Resources Agency

Comment: The project benefits and costs as presented in the report appear reasonable. Upon the State's authorization of this project, a portion of the right-of-way and relocation costs required for flood control purposes will be eligible for state reimbursement. In addition, 50 percent of the non-Federal capital costs of the recreation and fish and wildlife enhancement features of the project will be reimbursed by the State where such payments have been specifically authorized by the Legislature.

Comment: We understand that, in the final report, the project will be reevaluated based on the higher interest rate of 6-7/8 percent per annum. We are withholding further comments on economic justification and state participation until review of the final report.

Response: The final report will be reevaluated on the interest rate established by Congress in the Water Resource Development Act of 1974. Under the criterion of that act, the report now uses an interest rate of 5-5/8 percent per annum.

Comment: Page 4, Item 9b. It is indicated that the recommended trails between Simi Valley and Moorpark are anticipated to be adjacent to the existing stream bottom. Because of the valuable riparian habitat type in this reach of the project, the trails should be constructed in such a manner that the value of the habitat will not be diminished.

Response: We agree. The trails will be located away from the riparian habitat. The environmental statement has been modified to reflect this comment.

Comment: Page 13, Item 38b (now item 43b). We recommend deletion of the phrase ". . . and is the most valuable freshwater wetland in the entire area.", because we believe the statement to be inaccurate and tends to be misleading.

Response: The statement has been revised to delete the phrase.

Comment: State Route 118 Freeway (Ven-118) will also affect Calleguas Creek in the project reach. Some of the plates, maps, and references do not reflect the State and county freeway plans in this area.

Response: The plates have been revised to reflect the State and county freeway plans.

Comment: The statement should include a discussion of the freeway plans in the area.

Response: The discussion on transportation has been expanded to include the freeway plans in the area.

Comment: In accordance with the National Environmental Policy Act, a statement should be included indicating that the project is in conformance with the Master Plans and General Plans of agencies affected.

Response: The statement has been modified to indicate that the project is in conformance with the Master Plans and General Plans of agencies affected.

Comment: The statement should take cognizance of the project's impact on biological communities in the reach between Simi Valley and Moorpark. Perhaps more recent photographs should be included in the statement to indicate the lush vegetation that has developed in the area and this condition reflected in plates 5, 6, and 7.

Response: The only impact on the biological communities between Simi Valley and Moorpark would result from recreation trails and use of these trails. The environmental statement has been modified to reflect the impact of recreation on the biological communities. The photos were taken in the spring of 1973. Presence of bush riparian growth is dependent on the amount of waterflows in the streambed. Larger flows remove growth. Plates 5, 6, and 7 do reflect the riparian community in relation to the map topics.

Comment: The proposed project will result in minor alteration of the Creek in the Simi Valley to Moorpark reach. However, development of a park adjacent to the channelization project would increase human activities by reason of hiking, bicycle and equestrian trails. These activities would have an effect on flora and fauna of the area. The accumulative impact of the flood control project and the freeway project should be noted in the statement.

Response: The environmental statement has been revised to address the above comment.

Comment: It is stated that the existing Arroyo Channel improvement between the Moorpark College and the City of Simi Valley is damaged and is no longer functioning as designed. The statement should indicate whether this damaged channel is to be removed, repaired or left in its present condition.

Response: The environmental statement has been revised to state that the damaged channel will be left in its present condition.

Comment: The population projections for this report were based on Department of Finance D-150 series of September 1971. We consider this projection to be high for California, particularly for Ventura County.

Response: The environmental statement population projections have since been revised to conform to the State Department of Finance Series D-100, 1973, population projections.

f. Southern California Association of Governments

Comment: In accordance with OMB Circular A-95, notification of the Draft Environmental Statement in the above matter was placed on our Clearinghouse Listing and distributed to all of the Cities and Counties in the SCAG region. We have not received any comments on your proposed project in response to this area wide notification.

Comment: The project is basically in keeping with our Development Guide environmental quality policy. In particular, we wish to express our support for the use of flood plain management in the 4.4 mile reach between Simi Valley and Moorpark. The preservation of its open space character with rich riparian growth, coupled with the development of non-intrusive recreational improvements is commendable.

Comment: D/E 2a, the present SCAG adopted forecast, calls for a population of 140,815 in the Moorpark-Simi Regional Statistical Area (RSA 4) in 1990. By comparison SCAG 90, the previously adopted forecast based on DOF Series D, called for a 1990 population in RSA 4 of 162,443. Work currently in progress indicates that future projections will be even lower. This trend may mean that the amount of land needed for the project can be reduced accordingly while still providing the necessary protection.

Response: Population projections have been updated as suggested. We have coordinated with the Ventura County Planning Department in the determination of population allocations in the Moorpark-Simi Valley area.

Comment: Close planning and coordination is needed with the California State Department of Transportation regarding the completion of the proposed Simi Valley Freeway (SR 118). It is hoped that it will be possible to preserve flood plain management in this reach without subjecting any future sections of SR 118 to flood conditions.

Response: This study has been coordinated with the California Department of Transportation. Their letter of comment is attached in Appendix A. The proposed State Route 118 will be contiguous with a portion of Calleguas Creek; the Corps has been advised that flood protection for the roadway is an integral design feature of the highway plan.

Comment: We suggest considering an earth-bottom channel for the entire 4.4 miles of the Moorpark reach. If an earth-bottom channel is not feasible for the 1.6 mile section of the reach currently scheduled to be concrete based, reasons (and documentation) for this decision would be helpful.

Response: This information has been added to the section discussing alternative plans for the Moorpark reach.

Comment: Although the environmental statement states that this project will have no impact on downstream areas, we are still concerned about the effects the overall project will have downstream and, particularly, on Mugu Lagoon. Any future project submittals will be closely studied to insure the protection of the ecological balance of these natural resources.

Response: The environmental statement section covering downstream impacts has been expanded.

g. County of Ventura, Department of Public Works

Comment: The document represents an impressive and well thought out study.

Comment: The project is basically compatible with the Moorpark Area General Plan and the Ventura County Open Space Plan.

Comment: The riding and hiking trails proposed are compatible with the adopted 1968 County General Plan of Riding and Hiking Trails now in use.

Comment: The circulation element of the County General Plan will not be affected by the channel improvements. Construction of the proposed facilities will, however, release land for development purposes, thereby ultimately generating an increase in traffic in the urban growth areas protected by the project.

Response: This has been noted in the environmental statement.

Comment: The Flood Control District policy permits utilization of channel rights-of-way for recreation purposes, with appropriate safeguards as to District liability, by others.

Comment: The population projections for Moorpark are based on the State of California, Department of Finances' D-150 series projection. The State has tentatively scheduled release of new population projections which will probably fall between the current D-150 and E-0 population projections. Revision of the population projections could possibly reduce the projected population of the Moorpark area from the 2020 population of 85,000 indicated to about 53,000. Suggest an updated contact by the Corps with the State Department of Finance to precise these projections.

Response: The Corps has updated the population projections based on Department of Finance Series D-100, 1973, projections. (Subsequent to the issuance of the above comment, the State has released new projections which are lower than the figures quoted above.)

Comment: Discussion of the effects of channelization in Moorpark and Simi, and the project's effect on downstream areas (Mugu Lagoon included) is generally limited to the effect of channelization on peak stormflows. No indication has been given to consideration of downstream effects of possible increased volume of flow or to additional nuisance water conveyed by the concrete channel through the Simi Valley and at the upstream bend in Moorpark. Perhaps the discussion should be enlarged to include these subjects.

Response: The environmental statement was expanded to include these items.

Comment: The format and content of the draft environmental statement does not appear to be in conformance with that required by the laws of the State of California. It is

suggested that coordination between the State and the Federal Government occur to insure compliance with State as well as Federal requirements.

Response: The environmental statement must comply with the National Environmental Policy Act and be in the format of governing regulations. This statement contains growth inducement and mitigation aspects, but not in identified sections. In the past, Ventura County has submitted to the State a supplement to the environmental statement consolidating discussion of these two points.

Comment: The environmental statement is written for the Simi-Moorpark reach, yet some areas of the statement concern the total watershed rather than just the portion under discussion. Paragraph 22, page 8, is an example. Prime agricultural lands represent a very small portion (not 52-1/2 percent) of the subwatershed. Possibly, expansion of portions of the statement to recognize the subwatershed is in order.

Response: In paragraph 22 (now 27), 52.5 percent of the Calleguas Creek basin is classed as suitable for cultivation. Actual agricultural land-use acreages in the study area are given in the land use subparagraphs.

Comment: It is suggested that the increase in automotive emissions resulting from development of the presently undeveloped lands protected by the project will have somewhat more than an "insignificant" effect on air quality. An approach recommending accepting the possible deterioration of air quality as a tradeoff warranted by the many favorable aspects of the program would seem more acceptable.

Response: Previous air quality impacts, based on a maximum 2,500 population increase, were deemed small. Subsequent revisions to land use projections have reduced maximum population increase by more than one-half (800 to 1,000) the impact is considered insignificant and does not warrant a trade off.

Comment: Plate 4 identifies prime agricultural land within Ventura County. For clarification purposes, the area shown on this plate is the Agricultural Element of the Ventura County General Plan as adopted by the Board of Supervisors.

Response: The plate has been noted as suggested.

h. The following governmental agencies reviewed the draft environmental statement and had no adverse comments to make or changes to suggest:

U.S Department of Agriculture
Soil Conservation Service
U.S. Department of Housing and Urban Development
U.S. Department of Interior
Bureau of Indian Affairs
Bureau of Mines
Bureau of Reclamation
U.S. Department of Transportation
Environmental Protection Agency
Federal Power Commission

77. The draft environmental statement was also sent to the following agencies requesting their comments and no replies have been received to date:

U.S. Department of Commerce
Advisory Council on Historic Preservation
Regional County Sanitation District
Cultural Heritage Board
City of Simi Valley
Simi Valley Recreation and Parks District
Sinaloa Mutual Water Company
Southern California Water Company
Southern Pacific Transportation Company

78. CITIZEN GROUPS. The draft environmental statement was sent to citizen groups known to have an interest in the proposed project. The comments of responding groups are summarized in the following subparagraphs, and their letters of comment are included in Appendix A.

a. Archeological Survey, University of California, Los Angeles

Comment: Page 16, item 51 (now item 55) states that the UCLA Archeological Survey conducted an archeological reconnaissance of the project area. This is not true; the Archeological Survey conducted an archeological reconnaissance of the Camarillo Dam only. An adequate survey for archeological sites must be done within the project area. In addition, surveys should be made in a sample of the areas adjacent to the project so that indirect impacts may be discussed.

Response: As stated in response to a comment from the Department of Interior, the correspondence with the National Park Service led the Corps to believe the entire project area was surveyed. The Corps was later notified that this was not the case. As discussed in paragraphs 55 and 62n an archeological reconnaissance of the project area and adjacent areas will be made during the detailed design studies subsequent to authorization.

Comment: The proposed site for Tierra Rejada Park is located directly on top of an important village site.

Response: The above comment was discussed with Nelson Leonard, III, of the Archeological Survey on December 6, 1973. It was agreed that the Tierra Rejada Park was not on or close to an important site. We will continue coordination during detailed design and construction stages to assure maximum protection to sites.

b. Environmental Coalition

Comment: The recreational concepts of the plan selected for the reach between Simi Valley and Moorpark are commendable. We hope they will be implemented whether or not the Corps project is ultimately constructed as contemplated.

Response: If the Corps flood control project were not to be constructed, there would be no Federal participation in the implementation of the recreational concepts. Some of the recreation proposals could still be accomplished by local interests; however, it is doubtful that the local program would be comparable to the recommended program. For example, the linear park proposal for Simi Valley could not be constructed without the protection afforded by the recommended plan; confining floodflows permits recreational use of lands now required for floodflows. The proposed linear park is designed to serve and enhance the larger park facilities with connecting trails and will provide a desirable environment for riding, hiking, and other activities. The extent of the other facilities that could actually be accomplished by local interests would also be limited by budgetary considerations.

Comment: We cannot accept at this time the selected alternatives for the Simi Valley reach nor the Moorpark reach as being the only conceivable alternative for providing flood protection to these areas. Basic to this conclusion is the very definition of the standard project flood. In no other realm of public expenditureare are capital expenditures made to prevent a public hazard with a 230 year or 400 year frequency of occurrence. As in all other areas of public policy some alternatives to convey flows less than the maximum conceivable should have been considered.

Response: It is the policy of the Corps of Engineers to optimize the design of flood control works to obtain the maximum net benefit. To determine the point at which the maximum net benefit occurs, it is necessary to study a number of alternative plans covering a wide range of design discharges. Study of the flood control needs for Simi Valley to Moorpark involved development of alternative plans to control the Ventura County 50-year flood, the 100-year flood, and the standard project flood. In some cases, particularly in Simi Valley, numerous methods for controlling each of the three floods were studied. For each of the alternative plans, the corresponding costs and benefits were calculated and compared. For a specific plan, the benefits which were in excess of the costs were computed as the net benefit. For both Simi Valley and Moorpark, the alternative which generates the greatest net benefit is the standard project flood control alternative.

Comment: Alternatives combining selective relocation, flood insurance, flood plain purchase, and minimal structural solutions were apparently not considered nor carried out through a benefit-cost analysis.

Response: Relocation was not considered feasible for either Simi Valley or Moorpark. Existing urban development occupies 480 acres of flood plain land in Simi Valley and 330 acres of flood plain land in Moorpark. Any alternative designed to provide an

acceptable level of protection would involve relocation of a significant portion of this urban development. Structural alternatives which required relocation of a small portion of the flood plain urban development, were rejected by the local community early in the study. The relocation of homes and purchase of additional rights-of-way was deemed unacceptable to the community. Flood insurance and floodproofing were considered as alternatives and are discussed in the environmental statement under the section "alternatives to the proposed project." Although a benefit-cost ratio was not initially performed on the flood proofing alternative, an economic analysis has now been prepared and the results are discussed in the environmental statement under the section "alternatives to the proposed project." Flood plain purchase was not considered practical for either Simi Valley or Moorpark. The overflow from flooding encompasses extensive areas of existing development. Designation of a floodway to safely convey floodflows would necessitate relocation of a significant number of homes. Because of lack of community support for any structural alternatives which called for relocation of homes, nonstructural alternatives which proposed significant relocations were considered unacceptable.

Comment: The so called "do nothing" alternative which consists of a 15,000 cubic feet per second channel to accommodate a 50 year frequency was summarily rejected without justification through cost-benefit analysis.

Response: The so called "no action" plan does not call for a 15,000 cubic feet per second channel to accommodate a 50-year flood. The "no action" plan reflects no additional program to alleviate the flood problem. The county would continue to manage the flood plain, as they are presently doing. Their program of flood plain management includes implementation of a $32 million bond program and regulation of new development – both measures designed to provide protection against the county's estimated 50-year flood. The present channels along Calleguas Creek in Simi Valley and Moorpark would probably remain as they are today. These channels are designed to convey flows of 3,500 cubic feet per second in Simi Valley and 4,000 cubic feet per second in Moorpark. Although flows greater than the design capacity have been contained within these channels, severe channel damage was experienced. In developing our estimate of the flood damage potential along Calleguas Creek, we fully recognize the county flood plain management program which continues under the "no action" plan. Hydrologic calculations are consistent with future development patterns expected to occur under the management program. Estimates of future flood damages under this alternative recognize the beneficial effects of a 100-year management program consistent with the Federal Insurance Administration and the Water Resource Council Guidelines. Therefore, our estimates of annual damages represent residential damages, expected to occur in spite of the management program. These damages are substantial, amounting to $1,000,000 in Simi Valley and $1,180,000 in Moorpark, on an annual basis.

Comment: The selected alternatives will be built to convey flows four to eight times greater than these largest historical flows. Such gross over capacity is not justified.

Response: The Calleguas Creek Basin lacks reliable records of flood history. The existing records cover relatively small flows and, particularly in Simi Valley, do not reflect the recent surge in urbanization. Although the design flood for the selected alternatives is an infrequent event, it is reasonable to expect that this storm might occur again with a centering over the Calleguas Creek Basin. Therefore, this storm is viewed as a reasonable upper limit for the design of flood control works, particularly in urban or potential urban areas such as Simi Valley or Moorpark. Frequency estimates were established through a regional frequency analysis. This analysis correlated data on runoff from the surrounding region, together with available data from the drainage basin specifically being considered. The resulting discharge frequency relationships for Calleguas Creek are felt to be more accurate than predictions based solely on the available insufficient flood history data.

Comment: While we do accept the proposition that the existing development should be protected, we do not adopt the view that presently undeveloped lands within the flood overflow areas will necessarily or inevitably be developed and thus justify a large project. The communities and the county have the necessary planning tools to direct urbanization away from these hazardous areas. That these controls have not been exercised in the past is an indictment of past land-use practices and policies and should serve as a lesson for the future. Here again alternative land-use patterns were not considered or recommended as a method of alleviating the flood hazard. Furthermore, it is the Corps contention that the absence of the project will promote urban sprawl and the urbanization of prime agricultural land. We do not accept that conclusion in light of the Alliance for the Ventura County Tomorrow Plan which demonstrated that there is ample acreage available in proximity to existing urbanization without developing on prime agricultural soils or in hazardous areas such as flood plains.

Response: The Corps of Engineers must base all studies on adopted land use plans. General Plans for both Simi Valley and Moorpark utilized some vacant flood plain lands because of their proximity to existing development and service facilities and as a means of maintaining surrounding areas of open space and agriculture. The Moorpark General Plan emphasizes development of an urban core, future development centralized with the existing flood plain development. Land use forecasts for this study were projected in light of development goals of the General Plan and fully recognized the county program of flood plain management controls and other criteria established by the National Flood Insurance Act. Should changes occur in their adopted General Plan, our study will be revised to incorporate the changes.

Comment: It was stated that the sources for population projections were the SCAG Series D projections for 1973 or in some cases State Department of Finance figures. Neither of these sources is as accurate or indicative of the actual and probable population trend.

Response: The State of California Department of Finance released new population projections for each county in February 1974. The Series D-100 projections have been used to revise the report data. Allocations are now consistent with recent adjustments made by the Ventura County Planning Department.

Comment: Air quality data and probable impact were not sufficiently analyzed in our opinion. Particular exception is taken to statement on page 22 of the draft EIS that "the resulting population increase after the project completion will not have a significant impact on air quality."

Response: The air quality section has been expanded to include the expected levels in pollutant emissions. This section had been formally and informally coordinated with the Ventura County Health Department and the Environmental Protection Agency.

Comment: Downstream effects are stated to be minimal. We are concerned that the higher peak discharges will in fact require the construction of downstream structures which might have otherwise been avoided.

Response: The peak discharge of the standard project flood at various locations downstream of the proposed project will increase about 7 percent as a result of the channelization. This increase will result in an insignificant change in the flood damage potential, and thus, will not be a contributing factor in the determination of the need for flood control work along the lower reaches of Calleguas Creek. For floods smaller than the standard project flood, the effect of the proposed project will be less pronounced. The statement has been expanded to include this data.

First inclosure to Environmental Coaliton letter

Comment: Ventura County Flood Control District appropriately developed a flood protection plan and set it before the voters in May of 1967. Both the county and the voters accepted the 50-year flood protection program to convey a 15,000 cfs flow through the area as reasonable. This figure seems appropriate in view of the fact that the largest flood of record is 6,330 cfs. What possible reason could there be to design for floods in the ranges of 26,000 cfs and 38,000 cfs in the Simi and Moorpark areas as proposed by the Corps of Engineers? Is it economically justified?

Response: The available flood history record for Calleguas Creek through Simi Valley and Moorpark is short and does not represent a sound, reliable base for projecting future flood frequencies. To compensate for the lack of record, a regional frequency analysis was performed as outlined in the appendix to the feasibility report. This analysis indicated the extreme likelihood of experiencing floodflows much greater than the historical record would indicate. The recommended plan, which indicates design discharges of 26,000 cubic feet per second for Simi Valley and 40,500 cubic feet per second for the Moorpark reach, is economically justified. The appendix to the feasibility report fully discusses the procedure for determining economic justification and presents the economic data and results of the calculations.

Comment: Where specific structural solutions were recommended a disproportionate number of alternatives were presented for the 100-year and standard project flood as opposed to those for a 50-year flood if any. Even in those cases, the Simi Valley reach and the Moorpark reach, the standard project flood was consistently chosen over the 100-year flood even though the cost-benefit ratios were identical. In both cases the standard project flood is much larger than the 100-year flood, in one case requiring a channel at least 20 feet wider than a comparable channel for a 100-year flood. The rational appears to be to spend more to get more.

Response: See the response to the second comment of the Environmental Coalition letter.

Comment: Why are there discrepancies between the cost-benefit ratios presented in the text of the feasibility study and the tables of the same report? Which set is correct?

Response: There are no discrepancies. The benefit-cost ratios presented in the tables of the feasibility report are for the individual plans. The additional benefit-cost ratios presented in the text are the ratios obtained from a comparison of the differences between benefits and costs for any two specific plans. Ratios obtained in this manner are incremental benefit-costs ratios that are utilized to demonstrate the economic advantages of one plan over another.

Comment: Another question which appears glaringly is why the Corps of Engineers feels it necessary to devote 3/4 of a page in their feasibility study to disclaimer the county estimate of what a 50-year flood is. Presumably there is not very much data on the area, so both the county and the Corps more than likely used the same sources. If this is so, then did the county engineers really miss by as much as 25 percent, or is the Corps just favoring their figure to favor a larger channel, by defining the county 50-year flow as a 71-year flow, thereby being 21 years closer to the alternatives they studied?

Response: The difference in the Corps and the county estimate of the 50-year flood is due to the different methodology used by each organization. The appendix to the feasibility report discusses the Corps method for computing flood frequency. The county method is based on procedures outlined in the Soil Conservation Service publication "Soil Conservation Service Hydrology Supplement A." Recognizing the limited flood history data available in the area, the difference in estimates is not considered substantial.

Comment: Why do statements like, "Impacts on the environmental elements as a result of the concrete channel sections are expected to be minimal" appear in the text without further substantiation.

. . . . .Words like "expected," "minimal," and "significant" have no place in reports on projects where millions of tax dollars are going to be spent, especially when there is reasonable doubt that a project of this size is needed to solve a small problem.

Response: The statement which you have quoted appears in the feasibility report under the "formulating a plan" section. It is an interpretive statement and represents Corps opinion based on the facts presented in the environmental statement. Subjective words or phrases are avoided as much as possible in the environmental statement. When subjective words or phrases are utilized it is generally done to indicate relative impacts.

Second inclosure to Environmental Coaliton letter

Comment: It is proposed to construct higher level intercept canals with drops that parallel, in effect, the present creek channel. Such intercept canals would be at suitable levels up against the hills. At acceptable locations, such as Tapo Canyon and a site about 1 mile east of the Moorpark Road where it crosses the Tierra Rejada Valley on the Arroyo Santa Rosa, reservoirs can be constructed to conserve floodwaters conveyed to such reservoirs by the use of the intercept canals.

Response: Intercept canals were not considered in this study due to cost and other considerations. Intercept canals could be developed to reduce the flood threat along Calleguas Creek; however, the canals would cause significant expenditures that would not be required if the canals were alined along the present creek. Intercept canals would require purchase of rights-of-way; the recommended project requires no purchase of rights-of-way. The canal system would probably require relocation of homes and construction of highway crossings; the recommended project requires no relocation of homes and minimizes highway crossing expense. The canal system would be more extensive, involving considerable excavation and other construction expense. The intercept canal system would also work against the present and proposed channels already constructed by the county or which have been proposed for construction under the Zone III bond program. The county channels would become grossly oversized after construction of the intercept canals as the canals would divert flows from the headworks of the county channels. The recommended project is designed to be compatible with the county channel program in recognition of the collection function of the channels.

Comment: Why not consider a diversion canal below Moorpark to the Santa Clara River?

Response: This alternative will be considered in a later report which will consider Calleguas Creek below Moorpark.

c. Robert Lopez, Moorpark College

Comment: There is no indication of who did the archeological reconnaissance and when or how it was done, nor mention of indirect impacts on archeological sites.

Response: An archeological reconnaissance has not been conducted in the study area, but such a survey will be made to properly assess the archeological potential in the area. The survey will be made after authorization and during the detailed design stages. The possibility of uncovering significant sites in the Simi Valley and Moorpark reaches that will be affected by the channels is considered low. A survey was conducted in the lower Conejo Creek drainage area by the Archeological Survey, UCLA, and not in the study area as believed. The indirect impacts, if any, on archeological sites will be assessed when the reconnaissance is completed. At present there are no indirect impacts on the known archeological sites. The archeological sites known to the Archeological Survey have been plotted on a map. These sites were rechecked by the Archeological Survey at a December 1973 meeting.

d. Larry C. Oglesby, Pomona College

Comment: I applaud the Corps for coming to the conclusion that flood plain management is the most feasible alternative for the Simi Valley-to-Moorpark reach of Calleguas Creek. It should be pointed out that the many arguments put forward in favor of flood plain management for this particular reach of this particular creek are just as valid for other portions of this and other streams here in Southern California. Thus, the statements in paragraphs 55j and 57j (now 61j and 63j) that building a concrete flood control channel relieves the mental anxiety of nearby residents about potential flood damage can be countered by the obvious response that people who do not like floods should not live in floodable areas.

Response: It has been only relatively recent that flood plain management has become a viable alternative for many streams in southern California. Previously, local interests encountered problems with flood plain management alternatives because of a lack of data on flood potential and a lack of necessary enforcement tools. As a result, many flood plain areas developed before the full extent of the flood hazard was known. Where development has not significantly encroached upon the flood plain, prevention of further unwise development is often the best solution. This is the case in the area between Simi Valley and Moorpark where flood plain management is recommended. However, in Simi Valley and in Moorpark, considerable development already exists in the flood plain. Unfortunately, when the development occurred, the people did not have the choice of liking floods or not liking floods; the flood hazard potential had not yet been identified. The extent of flooding was determined during the Calleguas Creek study, damage potential calculated, and alternative solutions were proposed to alleviate the flood problem. The optimum solution for both Simi Valley and Moorpark is a structural solution as it would best protect the extensive present and forecasted development that would occur under flood plain management critera.

Comment: Discussions of parks and recreational facilities are totally irrelevant to any economic justification of flood control projects. Parks, recreational facilities, and screening landscape plantings should not be put onto the benefit side of benefit-cost analysis.

Response: The Federal Water Project Recreation Act of 1965 strengthened the Corps involvement in recreational development by establishing recreation as a full project purpose. This act also specified that benefits for recreation should be included in the economics of a contemplated project, provided that non-Federal public entities agree to participate in the recreation development. Justification of the recreation proposals follows the same general rule as the justification of the flood control proposal. Both proposals must be evaluated on their own merits and both proposals must exhibit a benefit-to-cost ratio greater than one. The proposals are the result of a comprehensive study of the needs and desires of local interests and is intended to provide protection against flooding while emphasizing preservation and enhancement of the quality of the outdoor recreational potential created by the the water resource project. Without the proposed plan, local interests could not develop the linear park or the quality of the recreation program, especially in Simi Valley.

Comment: What will the increased number of vehicles resulting from this flood control project do to the already wretched air quality in this area?

Response: The air quality sections discuss the present state of conditions and impacts as a result of the project. These sections have been informally and formally coordinated with the Environmental Health Department, Ventura County and the Environmental Protection Agency. Both agencies concur in the evaluation of impacts contained in the statement.

Comment: The statement is deficient in the discussion of the downstream effects, such as increased downstream flows. The increases in volume and velocity of floodflows will have significant effects downstream.

Response: The environmental statement has been expanded to include additional material on the downstream effects. The actual increase in standard project flood peak discharge resulting from project construction, but not including the effect of future urbanization which would take place without the proposed project, will be about 7 percent. Lesser floods will result in a correspondingly smaller increase in peak discharge. Although the standard project flood will increase about 7 percent in peak discharge due to channelization, it will increase in volume only about 2 percent rather than the 17 percent stated in your letter. Downstream velocities will not increase significantly as the result of the upstream channelization. The proposed channels have been designed to release water into the downstream reaches at velocities which are no greater than those which would be experienced without channelization.

Comment: The increased velocity will result in increased erosion of the streambed. Such deleterious downstream consequences of upstream channelization are well documented in a research paper published in Science, vol. 173, pages 325-326, 23 July 1971, by J. W. Emerson.

Response: The research paper which you have referenced, published in Science presents a case study of channel work done in 1910 on the Blackwater River, a tributary to the Missouri River. A 33-mile reach of river, which had many meanders, was straightened by the dredging of a pilot channel about 30 feet wide and 12 feet deep, thereby reducing the length of the reach by 15 miles. The original stream gradient of 0.00167 feet per foot was increased 0.0031 feet per foot. The result of this action is that the pilot channel has continued to widen, causing problems with existing bridges, and the eroded materials deposited downstream. This phenomenom is well known by hydraulic engineers, but has no relation to the works proposed in the Simi Valley-Moorpark area as these works are specifically designed to preclude this possibility. The velocity of the floodflows will not increase due to channelization. Several other factors that would tend to cause an increase of sedimentation in the lower flood plain are outlined in your letter. But there are other factors that would tend to decrease this sedimentation. Sources of upstream sediment include streambed erosion, bank erosion, sheet erosion on the flood plain, gully erosion caused as the floodwaters enter the existing channels, plus hillside erosion. If constructed, the flood-control channels would preclude streambed and bank erosion and would reduce gully erosion through the improved reaches. The net result will not significantly increase downstream sedimentation.

Comment: Increased flood rates and volumes downstream from Moorpark will result, as surely as the sky is sometimes blue here in the Los Angeles Basin, in increased downstream flood damages, leading to increased demand for flood control works in the lower Calleguas Creek drainage, leading inevitably to the destruction of Mugu Lagoon.

Response: The need for flood control works in the downstream reaches of Calleguas Creek will be decided solely on the merits of those works. Upstream channelization will not be a contributing factor in the justification for downstream channels. Upstream channelization will increase peak discharges downstream, but this will be insignificant in terms of increased damages.

e. Sierra Club, Los Padres Chapter

Comment: Nowhere are the uncertainties in the assumptions and calculations and the impact of these uncertainties on the benefit-cost ratio discussed.

Response: The methods of calculating the benefit-cost ratio are the best means available and are discussed in the draft feasibility report appendix. It is true that there are certain assumptions and uncertainties inherent in the analysis, mainly because of the unpredictable frequency and consequences of floodflows. These uncertainties and assumptions are documented in the appendix. Every effort was made to use conservative evaluations. Data developed as a result of many storm analysis and flood damage surveys were applied in determining design and economic factors. The benefit-cost ratio for the recommended proposal is sufficiently high to warrant confidence in the conclusion of the study.

Comment: It would appear useful to describe the historical flood damage record for the area to be protected. The discharge-frequency curve should be shown and the uncertainty in extrapolation discussed.

Response: One of the unfortunate situations experienced in the Calleguas Creek Basin study was the lack of a reliable record of flood history. However, this situation is typical of most southern California streams, as in many cases it has only been a relatively short time since stream gages have been installed even on some of the major water courses. Even with a good flood history, it sometimes is not a reliable indicator of future flood frequency. Future urbanization, by reducing land available for percolation, contributes significantly to increased runoff and thereby increases flood frequency. To obtain more reliable predictions of flood frequency, it became necessary to extend the available historical records, fill in missing or verify unsure data, and account for future urbanization. To accomplish this, a regional frequency analysis was performed. This analysis correlated data on runoff from the surrounding region, together with available data from the drainage basin specifically being considered. The regional frequency analysis performed in the Calleguas Creek Basin utilized data from the Santa Clara River Basin. By obtaining all available discharge-frequency data and recognizing the main factors responsible for differences in runoff regimes between different locations, and accounting for future development in accordance with applicable general plans, it was possible to generate more reliable estimates of discharge-frequency values at ungaged locations in the Calleguas Creek Basin. The resulting discharge-frequency curves developed for Calleguas Creek are felt to be more accurate than predictions developed which only utilize the available, insufficient flood history data. More detailed information on the flood history, regional frequency analysis and computation, and discharge-frequency curves are available in the feasibility report.

Comment: The basis for the damage estimates should be given in more detail. How was the survey made, who made the survey, and what were their qualifications?

Response: The survey and calculations were made by the engineers and economists of the Los Angeles District, Corps of Engineers. Complete details on the methodology for determining damages are given in the appendix to the feasibility report.

Comment: The flood damage estimates should be contrasted with the historical record. Can the two be reconciled?

Response: Damage calculations were checked as much as possible by comparison with the historical record. The correlation was found to be good; however, it must be recognized that the historical record covers relatively small flows and does not reflect the damage potential from floods that would exceed the capacity of the existing channels.

Comment: The project cost is treated as though it were a known quantity with no uncertainty.

Response: Construction costs are based on the most recently available unit prices and reflect a 20 percent contingency item to anticipate unknown factors. Should the proposals in the Calleguas Creek report become authorized, detailed plans will be developed and construction costs will be reviewed to reflect the situation at that time.

Comment: Both the uncertainties in project benefits and costs should be translated to a benefit-cost ratio level so that the probable range of benefit-cost ratios is identified for the decision maker.

Response: The benefit-cost ratio for the proposals in this study is sufficiently high to warrant confidence in the study's recommendations. However, the B/C ratio is not the only factor analyzed to determine the desirability of a proposal. Social and environmental considerations and the needs and desires of the public are examined closely and weighed heavily in making the final recommendations.

Comment: Among the alternatives not considered is a flood protection scheme appropriate for a more frequent – perhaps 50-year flood.

Response: Many alternative flood control schemes were analyzed, including measures designed to control the Ventura County 50-year floodflow. The Ventura County 50-year flood was considered to be the lower limit for design of protective measures as this is the base flood for county regulatory procedures. One of the factors for recommending a proposal which offers protection against a flood significantly larger than the county 50-year flood is the optimization of net benefits. Net benefits are the differences between project annual costs and the annual benefits. When net benefits are maximized, the project scale is at the optimum level. In the case of Calleguas Creek, the project scale was expanded to include control against floods up to the standard project flood. When the costs and benefits of the various proposals were compared, it was found that the proposal offering standard project flood protection provided the greatest net benefit, and thus, is the economically optimum alternative. Environmental and social factors were also analyzed and the public was closely consulted before a recommendation was made to construct the standard project flood alternatives.

Comment: Several other alternatives are dismissed usually with no numerical justification. Relocation was not mentioned at all and floodproofing was asserted to be infeasible. Both these alternatives should be investigated to the point where a benefit-cost ratio can be calculated.

Response: Relocation was not considered feasible for either Simi Valley or Moorpark. Existing urban development occupies 480 acres of flood plain land in Simi Valley and 330 acres of flood plain land in Moorpark. Any alternative designed to provide an acceptable level of protection would involve relocation of a significant portion of this urban development. Structural alternatives which required relocation of a small portion of the

urban development were rejected by the local community early in the study. The relocation of homes and purchase of additional rights-of-way was deemed unacceptable to the community. Floodproofing has now been economically analyzed and the results of the analysis appear in the feasibility report and the environmental statement.

Comment: The flood insurance alternative should be examined in detail together with selective relocation and flood plain zoning as a unified flood damage prevention-compensation plan.

Response: The discussion on flood insurance has been expanded, and appears in the environmental statement under the alternative considered section.

Comment: Although it is asserted that the project will have no impact on the downstream channel and Mugu Lagoon, the basis for this assertion should be explained in more detail. Upstream channel modifications ordinarily affect the downstream channel — sometimes bringing about a requirement for "improvements."

Response: The paragraph on downstream impacts has been modified to reflect the above comment. The presently proposed work is not dependent upon nor contributory to further downstream channelization.

Comment: On page 20 it is noted that the Corps is recommending flood plain management for the reach between Simi Valley and Moorpark. It would be useful to have this recommendation and Ventura County's agreement thereto made part of the formal local government assurances.

Response: It will be made part of the formal local government assurances.

79. The draft environmental statement was also sent to the following groups requesting their comments and no replies have been received tc date:

California Conservation Council
Audubon Society
Equestrian Trails, Inc.
Friends of the Earth
League of Women Voters
The Nature Conservancy
Planning and Conservation League
Society for the Preservation of Birds of Prey
United Latin Americans
Ventura Marine Biology Institue

80. DEPARTMENTAL REVIEW. The revised draft environmental statement was sent to the following governmental departments and agencies for their review and comment. Comments received during the departmental review are summarized in the following subparagraphs and copies of the letters are included in Appendix B.

a. Environmental Protection Agency.

Comment: EPA's comments on the draft environmental statement have been classified as Category LO-2.

Response: The EPA classified its comments on the project as Category LO-1 during review of the draft environmental statement. It is assumed that EPA's present comments refer to the revised draft environmental statement. The change in classification to LO-2 is difficult to understand; the revised draft environmental statement is substantially identical to the draft environmental statement, except for incorporating response to commenting agencies and interests. No changes were made in the proposed project.

Comment: If wastewater derived from imported water were allowed to recharge the ground water basin, long-range improvement of the ground water could be anticipated. The potential for this recharge and ground water improvement without the project should be addressed in the final statement, as well as the impact of the project on the recharge capabilities of the Calleguas Creek from Simi Valley to Moorpark, taking into account the specific hydrology of each reach.

Response: If waste water from imported water were allowed to recharge the Simi ground water basin it could provide some long range improvement in the water quality; however, the improvement in quality would probably not be significant enough to affect the current usage of imported water. The additional water that would go into the ground would also contribute to the adversely high water table condition in the western part of the basin.

Comment: Some additional discussion of the irrigation needs for landscaping in the recreation areas and along the channel right-of-way would be helpful.

Response: The above mentioned data will be discussed in more detail in a subsequent environmental statement to be prepared during detailed project design stages.

Comment: What level of flood protection will this proposed project provide the Moorpark CSD? It should be noted that the county "Master Plan of Water Quality Control" (10/17/74) does not propose abandonment of this facility, as was indicated in the DEIS (page 47).

Response: The Moorpark County Sanitation District treatment plant facilities are currently subject to damage by floods of less than a 50-year frequency. The proposed project terminates upstream of these facilities and will offer them no flood protection. Subparagraph 63g has been modified to include a brief description of the sanitation district's ongoing study of alternative futures for this facility. The results of this study may affect all previous recommendations and plans made by the State and the county. The effect of the proposed project on this facility will be reexamined during detailed project design stages.

Comment: The statement notes (page 22) that there will be no impacts on downstream areas, the environment of Mugu Lagoon, or on supply of sediment to the littoral zone. Additional discussion, including data used to reach these conclusions, should appear in the final EIS.

Response: We feel that considerations involving Mugu Lagoon and sediment supply to the littoral zone were evaluated in sufficient detail in subparagraph 63g. As that subparagraph explains, the proposed project results in a virtually "status quo" condition downstream from the Moorpark area and will have no significant impact on downstream areas.

Comment: We would like to see some additional discussion of the need for 200-400 year occurrence flood protection being provided. It appears that this protection will provide for flows 4 to 8 times greater than the largest historical flows recorded.

Response: A response is contained in subparagraph 78b of the revised draft environmental statement in reply to a similar comment.

Comment: The discussion of air quality should be updated and revised to include consideration of the air quality maintenance planning process on-going in the South Coast Air Basin. The description of the air quality problem should be located within the text of the document itself. The Table detailing the numbers and severity of the violations of the National Ambient Air Quality Standards should be supplemented by a brief discussion of the health basis supporting the standard. The discussion should identify the major local sources of air pollution (mobile and stationary) and the relative importance of each in contributing to these violations.

Response: The sections of this statement regarding air quality will be reexamined and updated in a subsequent environmental statement to be prepared during detailed project design stages.

b. Office of the Secretary, U.S. Department of the Interior

Comment: Based on the guidance set forth in Title 36 CFR 800 we believe it is inappropriate to wait until post-authorization studies to conduct an archeological survey of the project area. The entire project area should be intensively surveyed as soon as possible by a professional archeologist.

Response: A cultural resource reconnaissance of the project area was conducted by the Institute of Archaeology at UCLA in May 1976. The sections regarding archeological, historical, and cultural resources have been modified to reflect the results of this study.

Comment: It is unclear what "the standard procedure of reporting" entails for unknown archeological sites which are uncovered by the survey or during construction.

Response: The phrase refers to the standard language contained in Corps' construction contracts to cover situations in which construction activities unexpectedly disclose a cultural resource site. Corps' construction contracts contain special provisions on procedures the contractor must follow in such an event.

Comment: The final statement should contain a detailed description of what mitigation measures will be taken should a significant site be discovered by survey or during construction.

Response: The level of detail required for a general investigation is not commensurate with the formulation of mitigation proposals. Additional cultural resource studies will be conducted during detailed project design stages. Mitigation measures, if required, will be described in a subsequent environmental statement prepared at that time.

c. County of Ventura, Public Works Agency

Comment: Page 10, Item 35 - Also include urban runoff as a source of surface water degradation.

Response: Paragraph 35 has been expanded to contain this information.

Comment: Page 10, Item 36 - Ground water beneath and adjacent to Arroyo Simi in the Moorpark area is of poor quality with an average TDS of about 1,850 mg/l. Historic records indicate poor quality during earliest records in the 1920's. The poor quality of ground water is believed to be caused primarily by naturally poor quality runoff and lateral migration of connate water from adjacent formations.

Response: The above mentioned data are discussed in paragraph 35.

Comment: Page 17, Item c - We find it difficult to believe that none of the Simi basin ground water is used for beneficial use. This statement should be verified.

Response: This subparagraph has been modified to identify the limited uses of basin ground water.

Comment: Page 17, Item d - Water Quality - First sentence should be substantiated by facts.

Response: A more detailed study of the hydrology and water quality of the basin will be made during detailed project design stages.

Comment: Page 23, Item g and Page 47, last response - It is understood that the California Regional Water Quality Control Board recommends abandonment of the treatment plant. The Moorpark County Sanitation District has recently been provided with a Step 1 grant for the purpose of reviewing various alternatives relating to this facility. The alternatives include continuing in existence with flood protection and abandonment with various pipeline proposals to deliver the sewage to other locations. After completion of this stucy, the California Regional Water Quality Control Board may change its recommendation.

Response: Subparagraph 63g has been modified to include this information regarding the sanitation district's study. The results of this study and the California Regional Water Quality Control Board's recommendations will be reevaluated during detailed project design stages.

Comment: Page 22, Item c - Subsurface Flows - This office agrees with the comment relative to the earth-bottom channel section. The statement should be expanded to *recognize the proposed 1.6 miles of rectangular concrete section.*

Response: Subparagraph 63c has been modified to indicate the effect of 1.6 miles of rectangular concrete channel.

Comment: The Draft EIS for the Calleguas Creek project should be reviewed, giving consideration to the Santa Paula Creek case, in an effort to insure that the project will proceed with as little possibility as possible for litigation on similar grounds.

Response: This environmental statement complies with the laws and regulations now in effect and is of appropriate scope for pre-authorization requirements. A subsequent detailed environmental statement will be prepared during detailed project design stages and prior to construction of the project.

d. Simi Valley Recreation and Park District

Comment: The inclusion of a developed 35-acre community park at Erringer Road and the Arroyo Simi would be appropriate to include in expanding the linear park concept. An additional one acre park site similar to the Frontier Park design should be designated east of First Street on the south side of the Arroyo. The Tierra Rejada Park Site has been expanded to the west and presently totals 113 acres rather than the 47 previously shown in the plan.

Response: The recreation element of the proposed project will be restudied during detailed project design stages following project authorization At this time Simi Valley's recreation demands and needs will be reassessed, and, if possible, the Recreation and Park District's plans will be incorporated into the final project design.

Comment: The Bureau of Water Reclamation is currently studying related projects in the area and coordination with this agency should be explored and addressed.

Response: Coordination with this agency will be continued throughout the planning process.

Comment: Local Simi Valley Sanitation District revised plans in the vicinity of the plant at the west end of the Valley should be reviewed for inclusion in the project.

Response: These plans will be reviewed during detailed project design stages.

Comment: References to elimination of further consideration of the Las Llajas Reservoir are extremely premature. Careful and extensive study of the feasibility of this site and the alternate Tapo Canyon Reservoir should be made as a primary part of this project.

Response: Consideration was given to provide flood control dams at Tapo and Las Llajas Canyons. Inasmuch as flood control benefits, at this time, could not support the cost of the two dams, no further studies were made to incorporate recreation features at these two reservoirs. However, the Bureau of Reclamation is considering the development of multipurpose reservoirs for recreation, water supply and flood control at Tapo and Las Llajas Canyons as part of their Water Management Project for Ventura County. The Corps is coordinating with this agency in their planning process.

e. The Resources Agency of California

Comment: The review was coordinated with the Departments of Navigation and Ocean Development, Flood and Agriculture, Transportation, Health, Conservation, Fish and Game, Parks and Recreation, and Water Resources; the State Water Resources Control Board; the Air Resources Board; the Solid Waste Management Board; the Energy Commission; and the California Coastal Zone Conservation Commission. We have no comment to offer on this project.

f. United States Coast Guard, U.S. Department of Transportation.

Comment: We have no comments to offer nor do we have any objection to this project.

g. Advisory Council on Historic Preservation

Comment: The Advisory Council has determined that the RDES appears adequate concerning compliance with Section 106 of the National Historic Preservation Act of 1966.

Furthermore, with respect to compliance with Executive Order 11593, "Protection and Enhancement of the Cultural Environment" issued May 13, 1971, the Council notes that the Corps of Engineers will arrange for intensive cultural surveys of the project area following Congressional authorization of the proposed project.

h. California Regional Water Quality Control Board, Los Angeles Region

Comment: We have reviewed the subject Notice of Intent and accompanying documents. The revised draft of the EIS contains an adequate response to the comments contained in our letter of October 31, 1973. We believe that the implementation of the proposed development will have no significant adverse impact on water quality in the Calleguas Creek area.

i. U.S. Department of Health, Education, and Welfare

Comment: The proposal will be slightly growth inducing which may require an increased level of services than those already provided. Assurance should be provided that State and local agencies can handle the increased demands.

Response: The growth which may be induced by the proposed project is in conformance with local land-use plans and hence an increased level of services has already been planned. These assurances will be discussed in more detail, however, in a subsequent environmental statement to be prepared during detailed project design stages.

j. U.S. Department of Agriculture

Comment: We have reviewed the above documents and find no conflict with any of our ongoing or planned programs or projects.

Comment: We believe the environmental statement can be improved if the following changes are made:

1. It is stated that agricultural land will be decreased by 120 acres. The statement should describe the adverse social, environmental, and economic impacts of this decrease.

2. Include an account of the amount of excavated materials and its disposition.

Response: The above mentioned data will be discussed in detail in a subsequent environmental statement to be prepared during detailed project design stages.

C

TABLES

TABLE 1

Water Quality in Vicinity of Sewage Treatment Plant

in the Reach from Simi Valley to Moorpark

Most Determinations are Made in mg/1

	Ground Water*	Effluent**	50 Feet Upstream ***	1,320 Feet Downstream ***	Municipal Water Supply
Specific conductance	1,283	975	–	–	580
pH	7.8	6.8	7.0	7.0	8.3
Chloride	120	127	–	–	56
Hardness, as CaCO	300	199	–	–	173
Boron	.08	.01	–	–	.04
Sodium	210	130	–	–	51
Fluoride	1.01	.9	–	–	.4
T.D.S.	1,122	341	3,456	976	341
Odor	none	–	none	none	–
Color	8	–	clear	clear	1

* Determinations are made on wells in the western part of the Simi Basin which is in the area of the treatment plant.

** Determinations were made at the point of discharge.

*** Determinations were made upstream of sewage plant as well as downstream.

– information not available.

Source: 'Groundwater Study of East and West Basin Areas, City of Simi Valley, Ventura County, California", November 1972, by F. Beach Leighton & Associates, and Ventura County Environmental Health Department.

TABLE 2

Calleguas Creek Basin Air Quality

	Pollutants Sampled	Year	Days Exceeding Standards Federal	Days Exceeding Standards State	Percent of Sampling
CAMARILLO					
	Oxidant				
	(Aug - Dec)	1969	82		70
		1970	162		49
		1971	100		34
	(Jan – Nov)	1972	93		28
		1973	153		47
	Suspended particulates				
		1971		14	45
		1972		16	24
	(Jan – Oct)	1973		21	21
	Nitrogen Dioxide				
		1969-1972	0		0
THOUSAND OAKS					
	Oxidant	1965-1966	128		50
	(EPA data)	1972	–		43
	(May – Oct)	1973	–		71
	Suspended particulates				
		1965-1966		6	23
	(U.C. Riverside data)	1971		–	43
	(May – Oct)	1973		15	54
SIMI VALLEY					
	Oxidant				
	(Jan – Nov)	1973	177		57
	Suspended particulates				
	(Jan – Oct)			23	47

– Information not available.

This information was obtained from the Environmental Health Department, Ventura County.

TABLE 3

COMPARISON OF FEDERAL AND CALIFORNIA AIR QUALITY STANDARDS

Pollutant	Average Time	Standards		
		Federal		California
		Primary	Secondary	
SO_2	Annual	0.03 ppm	0.02 ppm	-
	24 hrs.	0.14 ppm	0.10 ppm	0.04 ppm
	3 hrs.	-	0.50 ppm	-
	1 hr.	-	-	0.50 ppm
Particulates	Annual	75 $\mu g/m^3$	60 $\mu g/m^3$	60 $\mu g/m^3$
	24 hrs.	260 $\mu g/m^3$	150 $\mu g/m^3$	100 $\mu g/m^3$
CO	12 hrs.	-	-	10 ppm
	8 hrs.	9 ppm	9 ppm	-
	1 hr.	35 ppm	35 ppm	40 ppm
Oxidant	1 hr.	0.08 ppm	0.08 ppm	0.10 ppm
NO_2	Annual	0.05 ppm	0.05 ppm	-
	1 hr.	-	-	0.25 ppm
HC (Less CH_4)	6-9 a.m.	0.24 ppm	0.24 ppm	-

"No standard" is indicated by (-)

TABLE 4

COMMON SPECIES IN PLANT COMMUNITIES IN THE CALLEGUAS CREEK STUDY AREA

Common Name	Scientific Name
OAK SAVANNA AND GRASSLAND	
Coastal live oak	*Quercus agrifolia*
Valley oak	*Quercus lobata*
California walnut	*Juglans californica*
Lemonade sumac	*Rhus integrifolia*
Sugar sumac	*Rhus ovata*
Toyon	*Heteromeles arbutifolia*
Coyote brush	*Baccharis pilularis*
Wild oat	*Avena fatua*
Foxtail brome	*Bromus rubens*
Soft cheat	*Bromus mollis*
Six-weeks fescue	*Festuca octoflora*
Ceanothus	*Ceanothus* spp.
COASTAL SAGE SCRUB	
California sagebrush	*Artemisia californica*
Buckwheat brush	*Eriogonum fasciculatum*
Purple sage	*Salvia leucophylla*
California encelia	*Encelia californica*
Black sage	*Salvia mellifera*
Eriophyllum	*Eriophyllum* sp.
Prickly-pear	*Opuntia* spp.
Nolina	*Nolina* sp.
Horkelia	*Horkelia cuneata*
Yerba Santa	*Eriodictyon* sp.

TABLE 4 (Continued)

RIPARIAN

Common Name	Scientific Name
Cattail	*Typha domingensis*
Three-square bulrush	*Scirpus Olneyi*
Giant reed	*Arundo donax*
Arroyo willow	*Salix lasiolepis*
Fremont cotton[illegible]od	*Populus Fremontii*
Mule fat	*Baccharis viminea*
Tree tobacco	*Nicotiana glauca*
Russian thistle	*Salsola pestifers*
Cocklebur	*Xanthium strumarium*
Gourd (calabazilla)	*Cucurbita foetidissima*
Western sycamore	*Platanus racemosa*
Pigweeds	*Chenopodium* spp. & *Amaranthus* spp.
Red willow	*Salix laevigata*
Sandbar willow	*Salix hindsiana*
White alder	*Alnus rhombifolia*
Creek nettle	*Urtica hologericea*
Water cress	*Nasturtium officinale*
White sweet clover	*Melilotus alba*
Western ragweed	*Ambrosia psilostachya*
Brome grass	*Bromus* spp.
Black medic	*Medicago lupulina*
Clover	*Trifolium* spp.
Sages	*Salvia* spp.
Horseweed	*Erigeron canadensis*
Eucalyptus	*Eucalyptus* spp.
California buckwheat	*Eriogonum fasciculatum*
Castor bean	*Ricinus communis*
Mustard	*Brassica campestris*
Jimson weed	*Datura meteloides*
Cheeseweed	*Malva parviflora*
Smartweed	*Polygonum* spp.
Bermuda grass	*Cynodon dactylon*

TABLE 5

COMMON WILDLIFE SPECIES FOUND IN THE CALLEGUAS CREEK STUDY AREA

Common Name	Scientific Name
FISH	
Mosquito fish	*Gambusia affinis*
AMPHIBIANS	
California newt	*Taricha granulosa*
California slender salamander	*Batrachoseps attenuatus*
Arboreal salamander	*Aneides lugubris*
Eschscholtz's salamander	*Ensatina eschscholtzi*
Western toad	*Bufo boreas*
Southwestern toad	*B. microscaphus*
Pacific treefrog	*Hyla regilla*
Red-legged frog	*Rana aurora*
REPTILES	
Western skink	*Eumeces skiltonianus*
Coast horned lizard	*Phrynosoma coronatum*
*Side-blotched lizard	*Uta stansburiana*
*Western fence lizard	*Sceloporus occidentalis*
Sagebrush lizard	*S. graciosus*
Foothill alligator lizard	*Gerrhonotus multicarinatus*
*Western whiptail	*Cnemidophorus tigris*
Racer	*Coluber constrictor*
Western ring-necked snake	*Diadophis punctatus amabilis*
California mountain king snake	*Lampropeltis zonata*
Common king snake	*L. getulus*
Common whipsnake	*Masticophis flagellum*
California striped whipsnake	*M. lateralis*
Gopher snake	*Pituaphis melanoleucus catenifer*
Garter snakes	*Thamnophis* spp.
Western rattlesnake	*Crotalus viridus*

*Indicates those species actually observed, primarily in the riparian habitat.

TABLE 5 (Continued)

Common Name	Scientific Name
BIRDS	
*Common Egret	*Casmerodius albus*
*Snowy egret	*Leucophoyx thula*
Turkey vulture	*Cathartes aura*
*White-tailed kite	*Elanus leucurus*
*Sparrow Hawk	*Falco sparverius*
*Red-tailed hawk	*Buteo jamaicensis*
Sharp-shinned hawk	*Accipiter striatus*
California quail	*Lophortyx californicus*
Mountain quail	*Oreortyx pictus*
Band-tailed pigeon	*Columba fasciata*
*Mourning dove	*Zenaidura macroura*
Roadrunner	*Geococcyx californianus*
Great horned owl	*Bubo virginianus*
Screech owl	*Otus asio*
Short-eared owl	*Asio flammeus*
Poor-will	*Phalaenoptilus nuttallii*
*Calliope hummingbird	*Stellula calliope*
*Anna's hummingbird	*Calypte anna*
*Red-shafted flicker	*Colaptes cafer*
*Acorn woodpecker and several other woodpecker species	*Melanerpes formicivorus*
*Western kingbird	*Tyrannus verticalis*
*Black phoebe	*Sayornis nigricans*
*Traill's flycatcher	*Empidonax traillii*
*Western wood peewee	*Contopus sordidulus*
Violet-green swallow	*Tachycineta thalassina*
*Cliff swallow	*Petrochelidon pyrrhonota*
*Scrub jay	*Aphelocoma coerulescens*
*Crow	*Corvus brachyrhynchos*
Bushtit	*Psaltriparus minimus*
Wrentit	*Chamaea fasciata*
White-breasted nuthatch	*Sitta carolinensis*
House wren	*Troglodytes aedon*
Bewick's wren	*Thryomanes bewickii*
*Long-billed marsh wren	*Telmatodytes palustris*
*Mockingbird	*Mimus polyglottos*
California thrasher	*Toxostoma redivivum*
Western bluebird	*Sialia mexicana*

*Indicates those species actually observed, primarily in the riparian habitat.

TABLE 5 (Continued)

Common Name	Scientific Name
BIRDS (Cont'd)	
Blue-gray gnatcatcher	*Polioptila caerulea*
*Ruby-crowned kinglet	*Regulus calendula*
*Loggerhead shrike	*Lanius ludovicianus*
*Starling	*Sturnus vulgaris*
*Vireos	*Vireo* spp.
Orange-crowned warbler	*Vermivora celata*
*Audubon's warbler	*Dendroica auduboni*
Black-throated gray warbler	*Dendroica nigrescens*
*Yellowthroat	*Geothlypis trichas*
*House sparrow	*Passer domesticus*
*Western meadowlark	*Sturnella neglecta*
*Red-winged backbird	*Agelaius phoeniceus*
*Brewer's blackbird	*Euphagus cyenocephalus*
*Brown-headed cowbird	*Molothrus ater*
Bullock's oriole	*Icterus bullockii*
Lazuli bunting	*Passerina amoena*
*House finch	*Carpodacus mexicanus*
*American goldfinch	*Spinus tristis*
*Lesser goldfinch	*Spinus psaltria*
Rufous-sided towhee	*Pipila erythrophthalmus*
*Brown towhee	*Pipilo fuscus*
*Savannah sparrow	*Passerculus sandwichensis*
*Vesper sparrow	*Pooecetes gramineus*
Lark sparrow	*Chondestes grammacus*
*Slate-colored junco	*Junco hyemalis*
*Rufous-crowned sparrow	*Aemophila ruficeps*
*Chipping sparrow	*Spizella passerina*
Black-chinned sparrow	*S. atrogularis*
*White-crowned sparrow	*Zonotrichia leucophrys*
*Gold-crowned sparrow	*Z. atricapilla*
*Fox sparrow	*Passerella iliaca*
*Song sparrow	*Melospiza melodia*
American bittern	*Botaurus lentiginosus*

*Indicates those species actually observed, primarily in the riparian habitat.

TABLE 5 (Continued)

Common Name	Scientific Name
MAMMALS	
Opossum	*Didelphis marsupialis*
Ornate shrew	*Sorex ornatus*
Trowbridge shrew	*S. trowbridgii*
Townsend mole	*Scapanus townsendii*
Many species of Bats	
Black-tailed hare	*Lepus californicus*
Brush rabbit	*Sylvilagus bachmani*
Audubon cottontail	*S. audubonii*
*California ground squirrel	*Otospermophilus beecheyi*
Western gray squirrel	*Sciurus griseus*
Pocket gopher	*Thomomys bottae*
Pocket mice	*Perognathus* spp.
Kangaroo rats	*Dipodomys* spp.
White-footed mice	*Peromyscus* spp.
Dusky-footed wood rat	*Neotoma fuscipes*
Desert wood rat	*N. lepida*
Meadow mouse	*Microtus californicus*
Gray fox	*Urocyon cinereoargenteus*
Coyote	*Canis latrans*
Raccoon	*Procyon lotor*
Ring-tailed cat	*Bassariscus astutus*
Long-tailed weasel	*Mustela frenata*
Badger	*Taxidea taxus*
Striped skunk	*Mephitis mephitis*
Spotted skunk	*Spilogale putorius*
Bobcat	*Lynx rufus*
Mule deer	*Odocoileus hemionus*

*Indicates those species actually observed, primarily in the riparian habitat.

TABLE 6

PLANNING AREA
POPULATION PROJECTIONS*

	1970	1980	1990	2000	2010
Simi Valley	63,000	79,500	112,000	127,000	160,000
Moorpark	5,000	7,500	13,000	20,000	37,000

*These figures are based on California Department of Finance Series D-100 1973 projections. The Simi Valley Planning Area comprises 65,000 acres around and including the City of Simi Valley. The Moorpark Planning Area comprises 36,000 acres around and including the community of Moorpark.

TABLE 7

LAND USE PROJECTIONS OF OVERFLOW AREA
Simi Valley Reach, Royal Avenue to Sycamore Canyon

Land Use	1972	1979	1989
Residential	320*	395	435
	320**	395	405
Commercial	50*	145	170
	50**	145	170
Industrial	30*	100	100
	30**	100	100
Public Inst't	50*	95	110
	50**	95	105
Transportation	30*	40	40
	30**	40	40
Urban Subtotal	480*	775	855
	450**	775	820
Agriculture	10*	--	--
	10**	--	--
Open Space	365*	80	--
	365**	80	35
Channel	90*	90	90
	90*	90	90
Total	945	945	945

Reach from Sycamore Canyon to Downstream Southern Pacific Railroad Bridge, Virginia Colony.

Land Use***	1973	1979	1989
Residential	--	30	30
Commercial	--	--	--
Industrial	10	10	30
Public Inst'l	--	--	--
Transportation	5	5	5
Urban Subtotal	15	45	65
Agriculture	10	10	10
Open Space	420	390	370
Channel	95	95	05
Total	540	540	540

* Acres with proposed project.
** Acres without proposed project.
*** With or without flood control acreage will be the same.

TABLE 7 (Continued)

Moorpark Reach Downstream Southern Pacific
Railroad Bridge to Hitch Bouldvard

Land Use	1973	1979	1989	1999	2009
Residential	165*	210	360	465	465
	165**	210	360	436	435
Commercial	40*	55	110	140	140
	40**	55	90	105	105
Industrial	45*	45	45	120	205
	45**	45	45	90	120
Public Inst'l	30*	40	60	105	105
	30**	40	60	105	105
Transportation	50*	50	60	80	80
	50**	50	60	80	80
Urban Subtotal	330*	400	635	910	995
	330**	400	615	815	845
Agriculture	600*	600	580	370	285
	600**	600	600	435	405
Open Space	455*	385	85	20	20
	455**	385	170	135	135
Channel	65*	65	150	150	150
	65**	65	65	65	65
Total	1,450	1,450	1,450	1,450	1,450

* Acres with proposed project.
** Acres without proposed project.

PHOTOS

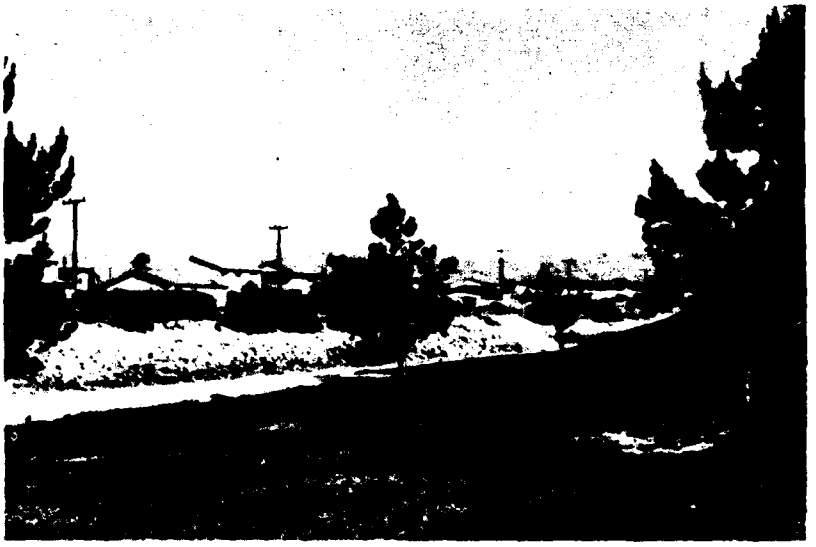
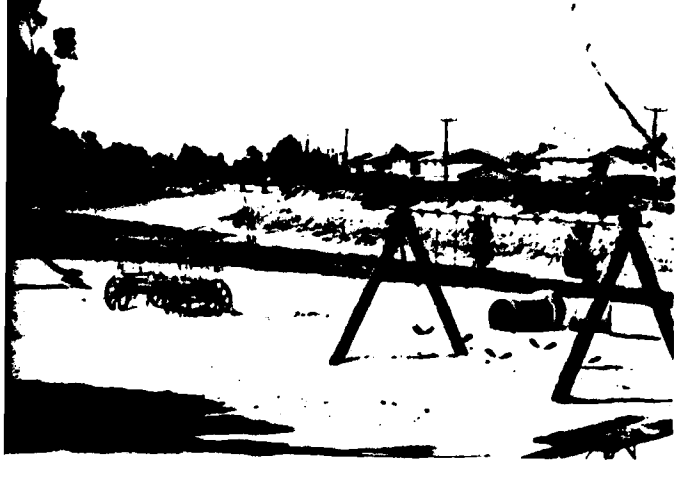


PHOTO 2. Looking northeast at Frontier Park, a neighborhood park adjacent to Calleguas Creek, in Simi Valley.

PHOTO 3. Looking toward the
Park. Calleguas Creek is in

PHOTO 1. Looking west at Calleguas Creek in Simi Valley. The photo was taken from the Royal Avenue bridge. The fencing is along the right-of-way.

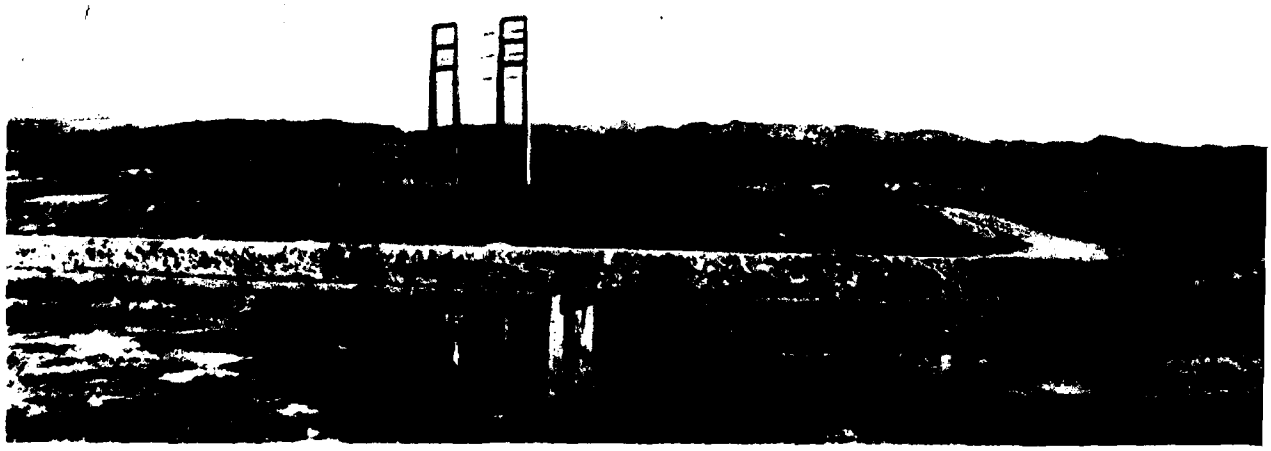


Looking toward the western end of Frontier
lleguas Creek is in the middle of the picture.

PHOTO 4. Looking westerly at one of the three geologic sites in the study area. Photo was taken 1.5 miles downstream of the city of Simi Valley sewage treatment plant. The flow in Calleguas Creek is secondary treated effluent from the plant.

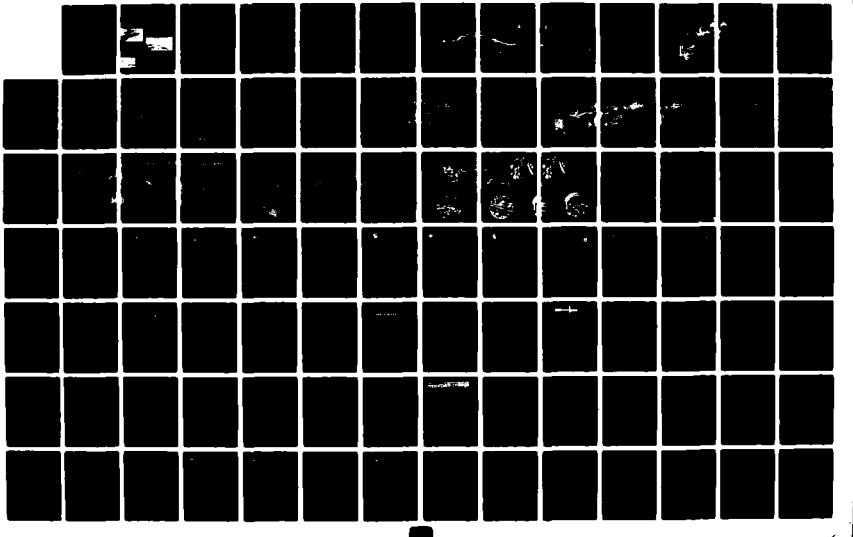
PHOTO 5. Looking easterly at an example of riparian vegetation in Calleguas Creek upstream of Virginia Colony.

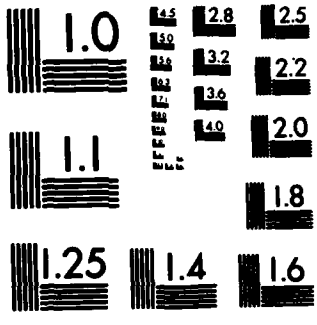
PHOTO 6. Same as photo 5, photo depicts the excellent thetic qualities found in t abounds along the right ban



AD-A136 650 CALLEGUAS CREEK SIMI VALLEY TO MOORPARK VENTURA COUNTY CALIFORNIA(U) ARMY ENGINEER DISTRICT LOS ANGELES CA JUN 76 2/3

UNCLASSIFIED F/G 13/2 NL





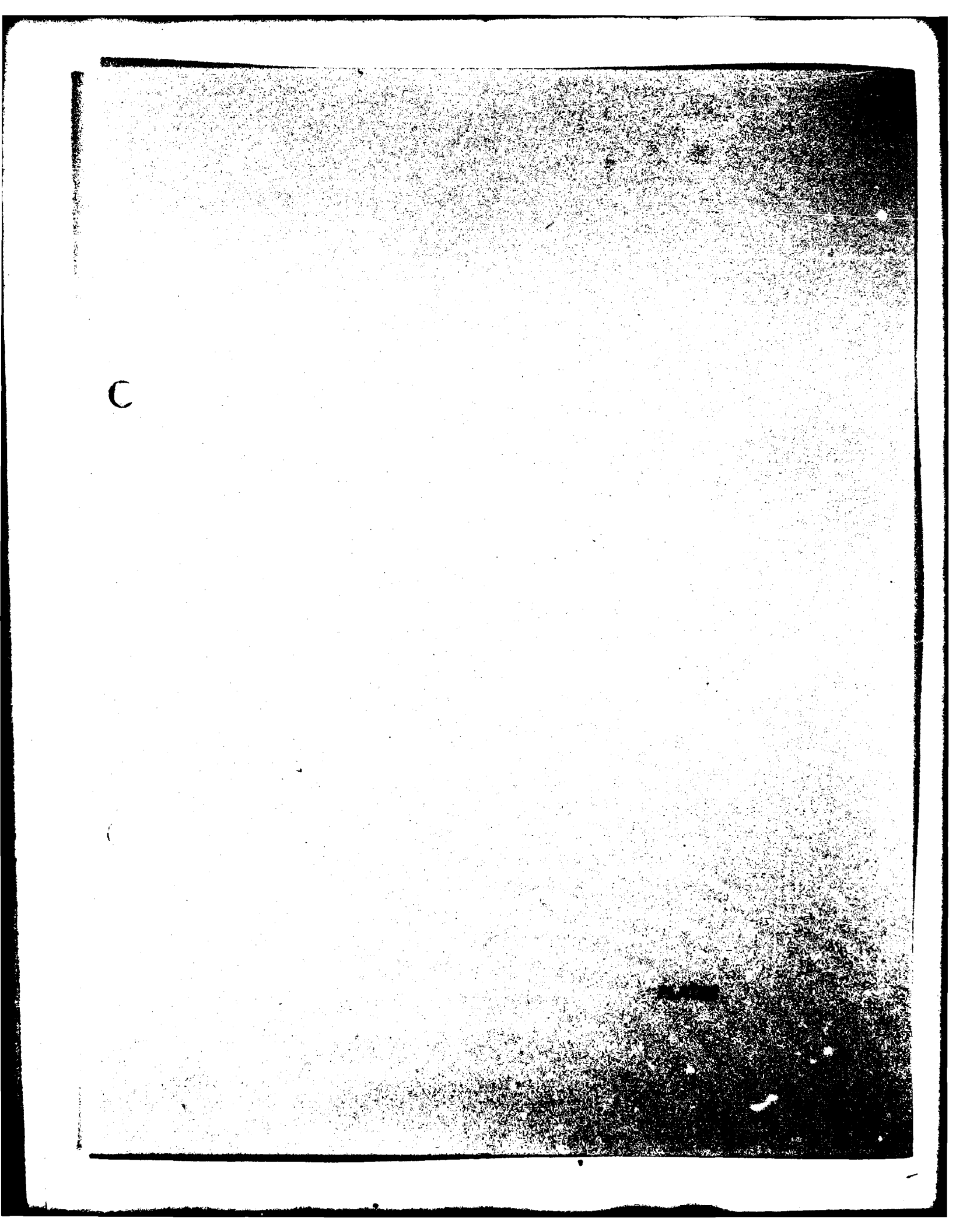
MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

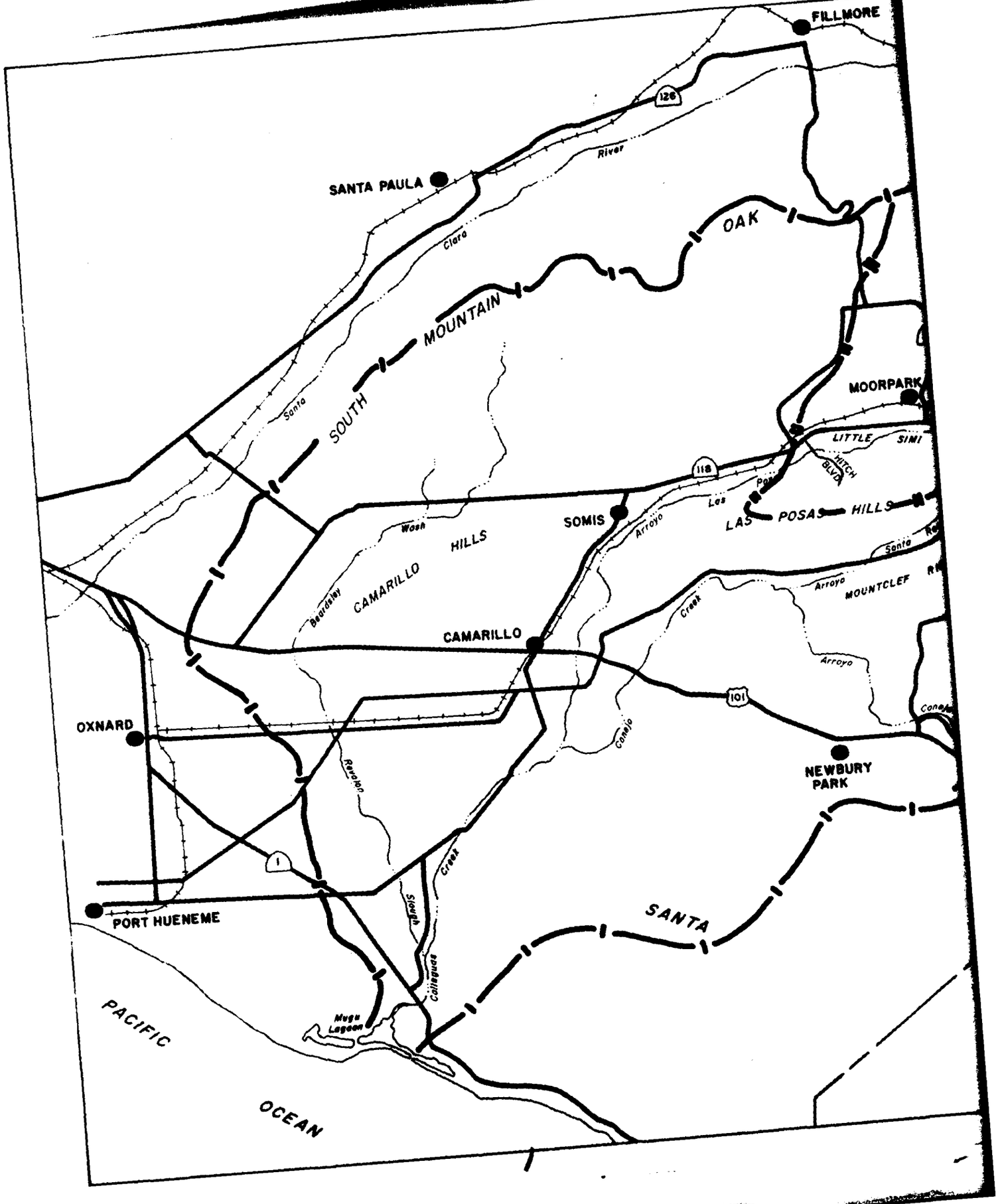
Same as photo 5, but looking southerly. This
cts the excellent riparian community and es-
alities found in this reach. Water cress
long the right bank.

PHOTO 7. Looking southeast at the Las Posas Hills from the proposed park site at Virginia Colony.

PHOTO 8. This photo was taken in Moorpark, looking north, about 3,000 feet upstream from Hitch Boulevard.

2

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River
SANTA PAULA
Clara
OAK
SOUTH
MOUNTAIN
Santa
MOORPARK
LITTLE
SIMI
HITCH
BLVD.
118
Las
Posas
HILLS
SOMIS
Wash
Arroyo
HILLS
CAMARILLO
Santa
Arroyo
MOUNTCLEF
Beardsley
Creek
CAMARILLO
Arroyo
101
OXNARD
Conejo
Rancho
NEWBURY
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1
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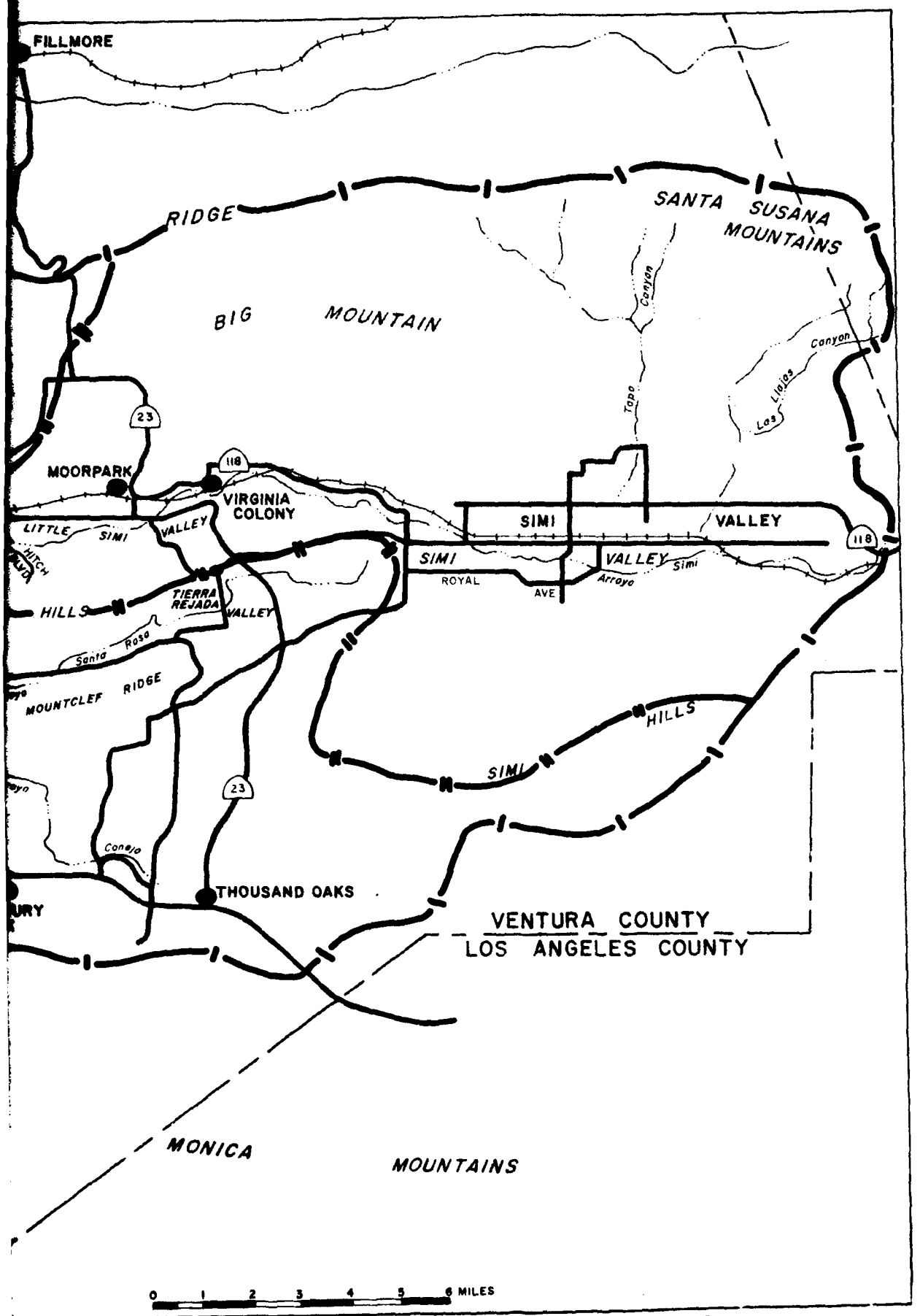
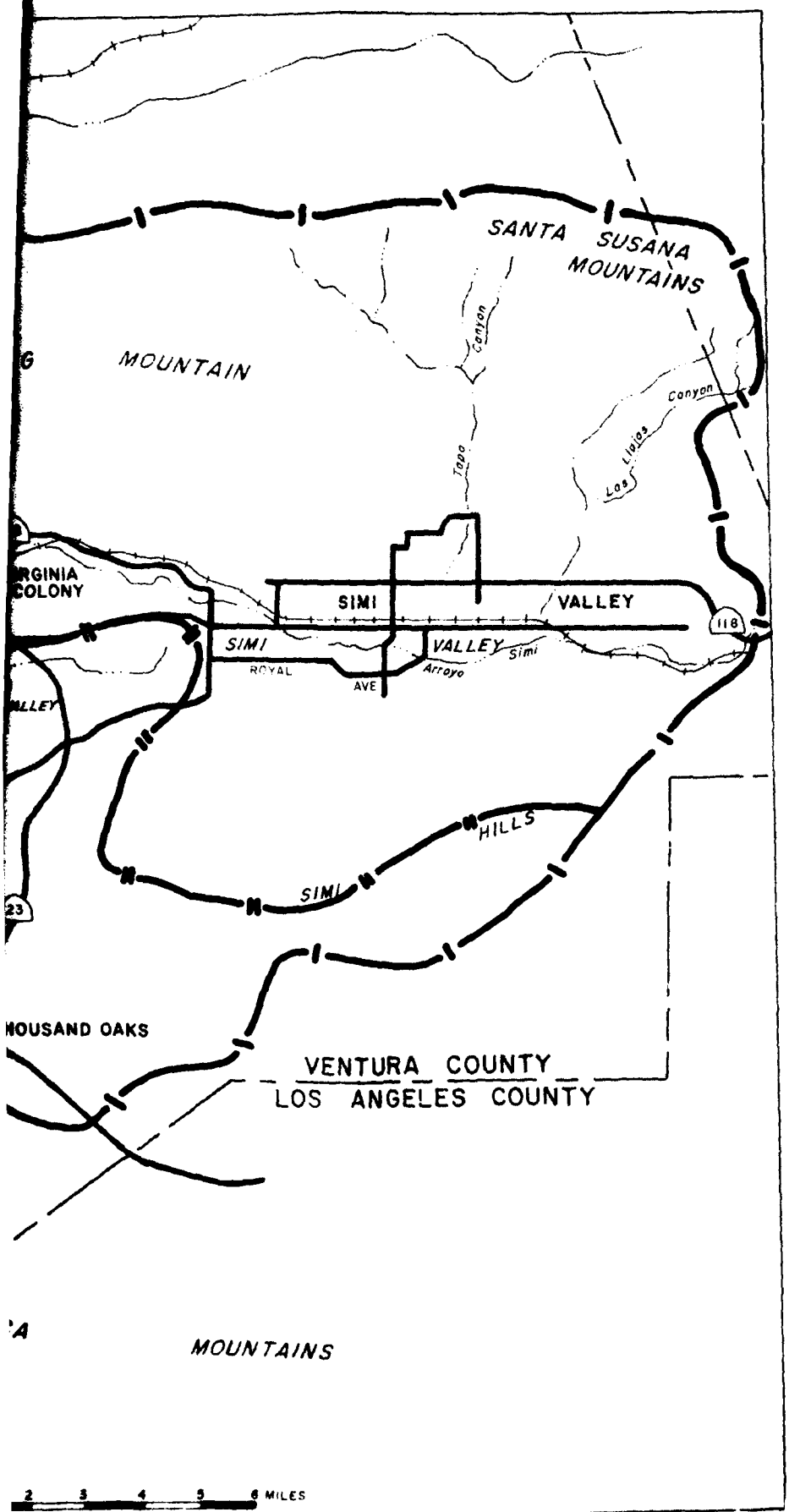
PORT HUENEME
SANTA
Calleguas
PACIFIC
Mugu
Lagoon
OCEAN



DRAINAGE BA
STUDY AREA

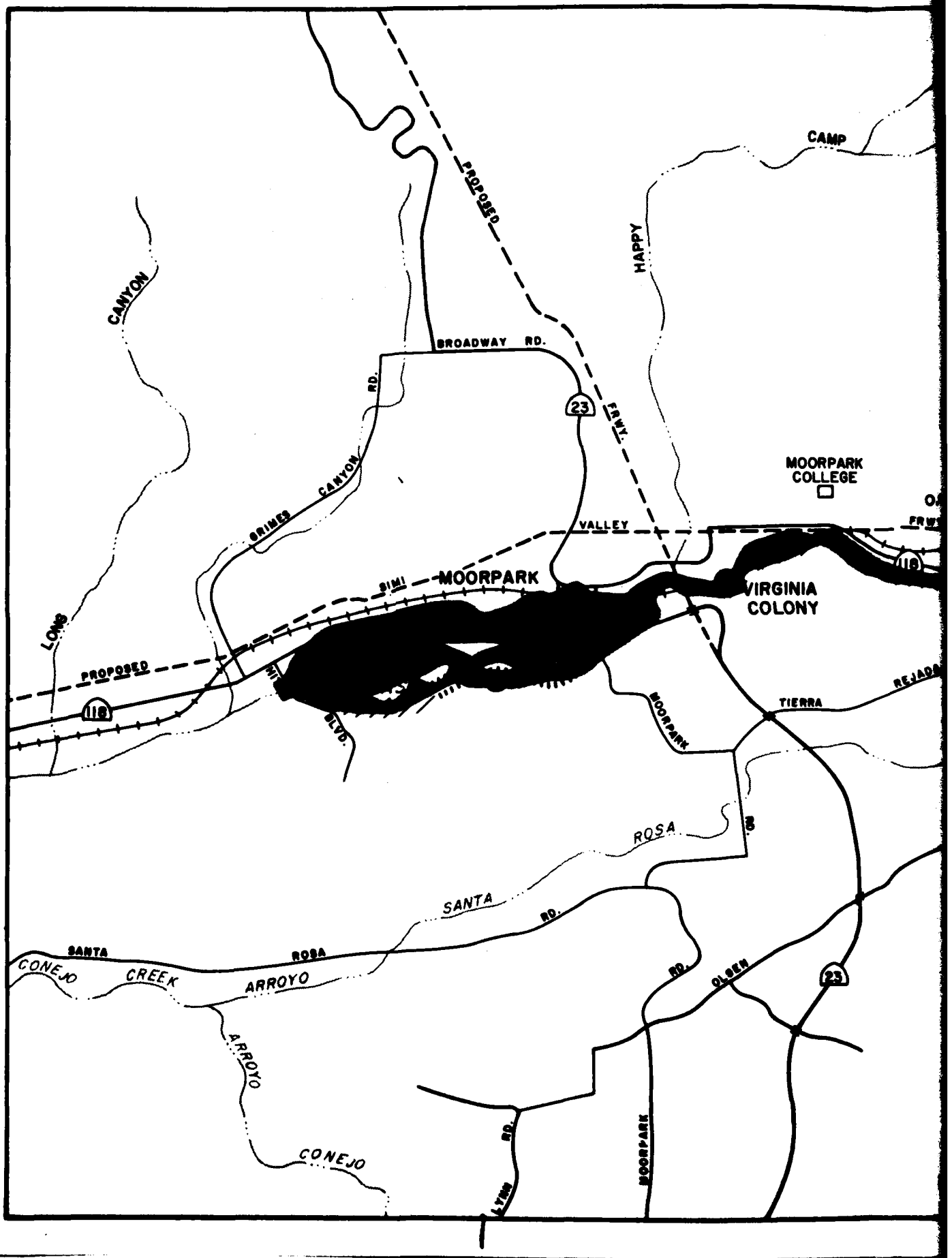
PLATE 1
CALLEGUAS CREEK DR
BASIN AND STUDY ARE



DRAINAGE BASIN LIMITS

STUDY AREA LIMITS

PLATE 1
CALLEGUAS CREEK DRAINAGE
BASIN AND STUDY AREA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CANYON
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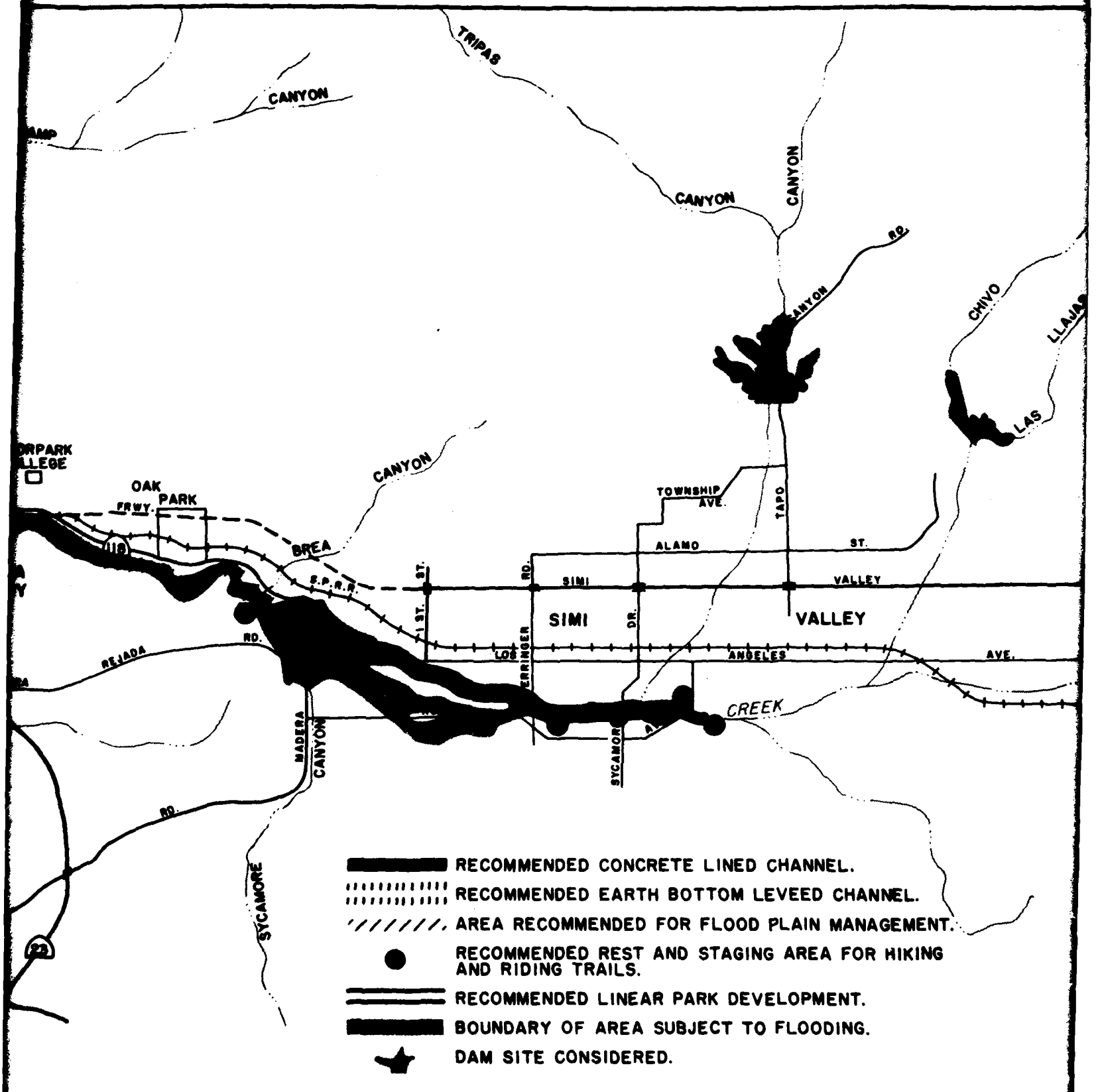
RD.
23
FRWY.
MOORPARK
COLLEGE
GRIMES CANYON
VALLEY
SIMI
MOORPARK
VIRGINIA
COLONY
LOS
PROPOSED
118
BLVD.
MOORPARK
TIERRA
ROSA
SANTA
RD.
SANTA
ROSA
CONEJO
CREEK
ARROYO
ARROYO
CONEJO
RD.
OLSEN
23
LYNN
RD.
MOORPARK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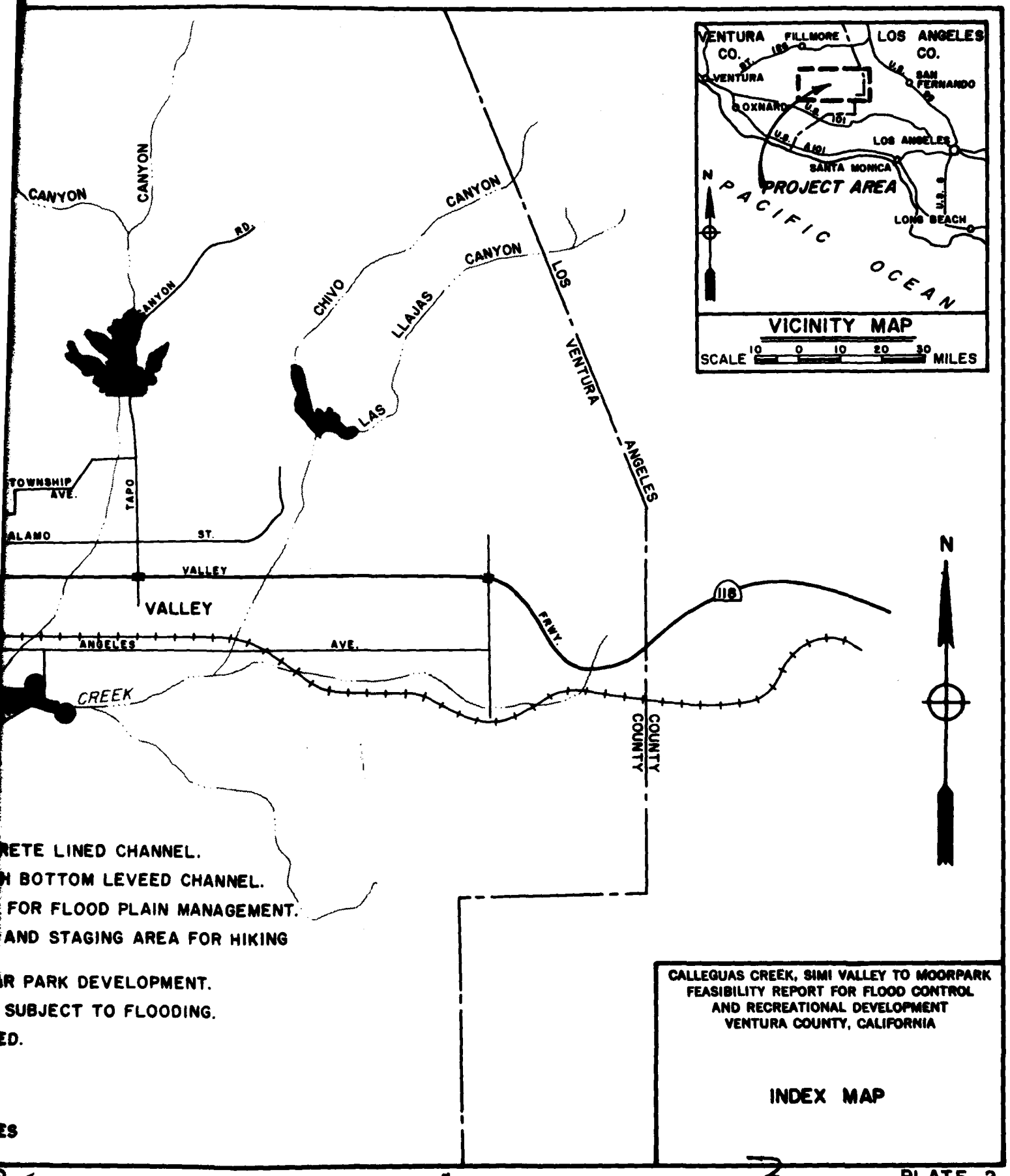
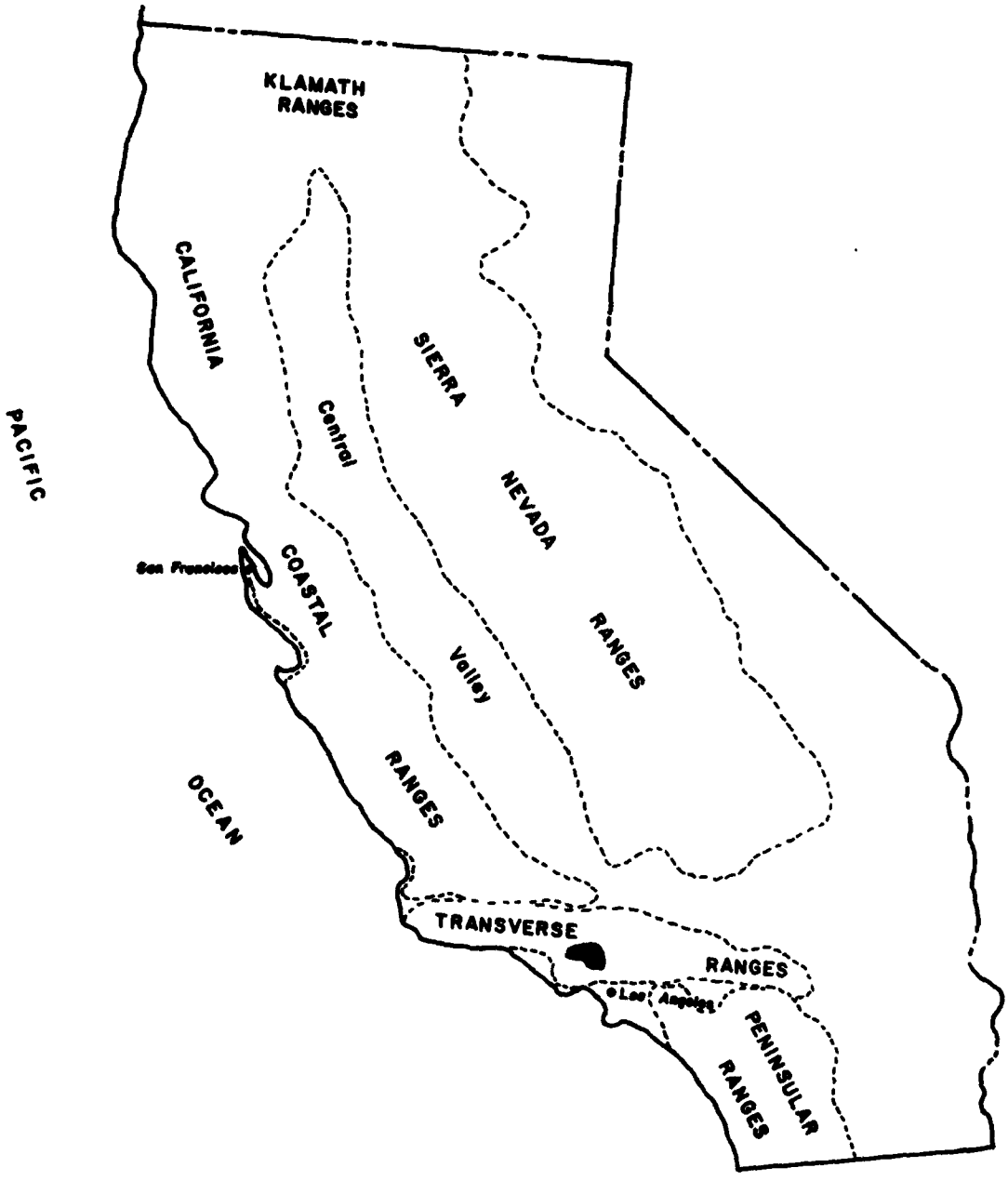
CANYON
CANYON
CANYON
CANYON
RD.
CHIVO
LLAJAS
LAS
CANYON
OAK
PARK
FRWY.
BREA
S.P.R.R.
ST.
RD.
SIMI
VALLEY
TOWNSHIP
AVE.
TAPO
ALAMO
ST.
SIMI
DR.
VALLEY
ERRINGER
LOS
ANGELES
AVE.
REJADA
RD.
CREEK
MADERA
CANYON
SYCAMORE
RD.
SYCAMORE
RECOMMENDED CONCRETE LINED CHANNEL.
RECOMMENDED EARTH BOTTOM LEVEED CHANNEL.
AREA RECOMMENDED FOR FLOOD PLAIN MANAGEMENT.
RECOMMENDED REST AND STAGING AREA FOR HIKING AND RIDING TRAILS.
RECOMMENDED LINEAR PARK DEVELOPMENT.
BOUNDARY OF AREA SUBJECT TO FLOODING.
DAM SITE CONSIDERED.
SCALE
0
2
3
MILES


VENTURA CO.
LOS ANGELES CO.
FILLMORE
VENTURA
SAN FERNANDO
OXNARD
LOS ANGELES
SANTA MONICA
PROJECT AREA
PACIFIC OCEAN
LONG BEACH
VICINITY MAP
SCALE 10 0 10 20 30 MILES
CANYON
CANYON
CANYON
CANYON
CHIVO
LLAJAS
LAS
LOS ANGELES
VENTURA
COUNTY
TOWNSHIP AVE.
TAPO
ALAMO ST.
VALLEY
VALLEY
ANGELES AVE.
CREEK
118
FRWY.
N
RETE LINED CHANNEL.
H BOTTOM LEVEED CHANNEL.
FOR FLOOD PLAIN MANAGEMENT.
AND STAGING AREA FOR HIKING
R PARK DEVELOPMENT.
SUBJECT TO FLOODING.
ED.
ES
CALLEGUAS CREEK, SIMI VALLEY TO MOORPARK
FEASIBILITY REPORT FOR FLOOD CONTROL
AND RECREATIONAL DEVELOPMENT
VENTURA COUNTY, CALIFORNIA
INDEX MAP
PLATE 2

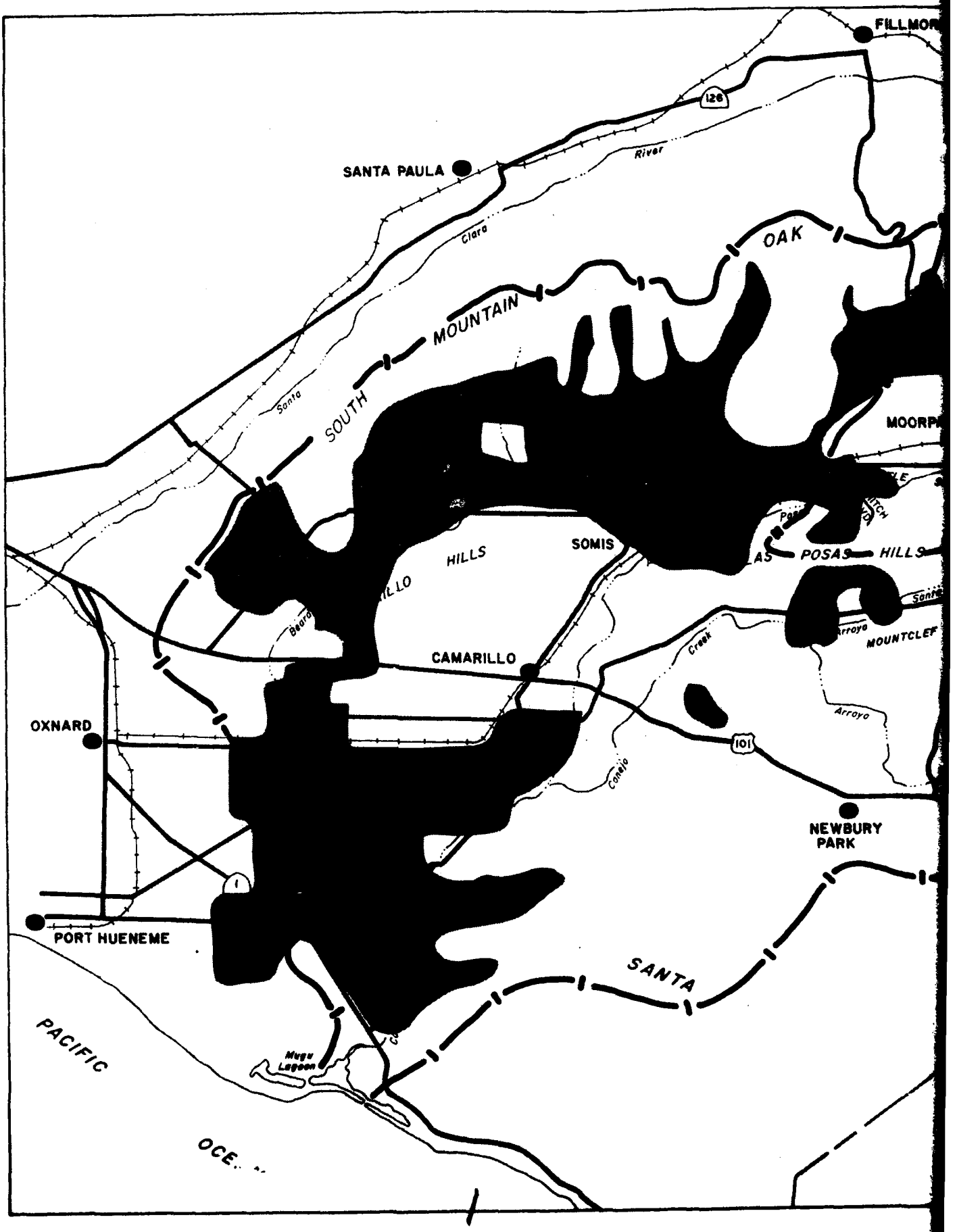


CALIFORNIA RANGE PROVINCES

RANGE PROVINCE GENERAL BOUNDARY

STUDY AREA

PLATE 3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126
SANTA PAULA
River
Clara
OAK
MOUNTAIN
SOUTH
Santa
MOORPI
SOMIS
HILLS
POSAS
HILLS
Arroyo
MOUNTCLEF
CAMARILLO
Creek
OXNARD
Arroyo
101
Conejo
NEWBURY
PARK
PORT HUENEME
SANTA
PACIFIC
Mugu
Lagoon
OCE

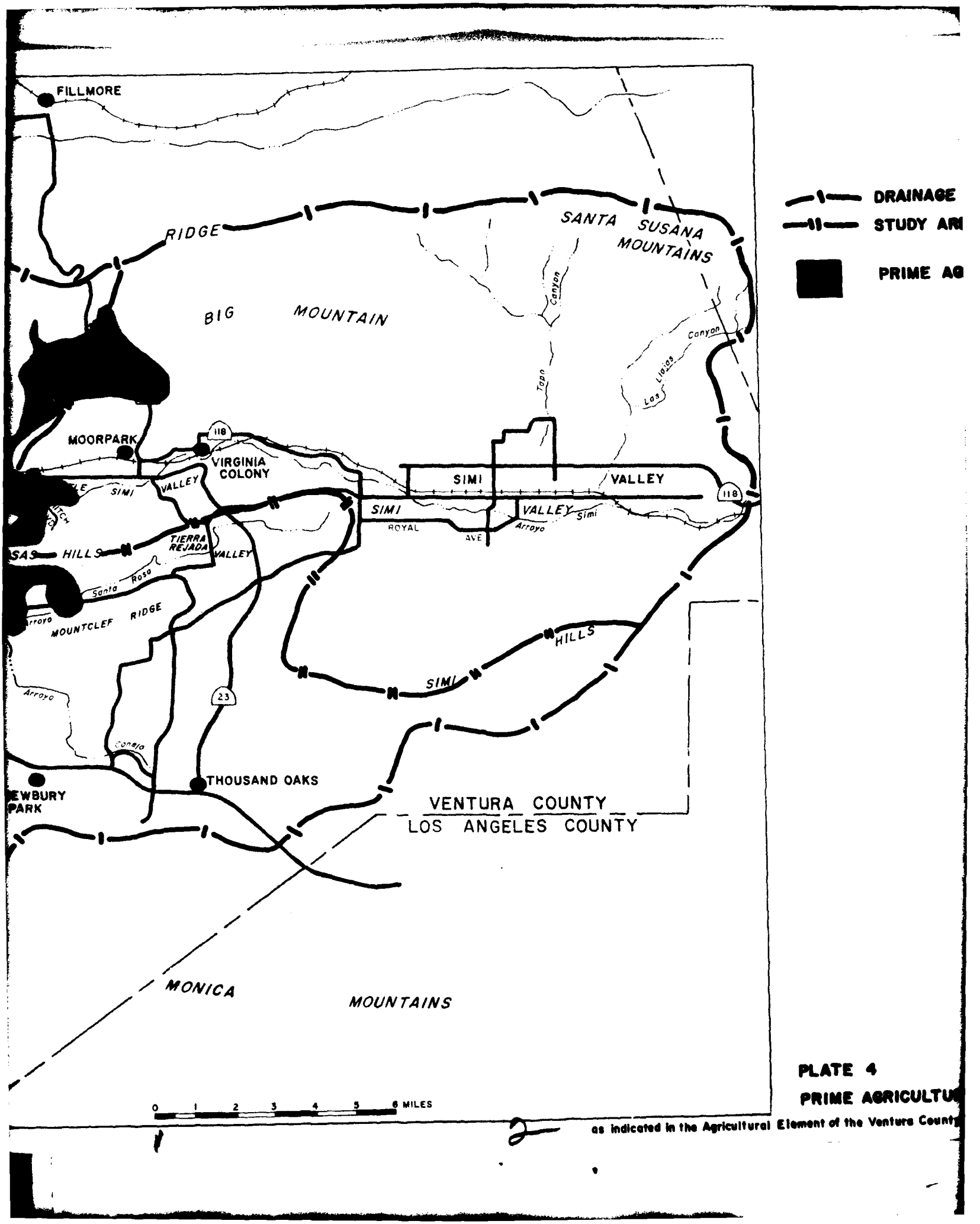
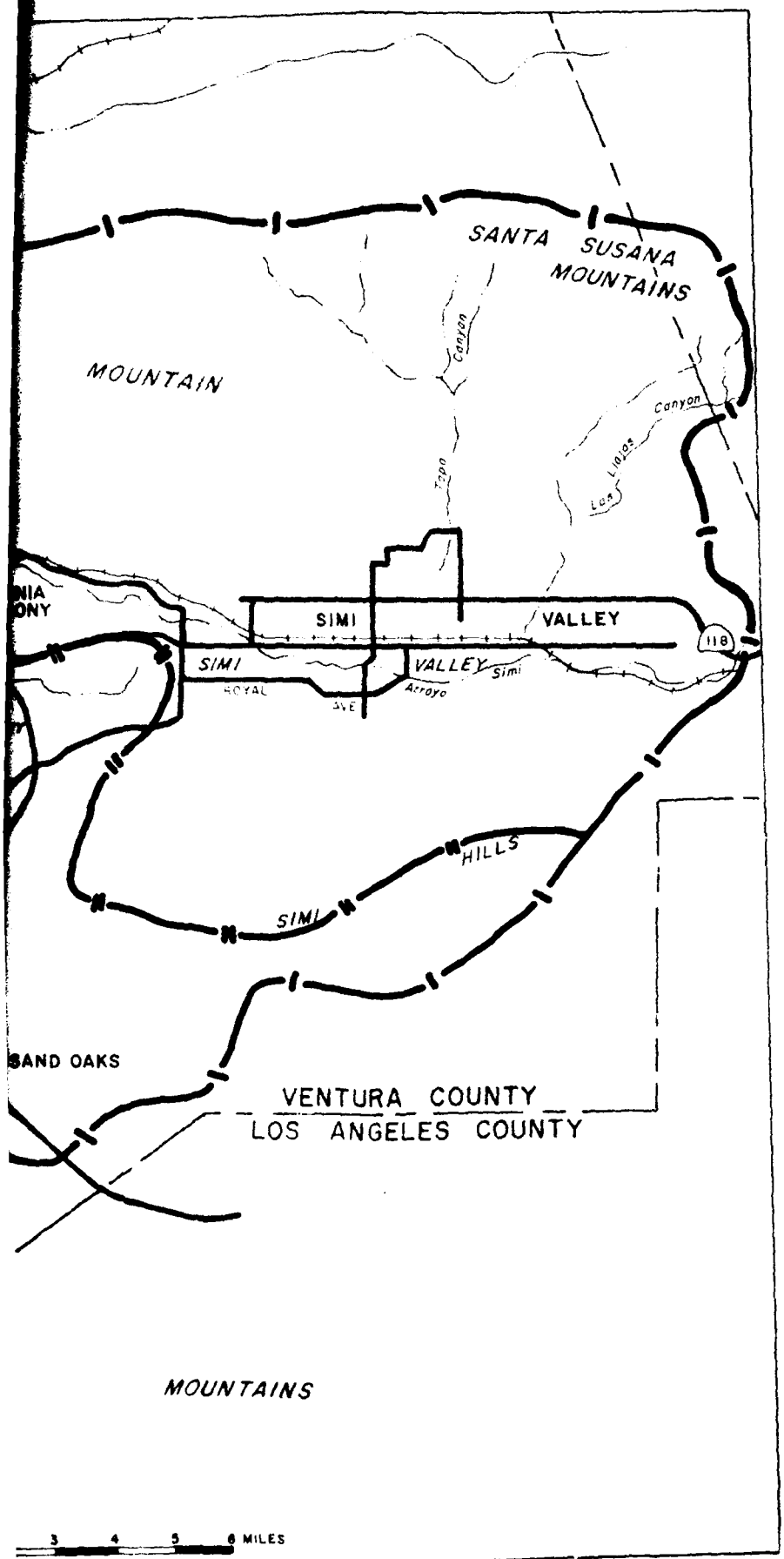


PLATE 4

PRIME AGRICULTU

as indicated in the Agricultural Element of the Ventura County



DRAINAGE BASIN LIMITS

STUDY AREA LIMITS

PRIME AGRICULTURAL LAND

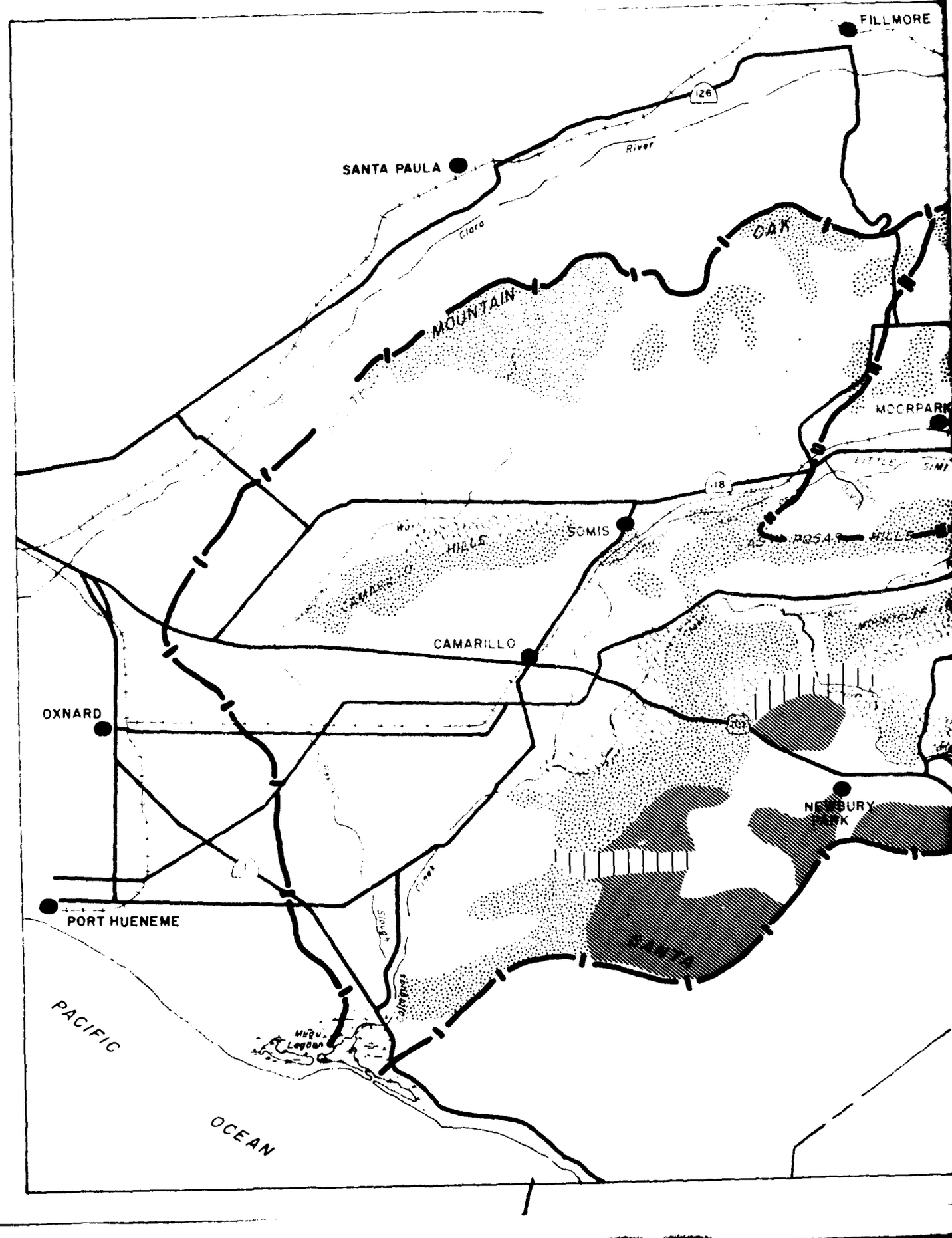
PLATE 4

PRIME AGRICULTURAL LAND

as indicated in the Agricultural Element of the Ventura County General Plan

2

3


FILLMORE
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SANTA PAULA
River
Clara
OAK
MOUNTAIN
MOORPARK
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SIMI
18
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OXNARD
NEWBURY
PARK
PORT HUENEME
PACIFIC
OCEAN

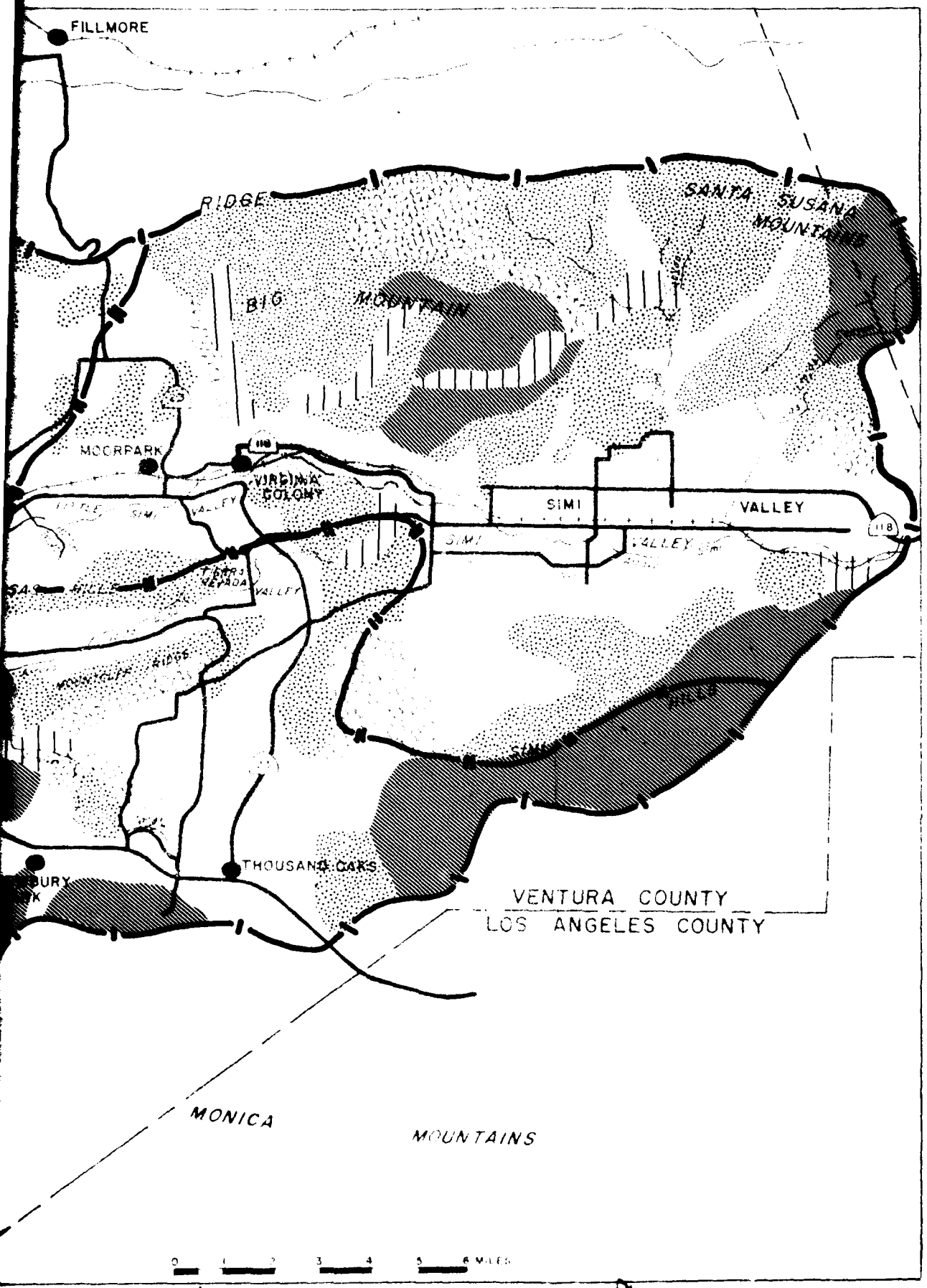
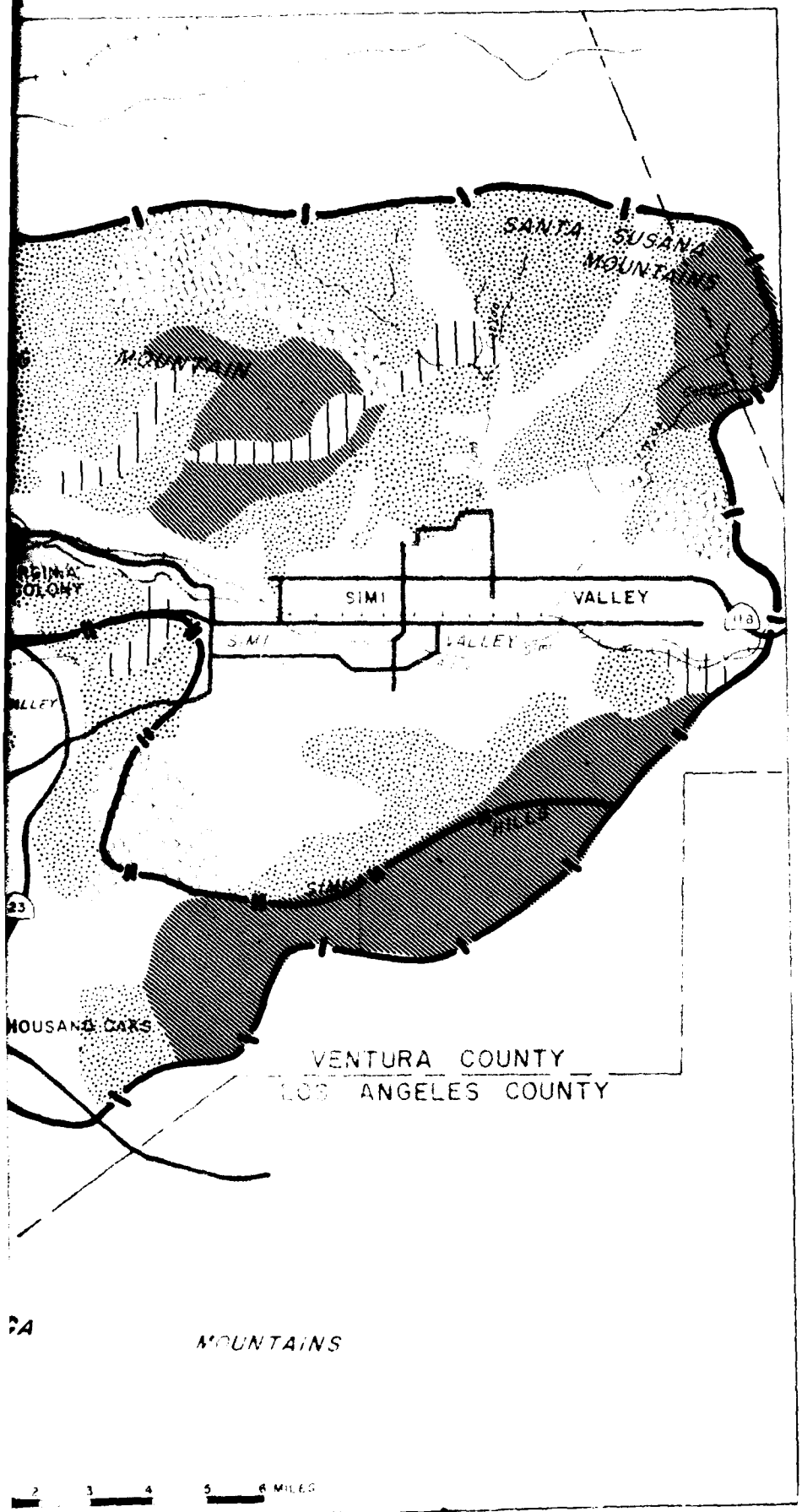


PLATE 5

NATURAL COMMUN
DISTRIBUTION



DRAINAGE BASIN LIMITS

STUDY AREA LIMITS

SAGEBRUSH SCRUB

GRASSLAND

CHAPARRAL

OAK SAVANNA

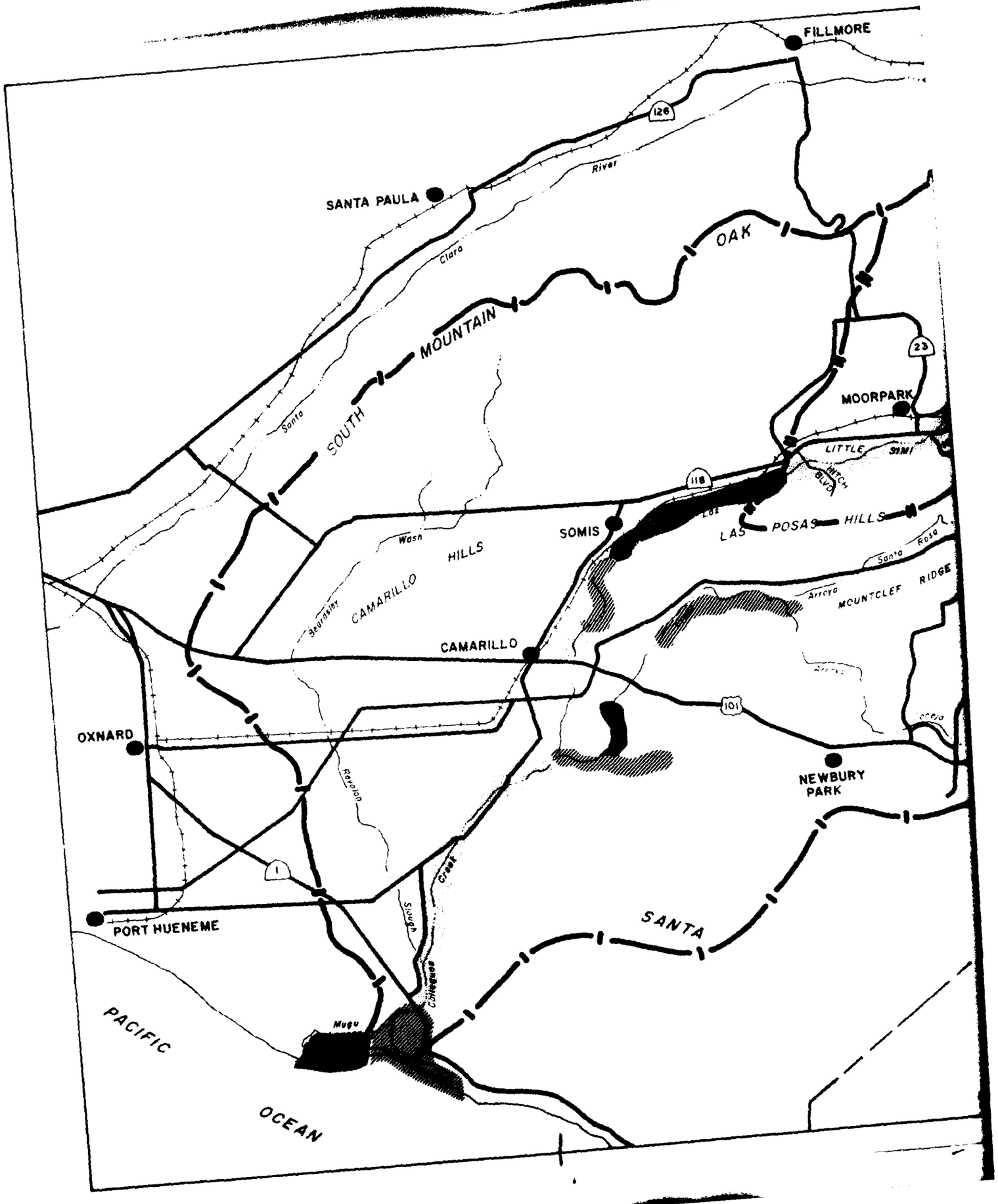
RIPARIAN

SALT MARSH

URBAN AND AGRICULTURAL AREAS

PLATE 5

NATURAL COMMUNITY DISTRIBUTION


FILLMORE
126
River
SANTA PAULA
Clara
OAK
SOUTH
MOUNTAIN
Santa
23
MOORPARK
LITTLE
SIMI
HITCH
BLVD
118
SOMIS
Los
LAS
POSAS
HILLS
Wash
HILLS
Santa
Rosa
Arroyo
MOUNTCLEF
RIDGE
Beardsley
CAMARILLO
CAMARILLO
101
OXNARD
Revolon
NEWBURY
PARK
1
Slough
Creek
SANTA
PORT HUENEME
Mugu
PACIFIC
OCEAN

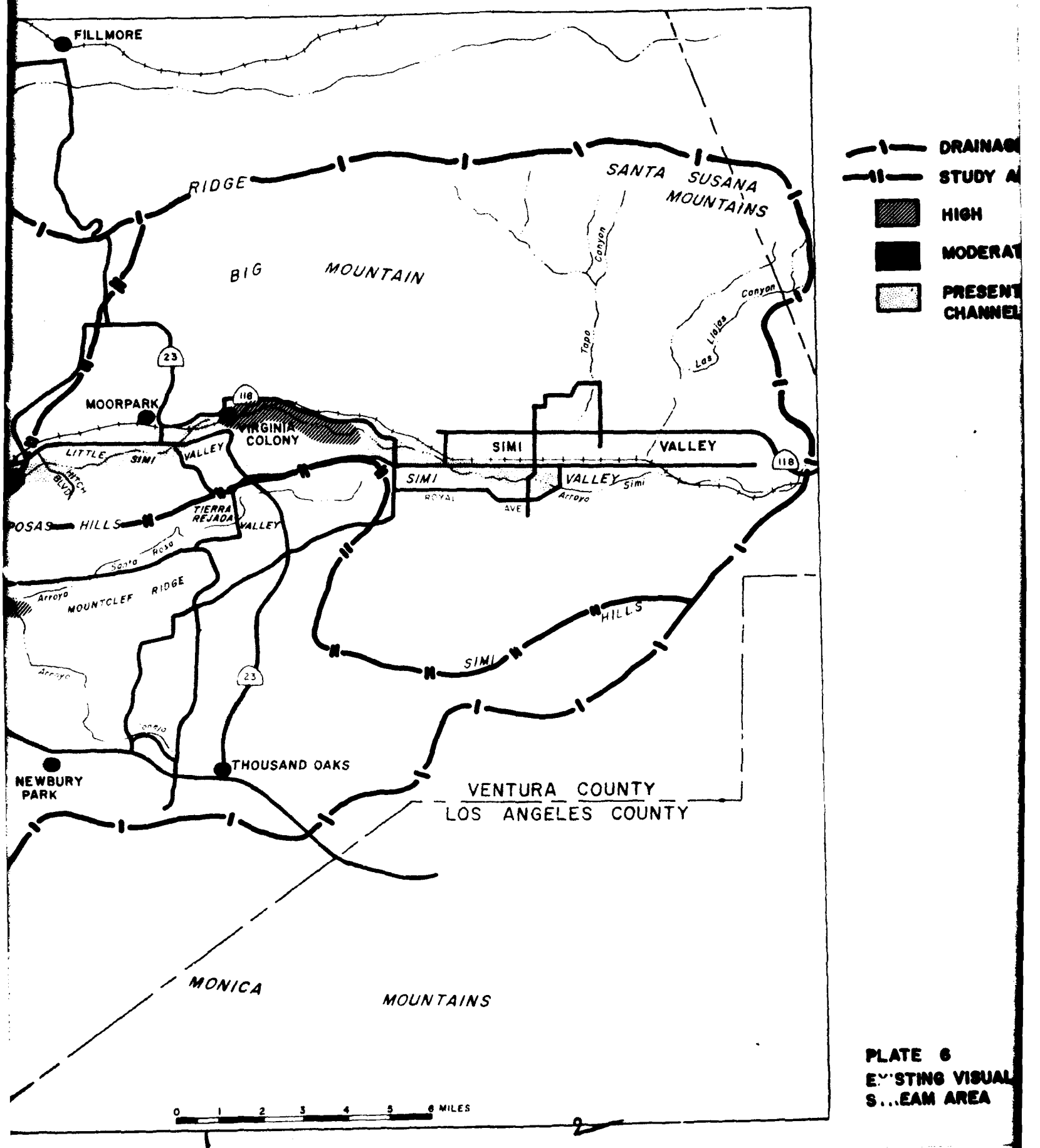
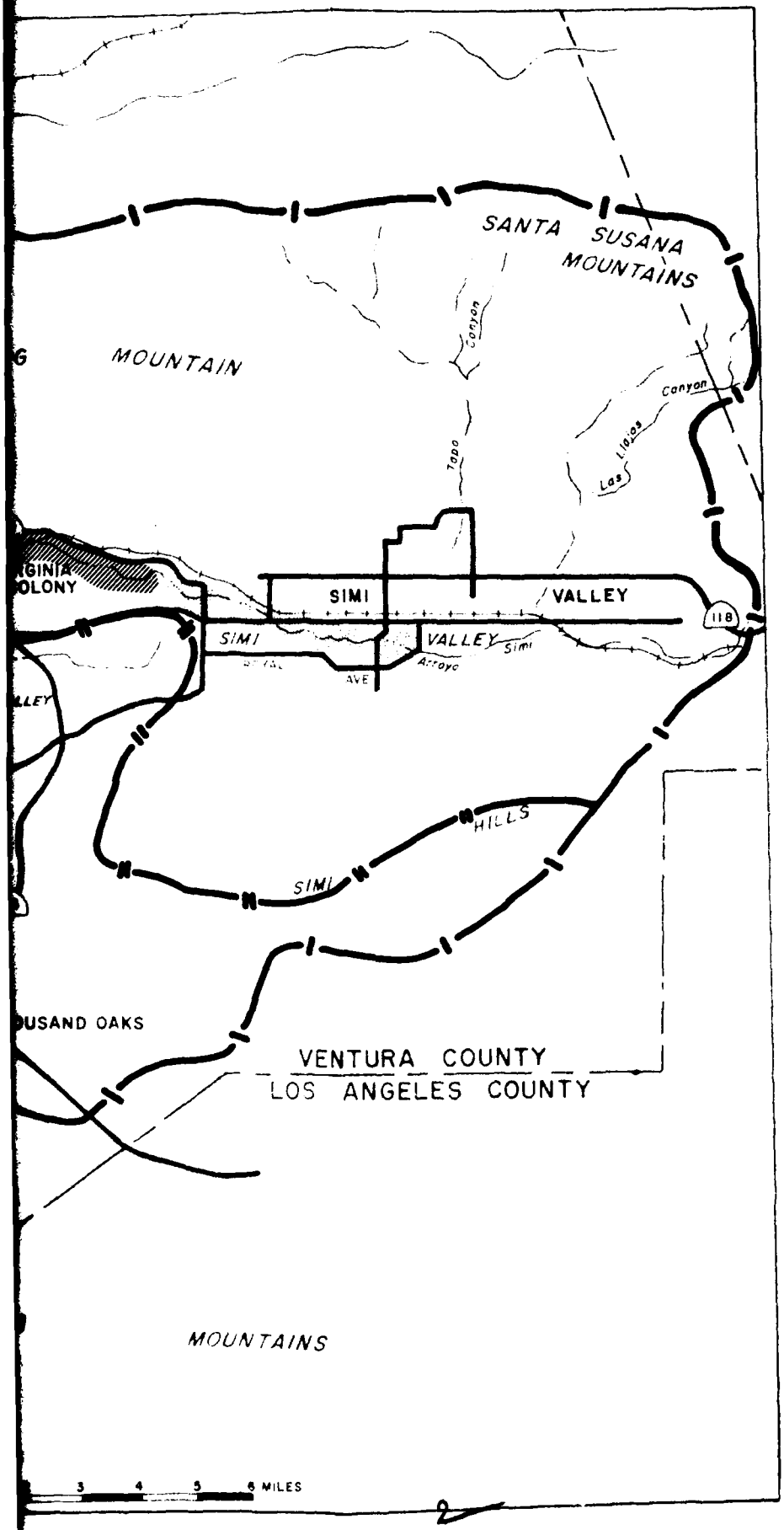


PLATE 6
E..STING VISUAL
S...EAM AREA



DRAINAGE BASIN LIMITS

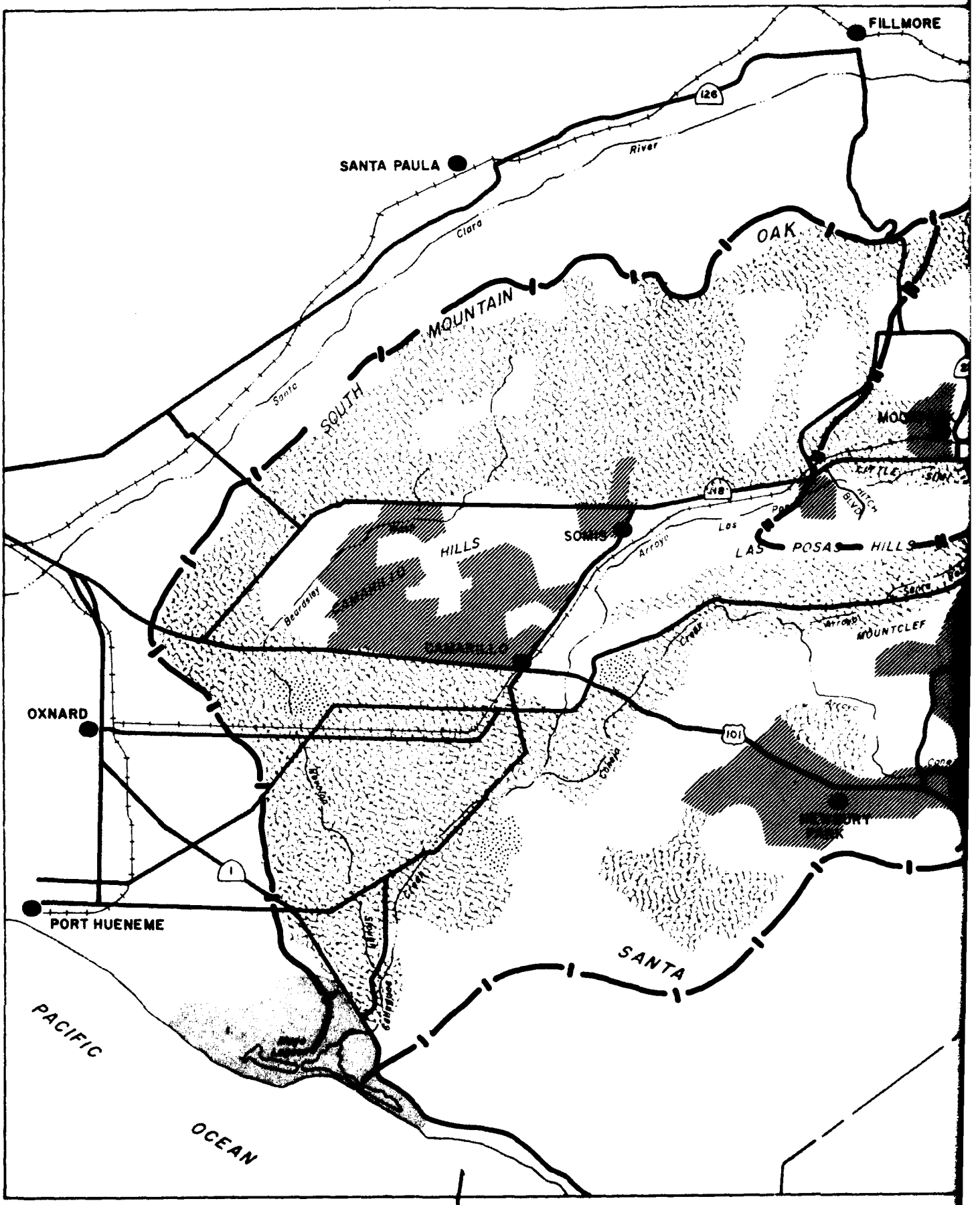
STUDY AREA LIMITS

HIGH

MODERATE

PRESENTLY MODIFIED CHANNEL

PLATE 6
EXISTING VISUAL QUALITY OF STREAM AREA


FILLMORE
126
SANTA PAULA
River
Clara
OAK
MOUNTAIN
SOUTH
Santa
SOMIS
Arroyo
Los
LAS POSAS HILLS
HILLS
Beardsley
CAMARILLO
OXNARD
101
Conejo
1
PORT HUENEME
SANTA
PACIFIC
OCEAN

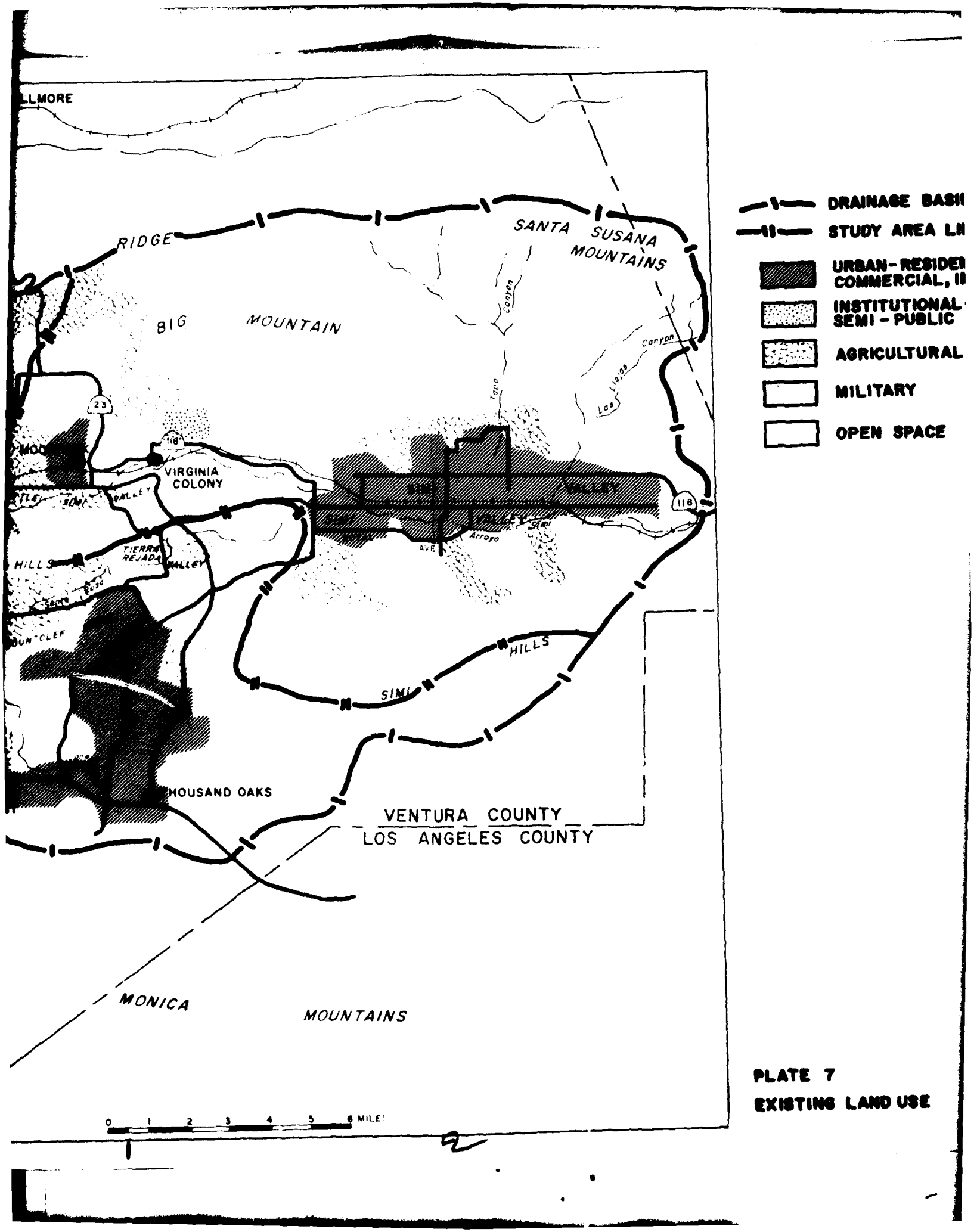
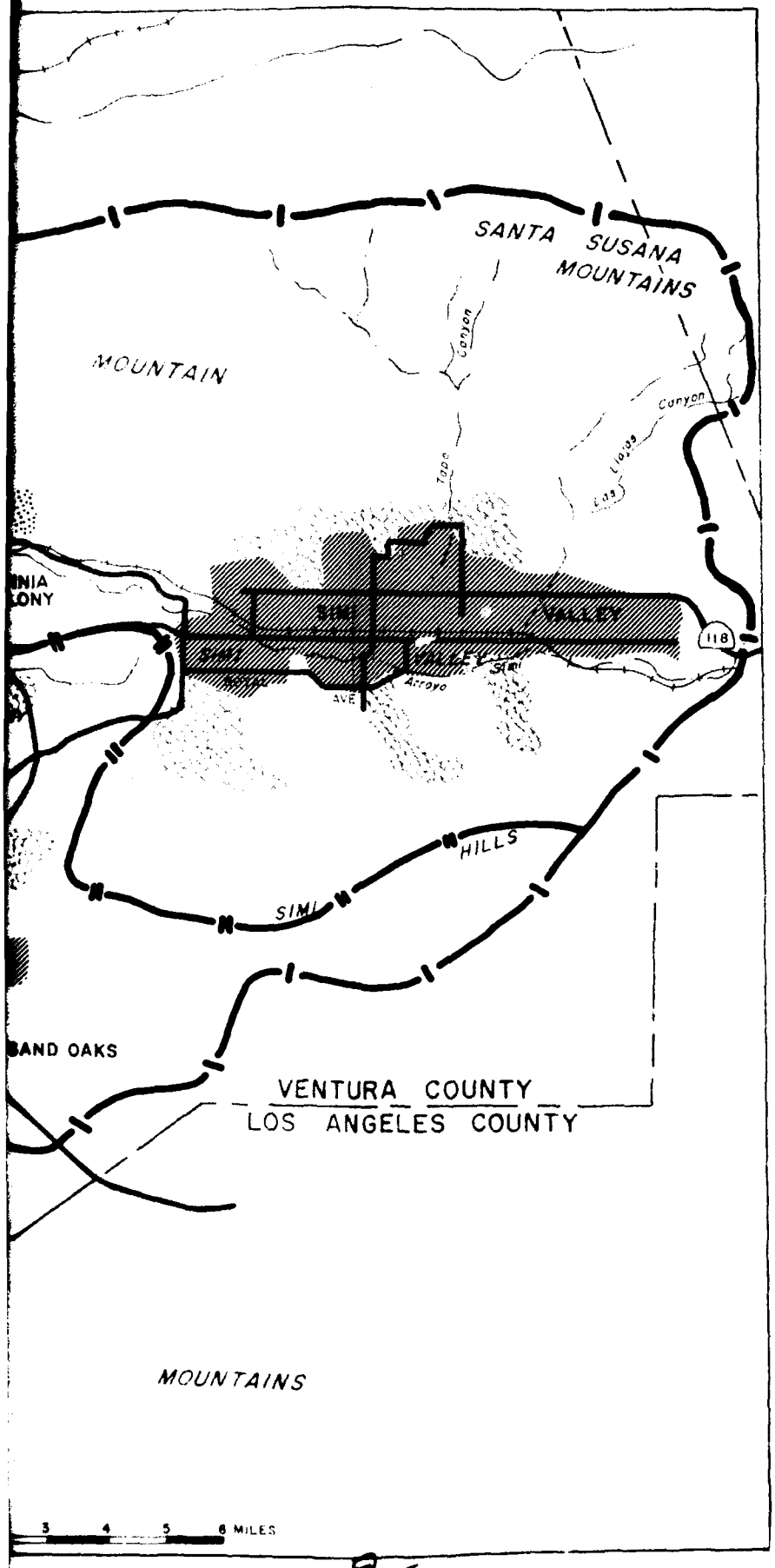


PLATE 7
EXISTING LAND USE



DRAINAGE BASIN LIMITS

STUDY AREA LIMITS

URBAN-RESIDENTIAL, COMMERCIAL, INDUSTRIAL

INSTITUTIONAL-PUBLIC, SEMI-PUBLIC

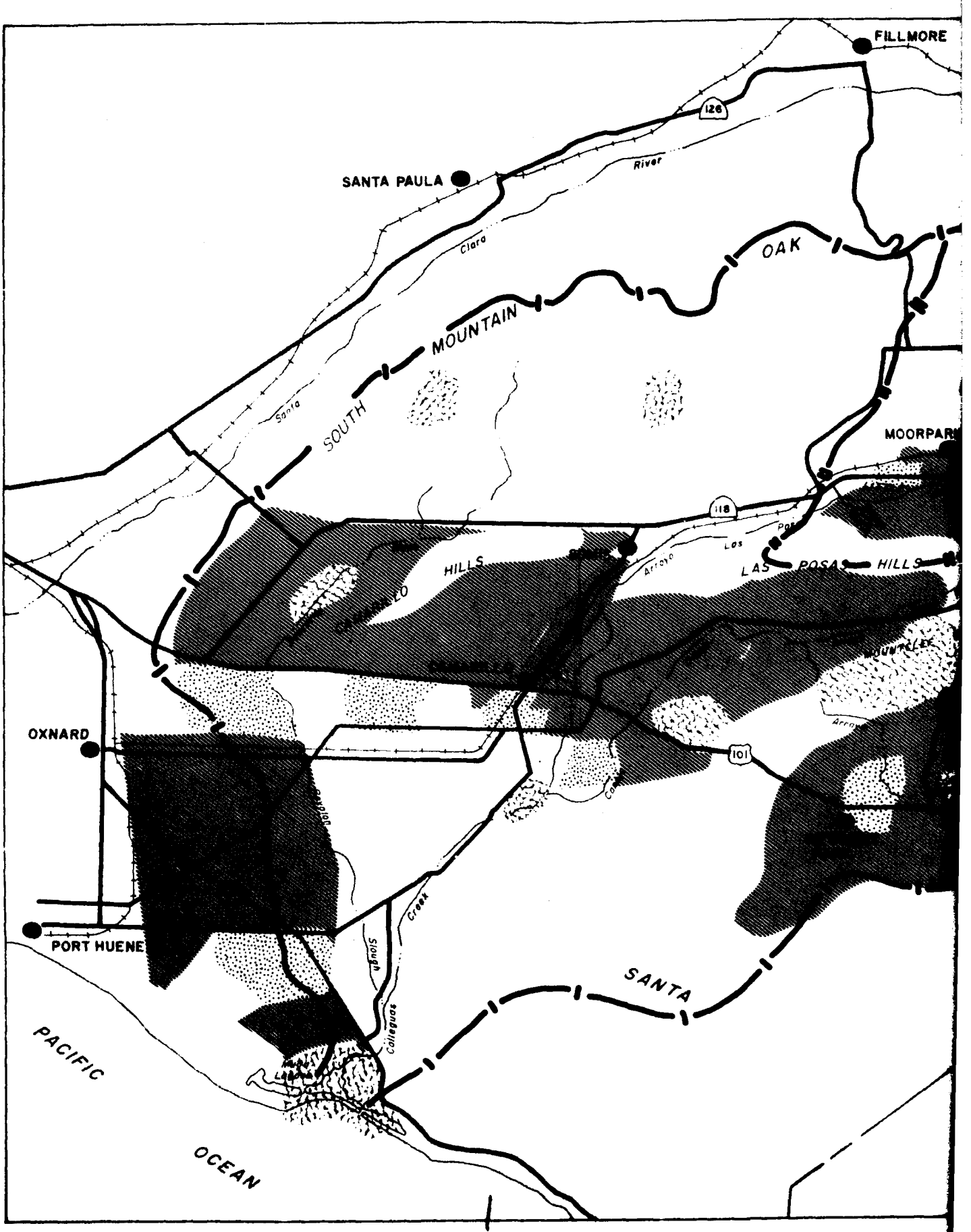
AGRICULTURAL

MILITARY

OPEN SPACE

PLATE 7

EXISTING LAND USE


FILLMORE
126
SANTA PAULA
River
Clara
OAK
MOUNTAIN
SOUTH
Santa
MOORPARK
118
HILLS
LAS POSAS HILLS
Arroyo
Las
OXNARD
101
Creek
Calleguas
Slough
PORT HUENEME
SANTA
PACIFIC
OCEAN

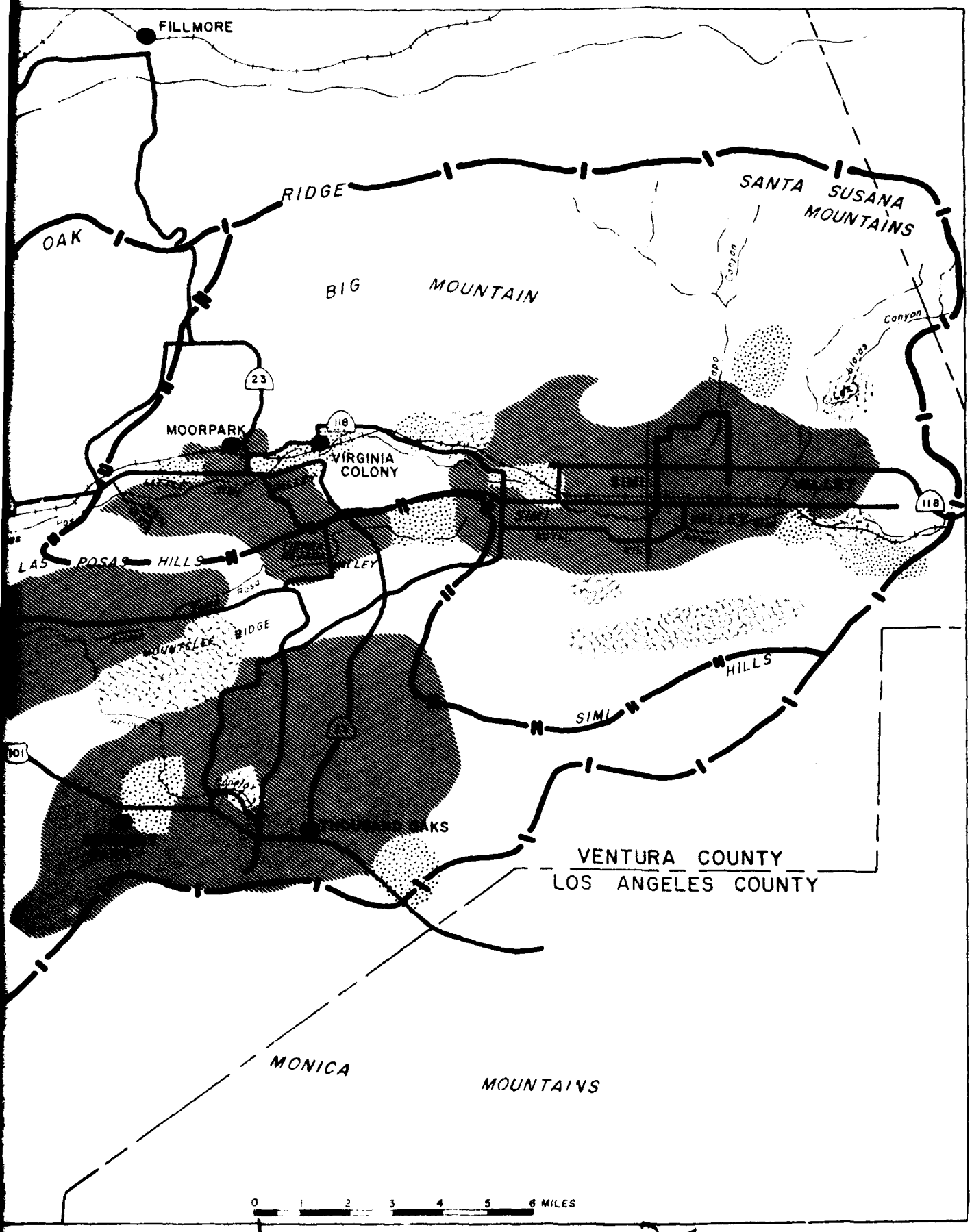
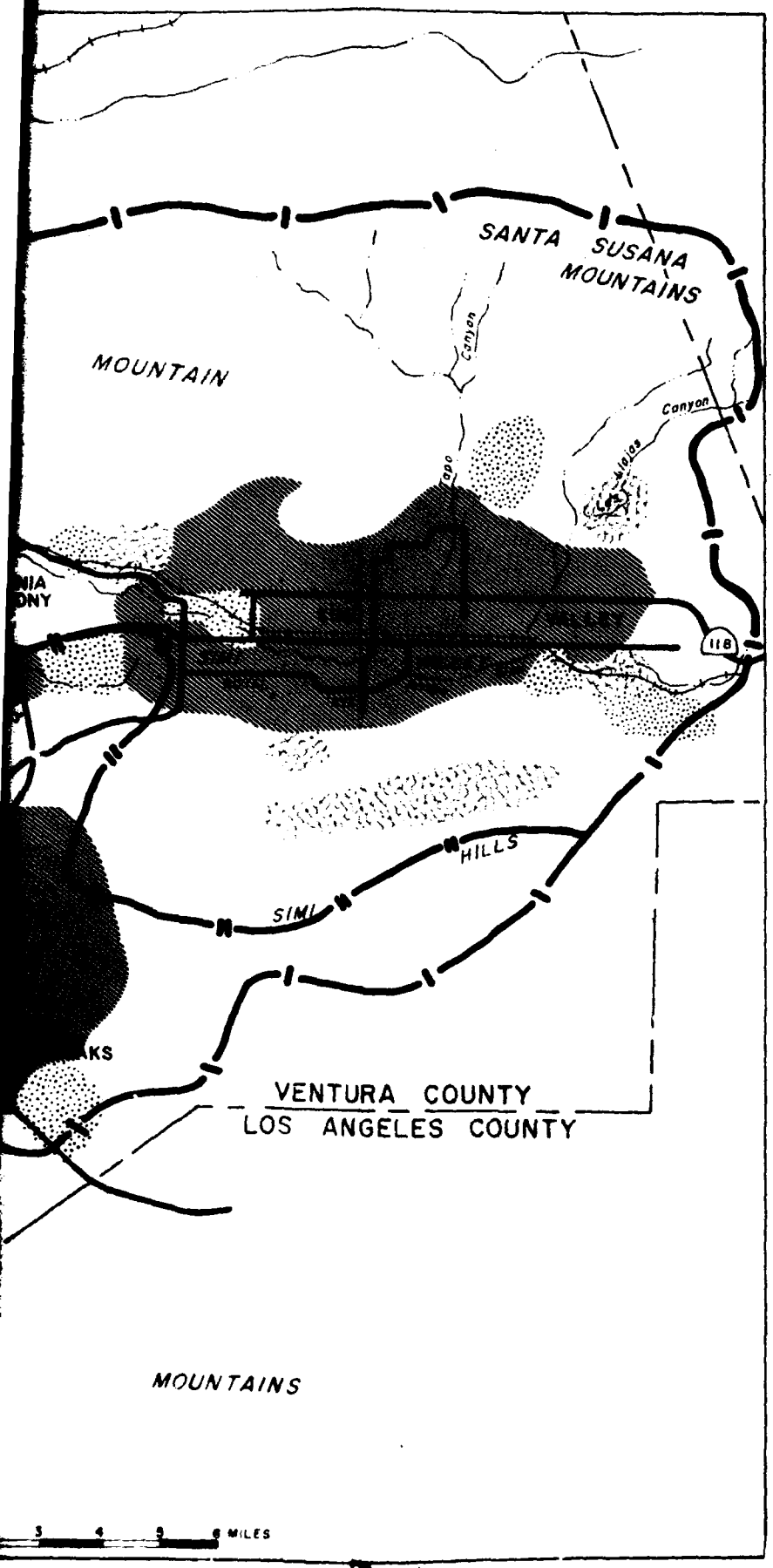


PLATE 8
GENERALE



DRAINAGE BASIN LIMITS

STUDY AREA LIMITS

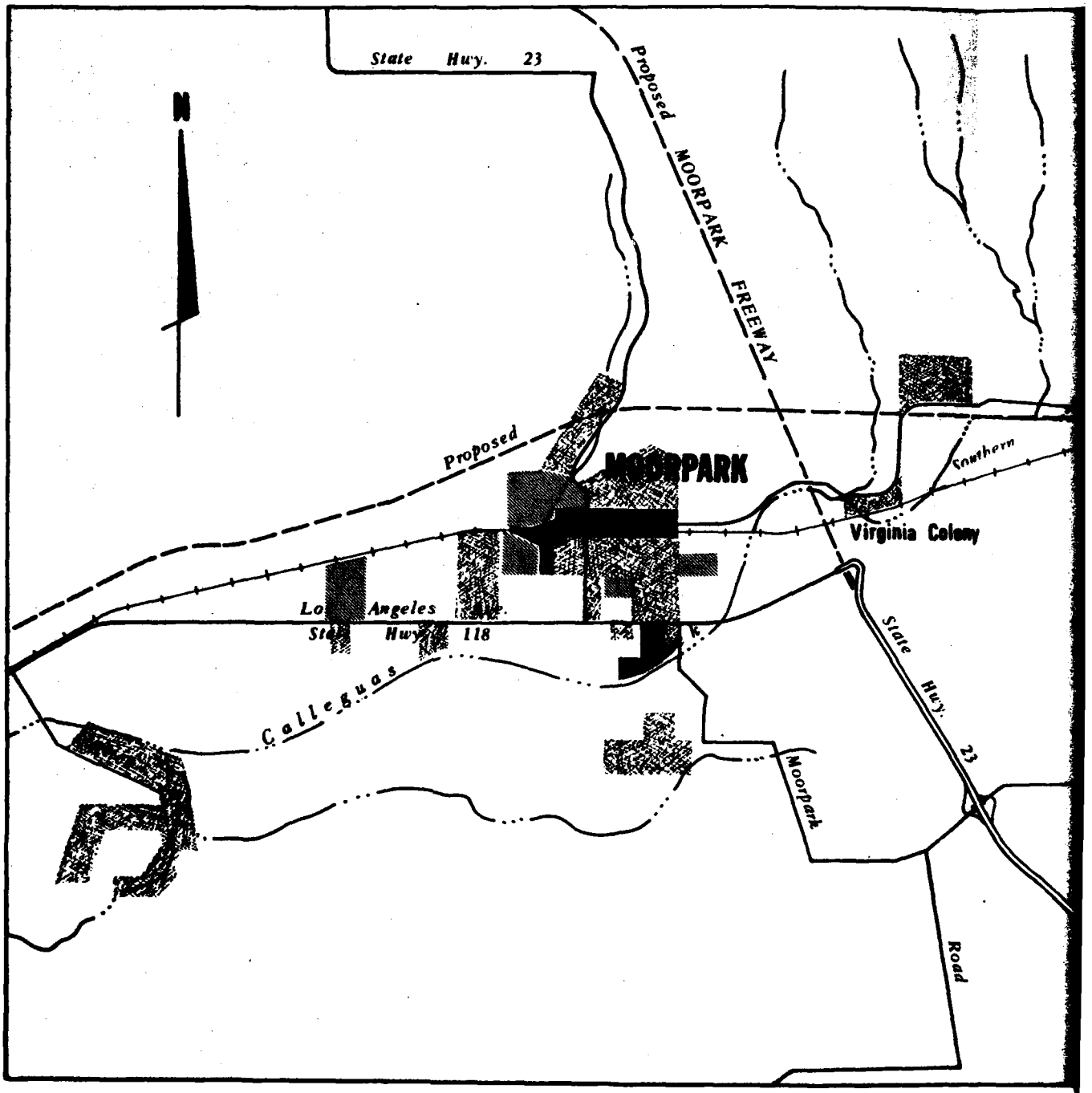
RESIDENTIAL, COMMERCIAL, INSTITUTIONAL

INDUSTRIAL

PUBLIC OPEN SPACE

OPEN SPACE

PLATE 8
GENERALIZED FUTURE LAND USE

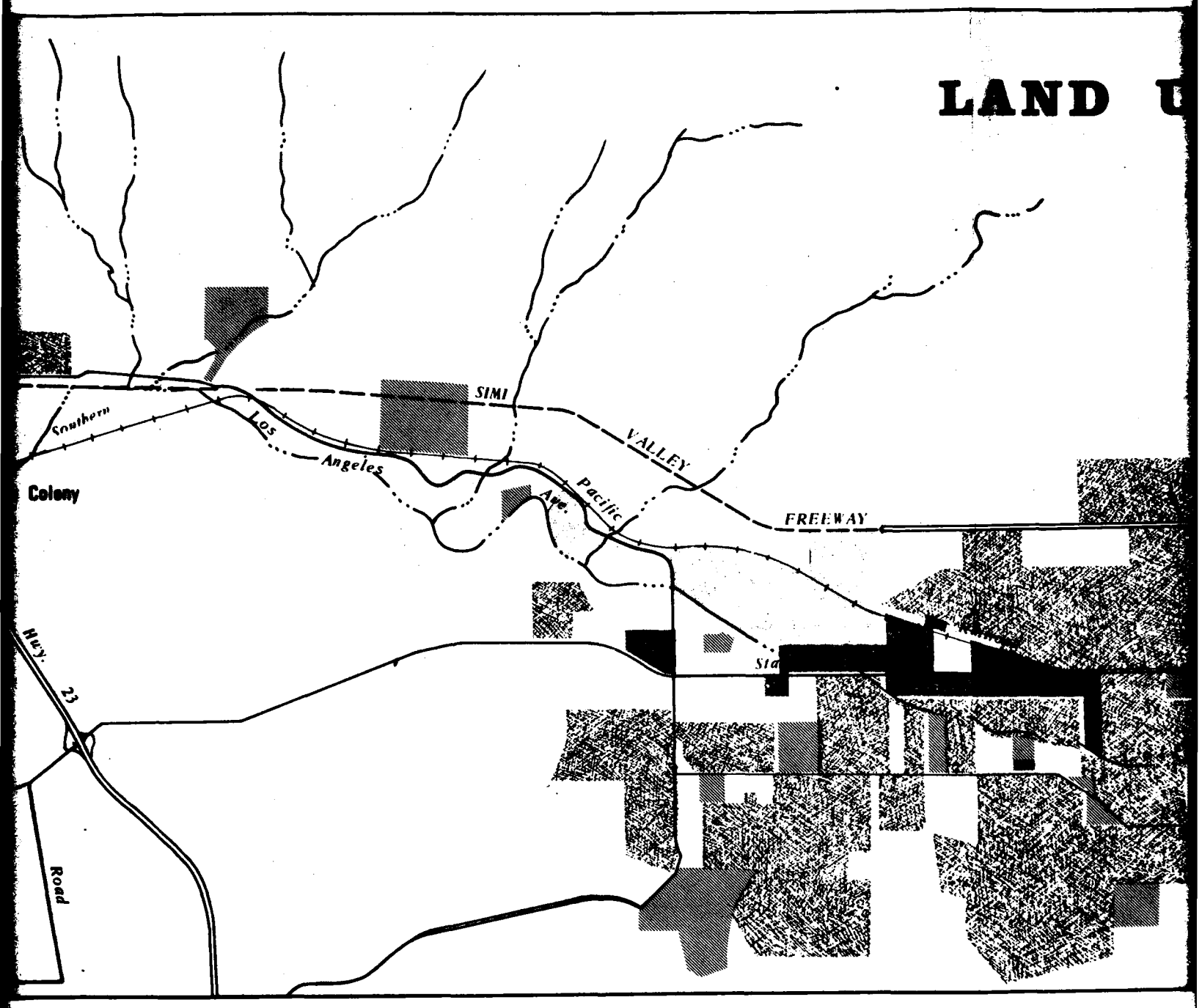


LEG

RESIDENTIAL

COMMERCIAL

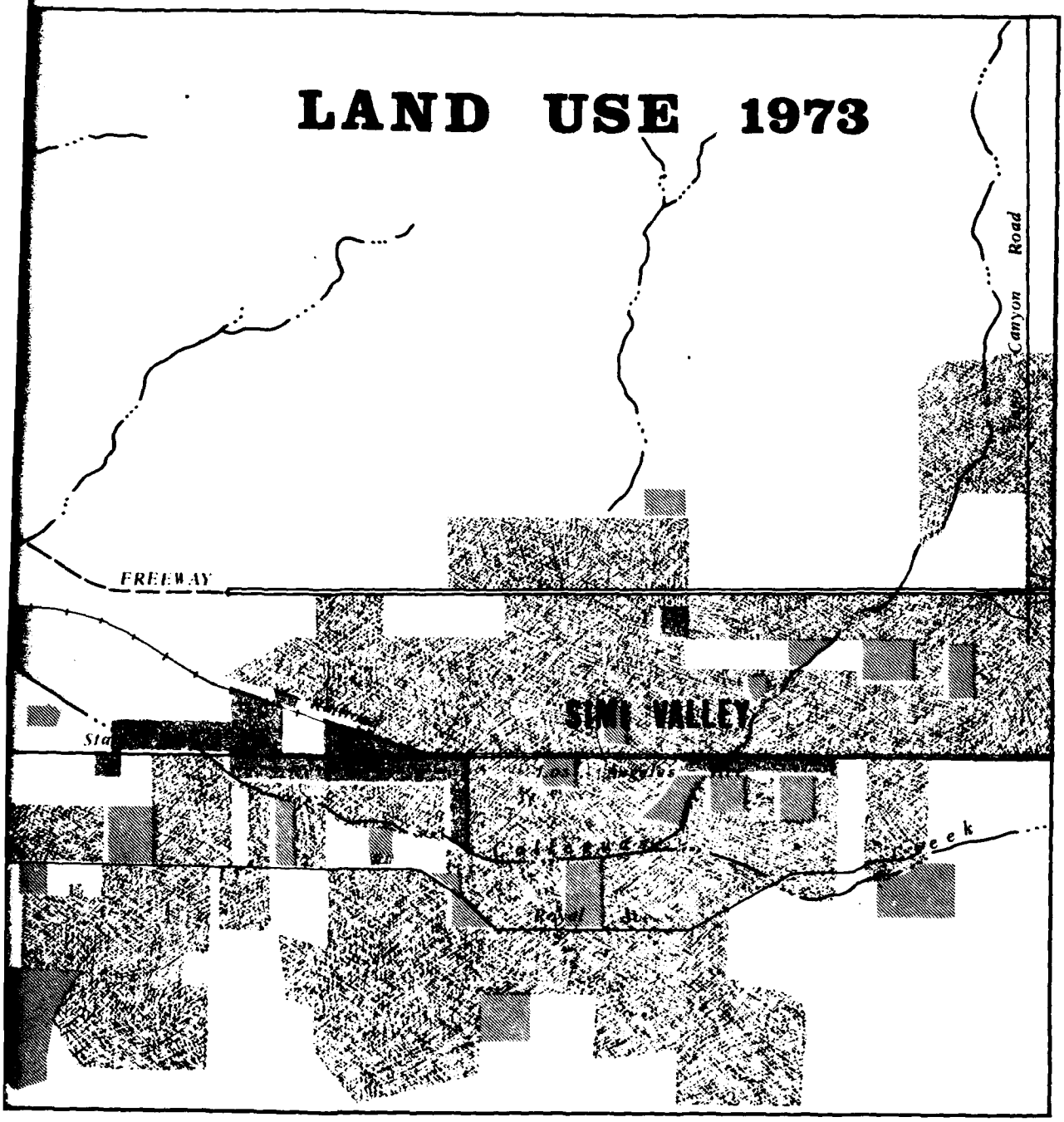
INDUSTRIAL



LEGEND

PUBLIC & SEMI-PUBLIC

AGRICULTURAL and OPEN SPACE



CALLEGUAS CREEK BASIN

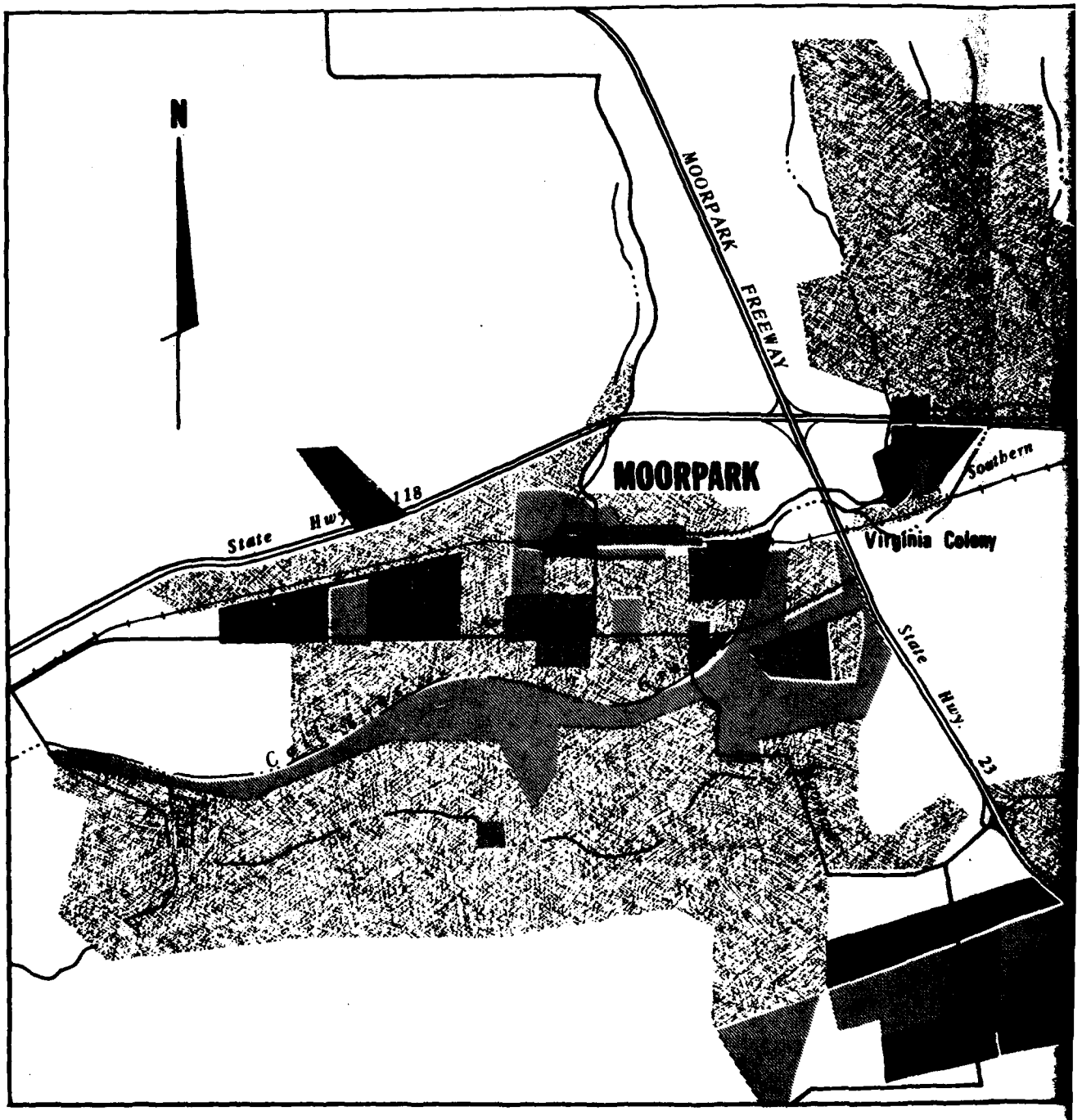
SIMI-MOORPARK PLANNING AREAS

VENTURA COUNTY, CALIFORNIA

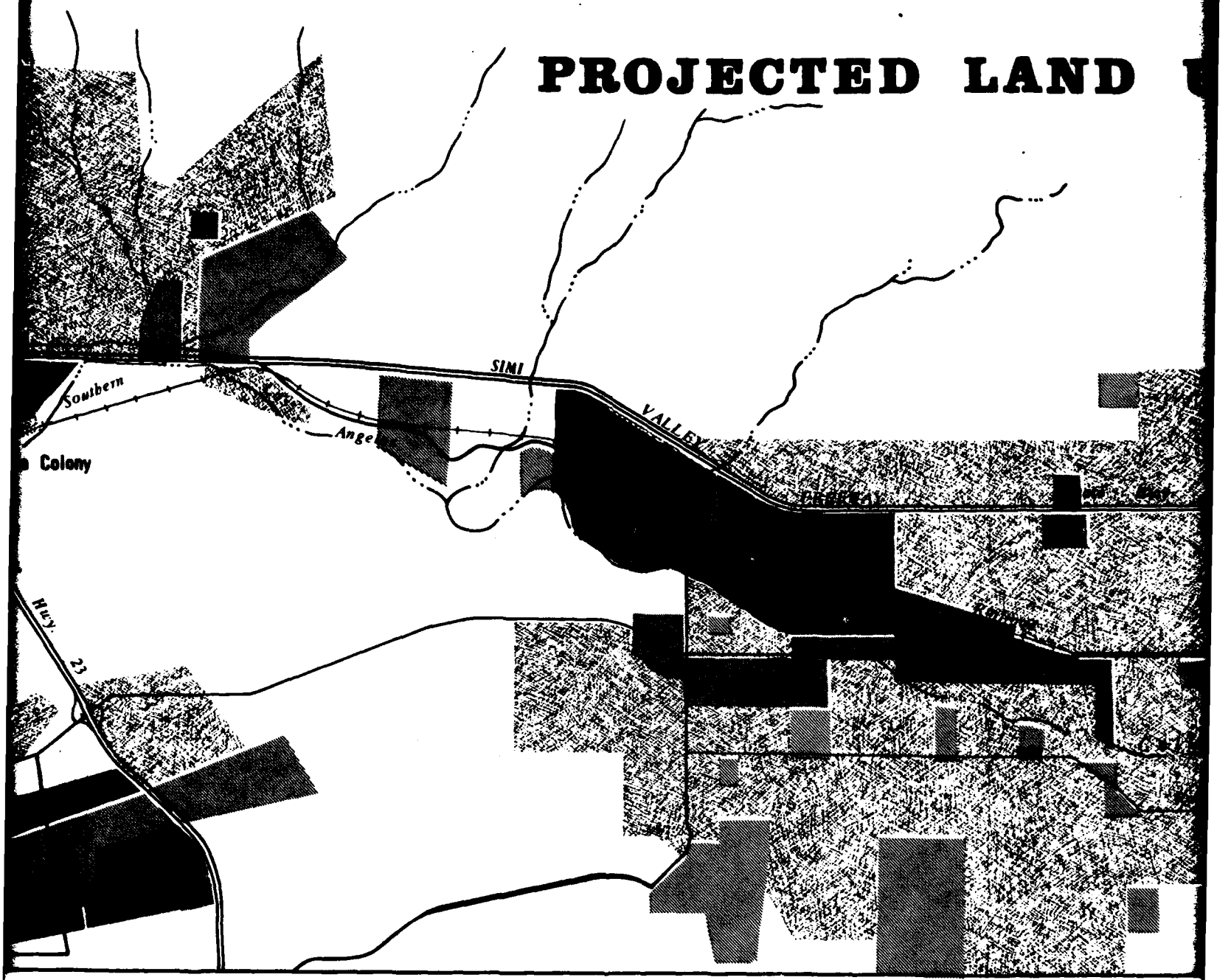
PLATE 9

N

3


N
MOORPARK FREEWAY
MOORPARK
State Hwy. 118
Southern
Virginia Colony
State Hwy. 23
L E
RESIDENTIAL
COMMERCIAL
INDUSTRIAL

PROJECTED LAND



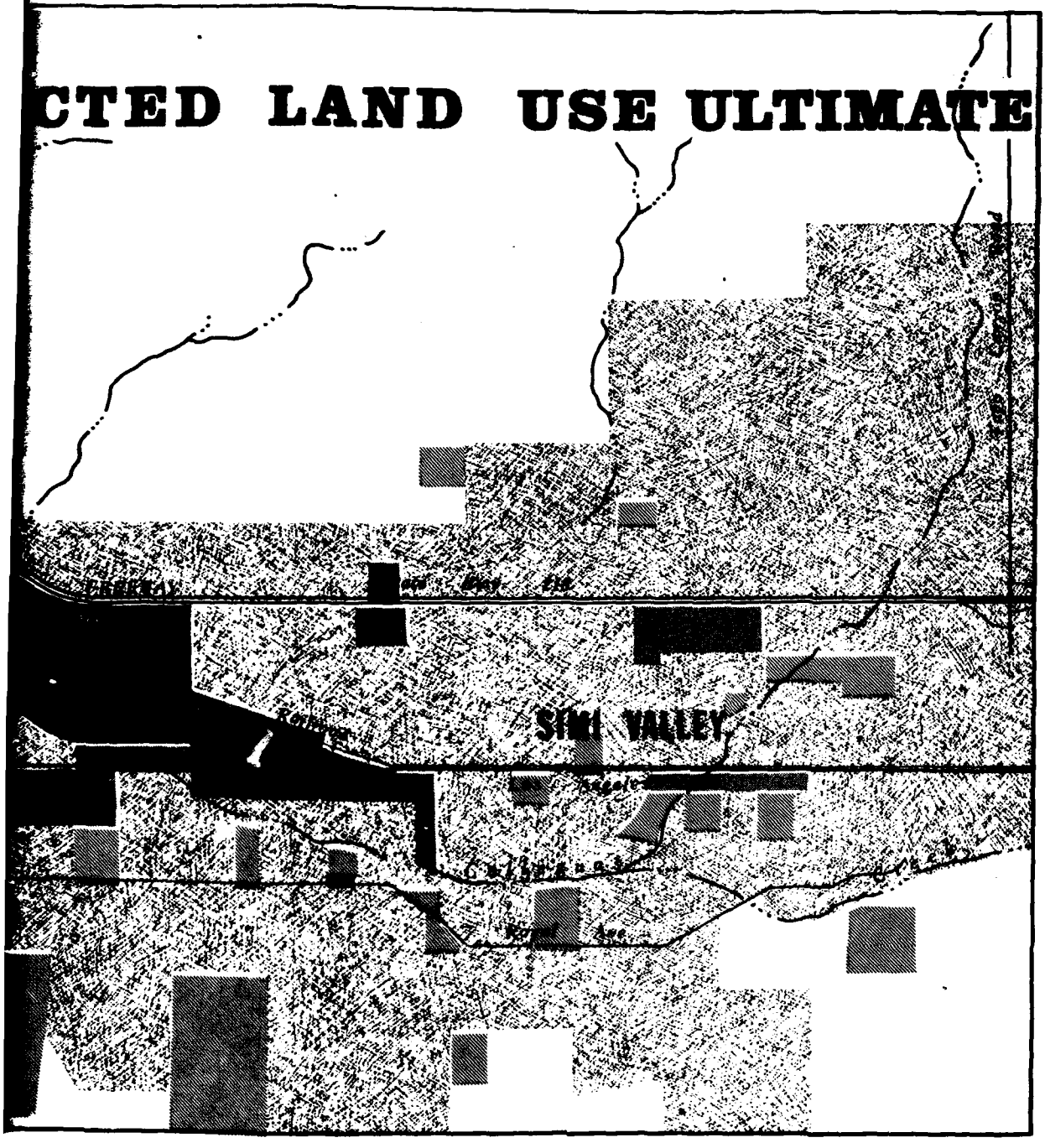
LEGEND

PUBLIC & SEMI-PUBLIC

AGRICULTURAL and
OPEN SPACE

1

2

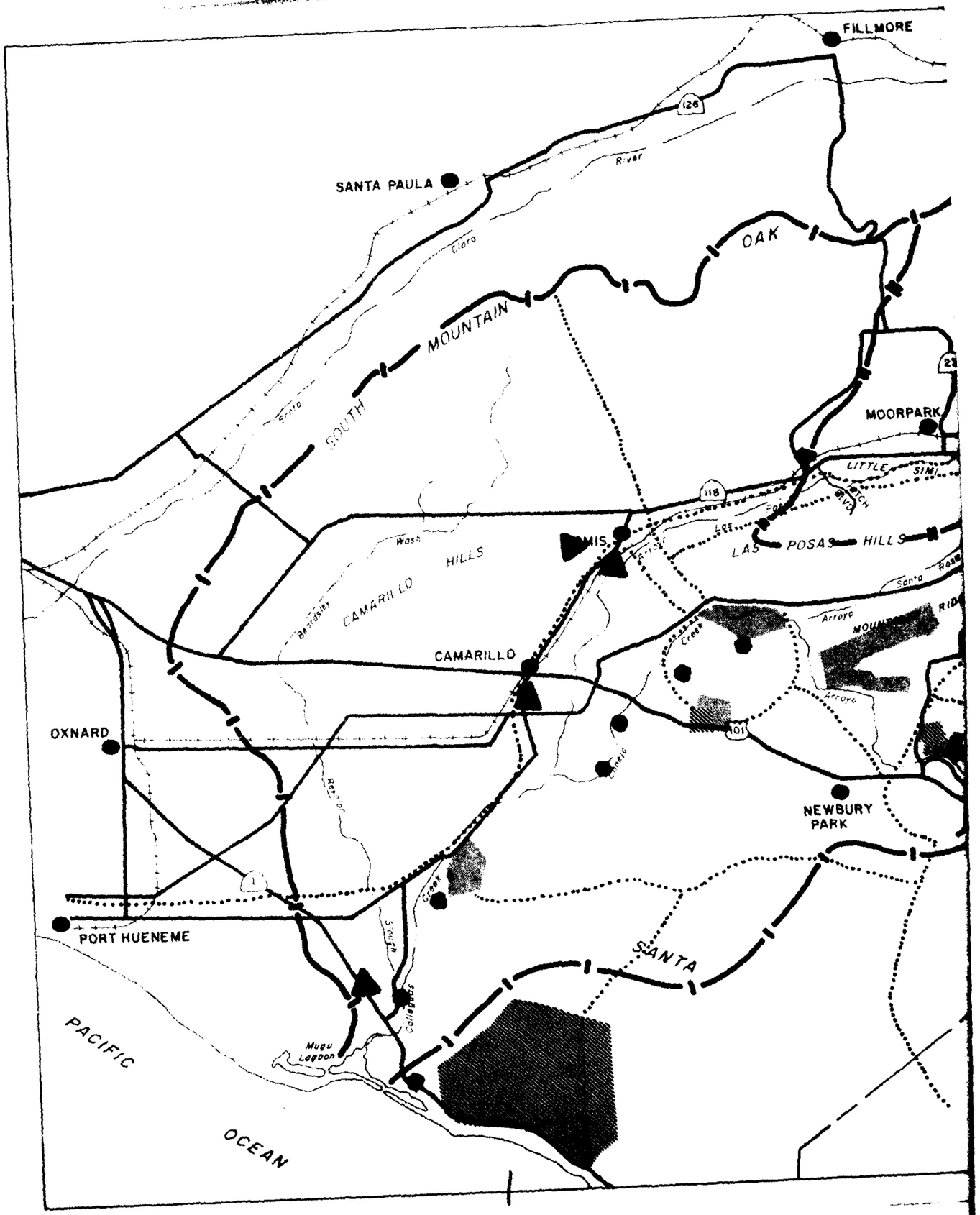


CALLEGUAS CREEK BASIN

SIMI-MOORPARK PLANNING AREAS

VENTURA COUNTY, CALIFORNIA

PLATE 10


FILLMORE
SANTA PAULA
OAK
SOUTH MOUNTAIN
MOORPARK
LITTLE SIMI
LAS POSAS HILLS
CAMARILLO HILLS
CAMARILLO
OXNARD
NEWBURY PARK
PORT HUENEME
SANTA
PACIFIC
OCEAN
Mugu Lagoon
126
118
101
1

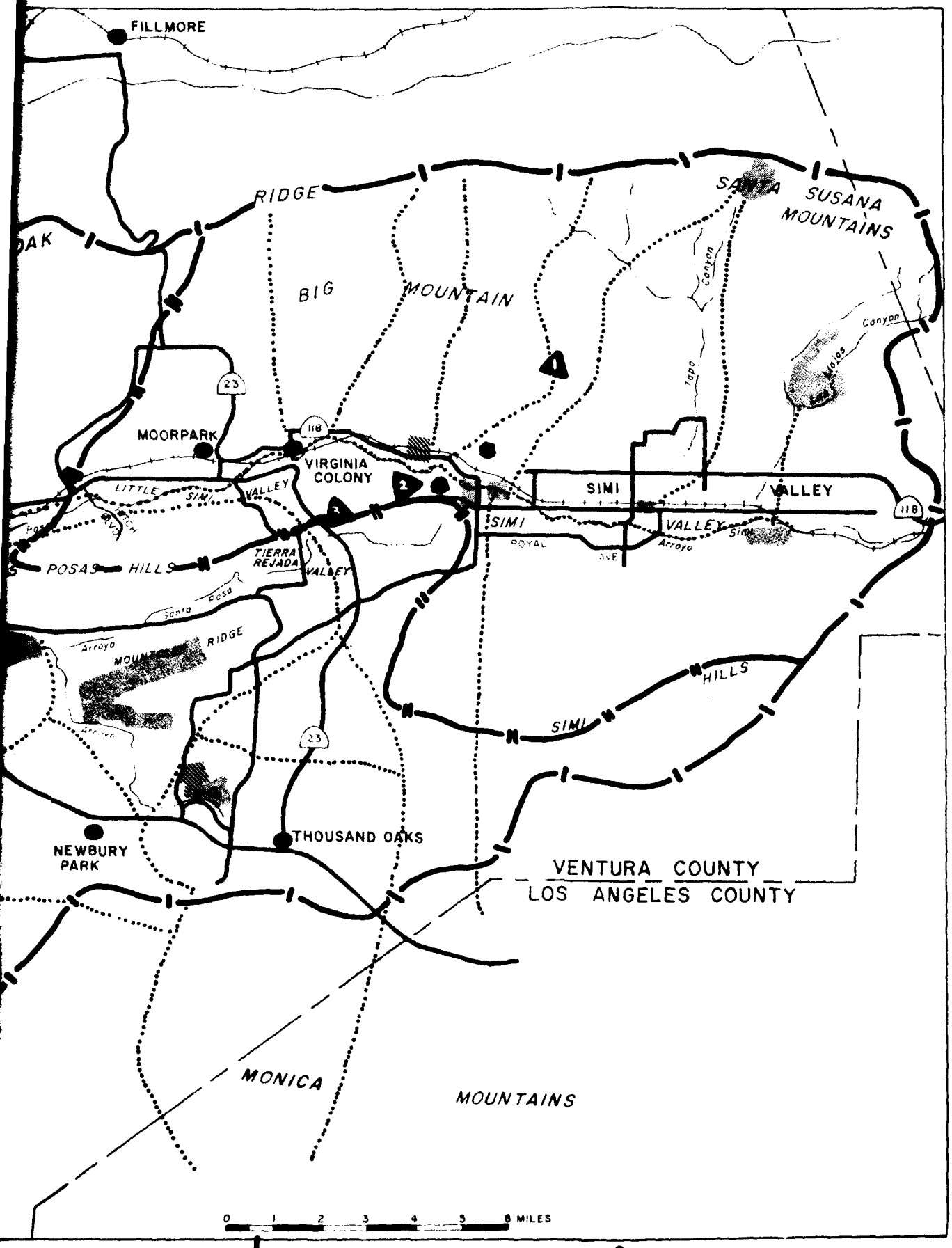
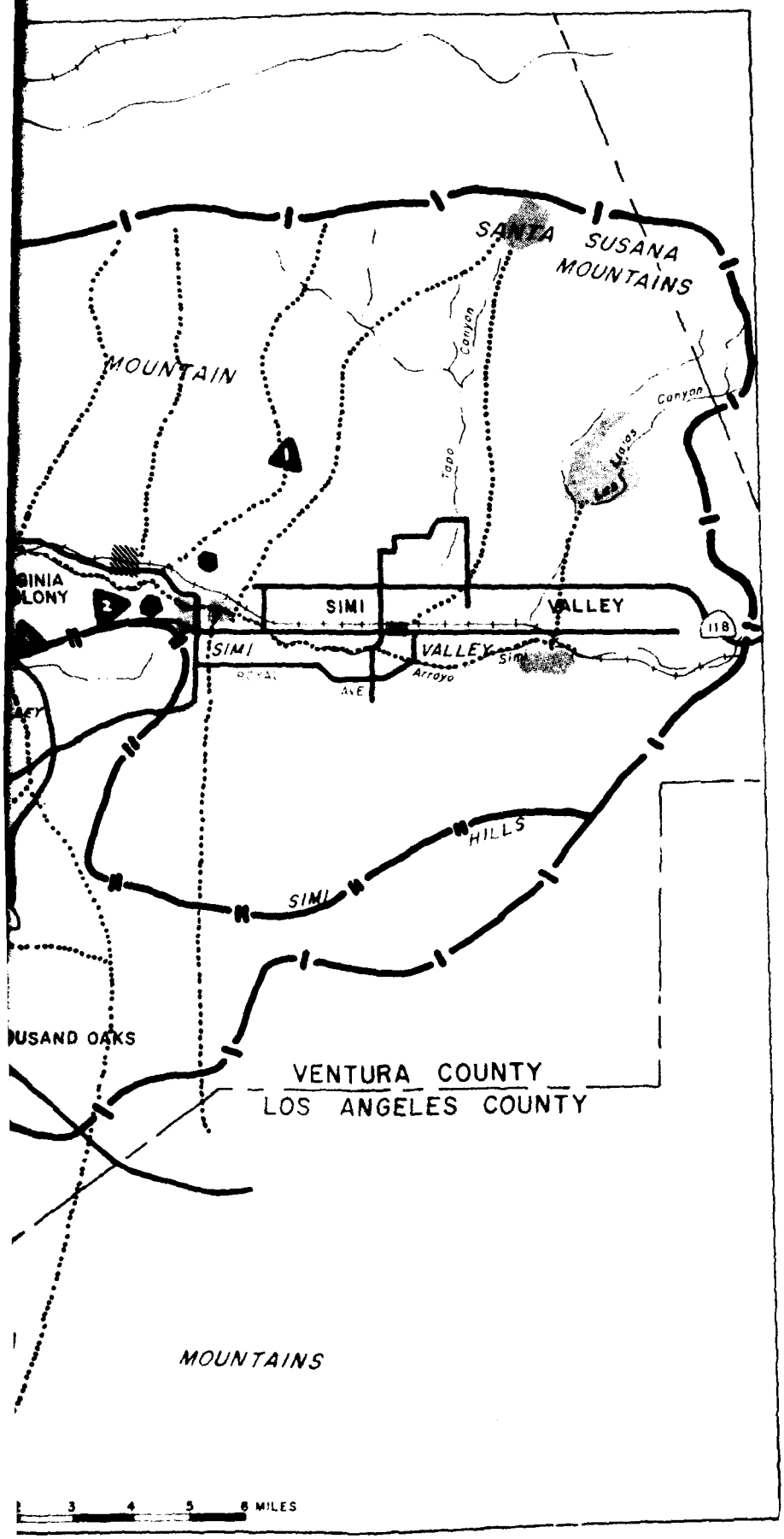


PLATE II

RECREATION,
ARCHEOLOGIC



DRAINAGE BASIN LIMITS

STUDY AREA LIMITS

EXISTING PARKS

PROPOSED PARKS

PROPOSED RIDING AND HIKING TRAILS

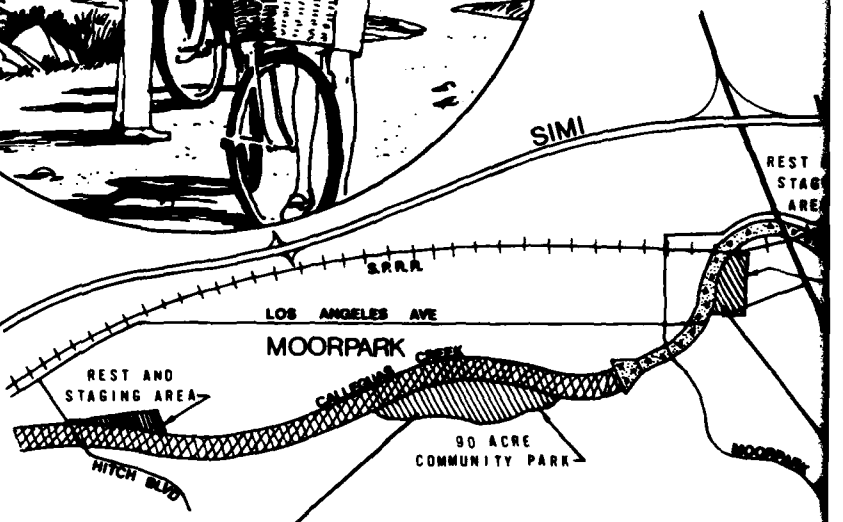
SIGNIFICANT GEOLOGIC SITES

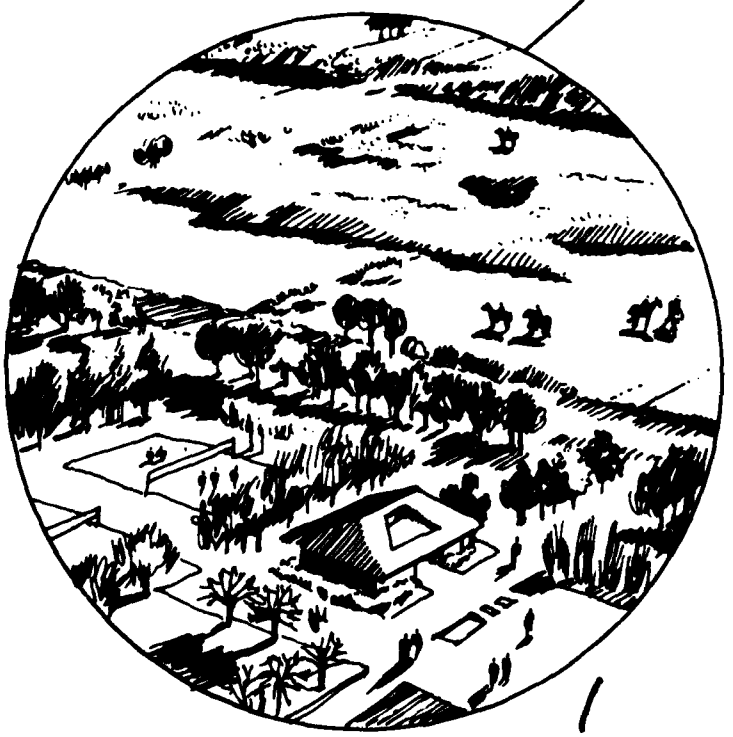
ARCHEOLOGICAL SITES

PLATE II

RECREATION, GEOLOGICAL SITES, ARCHEOLOGICAL SITES

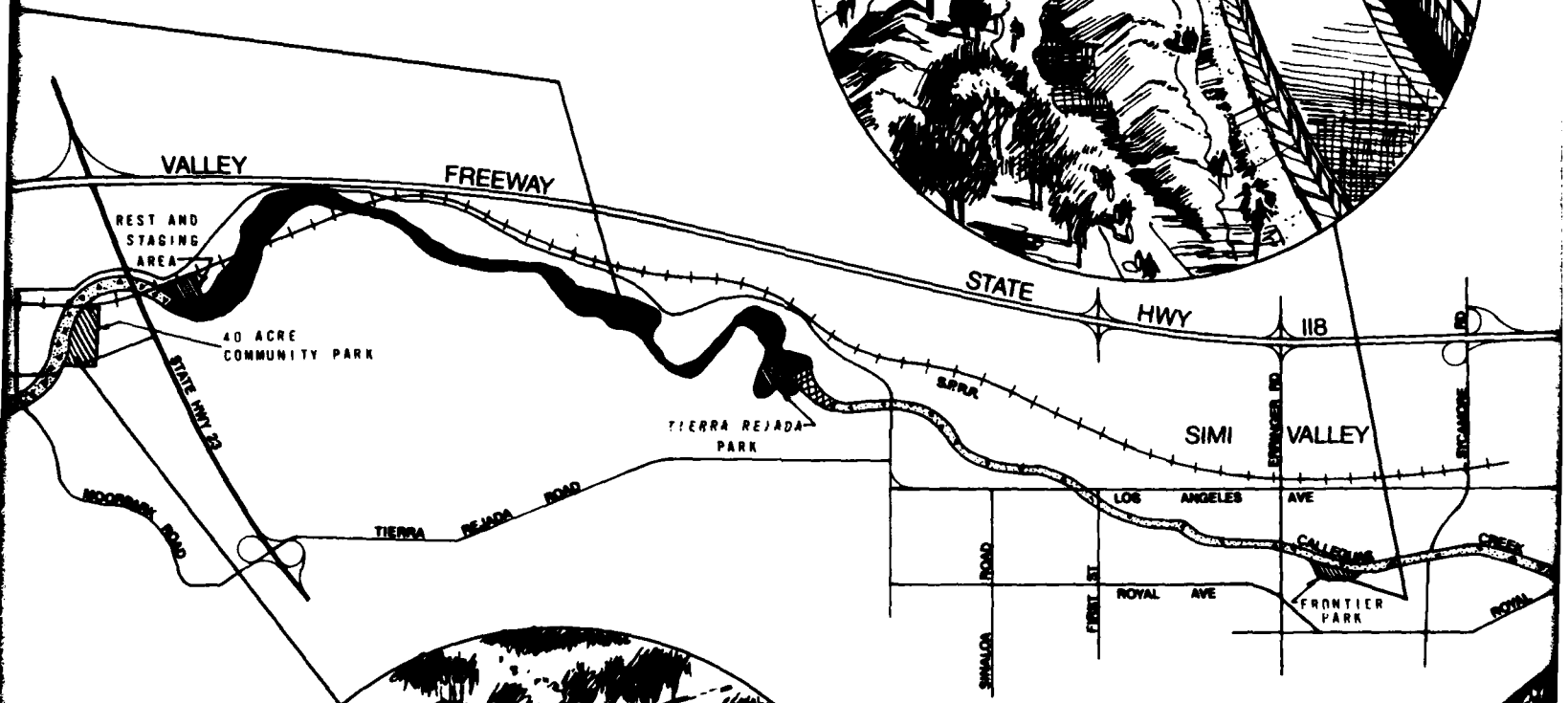
Selecte
and R

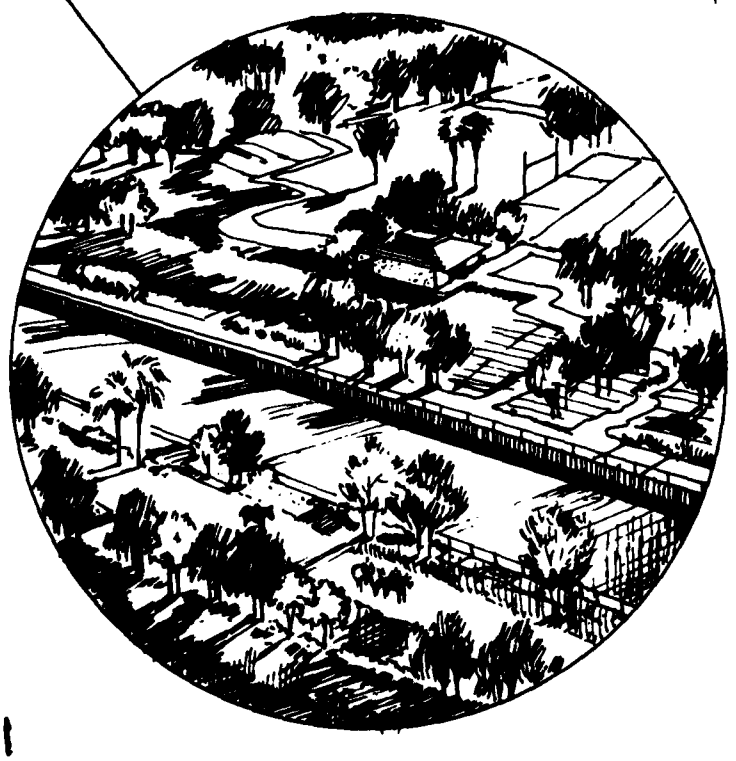




Selected Plan for Flood Control and Recreational Development

EARTH BOTTOM CHANNEL
CONCRETE LINED CHANNEL
REST, STAGING, AND PARK AREAS
FLOODPLAIN MANAGEMENT AREA





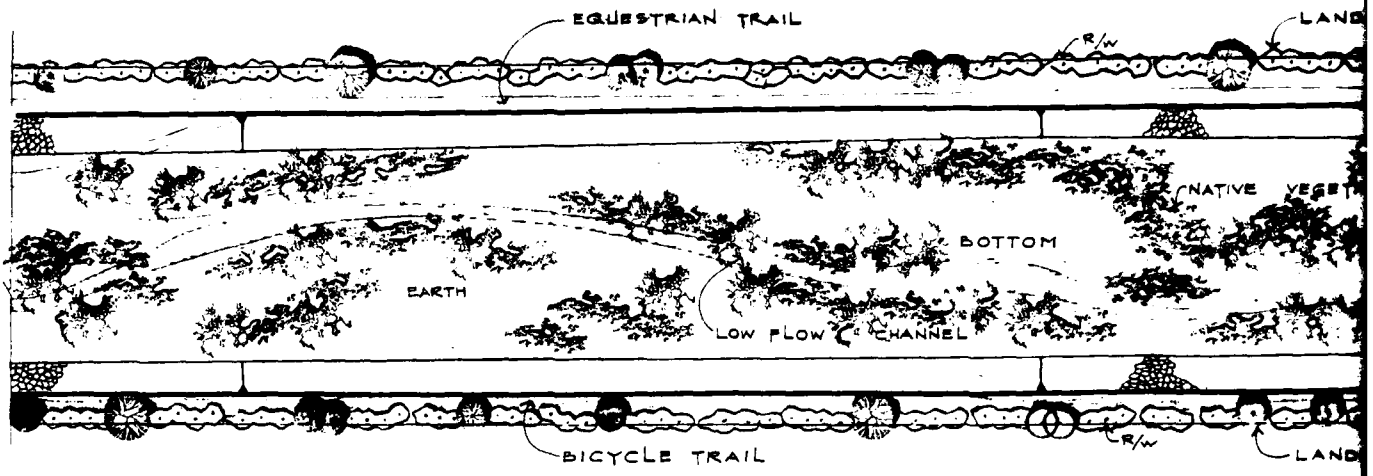
1

2

CALLEGUAS CREEK
SIMI VALLEY TO MOORPARK
VENTURA COUNTY, CALIFORNIA

2 1 3

PLATE 12

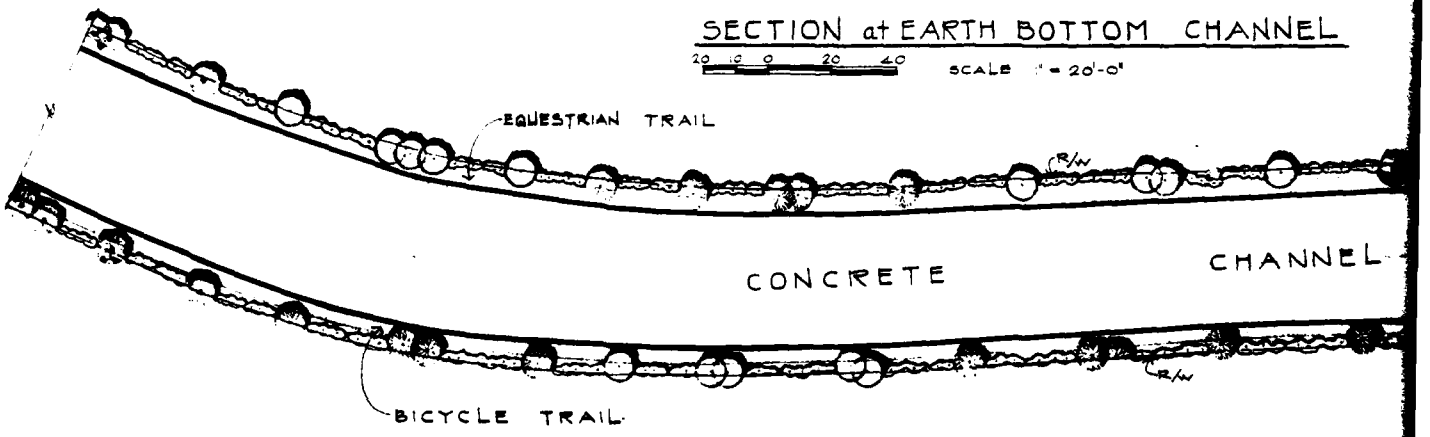


TYPICAL EARTH BOTTOM CHANNEL at MOORPARK

60 30 0 60 120 SCALE 1"=60'-0"

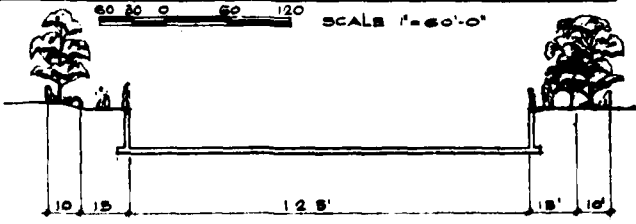
SECTION at EARTH BOTTOM CHANNEL

20 10 0 20 40 SCALE 1"=20'-0"



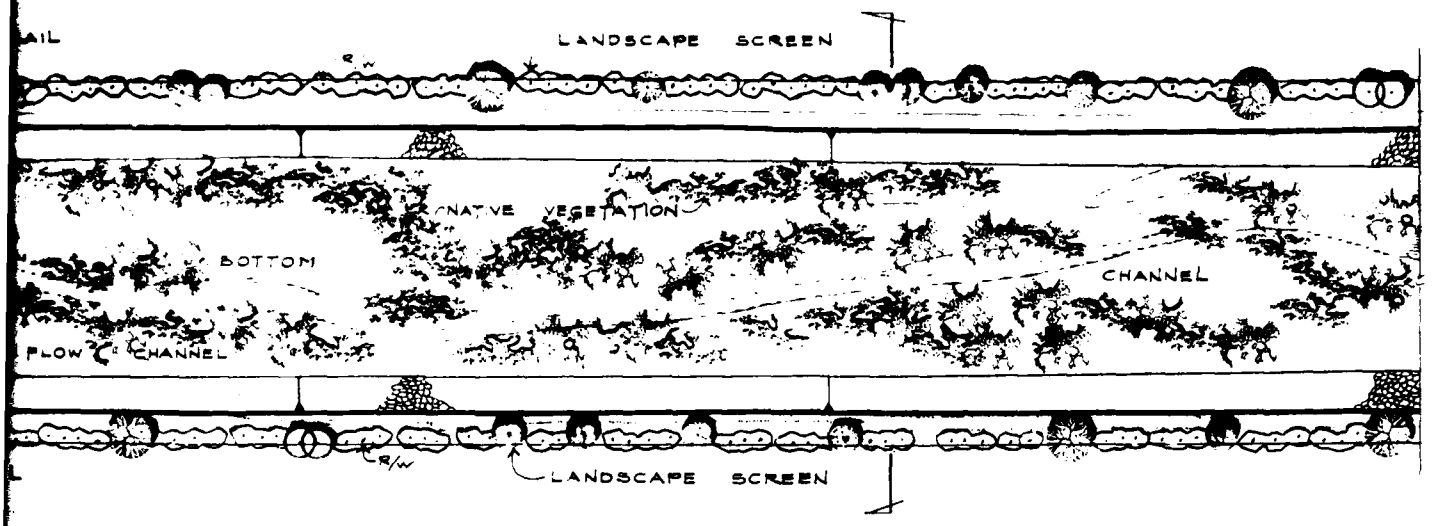
TYPICAL CONCRETE CHANNEL at MOORPARK

60 30 0 60 120 SCALE 1"=60'-0"



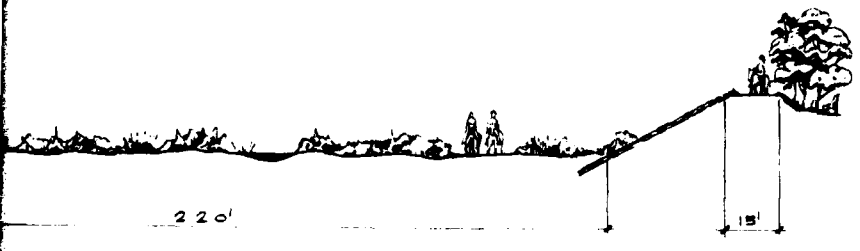
SECTION at CONCRETE CHANNEL

20 10 0 20 40 SCALE 1"=20'-0"



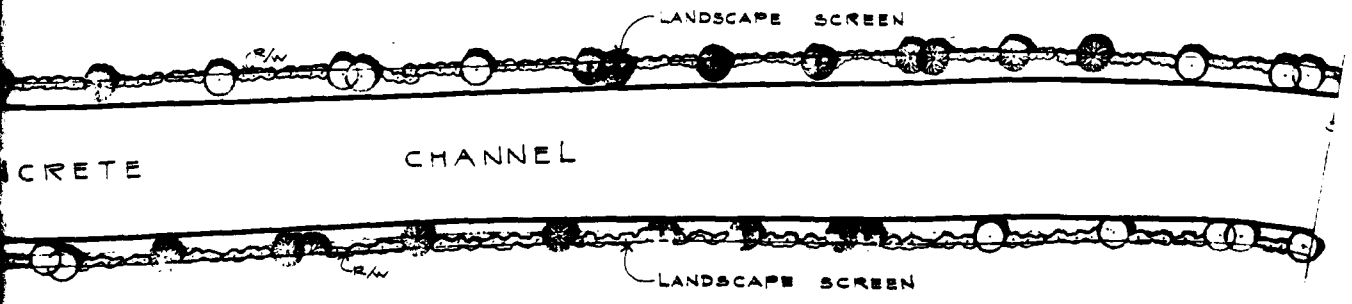
ARTH BOTTOM CHANNEL at MOORPARK

60 30 0 60 120 SCALE 1"=60'-0"



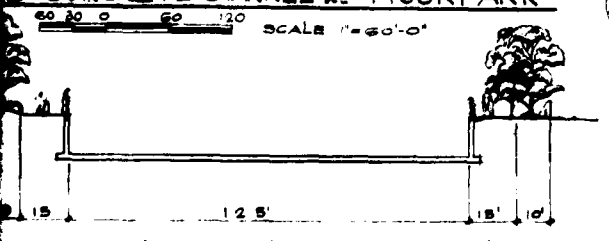
ON at EARTH BOTTOM CHANNEL

20 40 SCALE 1"=20'-0"



L CONCRETE CHANNEL at MOORPARK

60 30 0 60 120 SCALE 1"=60'-0"



SECTION at CONCRETE CHANNEL

20 10 0 20 40 SCALE 1"=20'-0"

SYMBOL	DESCRIPTIONS REVISIONS	DATE	APPROVAL

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

DESIGNED BY: T.E.
DRAWN BY: T.E.
CHECKED BY:

CALIFORNIA CODE AND DESIGNATION, CALIFORNIA CRITERIA REVIEW BOARD FOR FLOOD CONTROL

SIMI VALLEY, MOORPARK AND VICINITY
VENTURA COUNTY, CALIFORNIA
CALLEGUAS CREEK (MOORPARK) CHANNEL
RECREATION and BEAUTIFICATION
TYPICAL PLANS and SECTIONS

SUBMITTED BY:
DATE:

BRDC. NO.
LANDMARK NUMBER
DISTRICT FILE NO.
SHEET

2

APPENDIX A

APPENDIX A

Letters of Comment - Field Level Review

FEDERAL POWER COMMISSION
REGIONAL OFFICE
555 BATTERY STREET, ROOM 415
SAN FRANCISCO, CALIF. 94111

81C-Southern California Coast

October 15, 1973

Garth A. Fuquay
Chief, Engineering Division
Los Angeles District, Corps of Engineers
P. O. Box 2711
Los Angeles, California 90053

Dear Mr. Fuquay:

In reply to your September 7, 1973 request for comments on your Draft Feasibility Report and Draft Environmental Statement, Calleguas Creek, Simi Valley to Moorpark, Ventura County, California, dated September 1973, we have reviewed these reports with respect to hydroelectric development and the involvement of the Federal Power Commission.

Your feasibility report for water resources development indicates that the best plan for providing flood protection would be a program of channel improvements incorporated with recreation development. Because the streamflow is normally negligible, the development of hydroelectric power in connection with the proposed improvements would not be feasible. Also, our staff investigation for pumped-storage hydroelectric development in California does not show any potential sites in this area.

Since the project would apparently pose no obstacle to the construction and operation of bulk electric power facilities and on natural gas pipelines, we, therefore, have no comments on the draft environmental statement.

Sincerely yours,

George R. Bell

(Acting for) M. Frank Thomas
Regional Engineer

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
P. O. Box 1019, Davis, CA 95616

October 16, 1973

Mr. Garth A. Fuquay
Chief, Engineering Division
Department of the Army
Los Angeles District
Corps of Engineers
P. O. Box 2711
Los Angeles, California 90053

Dear Mr. Fuquay:

This acknowledges receipt of the draft feasibility report and draft environmental impact statement "Water Resources Development, Calleguas Creek, Simi Valley to Moorpark, Ventura County, California" for Soil Conservation Service review and comment.

Our review indicates that parts of the proposed development falling within the realm of Soil Conservation Service responsibility and expertise have received adequate consideration within the draft statement.

The proposed project will affect projects of the Soil Conservation Service as follows:

1. Calleguas Creek Channel, previously included in the Calleguas Creek Pilot Watershed Project of Soil Conservation Service will be enlarged to provide an increased level of protection from flooding.

2. Increased flows on Calleguas Creek resulting from the proposed project may influence discharges from Revolon Creek Watershed Channel into Calleguas Creek.

Our records indicate that plans of SCS and the Corps have been correlated as related to both items 1 and 2.

We appreciate the opportunity provided for review and comment.

Sincerely,

G. H. STONE
State Conservationist

cc: Ralph Bishop, SCS, Santa Barbara

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
REGIONAL OFFICE
50 FULTON STREET
SAN FRANCISCO, CALIFORNIA 94102
Office of Environmental Affairs

OFFICE OF
THE REGIONAL DIRECTOR

November 9, 1974

Garth A. Fuquay
Chief, Engineering Division
Department of the Army
Los Angeles District, Corps of
Engineers
P.O. Box 2711
Los Angeles, California 90053

Dear Mr. Fuquay:

The draft Environmental Impact Statement on Calleguas Creek Simi Valley to Moorpark, Ventura County has been reviewed in accordance with departmental procedures as required by Section 102(2)(c) of the National Environmental Policy Act (PL 91-190).

A review of the material submitted with the statement indicates that there will be only a slight growth inducing factor in which currently unusable land will be available for development. It is stated that this will remove the pressure on lands adjacent to this area which the county has attempted to hold in open space. It is unlikely that this increased growth will be of a nature and scope to be of concern of this department. We are impressed with the cost of this action, $29.26 million when it is indicated that over a fourteen year period the total flood damage amounted to a little over $2 million and in fact, one part of the statement indicated "relatively little economic damage occurs in the reach between Simi Valley and Moorpark." Is there not a simpler, equally effective and more inexpensive way to provide the protection?

We look forward to receipt of the final EIS.

Sincerely,

James D. Knochenhauer
Regional Environmental Officer

cc: M. Pospur
CEQ

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
AREA OFFICE
2500 WILSHIRE BOULEVARD, LOS ANGELES, CALIFORNIA 90057

AREA OFFICES:
Los Angeles, California
San Francisco, California

REGIONAL IX
REGIONAL OFFICE
SAN FRANCISCO, CALIFORNIA

OCT 24 1973

IN REPLY REFER TO:
9.2PP-Ahuero

Mr. Garth A. Fuquay
Chief, Engineering Division
Department of the Army
Los Angeles District, Corps of Engineers
P.O. Box 2711
Los Angeles, California 90053

Dear Mr. Fuquay:

Subject: Draft Feasibility Report - Draft Environmental Statement for Calleguas Creek, Ventura County, California

We are responding to your request for our review and comment on the proposed flood control channel improvements for Calleguas Creek. Linear parks are also planned along some portions of the channel within the Ventura County rights-of-way. All of the proposed improvements will be on Calleguas Creek from the City of Simi Valley to the Moorpark Community.

The purpose of this proposal is to provide flood protection for the existing developments within a defined overflow area. Apparently, Ventura County regulates new development within the estimated 50-year flood plain through zoning practices, subdivision regulations, etc.

Although we have water/sewer and park projects within the Calleguas Creek Basin, none will be directly affected by your flood control proposal. We encourage your use of flood control channel rights-of-way as multi-use recreational areas.

We wish you the best in your project and request that a copy of the Final Environmental Impact Statement be sent to this office.

Sincerely,

John E. Bonkoski
Director
Operations Division

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF THE SECRETARY
PACIFIC SOUTHWEST REGION
BOX 36098 • 450 GOLDEN GATE AVENUE
SAN FRANCISCO, CALIFORNIA 94102
(415) 556-8200

ER-73/1248

November 23, 1973

Mr. Garth A. Guquay, Chief
Engineering Division
Los Angeles District
Corps of Engineers
P.O. Box 2711
Los Angeles, California 90053

Dear Mr. Fuquay:

The Department of the Interior has reviewed the Draft Environmental Statement and Feasibility Report for Calleguas Creek, Simi Valley to Moorpark, Ventura County, California.

Mineral production has been a factor in the area's economic development but it is not discussed in the report or draft statement. Several oilfields lie within study area limits with cumulative annual oil production exceeding 20 million barrels. The Tapo-Coquina mine is a source of shell limestone, and the Santa Susana sandstone deposit was utilized for railroad ballast. We suggest that a discussion of these and other mineral resources be included in the report and statement. The presence and availability of such resources should be added to discussion of natural values. Because of extensive regional petroleum activity, likelihood of oil or gas pipelines crossing the proposed channel should be considered.

Average annual cost of flood damage in Simi Valley-Moorpark area derived from figures on page 8 of the draft environmental statement is approximately $230,000, a sum significantly less than $723,000 cited on page 25 for Simi Valley reach and $1,873,000 mentioned on page 35 for Moorpark reach. This apparent discrepancy should be corrected.

We suggest that equestrian, cycling, and hiking trails proposed in the feasibility report between Simi Valley and Moorpark should not be asphalt-covered since it would detract from the area's natural setting. Use of a soil cement or hard-packed soil might suffice. Also, to avoid loss of riparian habitat, trails should follow the rights-of-way perimeter away from Calleguas Creek.

Draft statement comments should include possible trail impact on wildlife. Impact significance will depend on kind and amount of people use, especially off-trail. If use is confined to trails only, adverse environmental effects would be minimized.

The draft feasibility report says that flooding can damage existing riparian habitat. However, the degree of protection against flood-caused soil erosion provided by this vegetation should be acknowledged. Flood-caused alluvial deposits can also provide soil to promote growth of streamside vegetation.

Calleguas Creek sections mentioned in the report that would be converted to rectangular concrete channel would not be attractive or accessible to many wildlife species, thus reducing populations. This fact should be included in the adverse environmental impact discussion.

The statement does not provide substantive archeological data. Archeological resources of significance are located in the general project area. There is no record of a systematic archeological examination of the area, although Calleguas Creek has a high potential for unrecorded resources. A systematic survey could result in resource identification and form a basis for mitigative action. Therefore, we suggest an area survey be conducted by professional archeologists. The subsequent report should be attached as an appendix to the statement.

We appreciate the opportunity to review and comment on the draft environmental statement and feasibility report.

Sincerely yours,

Webster Otis
Special Assistant to the Secretary

cc: OEPR, Washington, D. C.
Regional Director, BSFW, Portland
Regional Director, BOR, San Francisco
Regional Director, NPS, San Francisco
Director, USGS, Washington, D. C.
Director, BOM, Washington, D. C.
State Director, BLM, Sacramento

IN REPLY REFER TO:
Land Operations
L.A.Dist.341.7

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF INDIAN AFFAIRS
Sacramento Area Office
2800 Cottage Way
Sacramento, California 95825

OCT 18 1973

Mr. Garth A. Fuquay
Los Angeles Dist., Corps of Engineers
P. O. Box 2711
Los Angeles, California 90053

Dear Mr. Fuquay:

The Draft Feasibility Report and Environmental Statement, Calleguas Creek, Simi Valley to Moorpark Ventura County, California, involve no Indian lands that are under the jurisdiction of this office.

Sincerely yours,

Charles L. Taylor Jr.

ACTING Area Director

United States Department of the Interior

BUREAU OF MINES

WEST 222 MISSION AVENUE
SPOKANE, WASHINGTON 99201

Western Field Operation Center
September 14, 1973

Mr. Garth A. Fuquay, Chief
Engineering Division
Corps of Engineers
P. O. Box 2711
Los Angeles, California 90053

RE: Draft Feasibility Report and Draft Environmental Statement, Calleguas Creek, Simi Valley to Moorpark, Ventura County, California

Dear Mr. Fuquay:

Our original review response to Col. Robert J. Malley dated April 9, 1970, indicated the proposed flood control improvements would not conflict with current or anticipated future mineral development. This response is also valid for the present proposal.

Sincerely yours,

Kenneth D. Baber, Acting Chief
Western Field Operation Center

United States Department of the Interior

BUREAU OF RECLAMATION

MID-PACIFIC REGIONAL OFFICE
2800 COTTAGE WAY
SACRAMENTO, CALIFORNIA 95825

IN REPLY
REFER TO: MP-700
125.1

FEB 15 1974

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

Dear Sir:

This will belatedly acknowledge and respond to your September 7, 1973, request (reference SPLED-WA) for our review comments on your draft feasibility report on "Calleguas Creek from Simi Valley to Moorpark..."

Our review failed to disclose any matters of concern to us. Thus we have no comments or suggestions to offer. Through an error on our part, we failed to acknowledge your inquiry and advise of our conclusions in this regard. We regret this oversight.

Sincerely,

H. E. Horton

H. E. Horton
Acting Regional Director

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION-REGION SEVEN

ARIZONA
CALIFORNIA
HAWAII
NEVADA

450 Golden Gate Avenue, Box 36096, San Francisco, Calif. 94102

September 27, 1973

IN REPLY REFER TO:
9ED

Mr. Garth A. Fuquay
Chief, Engineering Division
Department of the Army
Los Angeles District
Corps of Engineers
P. O. Box 2711
Los Angeles, California 90053

Dear Mr. Fuquay:

We have reviewed the Draft Feasibility Report and the Draft Environmental Impact Statement for the Calleguas Creek Project, Simi Valley to Moorpark in Ventura County, California, and offer the following comment for your consideration:

The proposed channel lies in the vicinity of several Federal-aid highways; however, it will only cross State Route 23 (FAP-84) approximately one-half mile south of the future SR 23/SR 118 interchange. The present design of the SR 23 crossing of Calleguas Creek will clear the entire flood plain and the existing railroad tracks. As this design does not include a concrete-lined channel, as proposed by the Corps of Engineers, it is recommended that the State Division of Highways be contacted to assure design compatibility, as well as economy.

We appreciate this opportunity to review the subject Draft EIS and are looking forward to receiving a copy of the Final EIS when it becomes available.

Sincerely yours,

FOR R V White
F. E. Hawley
Regional Administrator

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
100 CALIFORNIA STREET
SAN FRANCISCO, CALIFORNIA 94111

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

OCT 30 1973

Dear Mr. Fuquay:

The following is our review and comment on the draft environmental impact statement submitted by the Corps of Engineers for the proposed Calleguas Creek Flood Protection Project from Simi Valley to Moorpark, Ventura County, California.

The impact statement adequately discusses the major environmental issues involved in the proposed project and this agency has no objections to the proposal. We will therefore classify our comments on this project Category LO-1. This classification will be published in the Federal Register in accordance with our responsibility to inform the public of our views on proposed Federal actions under Section 309 of the Clean Air Act. An explanation of our rating system is enclosed.

The Environmental Protection Agency appreciates the opportunity to review this impact statement and would like to receive a copy of the final impact statement when it is sent to the Council on Environmental Quality.

Sincerely,

Paul De Falco, Jr.
Regional Administrator

Enclosure

cc: Council on Environmental Quality, Wash., DC

STATE OF CALIFORNIA—RESOURCES AGENCY

RONALD REAGAN, Governor

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD—
LOS ANGELES REGION
107 SOUTH BROADWAY, SUITE 4027
LOS ANGELES, CALIFORNIA 90012

OCT 3 1 1973

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

ATTENTION: Mr. Garth A. Fuquay, Chief, Engineering Division

RE: Review of Draft Feasibility Report and Draft Environmental Statement of Water Resources Development for the Simi Valley to Moorpark Area

Gentlemen:

We have reviewed your draft feasibility report for water resources development of Arroyo Simi from Simi Valley to Moorpark dated September 7, 1973, and offer the following comments.

1. The effects of the recommended project on Mugu Lagoon, in terms of increased mass emission rates of significant constituents such as nutrients, biostimulants, suspended and settleable solids, etc., should be investigated and discussed in the Environmental Statement. We realize the difficulty and complexity in ascertaining these effects; however, it is important that consideration be given to this area, because of the biological significance of Mugu Lagoon.

2. The economic feasibility of extending the proposed flood control improvements of the Simi Valley reach to include protection for the Simi Valley County Sanitation District treatment facility should be investigated. Your proposed improvements for this reach terminate approximately 4,000 ft upstream from the site of the treatment facility. This treatment facility is situated where a sharp bend in Arroyo Simi creates a critical flood area. The proposed flood control improvements are expected to increase stormflow by 2,000 cfs near the treatment facility during a standard project flood and therefore would increase the potential of flood hazard at the treatment facility.

The treatment plant is an integral component of the City of Simi Valley and construction is currently in progress to expand its capacity. An extension of the flood control facilities would protect this faciltiy from flood hazard and arrest the possibility of discharge of raw or inadequately treated sewage during storm conditions due to flooding of the treatment facility site.

3. The effects, if any, of the proposed flood control improvements of the Moorpark reach on the potential flood hazard to the Moorpark County Sanitation District treatment facility should be investigated and mentioned in the Environmental Statement also. Channel improvements along Arroyo Simi upstream from the Moorpark facility should increase streamflow by an estimated 3,500 cfs during a standard project flood which may cause flooding of the treatment facility and result in the discharge of raw or inadequately treated sewage to Arroyo Simi. We are currently recommending that the Moorpark facility be abandoned and consolidated into a regional scheme within the near future.

In addition to the aforementioned comments, we wish to re-emphasize the comments submitted by us in a letter dated May 12, 1972, to Col. H. McK. Roper, Jr., District Engineer.

Thank you for giving us the opportunity to review and comment on this proposal.

Very truly yours,

Raymond M. Hertel

RAYMOND M. HERTEL
Executive Officer

cc: State Water Resources Control Board
ATTENTION: Mary Jane Nauss
w/copy of May 12, 1972 letter

STATE OF CALIFORNIA—RESOURCES AGENCY RONALD REAGAN, Governor

DEPARTMENT OF PARKS AND RECREATION
P.O. BOX 2390
SACRAMENTO 95811

April 24, 1973

Mr. Garth A. Fuquay, Chief
Engineering Division
Department of the Army
Los Angeles District, Corps of Engineers
P. O. Box 2711
Los Angeles, California 90053

Dear Mr. Fuquay:

As staff for the State Historic Preservation Officer we have reviewed your material for the development of an environmental statement for the proposed improvements along Calleguas Creek in Ventura County, California. We have determined that there are several important historic sites within the area that should be considered in your plans.

The Newbury Park Inn and Stage Stop is State Historical Landmark No. 659, and according to our sources, the building is still standing intact on Ventu Park Road one half mile south of its original site. State Historical Landmark 784, El Camino Real crosses the project in the vicinity of Highway 101. The de la Guerra Adobe is a remnant of Rancho Simi which was one of the largest land grants in California. The de la Guerra Adobe probably dates from the 1820's and is located at 17333 Tierra Rejada Road in Simi. Another adobe ruin of some historic importance is located several miles north of Santa Susana.

There were no State Points of Historical Interest located within the area of your project. We have also determined that no sites on the National Register of Historic Places are located in the area, although you should be aware that this is an area of high historical and archeological potential. There may be resources not presently listed on any landmark register which could possess potential for National Register nomination. You should be aware of this possibility and consider a survey of historical resources within areas to be affected by your project.

Please feel free to contact us if we may be of any further assistance.

Sincerely,

John H. Michael, Supervisor
History Preservation Section

J-1/3

STATE OF CALIFORNIA—BUSINESS AND TRANSPORTATION AGENCY RONALD REAGAN, Governor

PARTMENT OF TRANSPORTATION
VISION OF HIGHWAYS
1120 N Street
Sacramento, California 95814

October 26, 1973

Mr. Garth A. Fuquay
Chief, Engineering Division
Department of the Army
U. S. Corps of Engineers
P. O. Box 2711
Los Angeles, CA 90053

Dear Mr. Fuquay:

In reply to your letter of September 7, 1973 we have reviewed the Draft Environmental Impact Statement and Feasibility Report on Calleguas Creek from Simi Valley to Moorpark. The following are our comments.

Some of the exhibit plates do not show the proposed Route 118 Freeway location; those that do fail to show the most recent design in the vicinity of the Moorpark College. The sketches for the pedestrian and bicycle trails do not show the freeway at all. As a consequence, the location for the trails between Princeton Avenue and College View Avenue is in conflict with the proposed freeway. We have furnished the freeway strip map directly to the engineers conducting the study.

The existing Arroyo Channel improvement between the College and the City of Simi Valley is briefly discussed, and the report states that this improvement is damaged and is no longer functioning as it was designed to do. However, the report does not state whether this damaged channel is to be removed, repaired or left as is.

In the last section of the Appendix, a statement of financial responsibilities shows that a large portion of the cost would have to be carried by local agencies, both initial and the continuing costs of operation and maintenance. (Some of these costs would be carried by the State where relocation and adjustment of its facilities, etc., would be involved.) However, the report does not state that the County has indicated a willingness to bear these costs.

The proposed fully lined PCC channel where the future Route 23 Freeway will cross the Arroyo may make it possible to shorten the freeway crossing structure, which is presently planned to span the full flood-plain. Coordination between the State and the Corps of Engineers in the development of their respective proposals will enable a more definite assessment of this possibility.

Sincerely,

W. R. GREEN
Chief, Project Development Branch

NORMAN B. LIVERMORE, JR.
SECRETARY

RONALD REAGAN
GOVERNOR OF
CALIFORNIA

OFFICE OF THE SECRETARY
RESOURCES BUILDING
1416 NINTH STREET
95814

Department of Conservation
Department of Fish and Game
ment of Navigation and
n Development
ment of Parks and Recreation
Department of Water Resources

Air Resources Board
Colorado River Board
San Francisco Bay Conservation and
Development Commission
State Lands Commission
State Reclamation Board
State Water Resources Control Board
Regional Water Quality Control Boards

THE RESOURCES AGENCY OF CALIFORNIA
SACRAMENTO, CALIFORNIA

FEB 6 1974

Colonel John V. Foley
District Engineer
Los Angeles District
Corps of Engineers
U. S. Department of the Army
Post Office Box 2711
Los Angeles, CA 90053

Dear Colonel Foley:

The State of California has reviewed the draft Environmental Statement and the Feasibility Report, "Water Resources Development, Calleguas Creek, Simi Valley to Moorpark, Ventura County, California", which were submitted to the Office of Intergovernmental Management (State Clearinghouse) within the Governor's Office. The review accomplished by the State fulfills the requirements under Part II of the U. S. Office of Management and Budget Circular A-95 and the National Environmental Policy Act of 1969.

The draft Environmental Statement and the Feasibility Report were reviewed by the State Departments of Food and Agriculture, Conservation, Fish and Game, Health, Navigation and Ocean Development, Parks and Recreation, Transportation, and Water Resources; the State Water Resources Control Board; and the State Lands Division of the State Lands Commission. The State's specific comments are attached and the general comments are as follows:

1. The project benefits and costs as presented in the Report appear reasonable. Upon the State's authorization of this project, a portion of the right-of-way and relocation costs required for flood control purposes will be eligible for state reimbursement in accordance with Senate Bill No. 399 of the 1973 Legislative Session and recently signed into law by the Governor. The State's participation in these costs will be apportioned to the benefits resulting from the reduction of flood damages. Another bill signed by the Governor, Assembly Bill No. 641, provides that 50 percent of the nonfederal capital costs of the recreation and fish and wildlife enhancement features of the project will be reimbursed by the State where such payments have been specifically authorized by the Legislature.

2. We understand that, in the final report, the project will be reevaluated based on the higher interest rate of 6-7/8 percent per annum. We are withholding further comments on economic justification and state participation until review of the final report.

3. The State Water Resources Control Board has commented directly to the sponsor on May 19, 1972, and October 31, 1973, relative to this project.

Thank you for the opportunity to review and comment on the Environmental Statement and the Feasibility Report.

Sincerely yours,

N. B. LIVERMORE, JR.
Secretary for Resources

By Frank T. Clayton

Attachment
cc: Mr. Mark E. Briggs
Director of Management Systems
State Clearinghouse
Office of Planning and Research
1400 Tenth Street
Sacramento, CA 95814
(SCH No. 7310084 3)

SPECIFIC COMMENTS ON THE DRAFT
ENVIRONMENTAL STATEMENT AND FEASIBILITY REPORT
FOR WATER RESOURCES DEVELOPMENT,
CALLEGUAS CREEK, SIMI VALLEY TO MOORPARK
VENTURA COUNTY, CALIFORNIA

These specific comments are an integral part of the State's general comments:

DRAFT ENVIRONMENTAL STATEMENT

1. Page 4, Item 9b. It is indicated that the recommended trails between Simi Valley and Moorpark are anticipated to be adjacent to the existing stream bottom. Because of the valuable riparian habitat type in this reach of the project, the trails should be constructed in such a manner that the value of the habitat will not be diminished.

2. Page 13, Item 38b. We recommend deletion of the phrase ". . . and is the most valuable fresh water wetland in the entire area.", because we believe the statement to be inaccurate and tends to be misleading.

3. State Route 118 Freeway (Ven-118) will also affect Calleguas Creek in the project reach. Some of the plates, maps, and references do not reflect the state and county freeway plans in this area. For example: (a) Plate 17 indicates a bicycle trail located between the Creek and Los Angeles Avenue. Since State Route 118 Freeway is planned to be located in this area, the freeway alignment should be delineated on that plate. (b) The location for the hiking and bicycle trails between Princeton Avenue and College View Avenue is in conflict with the proposed freeway. (c) The freeway alignment shown in the vicinity of Moorpark College should be revised to reflect the most recent alignment.

4. The Ven-118 Freeway project proposes revetments which are contiguous with the Creek. The freeway project will have a minimal impact on the Creek. The Statement should include a discussion of the freeway plans in the area.

5. In accordance with the National Environmental Policy Act, a statement should be included indicating that the project is in conformance with the Master Plans and General Plans of agencies affected.

6. The Statement should take cognizance of the project's impact on biological communities in the reach between Simi Valley and Moorpark. Perhaps more recent photographs should be included in the Statement to indicate the lush vegetation that has developed in the area and this condition reflected in Plates 5, 6, and 7.

7. The proposed project will result in minor alteration of the Creek in the Simi Valley to Moorpark reach. However, development of a park adjacent to the channelization project would increase human activities by reason of hiking, bicycle and equestrian trails. These activities would have an effect on flora and fauna of the area. The accumulative impact of the flood control project and the freeway project should be noted in the Statement.

8. In the Simi Valley reach of the project, the Arroyo Simi Channel intercepts Los Angeles Avenue (State Highway 118) at approximately Channel Stations 1345+60 and 1400+50. Proposed modifications of bridge piers at the aforementioned locations would necessitate permits because of encroachment within state right-of-way. Early submittals of preliminary bridge plan proposals would enhance the coordination efforts with the City of Simi Valley, County of Ventura and the State.

9. It is stated that the existing Arroyo Channel improvement between the Moorpark College and the City of Simi Valley is damaged and is no longer functioning as designed. The Statement should indicate whether this damaged channel is to be removed, repaired or left in its present condition.

FEASIBILITY REPORT

The population projections for this Report were based on Department of Finance D-150 series of September 1971. We consider this projection to be high for California, particularly for Ventura County. The net population growth in Ventura County reached its peak of 25,000 in 1963 and the average for 1970-73 was 14,000, according to Department of Finance. The average growth in Ventura County used in the Report is over 50 percent above the peak growth noted above. It is our understanding that the Department of Finance is presently preparing new population projections with completion scheduled for the near future.

DEPARTMENT OF PUBLIC WORKS
County of Ventura

Director
A. P. Stokes

Deputy Directors
D. A. Betlach
Roads & Surveyor
E. D. Shinaver
Field Operations
J. B. Quinn
Flood Control & Drainage
H. P. Nilmeier
Water & Sanitation
T. M. Morgan
Special Projects
D. B. Perry
Management Services

Principal Staff Engineer
C. R. Handy

November 28, 1973

U. S. Army Corps of Engineers
P. O. Box 2711
Los Angeles, California 90053

Attention: Mr. Garth A. Fuquay
Chief, Engineering Division

Subject: Calleguas Creek - Simi Valley to Moorpark
Draft Environmental Statement

Dear Mr. Fuquay:

Recently your office submitted documents related to the Corps' study of the Calleguas Creek Watershed Investigation to this office for review and comment. The referenced draft environmental statement was included among these documents. The following comments relate to that environmental statement only. Comments approved by the Board of Supervisors relative to policy and financial support for the recommended program will be furnished at a later date.

It is to be noted that this Department has circulated the documents to the County Planning Department, the Parks Department, and the Environmental Health Department, as well as the various Divisions within the Public Works Department. The comments supplied herewith are a compilation of all pertinent comments received from these groups concerning the Environmental Impact Statement.

The comments supplied do not relate to the portion of the project which lies within the city limits of the City of Simi Valley insofar as the planning function is concerned, or to the areas located within the Simi Valley Recreation and Park District insofar as the recreation function is concerned, since comment related to the project on these two aspects of the overall project falls within the jurisdiction of these agencies. You have solicited comment directly from those agencies.

1. The document represents an impressive and well thought out study.

597 East Main Street, Ventura, California 93001 (805) 648-6131

2. The project is basically compatible with the Moorpark Area General Plan and the Ventura County Open Space Plan.

3. The riding and hiking trails proposed are compatible with the adopted 1968 County General Plan of Riding and Hiking Trails now in use.

4. The circulation element of the County General Plan will not be affected by the channel improvements. Construction of the proposed facilities will, however, release land for development purposes, thereby ultimately generating an increase in traffic in the urban growth areas protected by the project.

5. The Flood Control District policy permits utilization of channel rights of way for recreation purposes, with appropriate safeguards as to District liability, by others.

6. The population projections for Moorpark are based on the State of California, Department of Finances' D-150 series projection. The State has tentatively scheduled release of new population projections which will probably fall between the current D-150 and E-0 population projections. Revision of the population projections could possibly reduce the projected population of the Moorpark area from the 2020 population of 85,000 indicated to about 53,000. Suggest an updated contact by the Corps with the State Department of Finance to precise these projections.

7. Discussion of the effects of channelization in Moorpark and Simi, and the project's effect on downstream areas (Mugu Lagoon included) is generally limited to the effect of channelization on peak storm flows. No indication has been given to consideration of downstream effects of possible increased volume of flow or to additional nuisance water conveyed by the concrete channel through the Simi Valley and at the upstream bend in Moorpark. Perhaps the discussion should be enlarged to include these subjects.

8. The format and content of the draft Environmental Statement does not appear to be in conformance with that required by the laws of the State of California. It is suggested that coordination between the State and the Federal Government occur to insure compliance with State as well as Federal requirements.

9. The Environmental Statement is written for the Simi-Moorpark reach, yet some areas of the statement concern the total watershed rather than just the portion under discussion. Paragraph 22, Page 8, is an example. Prime agricultural lands represent a very small portion (not 52½%) of the subwatershed. Possibly, expansion of portions of the statement to recognize the subwatershed is in order.

10. It is suggested that the increase in automotive emissions resulting from development of the presently undeveloped lands protected by the project will have somewhat more than an "insignificant" effect on air quality. An approach recommending accepting the possible deterioration of air quality as a tradeoff warranted by the many favorable aspects of the program would seem more acceptable.

11. Plate 4 identifies prime agricultural land within Ventura County. For clarification purposes, the area shown on this Plate is the Agricultural Element of the Ventura County General Plan as adopted by the Board of Supervisors.

If you have any questions on the above, please feel free to contact this office.

Very truly yours

A. P. Stakes
Director

WGH:sdc

SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS
REGIONAL COOPERATION FOR REGIONAL PROBLEMS
1111 WEST SIXTH STREET • SUITE 400 • LOS ANGELES • CALIFORNIA • 90017 • 213/481-0095

March 8, 1974

Mr. Garth A. Fuquay
Chief, Engineering Division
Department of the Army
Los Angeles District, Corps of
Engineers
Post Office Box 2711
Los Angeles, California 90053

Environmental Statement Review
Water Resource Development
Calleguas Creek-Simi Valley to
Moorpark
Ventura County, California

Dear Mr. Fuquay:

In accordance with OMB Circular A-95, notification of the Draft Environmental Statement in the above matter was placed on our Clearinghouse Listing and distributed to all of the Cities and Counties in the SCAG region. We have not received any comments on your proposed project in response to this area-wide notification.

A SCAG staff review of the Draft Environmental Statement and Feasibility Report has found that the project is basically in keeping with our Development Guide environmental quality policy which states that:

> "SCAG shall support only those plans or projects for flood control, which insofar as possible, will utilize and not interfere with open and natural drainage systems in the protection of life and property."

In particular, we wish to express our support for the use of flood plain management in the 4.4 mile reach between Simi Valley and Moorpark. The preservation of its open space character with rich riparian growth, coupled with the development of non-intrusive recreational improvements is commendable.

There are, however, a few additional areas which we feel should be considered. First, in light of the current population forecasting trends which indicate a slowing of growth, a recalculation of that component of the "standard project flood" based on projected urbanization may be in order. D/E 2a, the present SCAG adopted forecast, calls for a population of 140,815 in the Moorpark-Simi Regional Statistical Area (RSA 4) in 1990. By comparison SCAG 90, the previously adopted forecast based on DOF Series D, called for a 1990 population in RSA 4 of 162,443. Work currently in progress indicates that future projections will be even lower. This trend may mean that the amount of land needed for the project can be reduced accordingly while still providing the necessary protection.

Second, close planning and coordination is needed with the California State Department of Transportation regarding the completion of the proposed Simi Valley Freeway (SR 118). From the maps contained in the Draft Environmental Statement (Plate 2), the proposed route would make SR 118 directly adjacent to, or perhaps part of, the area subject to flooding in the reach between Simi Valley and Moorpark. It is hoped that it will be possible to preserve flood plain management in this reach without subjecting any future sections of SR 118 to flood conditions.

Third, we suggest considering an earthbottom channel for the entire 4.4 miles of the Moorpark reach. While the value of groundwater recharge in the Moorpark area is noted in the documents submitted, it does not appear that this alternative was considered. If an earthbottom channel is not feasible for the 1.6 mile section of the reach currently scheduled to be concrete-based, reasons (and documentation) for this decision would be helpful.

Fourth, although the Environmental Statement states that this project will have no impact on downstream areas, we are still concerned about the effects the overall project will have downstream and, particularly, on Mugu Lagoon. Any future project submittals will be closely studied to insure the protection of the ecological balance of these natural resources.

Although we do not anticipate any further comments on this matter, the SCAG Executive Committee will be advised of these staff review comments at its next monthly meeting. Should the Executive Committee wish to comment further, we will forward them to you immediately.

All metropolitan Clearinghouse comments must be submitted to the funding agency with your final application.

Sincerely,

Ray Remy
Executive Director

RR:LK:cd

UNIVERSITY OF CALIFORNIA, LOS ANGELES

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SANTA BARBARA • SANTA CRUZ

Archaeological Survey
Los Angeles, California 90024

November 19, 1973

Mr. Garth A. Fuouay
Chief, Engineering Division
Department of the Army
Los Angeles District, Corps of Engineers
P.O. Box 2711
Los Angeles, California 90053

Dear Mr. Fuouay:

The UCLA Archaeological Survey has received copies of the Feasibility Report and Draft Environmental Statement for Calleguas Creek, Simi Valley to Moorpark, Ventura County, California. While the conclusions reached will not cause significant damage to archaeological resources under adequate consultation with archaeologists, the references and conclusions regarding archaeological sites in both documents are misleading and in error.

Page 16, item 51 of the Environmental statement states that the UCLA Archaeological Survey, coordinating with the National Park Service, conducted an archaeological reconnaissance of the project area. This is not true, the Archaeological Survey conducted an archaeological reconnaissance of the Camarillo Dam only. This portion of the Calleguas Project is not being considered in the studies before us. In a letter dated December 23, 1970 (addressed to Mr. Stevens J. Stevens, Corps of Engineers, L.A.) I instructed Mr. Stevens that only approximately 5% of the Calleguas watershed had been systematically surveyed for archaeological sites. The sites that are mentioned in the current Environmental Draft and the Feasibility Report for Calleguas Creek, Simi Valley to Moorpark, were included with the December letter; no archaeological reconnaissance has taken place since that time, no systematic surveys have ever been made for this area of the watershed.

Given this point it is not possible to make statements that no archaeological sites will be effected by the proposed development. The important village site, Ven-96, that is mentioned in the reports will be directly effected by the development. According to Plate 2 in both reports, the proposed site for Tierra Rejada Park is located directly on top of this village site. This site is very important, probably being the proto-historic and historic village of Shimiyi. Any disturbance of this area should be carefully coordinated with archaeologists. Futhermore, no reference is made to the indirect impact of this development upon archaeological resources. The reports state the project will lead to increased urbanization and increases in recreational areas. What will the effect of these increases be on archaeological sites?

UNIVERSITY OF CALIFORNIA, LOS ANGELES

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SANTA BARBARA • SANTA CRUZ

Archaeological Survey
Los Angeles, California 90024

No systematic archaeological reconnaissance of the Calleguas Creek, Simi Valley to Moorpark area, has taken place. Of the four sites recorded within the study area one, a large village, will be directly effected by the proposed development. An adequate survey for archaeological sites must be done within the project area. In addition surveys should be made in a sample of the areas adjacent to the project, so that indirect impacts may be discussed intelligently.

The development alternatives choosen are good, given what we presently know of the archaeology of the area. The use of the village location as a park is probably one of the better solutions toward the protection of this resource. However, without the consultation of archaeologists this site could be destroyed.

Sincerely,

N. Nelson Leonard, III
Staff Archaeologist

cc.
NPS, Arch. Center, Tuscon

ENVIRONMENTAL
COALITION
P. O. Box 68
Ventura, Calif. 93001

Department of the Army
Corps of Engineers - Los Angeles District
Attention: Mr. Garth A. Fuquay
P.O. Box 2711
Los Angeles, CA., 90053

Dear Mr. Fuquay:

The Environmental Coalition of Ventura County is pleased to have this opportunity to comment on the Draft Environmental Impact Statement-Calleguas Creek-Simi Valley to Moorpark and the Feasibility Report for Water Resources Development both dated September 1973. We were confused however in that despite assurances given in the cover letter accompanying the draft reports to the contrary, we were not notified of of the publcation date of the Federal Register indication the commencement of the 45 day time period for consideration of commente. In view of the above it is hoped that these comments will be considered despite the date of receipt.

The recreational concepts of the plan and the alternative selected for the reach between Simi and Moorpark are commendable. We hope they will be implemented whether or not the Corps project is ultimately constructed as contemplated or not.

We cannot, however, accept at this time the selected alternatives for the Simi Valley reach nor the Moorpark reach as being the only conceivable alternative toward providing flood protection to these areas. Basic to this conclusion is the very definition of the Standard Project Flood. In no other realm of public expenditure or policy consideration are capital expenditures made or other measures taken to prevent or molify the effects of a public hazard with a 230 year or 400 year frequency of occurance whether it be earthquakes, tidal waves, hurricanes, volcanic erruptions, etc. In view of limited public resources it is certainly questionable to conclude that flooding is of such overriding importance to demand enormous expenditures. As in all other areas of public policy some alternatives to convey flows less than the maximum conceivable should have been considered. Alternatives combining selective relocation, flood insurance, flood plain purchase, and minimal sturctural solutions were apparently not considered nor carried out through a benefit/cost analysis.

ENVIRONMENTAL
COALITION
P. O. Box 68
Ventura, Calif. 93001

The so called "do nothing" alternative which consists of a 15,000 cfs channel to accomodate a 50-year frequency was summarily rejected without justification through cost/ benefit analysis. One is continually confronted with the fact that the largest flood of record in Simi was a flow of 6,300 cfs in February 1969 and in Moorpark a flow of 5,300 cfs in 1967. The selected alternatives will be built to convey flows 4 to 8 times greater than these largest historical flows. Such gross overcapacity is not justified.

A flood control project of this magnitude is going to have an obvious impact on land-use patterns and future urbanization. While we do accept the proposition the existing development should be protected, we do not adopt the view that presently undevelped lands within the flood overflow areas will necessarily or inevitably be developed and thus justify a large project. The communities and the county have the necessary planning tools to direct urbanization away from these hazardous areas. That these controls haven't been excercized in the past is an indictment of past land-use practices and policies and should serve as a lesson for the future. Here again alternative land-use patterns were not considered or recomended as a method of allieviating the flood hazard. Furthermore, it is the Corps contention that the abscence of the project will promote urban sprawl and the urbanization of prime agricultural land. We do not accept that conclusion in light of the Alliance for the Ventura County Tomorrow Plan which demonstrated that there is ample acreage available in proximity to existing urbanization without developing on prime agricultural soils or in hazardous areas such as flood plains.

It was stated that the sources for population projections were the SCAG Series D projection for 1973 or in some cases State Department of Finance figures. Neither of these sources is as accurate or indicative of the actual and probable population trend as the calculation developed on on a continual quarterly basis by the Ventura County Planning Staff. It is recommended that the latter data be utilized in the final reprot. We would predict a necessary reduction of projected land use needs and a corresponding reduction in the calculation of benefits to be realizaed from prevention of flood damages.

ENVIRONMENTAL
COALITION
P. O. Box 68
Ventura, Calif. 93001

Air quality data and probable impact were not sufficiently analyzed in our opinion. Particular exception is taken to the statement on page 22 of the draft EIS that "the resulting population increase after the project completion will not have a significant impact on air quality." In view of the present serious level of degradation in the area it is certainly a matter of great concern when a proposed project of this type will permit and encourage accomodation of an even greater population with resultant increased levels of pollutants. Severe limits on further growth and on transportation plans are presently being considered in the entire South Coast Air Basin in order to meet the requirements of State and Federal legislation. It is our opinion that the scope of the project be reevaluated in regard to the above.

Downstream effects are stated to be minimal. We are concerned that the higher peak discharges will in fact require the construction of downstream structures which might have otherwise been avoided. It is for this reason, too, that we regret the decision to separate the upper three reaches from the rest of the project. Hopefully, the final draft will explore the downstream impacts in more detail.

Enclosed with this statement and hereby incorporated by reference within it are two additional evaluations prepared for the Environmental Coalition. The first is by Mr. Joe Drelicharz, hydrologist and the second is authored by Mr. John T. Tucker, retired engineer with considerable experience in flood control matters.

Again our appreciation for your consideration of these comments.

Sincerely yours,

Richard S. Brecunier

Richard S. Brecunier
President

A REVIEW OF THE DRAFT ENVIRONMENTAL STATEMENT

CALLEGUAS CREEK, SIMI VALLEY TO MOORPARK, SEPTEMBER 1973

by Joe Drelicharz

I would first like to direct your attention to the flood history in the area of the proposed construction:

	Simi	Moorpark	
1938	1,700 cfs	4,100 cfs	(from page 10 Feasibility Report
1952	-----	-----	Draft Sept. 1973)
1962	2,400	2,600	
1965	3,900	3,800	
1967	4,900	5,300	
1969	5,040	2,850	
1969	6,330	4,000	
1970	4,210	------	

It is obvious from the flood damage frequency that fllood protection is required in the area. Ventura County Flood Control District appropriately developed a flood protection plan and set it before the voters in May of 1967. Both the county and the voters accepted the 50-year flood protection program to convey a 15,000 cfs flow through the area as reasonable. This figure seems appropriate in view of the fact that the largest flood of record is 6,330 cfs. What possible reason could there be to design for floods in the ranges of 26,000 cfs and 38,000 cfs in the Simi and Moorpark areas as proposed by the Corps of Engineers? Is it economically justified? It is implied that it is, but the feasibility study only presents figures on the county's 50-year flood program in the Simi reach and where there was a recomendation of "do nothing" in the reach between Simi and Moorpark. Where specific structural solutions were recommended a disproportionate number of alternatives were presented for the 100-year and standard project flood as opposed to those for a 50-year flood if any. Even in those cases, the Simi Valley reach and the Moorpark reach, the standard project flood was consistently chosen over the 100-year flood even though the cost/benefit ratios were identical. In both cases the standard project flood is much larger that the 100-year flood, in one case requiring a channel at least 20'wider than a comparable channel for a 100-year flood. The rationale appears to be to spend more to get more.

Why are there discrepancies between the cost/benefit ratios presented in the text of the feasibility study and the tables of the same report? Which set is correct? Is it really economical to buy a semi-trailer to bring home a handful of groceries, or will a brown paper bag do? Why should the county taxpayers sponsor an obvious overkill?

Many questions remain to be answered. The ones presented only scratch the surface. Another which appears glaringly is why the Corps of Engineers feels it necessary to devote 3/4 of a page in their feasibility study to disclaimer the county estimate of what a 50-year flood is. Presumably there isn't very much data on the area, so both the county and the Corps more than likely used the same sources. If this is so, then did the county engineers really miss by as much as 25% or is the Corps just flavoring their figure to favor a larger channel by defining the county 50-year flow as a 71-year flow thereby being 21 years closer to the alternatives they studied?

Why do statements like, " Impacts on the environmental elements as a result of the conrete channel sections are expected to be minimal." appear in the text without further substantiation. Is the taxpayer expected to put in $1,815,000 for an intitial cost, $735,000 for the recreational land, $756,000 for modifications to utilities and highways, $1,410,000 for railroad relocation, and then $660,000 annuallly thereafter just so that after the next major storm, they can do it over again to correct an error because things didn't come out as "expected?" Words like "expected,""minimal," and "significant" have no place in reports on projects where millions of tax dollars are going to be spent, expecially when there is reasonable doubt that a project of this size is needed to solve a small problem.

COMMENTS ON DRAFT ENVIRONMENTAL IMPACT STUDY

AND FEASIBILITY REPORT, CALLEGUAS CREEK, SIMI VALLEY TO MOORPARK, SEPTEMBER 1973

by John T. Tucker

In view of the anticipated urban growth in this region, which undoubtedly will occur in the lower valley areas, as has been the practice in the past, it is proposed to construct higher level intercept canals with drops that parallel, in effect, the present creek channels. Such intercept canals would be at suitable levels up against the hills. At acceptable locations such as Tapo Canyon and a site about one mile east of the Moorpark Road where it crosses the Tierra Rejada Valley on the Arroyo Santa Rosa, reservoirs can be constructed to conserve flood waters conveyed to such reservoirs by the use of the intercept canals. The crest of these proposed dams would be at elevations 1200 and 760 feet respectively.

Another major storage dam and reservoir would be constructed at a point about 4 miles east of the City of Camarillo on Conejo Creek. The crest of this dam would be at the 270 foot level. Similarly for the Conejo or Santa Rosa Valley, intercept canals are also suggested as alternatives to the more conventional flood control works. In addition, it is possible to construct a diversion canal from the dam discussed below between Moorpark and Somis to this reservoir.

This diversion canal would be about 7 miles long and could be of a size to convey all or part of the expected flood flow of Calleguas creek at this point. This proposed dam and reservoir would have a capacity of about 100,000 acre feet. Such proposed works would materially add to the recharge of ground waters in the Oxnard Plain. However, if this were done, it would preclude the need of a diversion canal to the Santa Clara River.

The ground water level can be cupplemented in the Oxnard Plain and it can better controlled in the Simi Valley by the use of higher level intercept canals in this valley.

Diversion Canal Below Moorpark to Santa Clara River

This proposal contemplates the construction of a diversion dam, with control gates, on Arroyo Las Posas, which drains into Calleguas Creek. The location of this dam would be half-way between Moorpark and Somis at elevation 390 feet. Construct a diversion canal, of the desired capacity, from this dam in a westward direction along the north side of Highway 118, then around the western end of South Mountain and ending in the Santa Clara River about one mile above the Saticoy Bridge. It is estimated the canal would be 13 miles long. These structures would be capable of diverting all or part of the flood flows of the Arroyo Las Posas and also

portions of the flood flow of the Beardsley Wash drainage basin, an area considered to be 175 square miles of the total 325 miles of the Calleguas Drainage Basin as now outlined in the Corps of Engineers' brochure. The topography of the area is such that the gradient may be selective and, for that reason, may be lined or unlined.

It is important to note that the drainage basin above the proposed diversion canal (175 miles) consists of hilly and mountainous areas which, due to their steeper gradient, generate greater amounts of runoff for a given area than those areas lower down on the flood plain. In channels and on mountain slopes the velocity of water may range from 6 to 12 or more feet per second. On the flood plain, this velocity may range from 0 to 3 or 4 feet per second. Thus it is considered that the 175 square miles of drainage area above the proposed canal will generate a substantial portion of the runoff in proportion to the rest or the remaining 150 square miles. These greater velocities of water would cause more erosion and increase the amounts of sand carried by the many stream courses in the area. This feature is of importance to the ocean beach areas along the coast below the mouth of the Santa Clara River in view of their constant need for new sand supplies.

Some important benefits that would result from the construction of this dieversion canal are:

1) Reduction in overall costs.
2) Its length 13 miles as against 18.5 miles of the presently proposed channel.
3) Using the information contained in the Corps of Engineers' brochure on the subject, it is noted that the cost of channelizing 18.5 miles from near Moorpark to the ocean via Mugu Lagoon is $37,007,000 or approximately $2,000,000 per mile constructed with earth bottom and rock-lined banks with concrete drop structures. The diversion canal proposed herein, using the same dimensions (width and depth of channel) and a unit price of $2,000,000 per mile, would be $26,000,000 or a saving of $11,000,000. Since the route and gradient for the various reaches of the canal are selective, the canal's specifications are also selective, thereby reducing the cost still further.

Note. In the Army Engineers' brochure, on page 39, there is cited Proposal "G" which would, "consist of an earth bottom channel which would divert all flows in Calleguas Creek to the ocean at the eastern boundary of the Point Mugu Naval Air Station." Its total cost for an estimated 5½ miles is $25,791,000 or about $5,000,000 per mile. In effect, this Proposal "G" plan bypasses the Mugu Lagoon entirely and deprives that area of a fresh water inflow, said to be essential to maintain the environmental balance in the lagoon.

4. At this point it should be mentioned that the operation of the control gates on the diversion dam above the Somis would materially aid in controlling this fresh water inflow and thus maintain the environmental balance in the lagoon.

5. The proposed canal, preferably with an earth bottom would aid in the recharge of the ground water supply in the entire area below the cnaal and to the ocean. When water is available in the canal, releases can be made, if required, at selected points to supplement the water supplu in the area.

6. It is considered that this proposal, from the diversion dam above Somis to the ocean, will help insure the preservation of the existing environment.

moorpark college

social science division

November 27, 1973

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

Dear Sir:

With reference to the archaeological element of the "Draft Feasibility Report and Draft Environmental Statement Calleguas Creek Simi Valley to Moorpark, Ventura County, California" I seriously question its validity because of:

1. There is no indication when the archaeological reconnaissance was conducted.

2. There is no indication who conducted the reconnaissance, therefore it can't be determined as to whether or not they were qualified to conduct such a reconnaissance and/or evaluate the archaeology of this area.

3. There is no indication in the report as to how the archaeological reconnaissance was conducted.

4. Although you say that your project will not directly affect any archaeological sites--what about indirect impact. One or two of the known sites for the area surely fall within your rightaway. I am sure there were recommendations for indirect impact in the archaeological report.

5. The area in question is presently known to contain several recorded sites whose actual location have been misplotted on most maps. There are also several unrecorded or suspected sites within the area; and in fact, as a complete survey of the area is not on record, I would have some very interesting questions to put to your researchers.

I would strongly recommend that in order to avoid unnecessary delays in the acceptance of your environmental statements, that you consider revising the report to reflect the above mentioned points.

Sincerely,

Robert Lopez
Instructor of Archaeology

RL/sh

7075 campus road moorpark, california 93021 phone (805) 529-2321 2-52

POMONA COLLEGE
CLAREMONT, CALIFORNIA 91711

DEPARTMENT OF ZOOLOGY
SEAVER LABORATORY

TELEPHONE (714) 626-8511
EXTENSION 2950

October 8, 1973

Mr. Garth A. Fuquay, Chief
Engineering Division
Corps of Engineers, Los Angeles District
Department of the Army
P.O. Box 2711
Los Angeles, California 90053

Dear Mr. Fuquay:

Thank you for sending me copies of the "Draft Environmental Statement" and the "Draft Feasibility Report" for "Water Resources Development for Calleguas Creek: Simi Valley to Moorpark, Ventura County, California." As a professional aquatic biologist, I appreciate the opportunity to comment on the proposed project, and I hope that my comments will be made part of the permanent record.

Of the several Corps of Engineers channelization projects whose environmental impact reports I have recently read, this one is certainly the best researched and best written. As far as the immediate area of the project is concerned (from Simi Valley to Moorpark, about half the drainage of Calleguas Creek), the arguments presented in this report in favor of the proposed projects seem fairly reasonable, and the tradeoffs between loss of some riparian vegetation (in Simi Valley and Moorpark) and prevention of urbanization in the reach between these two communities is well handled, both biologically and economically. One great advantage of this particular report is the espousal (for the first time, among Los Angeles District projects, in my recent experience) of flood plain management as a viable method for dealing with a creek that seasonally floods. I applaud the Corps for coming to the conclusion that flood plain management is the most feasible alternative for the Simi Valley-to-Moorpark reach of Calleguas Creek. It should be pointed out that the many arguments put forward in favor of flood plain management for this particular reach of this particular creek are just as valid for other portions of this and other streams here in Southern California. Thus, the statements in paragraphs 55j and 57j that building a concrete flood control channel relieves the mental anxiety of nearby residents about potential flood damage can be countered by the obvious response that people who don't like floods shouldn't live in floodable areas. Even the Corps of Engineers cannot change the climate of Southern California. We can, for the forseeable future, expect that our streams, large and small, will indeed flood, sometimes extensively, though infrequently, and that damages will surely result unless residential, commercial, and industrial development is prevented in these rich alluvial stream bottoms, so valuable for agricultural purposes and open space. That the Corps of Engineers advocates flood plain management for even a portion of Calleguas Creek is a great step forward towards living with our climate, instead of (expensively) against it.

Mr. Garth A. Fuquay, Chief
Engineering Division
Corps of Engineers
Los Angeles District
Department of the Army

The Feasibility Report and the Draft Environmental Impact Statement both spend a tremendous amount of time and space discussing projects to "enhance" esthetics and recreation, e.g., the building of parks, bikeways, bridle paths, landscaping, and so on. This whole business is a smokescreen: most of these described projects could be built in the complete absence of any part of the proposed flood control projects, and in most cases would be significantly improved without adjacent concrete channels, even "tastefully tinted." Such emphasis on parks, recreation, and "beautification," while necessary to reduce the ugliness of the artificial channels themselves, serves only to divert attention from the merits (and demerits) of the project as a flood control project, and as a destroyer of environmental values. Thus, it is a false conclusion to state (e.g., paragraph 59) that the "no action" alternative "would not provide formal recreational facilities in the existing channel areas." Of course it wouldn't, but neither does the creek require any flood control works in order for money to be spent for "formal recreational facilities." As a matter of fact, it would be considerably cheaper to omit the flood control channel works and the associated costs of making them more presentable to the public, and fund just the parks and recreation facilities themselves. What I am trying to say is not that the parks and recreation aspect of the project requires (or does not require) flood control works, but that discussions of parks and recreational facilities are totally irrelevant to any economic justification of flood control projects. It may well be that the communities of Simi Valley and Moorpark need protection from floods, and that the proposed projects in these two communities are thoroughly justified. But discussions of how the Corps and others will design parks, recreational facilities, and screening landscape plantings are irrelevant. Parks, recreational facilities, and screening landscape plantings should not be put onto the benefit side of benefit/cost analysis: they are either irrelevant to such considerations, or (in the case of screenings) actual costs. I think it fine that the Corps is concerned about the visual effects of its works, but the Corps should not use this concern to divert attention from the works themselves, which should stand (or fall) on their own merits (or demerits).

A recent Los Angeles Times newsnote states that the Simi Valley area has the worst smog conditions in the Los Angeles urbanized area. What will the increased number of vehicles resulting from this flood control project do to the already wretched air quality in this area?

There is one important area where the Draft Environmental Impact Statement and Feasibility Report are seriously deficient, and that is in their total lack of any discussion of the effects of this upstream project on downstream areas. To be sure, there is a statement in the Draft Environmental Statement (page 1), "The project will have no significant impacts on the drainage area downstream," but this statement receives no substantiation in either document sent me. On the contrary, there is a figure in the Feasibility Report (Figure 5) which clearly indicates the predictable consequence of upstream channelization: increased downstream flows. This particular figure concerns itself with peak

Mr. Garth A. Fuquay, Chief
Engineering Division
Corps of Engineers
Los Angeles District
Department of the Army

discharge rates for the Standard Project Flood, and increases of from 13.5% (at Somis) to 17% (at the conjunction of Conejo and Calleguas Creeks) are predicted as a consequence of building the recommended "structural measures" over current discharges. If one uses as a baseline for this comparison the peak discharges of "natural condition future development," as the Corps apparently does, then these increased discharge rates due to these projects are from nearly 6% to almost 10%. Such increased peak discharge rates are dismissed in the Draft Environmental Impact Statement (paragraph 57g) as being only "slightly higher," though it is pointed out (correctly) that this increase "will be more noticeable during the larger floods." Furthermore, neither document makes the corollary observation that flows will be increased on all occasions, not just peak floods: there will be surface water present downstream when currently there is none; and when currently there is some surface water, the proposed project construction will cause an increase. There will be increases of up to 17% in both total volume and in velocity of floods. Thus, these upstream channelization projects will increase both the frequency and severity of downstream flooding.

These increases in volume and velocity of flood flows will in fact have significant effects downstream. The lower valley of Calleguas Creek has a very level flood plain: an increase of just a few inches in water level during a flood will mean a much greater areal extent of flooding, with consequent increases in structural and agricultural damages. The increased velocity will result in increased erosion of the streambed, and not just by the percentage increase in velocity: hydraulic studies clearly indicate that higher flow rates move larger particles of sediment, particles which could not be moved at all by lower flow rates no matter how long the flood lasted. Thus, there will be disproportional increase in erosion in the more upstream areas of the lower Calleguas Creek drainage basin, and this can result only in increased sedimentation in the lower flood plain and in Mugu Lagoon. Such deleterious downstream consequences of upstream channelization are well documented in a research paper published in Science, vol. 173, pp. 325-326, 23 July 1971, by J. W. Emerson.

The effect on Mugu Lagoon of these proposed Calleguas Creek projects in the Simi Valley to Moorpark area needs to be investigated with particular carefulness. Mugu Lagoon, thanks to the U.S. Navy, remains the one Southern California embayment which most retains its natural biological systems. Any increase in sedimentation from upstream will surely affect the systems in Mugu Lagoon, and such alterations are unlikely to be beneficial. For small increases, the natural "resiliency" of a fairly untouched estuary may be able to cope, but for larger increases in sedimentation, the Lagoon may be swamped and its filling hastened. There is no indication in these two reports that any such study of the relationships between the proposed projects and Mugu Lagoon has been made, let alone evaluated.

Mr. Garth A. Fuquay, Chief
Engineering Division
Corps of Engineers
Los Angeles District
Department of the Army

Increased flood rates and volumes downstream from Moorpark will result, as surely as the sky is sometimes blue here in the Los Angeles Basin, in increased downstream flood damages, leading to increased demand for flood control works in the lower Calleguas Creek drainage, leading inevitably to the destruction of Mugu Lagoon. It is clear that the Corps of Engineers is well aware of this: the "Information Brochure for Alternative Proposals for Flood Control and Allied Purposes, Calleguas and Conejo Creeks, Ventura County, California," a document which I received some months ago, gives a number of alternative proposals for flood control protection in the lower basin, i.e., a variety of concrete and rock-lined channels, including a number of different routes to get these channels through Mugu Lagoon and its valuable mud flats and salt marshes. I am not so confident as the Corps in believing that any form of flood control channel through the Lagoon is compatible with the continued proper ecological function of the Lagoon.

In other words, this report, in narrowly restricting its discussions to the region between Simi Valley and Moorpark, is seriously deficient. There may well be important consequences of this project on downstream areas, causing larger and more frequent floods, erosion and sedimentation, and destruction of Mugu Lagoon. Yet these are not considered in the report. To be a valid summary of the environmental impacts of the proposed project, these reports must address themselves to all parts of the basin which will be affected.

Sincerely yours,

Larry C. Oglesby

Larry C. Oglesby, Ph.D.

cc: Ventura County Board of Supervisors
National Audubon Society
Senator Alan Cranston
Senator John Tunney

LCO/lh

Sierra Club LOS PADRES CHAPTER Santa Barbara and Ventura Counties

P.O. Box 30222
Santa Barbara, CA, 93105
23 November 1973

Arguello Group
Conejo Group
Santa Barbara Group
Sespe Group
Simi Group
Tepusquet Group

Department of the Army - Los Angeles District
Corps of Engineers
Attention: Mr. Garth A. Fuquay
P.O. Box 2711
Los Angeles, CA, 90053

Dear Mr. Fuquay:

Please accept our thanks for the opportunity to comment on your draft environmental impact statement for Calleguas Creek.

The plans which are discussed in this document for the streamside park and recreational facilities are excellent. Ventura County and the two cities (Simi Valley and Moorpark) should by all means implement these plans.

The proposed flood control channelization project itself and the justification therefore are less well described however. The document is a collection of unsupported assertions regarding the need for the project, the project cost, the project benefits, and the disadvantages of the rejected alternatives. Other, more sensible, alternatives are not discussed at all.

Perhaps most important, nowhere are the uncertainties in the assumptions and calculations and the impact of these uncertainties on the benefit/cost ratio discussed.

It would appear useful to describe the historical flood damage record for the area to be protected. The discharge-frequency curve should be shown and the uncertainty in the extrapolation out to the extremely rare events used as the standard project floods--230 and 400 floods--discussed. Although most of the alternative curve fitting techniques work reasonably well on the historical record, the projections outside the historical record, i.e. where there is no data, differ widely--in some cases by a factor of ten. Since the project size, cost, and indeed the very need for the project at all are determined by this far out extrapolation the uncertainties should be discussed.

The basis for the damage estimates should be given in more detail. How was the survey made? Who made the survey and what were their qualifications?

Next, the flood damage estimates should be contrasted with the historical record. Can the two be reconciled?

The project cost is treated as though it were a known quantity with no uncertainty. Construction costs are extremely difficult to estimate. The Santa Paula Creek channelization project apparently will cost over 40% more than estimated yet the project was approved on the basis of the erroneous estimate. Local government

authorities were unable to make an informed decision on that project--this should not be permitted to occur here.

Both the uncertainties in project benefits and costs should be translated to a benefit/cost ratio level so that the probable range of benefit/cost ratios is identified for the decision maker.

Among the alternatives not considered is a flood protection scheme appropriate for a more frequent--perhaps 50-year--flood. The basis for protecting against such rare events--230 and 400 year floods--is not clear. Moorpark is to be protected against a 400 year flood but not a 75 year earthquake. Our nation does not even have a 200 year history, yet money--real money--is to be spent to protect us against a disaster which isprojectedto occur only once in the next 400 years. Flood damage prevention schemes should be synthesized and costed for floods with frequencies which are better known and for which the uncertainties of occurence are less great.

Several other alternatives are dismissed casually with no numerical justification. Relocation was not mentioned at all and flood proofing was asserted to be infeasible. Both these alternatives should be investigated to the point where a benefit/cost ratio can be calculated.

Perhaps most curious is the treatment of the flood insurance alternative. Flood insurance is dismissed because it "offers compensation for economic losses due to floods but does not prevent the flooding". The national flood insurance program has been developed so as to bring an end to the type of project proposed here which will encourage and permit continued development in a flood plain. By analogy, does the Corps recommend against life insurance since it does not prevent dying? Or against parachutes since they do not prevent falling? The flood insurance alternative should be examined in detail together with selective relocation and flood plain zoning as a unified flood damage prevention/compensation plan.

Although it is asserted that the project will have no impact on the downstream channel and Mugu Lagoon, the basis for this assertion should be explained in more detail. Upstream channel modifications ordinarily affect the downstream channel--sometimes bringing about a requirement for "improvements".

On page 20 it is noted that the Corps is recommending flood plain management for the reach between Simi Valley and Moorpark. It would be useful to have this recommendation and Ventura County's agreement thereto made part of the formal local government assurances.

This draft impact statement represents a useful start towards the preparation of a final draft which should be much more specific--avoiding unsupported assertions--and should consider a combination relocation/flood proofing/flood plain management alternative.

Thank you for the opportunity to review the EIS. We look forward to the next draft.

Sincerely,

Stephen R Boyle
Chairman, Los Padres Chapter

SRB/mfb

APPENDIX B

Appendix B

Letters of Comment - Departmental Review

DEPARTMENT OF AGRICULTURE
OFFICE OF THE SECRETARY
WASHINGTON, D. C. 20250

12 January 1976

Lt. General W. C. Gribble, Jr.
Chief of Engineers
Office of the Chief of Engineers
Department of the Army

Dear General Gribble:

This is in reply to your letter of October 20, 1975, transmitting for our review and comment your proposed report and revised draft environmental statement on Calleguas Creek, Simi Valley to Moorpark, Ventura County, California.

We have reviewed the above documents and find no conflict with any of our ongoing or planned programs or projects. We do not believe the project will adversely affect the Calleguas Creek Pilot Watershed Project which was completed in 1965.

We believe the environmental statement can be improved if the following changes are made:

1. On page 25 it is stated that agricultural land will be decreased by 120 acres. While this may be a relatively small acreage, it is prime agricultural land. The statement should describe the adverse social, environmental, and economic impacts of this decrease.

2. Include an account of the amount of excavated materials and its disposition.

We appreciated the opportunity to review this material.

Sincerely,

Paul A. Vander Myde

PAUL A. VANDER MYDE
Deputy Assistant Secretary

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
REGIONAL OFFICE
50 FULTON STREET
SAN FRANCISCO, CALIFORNIA 94102

OFFICE OF
THE REGIONAL DIRECTOR

Office of Environmental Affairs

February 5, 1976

Lt. Gen. W. C. Gribble, Jr.
Chief of Engineers
Department of the Army
Office of theChief of Engineers
Washington, D.C. 20314

Dear General Gribble:

The revised draft Environmental Impact Statement on Calleguas Creek Simi Valley to Moorpark, Ventura County, California has been reviewed in accordance with the interim procedures of the Department of Health, Education and Welfare as required by Section 102(2)(c) of the National Environmental Policy Act, PL 91-190.

As we noted in our comments to the draft Environmental Impact Statement the proposal will be slightly growth inducing which may require an increased level of services than those already provided. Assurance should be provided that state and local agencies can handle the increased demands.

The opportunity to review this statement was appreciated.

Sincerely,

James D. Knochenhauer
Regional Environmental Officer

cc: OS/OEA
CEQ

United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

PEP ER-75/1027

January 15, 1976

Dear General Gribble:

Thank you for the letter of October 20, 1975, requesting our views and comments on a proposed report and revised draft environmental statement for Calleguas Creek, Simi Valley to Moorpark, Ventura County, California.

We believe these documents adequately discuss those subjects that fall within our jurisdiction and/or special expertise. With one exception we find that your staff has adequately considered the comments which we had provided on the initial draft statement.

Based on the guidance set forth in Title 36 CFR 800 we believe it is inappropriate to wait until post-authorization studies to conduct an archeological survey of the project area. The entire project area should be intensively surveyed as soon as possible by a professional archeologist. If significant cultural resources are identified, they should be described and evaluated for their National Register potential. If they meet the criteria set forth in Title 36 CFR 800.10, they should be nominated to the National Register of Historic Places.

The survey and evaluation should be made early enough so that the results of the evaluation can be incorporated into the decision-making process for selecting the best alternative and in developing final designs for the project. If feasible, channel realignment and recreation trail and park modifications should be seriously considered in order to avoid disturbing any significant sites which are identified by the survey.

It is unclear what "the standard procedure of reporting" entails for unknown archeological sites which are uncovered by the survey or during construction. The final statement should contain a detailed description of what mitigation measures will be taken should a significant site be discovered by survey or during

construction. Such measures should be designed to preserve the greatest amount of information and material from the cultural resource base. Salvage excavation should not be considered as a measure that will adequately substitute for the preservation of cultural resources.

A copy of the archeologist's report should be made available to the Western Archeological Center, National Park Service, P.O. Box 29008, Tucson, Arizona 85717, so that an adequate review of the project's impact upon cultural resources will be possible.

We appreciate the opportunity to comment on the proposed report and environmental impact statement on the Calleguas Creek proposal.

Sincerely yours,

Stanley R. Lorenzo

Deputy Assistant Secretary of the Interior

W. C. Gribble, Jr.
Lieutenant General, USA
Chief of Engineers
Department of the Army
Washington, D. C. 20314

DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

MAILING ADDRESS:
U. S. Coast Guard
400 Seventh Street S.W.
Washington, D. C. 20590
426-2262
21 January 1976

Lieutenant General W.C. Gribble Jr.
Chief of Engineers
Department of the Army
Washington, DC 20314

Dear General Gribble:

This is in response to your letter of 20 October 1975 addressed to the Secretary of Transportation concerning a revised draft environmental statement for the Calleguas Creek Flood Control Project, Ventura County, California.

The concerned operating administrations and staff of the Department of Transportation have reviewed the material submitted. We have no comments to offer nor do we have any objection to this project.

The opportunity to review this draft statement is appreciated.

Sincerely,

D. J. RILEY
Captain, U. S. Coast Guard
Acting Chief, Office of Marine
Environment and Systems

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
100 CALIFORNIA STREET
SAN FRANCISCO, CALIFORNIA 94111

6 February 1976

Colonel John V. Foley
U.S. Army Corps of Engineers
P.O. Box 2711
Los Angeles CA 90053

Dear Colonel Foley:

The Environmental Protection Agency has received and reviewed the revised draft environmental statement for Calleguas Creek, Simi Valley to Moorpark, Ventura County, California.

EPA's comments on the draft environmental statement have been classified as Category LO-2. Definitions of the categories are provided on the enclosure. The classification and date of EPA's comments will be published in the Federal Register, in accordance with our responsibility to inform the public of our views on proposed Federal actions under Section 309 of the Clean Air Act. Our procedure is to categorize our comments on both the environmental consequences of the proposed action, and the accuracy of the environmental statement.

EPA appreciates the opportunity to comment on this draft environmental statement, and requests two copies of the final environmental statement when available.

Sincerely,

Paul De Falco, Jr.
Regional Administrator

Enclosure

cc: Council on Environmental Quality

Comments on the Revised DEIS
for Calleguas Creek,
Simi Valley to Moorpark,
Ventura County, California

Water

The revised DEIS states (page 17) that Simi Basin groundwater is not used for beneficial purposes. This is true currently. However, if wastewater derived from imported water were allowed to recharge the groundwater basin, long-range improvement of the groundwater could be anticipated. The potential for this recharge and groundwater improvement without the project should be addressed in the final statement, as well as the impact of the project on the recharge capabilities of the Calleguas Creek from Simi Valley to Moorpark, taking into account the specific hydrology of each reach.

Some additional discussion of the irrigation needs for landscaping in the recreation areas, and along the channel right-of-way would be helpful.

The statement mentions (page 9) that the Simi Valley County Sanitation District treatment facility includes facilities that would provide protection from a flood of standard project magnitude. What level of flood protection will this proposed project provide the Moorpark CSD? It should be noted that the County "Master Plan of Water Quality Control" (10/17/74) does not propose abandonment of this facility, as was indicated in the DEIS (page 47).

The statement notes (page 22) that there will be no impacts on downstream areas, the environment of Mugu Lagoon, or on supply of sediment to the littoral zone. Additional discussion, including data used to reach these conclusions, should appear in the final EIS. This discussion is particularly important because of anticipated increased urbanization of Moorpark, and because the near-shore area from Laguna Point, just north of the entrance to Mugu Lagoon, to Latigo Point in Los Angeles County has been designated as an Area of Special Biological Significance by the State Water Quality Control Board.

We would like [illegible] additional discussion of the need for 200-400 year occurrence flood protection being provided. It appears that [illegible] protection will provide for flows 4 to 8 times greater than the largest historical flows recorded.

Air

The discussion of air quality (pages 10-11) is accurate in its assessment of the nature of the problem, but contains inaccuracies in its description of the air pollution control efforts of the State and Federal governments. This discussion should be updated, and revised to include consideration of the air quality maintenance planning process on-going in the South Coast Air Basin. All emission factors used should be those published by the EPA in AP-42 (Compilation of Air Pollutant Emission Factors, Supplement No. 5).

The description of the air quality problem should be located within the text of the document itself. The Table detailing the numbers and severity of the violations of the National Ambient Air Quality Standards should be supplemented by a brief discussion of the health basis supporting the standard. The discussion should identify the major local sources of air pollution (mobile and stationary) and the relative importance of each in contributing to these violations.

EIS CATEGORY CODES

Environmental Impact of the Action

LO--Lack of Objections

EPA has no objection to the proposed action as described in the draft impact statement; or suggests only minor changes in the proposed action.

ER--Environmental Reservations

EPA has reservations concerning the environmental effects of certain aspects of the proposed action. EPA believes that further study of suggested alternatives or modifications is required and has asked the originating Federal agency to reassess these aspects.

EU--Environmentally Unsatisfactory

EPA believes that the proposed action is unsatisfactory because of its potentially harmful effect on the environment. Furthermore, the Agency believes that the potential safeguards which might be utilized may not adequately protect the environment from hazards arising from this action. The Agency recommends that alternatives to the action be analyzed further (including the possibility of no action at all).

Adequacy of the Impact Statement

Category 1--Adequate

The draft impact statement adequately sets forth the environmental impact of the proposed project or action as well as alternatives reasonably available to the project or action.

Category 2--Insufficient Information

EPA believes that the draft impact statement does not contain sufficient information to assess fully the environmental impact of the proposed project or action. However, from the information submitted, the Agency is able to make a preliminary determination of the impact on the environment. EPA has requested that the originator provide the information that was not included in the draft statement.

Category 3--Inadequate

EPA believes that the draft impact statement does not adequately assess the environmental impact of the proposed project or action, or that the statement inadequately analyzes reasonably available alternatives. The Agency has requested more information and analysis concerning the potential environmental hazards and has asked that substantial revision be made to the impact statement.

If a draft impact statement is assigned a Category 3, no rating will be made of the project or action, since a basis does not generally exist on which to make such a determination.

Advisory Council
On Historic Preservation
1522 K Street N.W.
Washington, D.C. 20005

January 13, 1976

Colonel John V. Foley
District Engineer
Corps of Engineers, Los Angeles District
Department of the Army
P. O. Box 2711
Los Angeles, California 90053

Dear Colonel Foley:

This is in response to Garth A. Fuquay's request of December 22, 1975 for comments on the revised draft environmental statement (RDES) for Calleguas Creek, Simi Valley to Moorpark, Ventura County, California. Pursuant to its responsibilities under Section 102(2)(C) of the National Environmental Policy Act of 1969, the Advisory Council has determined that the RDES appears adequate concerning compliance with Section 106 of the National Historic Preservation Act of 1966.

Furthermore, with respect to compliance with Executive Order 11593, "Protection and Enhancement of the Cultural Environment" issued May 13, 1971, the Council notes that the Corps of Engineers will arrange for intensive cultural surveys of the project area following Congressional authorization of the proposed project. Accordingly, the Council wishes to remind the Corps that should such surveys identify that properties which are subsequently determined eligible for inclusion in the National Register of Historic Places will be affected by the undertaking, it is required to afford the Council an opportunity to comment prior to proceeding with any portion of the undertaking that will affect the resources. For your information, steps to determine eligibility, effect and to obtain Council comments are set forth in the "Procedures for the Protection of Historic and Cultural Properties" (36 C.F.R. Part 800).

Should you have questions or require additional assistance in this matter, please contact Michael H. Bureman of the Council's staff at P. O. Box 25085, Denver, Colorado 80225, telephone number (303) 234-4946.

Your continued cooperation is appreciated.

Sincerely yours,

Michael H. Bruce

for Louis S. Wall
Assistant Director, Office
of Review and Compliance

FICE OF THE SECRETARY
RESOURCES BUILDING
1416 NINTH STREET
95814
(916) 445-5656

partment of Conservation
partment of Fish and Game
partment of Navigation and
Ocean Development
partment of Parks and Recreation
partment of Water Resources

EDMUND G. BROWN JR.
GOVERNOR OF
CALIFORNIA

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

THE RESOURCES AGENCY OF CALIFORNIA

SACRAMENTO, CALIFORNIA

29 December 1976

Colonel John V. Foley
District Engineer
Los Angeles District
U. S. Corps of Engineers
P. O. Box 2711
Los Angeles, California 90053

Dear Colonel Foley:

The State of California has reviewed the Revised Draft Environmental Statement on Calleguas Creek, Simi Valley to Moorpark, Ventura County, and the Main Report and the Appendixes on the Feasibility Report for Flood Control and Recreational Development, dated July 1974. These were submitted to the Office of Planning and Research (State Clearinghouse) in the Governor's Office, in accordance with Part II of U. S. Office of Management and Budget Circular A-95 and the National Environmental Policy Act of 1969.

The review was coordinated with the Departments of Navigation and Ocean Development, Food and Agriculture, Transportation, Health, Conservation, Fish and Game, Parks and Recreation, and Water Resources; the State Water Resources Control Board; the Air Resources Board; the Solid Waste Management Board; the Energy Commission; and the California Coastal Zone Conservation Commission.

We have no comment to offer on this project.

Sincerely,

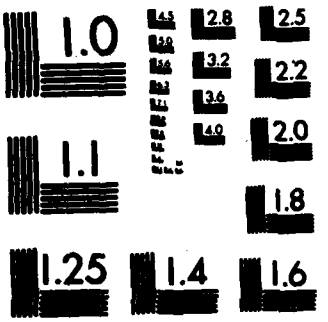
CLAIRE T. DEDRICK
Secretary for Resources

By Taylor O. Miller

cc: Director of Management Systems
State Clearinghouse
Office of Planning and Research
1400 Tenth Street
Sacramento, California 95814
(SCH No. 75111073)

AD-A136 650 CALLEGUAS CREEK SIMI VALLEY TO MOORPARK VENTURA COUNTY CALIFORNIA(U) ARMY ENGINEER DISTRICT LOS ANGELES CA JUN 76 3/3

UNCLASSIFIED F/G 13/2 NL



State of California

California Regional Water Quality Control Board
Los Angeles Region

Memorandum

To : Governor's Office
Office of Planning and Research

ATTENTION: Mr. William G. Kirkham

Date: JAN 2 0 1976

File : AIa4kk

From : Raymond M. Hertel

Subject: Review of Revised Draft Environmental Impact Statement (RDEIS) on SCH 73100843 - Proposed Flood Control and Recreation Development for the Simi Valley to Moorpark Area

We recently reviewed this RDEIS for the State Water Resources Control Board. Our comments on the proposed development were sent directly to the State Board on November 26, 1975. A copy of those comments is attached.

Raymond M. Hertel

RAYMOND M. HERTEL
Executive Officer

Enclosure

cc: George Hersh, State Water Resources Control Board
Garth A. Fuquay, U.S. Army Corps of Engineers

REGIONAL WATER QUALITY CONTROL BOARD AIa4mm

INTERNAL MEMO

TO: State Water Resources Control Board
Division of Planning and Research
ATTN: Mr. George Hersh

FROM: Los Angeles Region

DATE: NOV 26 1975

SIGNATURE: Original signed by
Raymond M. Hertel
Executive Officer

SUBJECT: Review of Notice of Intent - SCH 75111073
Revised Draft EIS - Proposed Flood Control and Recreation
Development for the Simi Valley to Moorpark Area

We have reviewed the subject Notice of Intent and accompanying documents. The revised draft of the EIS contains an adequate response to the comments contained in our letter of October 31, 1973. We believe that the implementation of the proposed development will have no significant adverse impact on water quality in the Calleguas Creek area.

Enclosure

SWRCB 326A(4/75)

SURNAME:

PUBLIC WORKS AGENCY
county of ventura

Director
A. P. Stokes

Deputy Directors
D. A. Bellach
Roads & Surveyor
E. D. Shinavar
Field Operations
G. J. Nowak
Flood Control & Drainage
H. P. Nilmeier
Water & Sanitation
T. M. Morgan
Special Projects
D. B. Perry
Management Services
C. R. Handy
Staff Services

January 30, 1976

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

Attention: Colonel John V. Foley
District Engineer

Subject: REVISED DRAFT ENVIRONMENTAL STATEMENT FOR CALLEGUAS CREEK - SIMI VALLEY TO MOORPARK

Dear Colonel Foley:

By letter dated December 22, 1975, the referenced document was submitted to this office for review and comment. Our comments are as follows:

1. Page 10, Item 35 - Also include urban runoff as a source of surface water degradation.

2. Page 10, Item 36 - Ground water beneath and adjacent to Arroyo Simi in the Moorpark area is of poor quality with an average TDS of about 1,850 mg/l. Historic records indicate poor quality during earliest records in the 1920's. The poor quality of ground water is believed to be caused primarily by naturally poor quality runoff and lateral migration of connate water from adjacent formations.

3. Page 17, Item c - This office agrees that there will be no detrimental effect on the ground water basin if the channel is concrete lined. We find it difficult to believe, however, that none of the Simi basin ground water is used for beneficial use. This statement should be verified.

4. Page 17, Item d - Water Quality - First sentence should be substantiated by facts.

Doc C 10

597 East Main Street, Ventura, CA 93001 (805) 648-6131

5. Page 23, Item g and Page 47, last response - It is understood that the California Regional Water Quality Control Board recommends abandonment of the treatment plant. The Moorpark County Sanitation District has recently been provided with a Step 1 grant for the purpose of reviewing various alternatives relating to this facility. The alternatives include continuing in existence with flood protection and abandonment with various pipeline proposals to deliver the sewage to other locations. After completion of this study, the California Regional Water Quality Control Board may change its recommendation.

6. Page 22, Item c - Subsurface Flows - This office agrees with the comment relative to the earth-bottom channel section. The statement should be expanded to recognize the proposed 1.6 miles of rectangular concrete section.

7. As you are aware, the findings of fact and conclusions relating to the Environmental Impact Statement for the disputed Santa Paula Creek project have been handed down by the court. The Draft EIS for the Calleguas Creek project should be reviewed, giving consideration to the Santa Paula Creek case, in an effort to insure that the project will proceed with as little possibility as possible for litigation on similar grounds.

If you have any questions, please feel free to contact this office.

Very truly yours,

G. G. Nowak, Deputy Director
Flood Control & Drainage Department

WGH/JT:clc

SIMI VALLEY RECREATION AND PARK DISTRICT
1692 Sycamore Drive, Simi Valley, California 93065 • (805) 526-3260

February 23, 1976

Mr. Garth A. Fuquay
Chief, Engineering Division
Office of the Chief of Engineers
Department of Army
Washington, D.C. 20314

Subject: REVISED DRAFT ENVIRONMENTAL STATEMENT FOR CALLEGUAS CREEK

Dear Mr. Fuquay:

In response to your letter of December 22, 1975, the Simi Valley Recreation and Park District would offer the following comments relative to the Draft Environmental Statement for Calleguas Creek.

The Simi Valley Recreation and Park District has worked consistently with the Corps of Engineers to assist in the development of an aesthetically pleasing project that would not only meet the flood control needs of the area, but would also provide an environmentally sound project that would additionally offer recreational facilities and opportunities to the residents of the area. Certain modifications to the general description section of the draft would be appropriate at this time.

1. The inclusion of a developed 35-acre community park at Erringer Road and the Arroyo Simi would be appropriate to include in expanding the linear park concept. Currently a developed equestrian rest area exists as a part of the proposed linear park along the Arroyo at this location.

2. An additional one acre park site similar to the Frontier Park design should be designated east of First Street on the south side of the Arroyo. The area would be developed as a part of the linear park system through an agreement with a developer to dedicate the area as a part of an adjoining residential development.

3. The Tierra Rejada Park Site has been expanded to the west and presently totals 113 acres rather than the 47 previously shown in the plan. This will allow for additional park, recreation, and wildlife preservation in this area.

4. The Bureau of Water Reclamation is currently studying related projects in the area and coordination with this agency should be explored and addressed. Possible combined recreational facility development would be worth investigation.

5. Local Simi Valley Sanitation District revised plans, in the vicinity of the plant at the west end of the Valley, should be reviewed for inclusion in the project.

6. Pages 41, 42, 43 (Consideration Section). References to elimination of further consideration of the Las Llajas Reservoir are extremely premature. Further study of this site and its possibilities are of major importance to the total concept of reducing the effect of the channelization of the Arroyo and its tributaries on the environment of the Valley. Water storage, flood control protection, reduced channel size, recreational and fish and wildlife benefits of the project all directly relate to the reservoir. Careful and extensive study of the feasibility of this site and the alternate Tapo Canyon Reservoir should be made as a primary part of this project.

   Many hours of discussion, planning and determination of the overall effect of this project on meeting all the needs of the residents can be lost through anything less than an extensive and careful review of this alternative.

In conclusion, if there is additional information desired regarding these comments, please call.

Respectfully,

Donald E. Hunt
Park Superintendent

DEH:jo

cc: W. Walter Rauhut