

JURISDICTIONAL WATERS REPORT

LILAC DEL CIELO

BONSALL, CALIFORNIA

TM 5427, R05-006, S05-026, ER05-02-013

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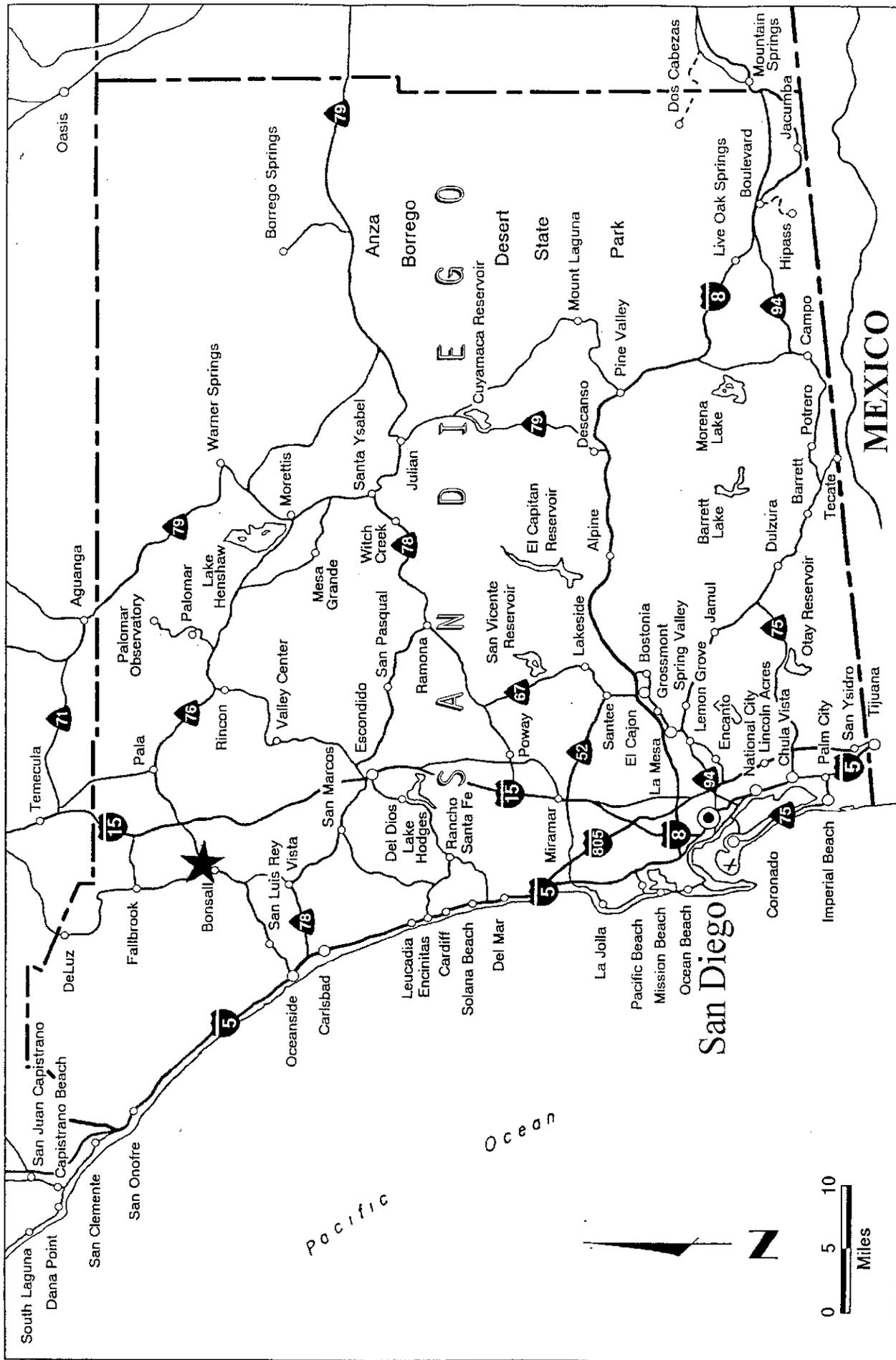
A. INTRODUCTION AND SITE DESCRIPTION

The property is an approximately 55.9-acre parcel in an unincorporated area of the County of San Diego near the community of Bonsall (Figure 1). The irregular-shaped parcel is within Sections 20 and 21 of Township 10 South, Range, 3 West, of the USGS 7.5' Bonsall Quadrangle (Figure 2). It is east of S.R. 76, south of West Lilac Road. The San Luis Rey River is north of the property, across West Lilac Road. The property is not within the current boundaries of the approved Multiple Species Conservation Program (MSCP), but is within the boundaries of the planned North County MSCP.

The property is currently vacant. The San Luis Rey River and flood plain are north across West Lilac Road along with other vacant land. Residential development is to the south of the property.

The topography of the site slopes steeply from the developed areas downslope to West Lilac Road. Elevations range from about 350 ft. above mean sea level at the top of the property to about 180 feet along West Lilac Road. Four soils series are mapped on-site, including Fallbrook sandy loam, 5-30% slopes, eroded; Fallbrook sandy loam, 9-30% slopes, severely eroded; Placentia sandy loam, 9-15% slopes, eroded; and Cienega coarse sandy loam, 15-30% slopes, eroded (Bowman, 1973)

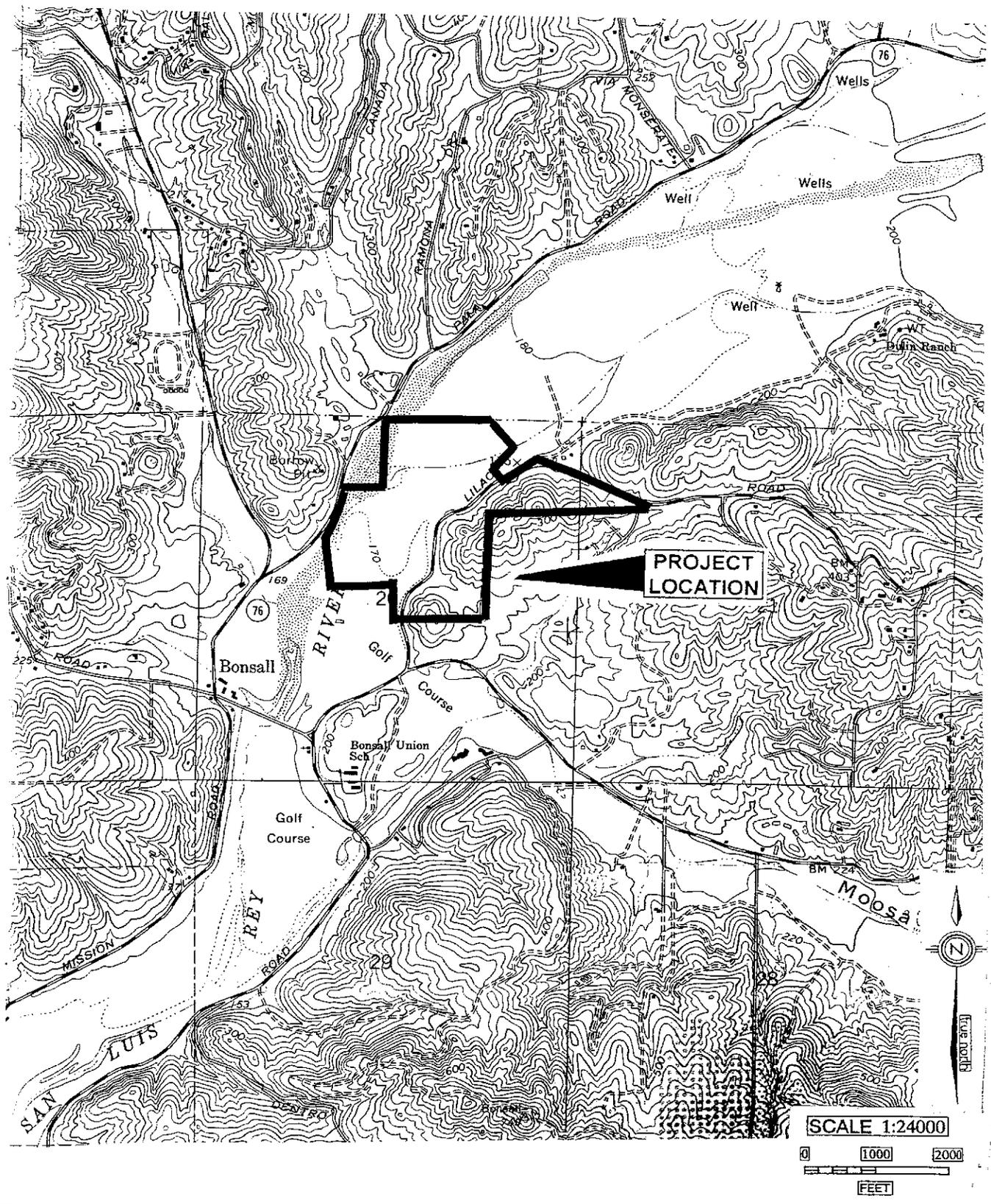
The property largely supports native vegetation, although a series of firebreaks is maintained on the site (Figure 3). The firebreaks border the residential development at the top of the property, and also run along the site's boundary at West Lilac Road. Additional firebreaks run downslope at fairly regular intervals. In general, the firebreaks are 50 feet wide.



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REGIONAL LOCATION IN SAN DIEGO COUNTY

FIGURE 1



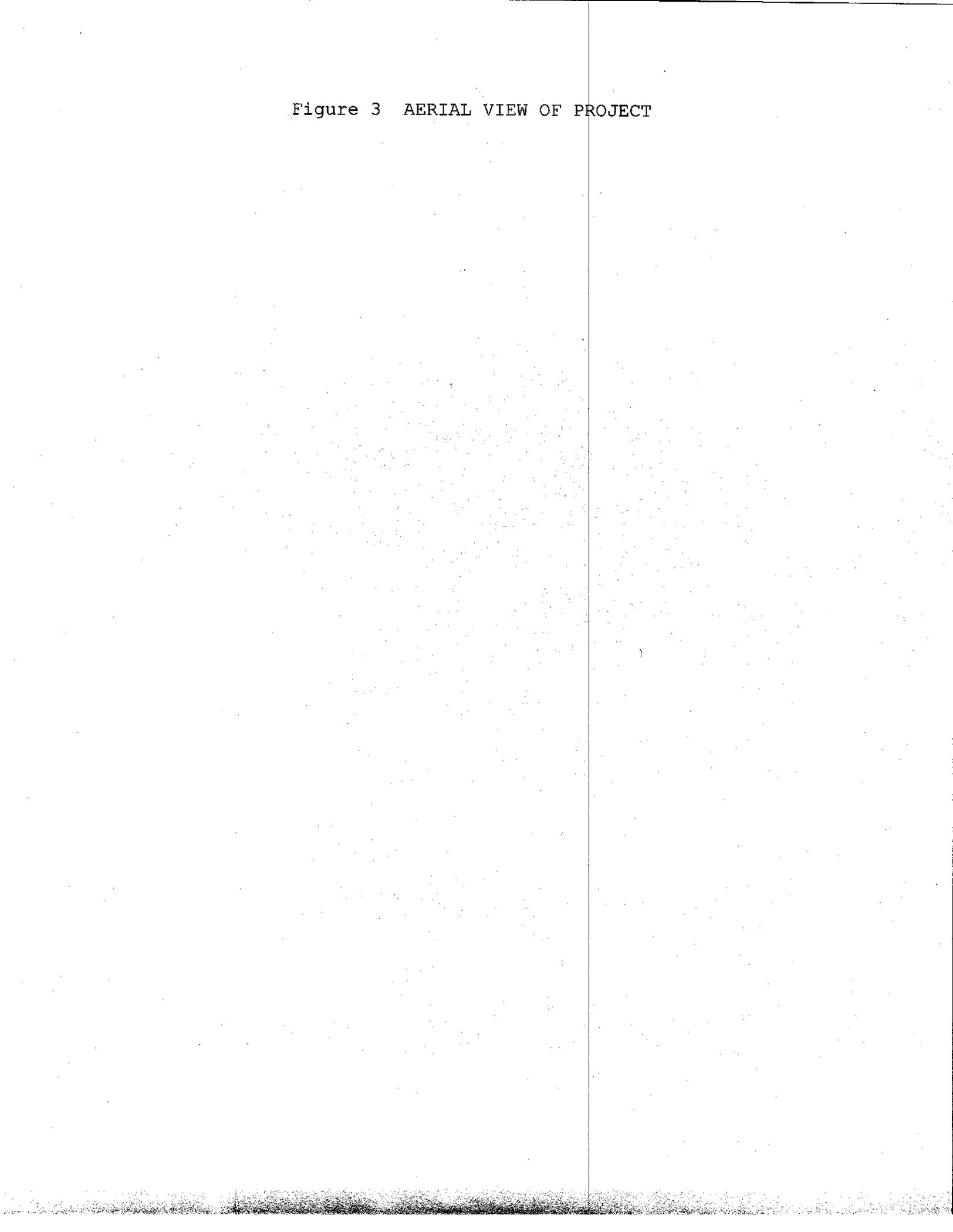
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**PROJECT LOCATION ON USGS 7.5'
 BONSCALL QUADRANGLE**

FIGURE 2

Figure 3 AERIAL VIEW OF PROJECT



B. REGULATORY MECHANISMS

Four jurisdictions can have authority over activities affecting the water resources:

- The U.S. Army Corps of Engineers (federal Clean Water Act Section 404).
- The Regional Water Quality Control Board (RWQCB) (Clean Water Act Section 401).
- The California Department of Fish and Game (state Streambed Alteration Agreement Resources Code Section 1602).
- The County of San Diego (local land use agency).

Federal Clean Water Act.

Section 404 of the Clean Water Act requires a permit from the Army Corps of Engineers for work placing fill within Waters of the United States. Waters of the United States potentially pertinent to this property include:

"All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds...: [33 CFR 328.3 (a)(3)]

Wetlands. The Army Corps has defined wetlands as:

"Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas." (42 Fed. Reg. 37, 125-26, 37128-29; July 19, 1977).

Under the federal methodology, an area is a jurisdictional wetland if it is under normal conditions and manifests all of the following: prevalence of hydrophytic vegetation, hydric soils, and wetland hydrology. Clean Water Act permitting has abandoned the 1989 methodology, and has returned to the 1987 methodology -- "Corps of Engineers Wetlands Manual" (Waterways Experiment Station Technical Report Y-87-1, January, 1987). It also uses definitions of 33 CFR 328.3(a).

Streams. Streams are a category parallel with wetlands -- both are types of Waters of the U.S. Streams are jurisdictional areas below the Ordinary High Water Mark (OHWM) (33 CFR 329.11(a), defined as the

"line on the shore established by fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank."

Regulatory Guidance Letter No. 88-6, "Nationwide Permit Program," June 27, 1988, noted

"The OHWM is the physical evidence (shelving, debris lines, etc.) established by normal fluctuations of water level. For rivers and streams, the OHWM is meant to mark the within-channel High flows, not the average annual flood elevation that generally extends beyond the channel."

In January of 2001 the U.S. Supreme Court ruled the Clean Water Act does not include authority over at least some isolated waters (*Solid Waste Agency of Northern Cook County v. Army Corps of Engineers*). The full ramifications of this decision have not yet been established.

Section 401 of the federal Clean Water Act requires certification or a waiver that a project will not degrade water quality. In California, the certifying agency is the Regional Water Quality Control Board (RWQCB). The Army Corps cannot issue a permit under Section 404 without Section 401 certification.

California Streambed Alteration Agreement.

Under Code Section 1602 of the California Department of Fish and Game, an Agreement is necessary for alteration to a waterway:

"Fish and Game Code section 1602 requires any person, state or local governmental agency, or public utility to notify the Department before beginning any activity that will do one or more of the following:

- 1) substantially obstruct or divert the natural flow of a river, stream, or lake;

2) substantially change or use any material from the bed, channel, or bank of a river, stream, or lake; or

3) deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into a river, stream, or lake.

Fish and Game Code section 1602 applies to all perennial, intermittent, and ephemeral rivers, streams, and lakes in the state."

(www.dfg.ca.gov/1600/ga.html#ga3)

The California Department of Fish and Game has no officially adopted regulations or statutes pertaining to wetlands.

(<http://ceres.ca.gov/wetlands/agencies/dfg.html>)

County of San Diego

The County of San Diego's Resource Protection identifies several resources to be considered in its permitting processes. Among these are Wetlands, defined as:

"All lands which are transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or whether the land is covered by water. All lands having one or more of the following attributes are "wetlands":

a. At least periodically, the land supports predominantly hydrophytes (plants whose habitat is water or very wet places);

b. The substratum is predominantly undrained hydric soil; or

c. The substratum is nonsoil and is saturated with water or covered by water at some time during the growing season of each year.

Wetlands are included under the definition of Environmentally Sensitive Lands in the Resource Protection Ordinance, and the Ordinance also includes Wetland buffer, defined as:

"Lands which provide a buffer area of an appropriate size to protect the environmental and functional habitat values of the wetland, or which are integrally important in supporting the full range of the wetland and adjacent upland biological community."

C. METHODS

Field

A steel measuring tape was used by a biologist walking down the channel. Widths were measured in most cases at approximately 10-foot (three strides by the person in the channel) intervals. Measurements on small or highly variable segments were done at approximately 5-foot intervals. The brush was too dense in some areas of these ephemeral streams to move into or through. At some points there were thick stands of poison oak. At those points the biologist moved out of the channel and around the brush to where it was possible to again measure.

Two sets of width measurements were done. Width measurements were taken between the discernible banks of the Ordinary High Water of the stream, for use in determination of jurisdictional waters under the U.S. Army Corps of Engineers. Width measurements for jurisdiction under the California Department of Fish and Game was measured between top-of-bank to top-of-bank. Data summary sheets are included in Appendix A.

Fieldwork was done by Affinis biologist Mike Busdosh. Observations on vegetation in and along the drainage were recorded. Prior field work on the property had established a familiarity with the area. Field work was done on June 22, 2004. The drainages were field checked in March 2005 and again in November 2005.

Analyses

For quantification of area jurisdictional under each agency the average width of the field measurements was determined. Length of the stream or stream segment was determined from the scaled (1" = 40') project maps and from scaled aerial photography.

D. RESULTS

Surrounding Habitats

A general habitat map was prepared based on the field observations and aerial photography, and is included here as Figure 4.

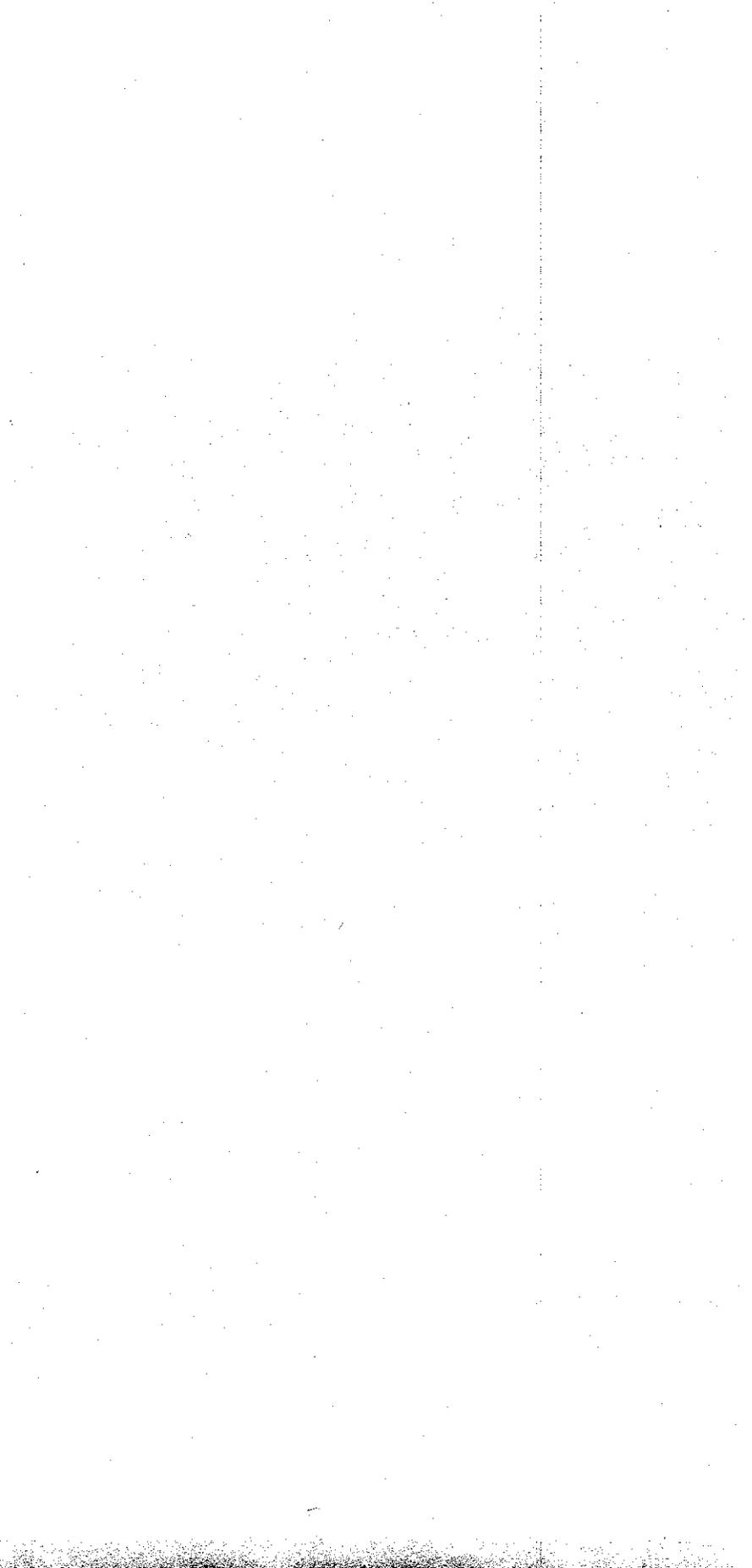
Types of Waters

Jurisdictional waters are within the waterways on the property. These are Waters of the United States, noted as "... wetlands...streams (including intermittent streams)..." in the definition above. Streams can be classified as either perennial, intermittent, or ephemeral based on the following definitions:

A perennial stream has flowing water year-round during a typical year. The water table is located above the stream bed for most of the year. Groundwater is the primary source of water for stream flow. Runoff from rainfall is a supplemental source of water for stream flow.

An intermittent stream has flowing water during certain times of the year, when groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water. Runoff from rainfall is a supplemental source of water for stream flow.

An ephemeral stream has flowing water only during, and for a short duration after precipitation events in a typical year. Ephemeral stream beds are located above the water table year-round. Groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow (Wetland Training Institute, 2002).



Jurisdictional Waters

There are three jurisdictional drainages, all ephemeral, on the 55-acre property:

- An ephemeral drainage running southeast to northwest down to West Lilac Road, and passing under the road in a culvert. This ephemeral drainage is referred to as the Northern Drainage.
- An ephemeral drainage running east to west, also associated with a culvert, referred to as the Central Drainage.
- An ephemeral drainage running southeast to northwest, in the southern end of the 55-acre area. This Southern Drainage has the largest watershed of the three, and the longest run, as indicated by the topography in Figures 2 and 4. It flows to a clump of riparian woodland just east of the road, and then under the road in a culvert.

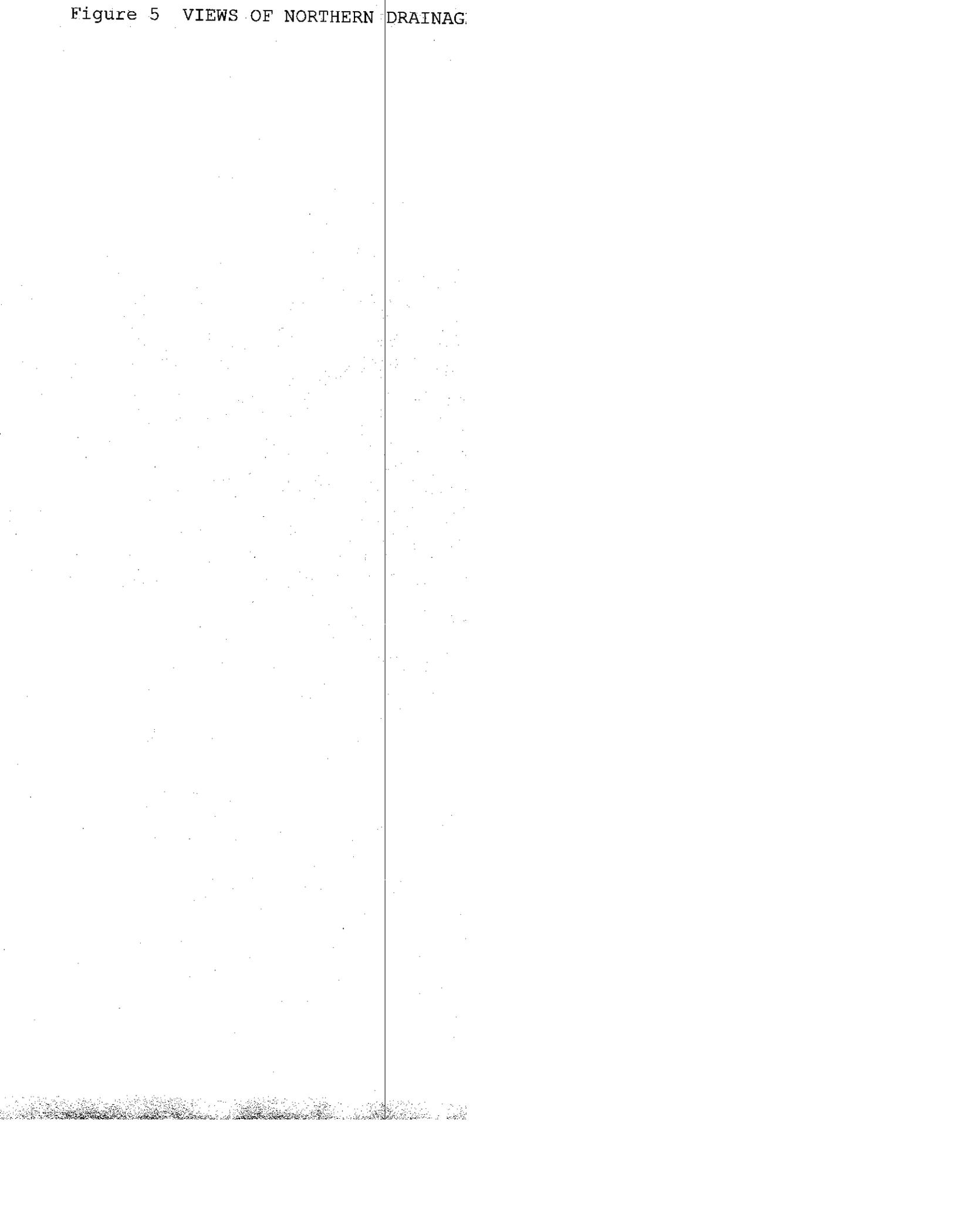
The drainages are indicated on Figure 3.

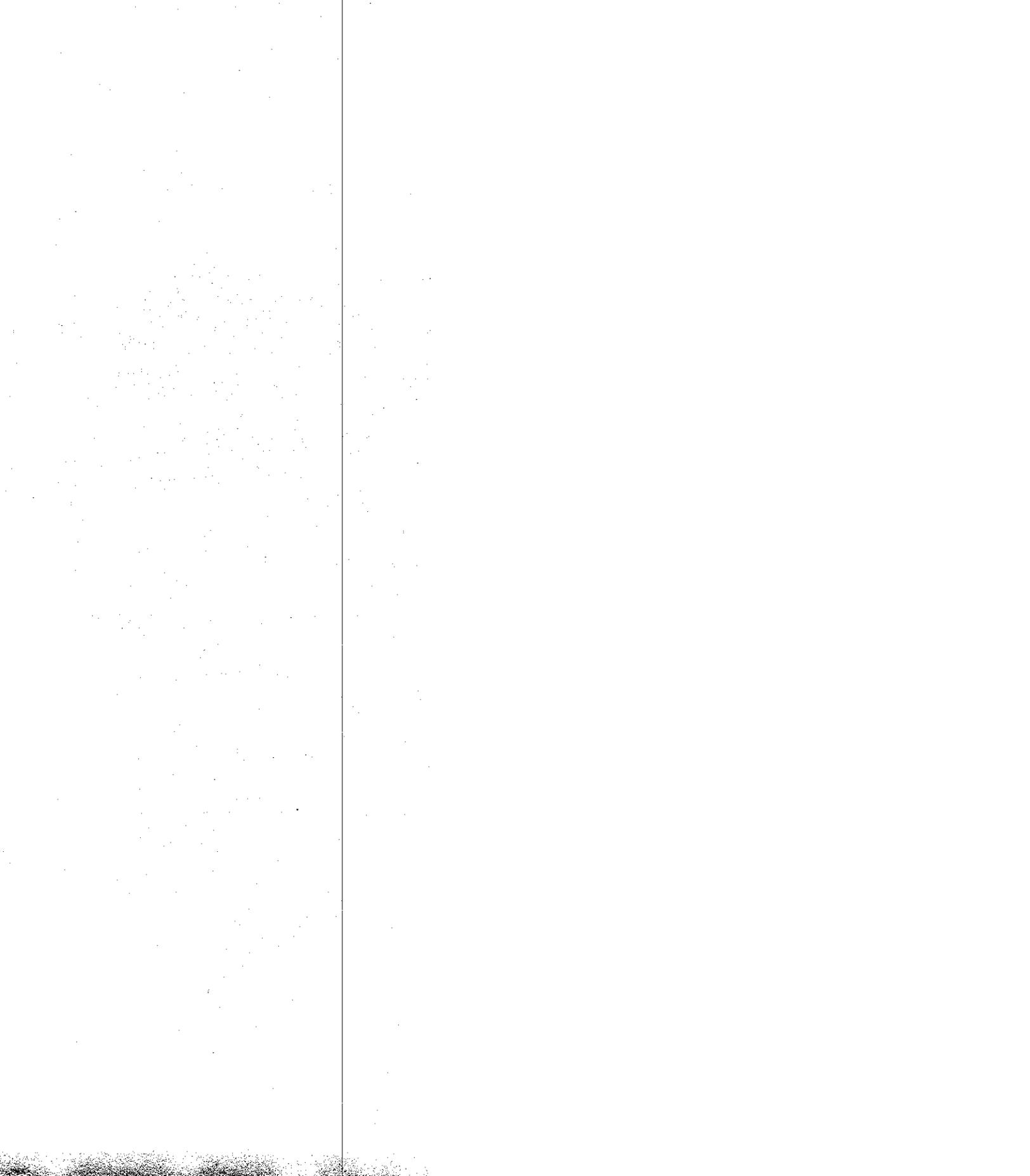
Northern Drainage. The Northern Drainage descends steeply through coastal sage scrub and nonnative grasses (Figures 5 and 6). The definite stream stops at the firebreak, but continues more as a swale over the firebreak. The swale crosses the firebreak shown in the photos of Figure 5, and passes under the road in a culvert. The firebreak is an obvious disturbance, and has been maintained, as is required. Swales are not usually considered a jurisdictional water, as they do not show a definite bed and banks. The swale was included as a jurisdictional segment here, as the stream was evident upslope, the culvert was just downslope, and the firebreak creation and maintenance modifies the microtopography.

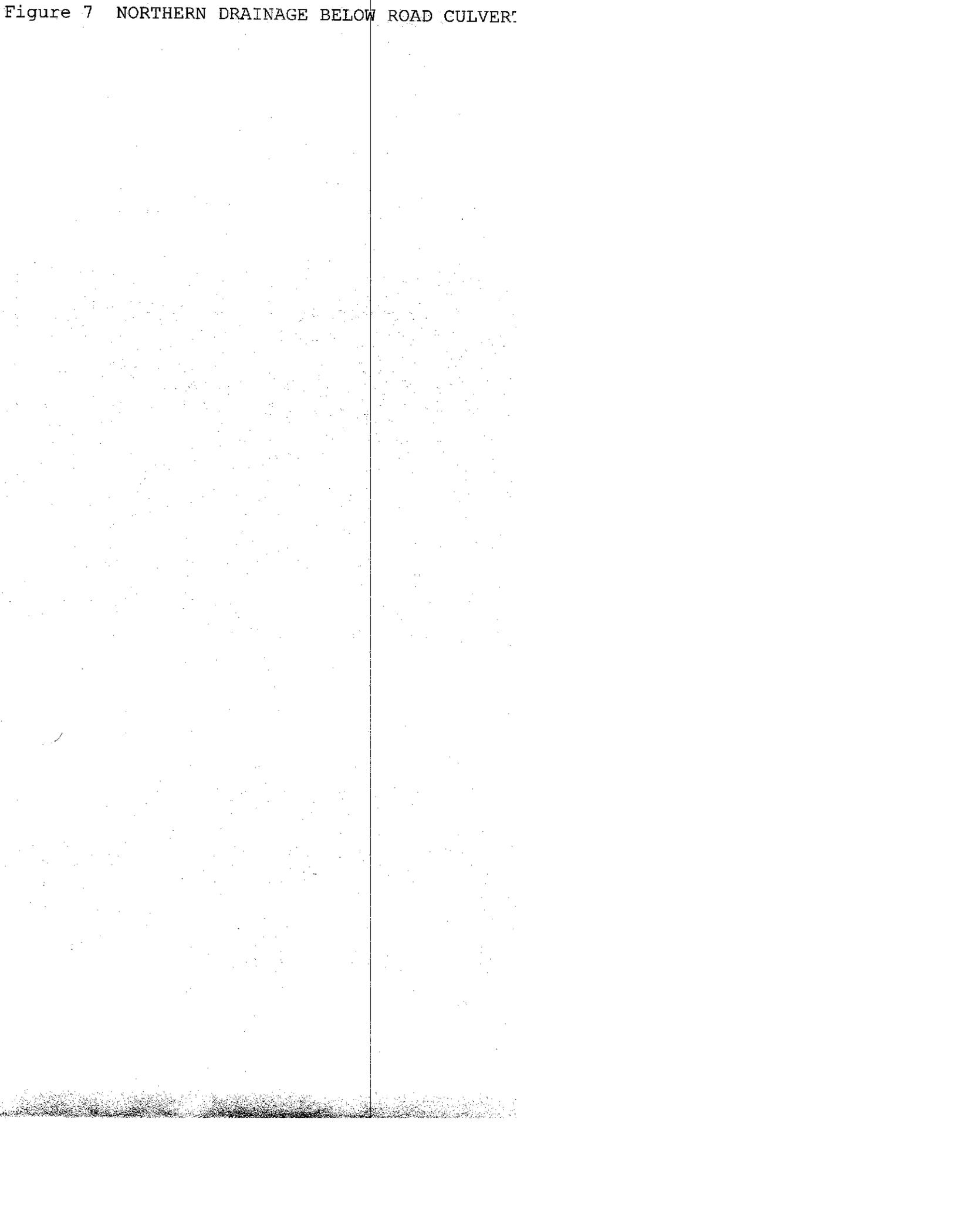
Below the culvert and off-site, on the west side of West Lilac Road, flows move across a weedy area to the riparian forest of the floodplain (Figures 6 and 7). The area downstream of the culvert was searched, but no single channel could be found. It appears that low flows percolate into the floodplain substrate, and high flows move into an interconnecting network of swales. No real direction of flow was found.

Jurisdictional waters (Army Corps) averaged 3.0 feet in width, giving an area of approximately 900 square feet or approximately 0.02 acre. Jurisdictional waters under the California Department of Fish and Game had a mean width of 3.5 feet, for an area of approximately 1050 square feet, approximately 0.02 acre.

Figure 5 VIEWS OF NORTHERN DRAINAG







Central Drainage. The Central Drainage is also a steeply-descending ephemeral stream through nonnative grassland and coastal sage scrub. It becomes a swale at the firebreak, and has a berm at the downslope edge of the firebreak (Figure 8). A culvert passes under the road at the linear extension of the Central Drainage. There were no surface flow marks at either the culvert entrance or exit, and no cuts through the low berm. Given the location of the culvert and the topographic disturbance from the creation and maintenance of the firebreak, the Central Drainage was assumed to normally connect to the culvert, across the swale and berm.

While appearing similar to the Northern Drainage, portions of the Central Drainage are deeply incised. The channel was four feet below the surface in places where the bank-to-bank distance was only seven feet. Higher up the drainage was even more cut down, with the channel being ten feet below the surface in a stretch that was fifteen feet bank-to-bank (Figure 9).

Poison oak thickets occurred along this drainage, precluding measurements in some areas.

A total of 24 measurements of width were made over the approximately 350-foot length of the drainage. Jurisdictional waters (Army Corps) averaged 2.8 feet in width. The area over the 350-foot length was approximately 980 square feet, approximately 0.02 acre. Jurisdictional waters under the California Department of Fish and Game was 2730 square feet, approximately 0.06 acre.

Figure 8 VIEWS OF CENTRAL DRAINAGE

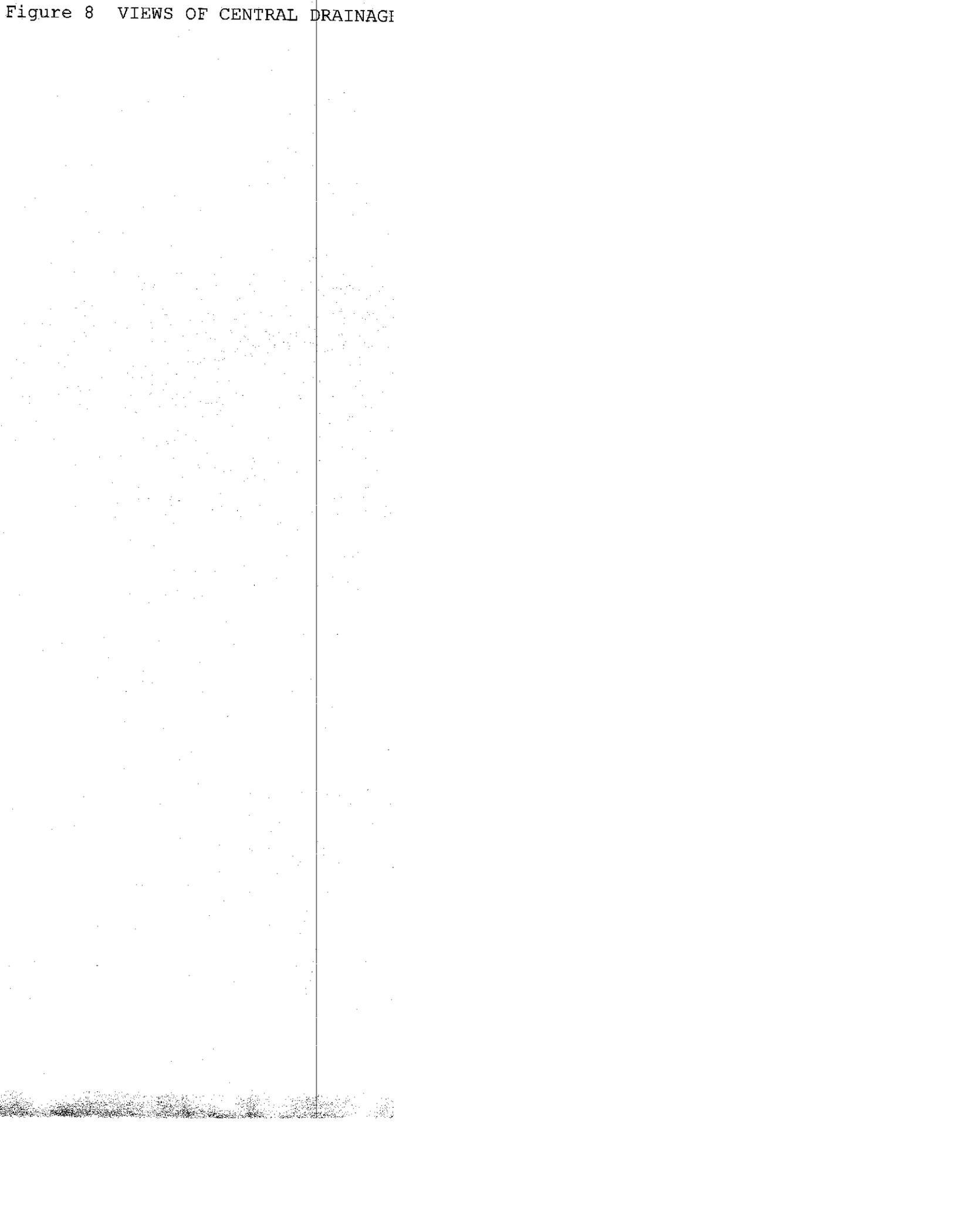
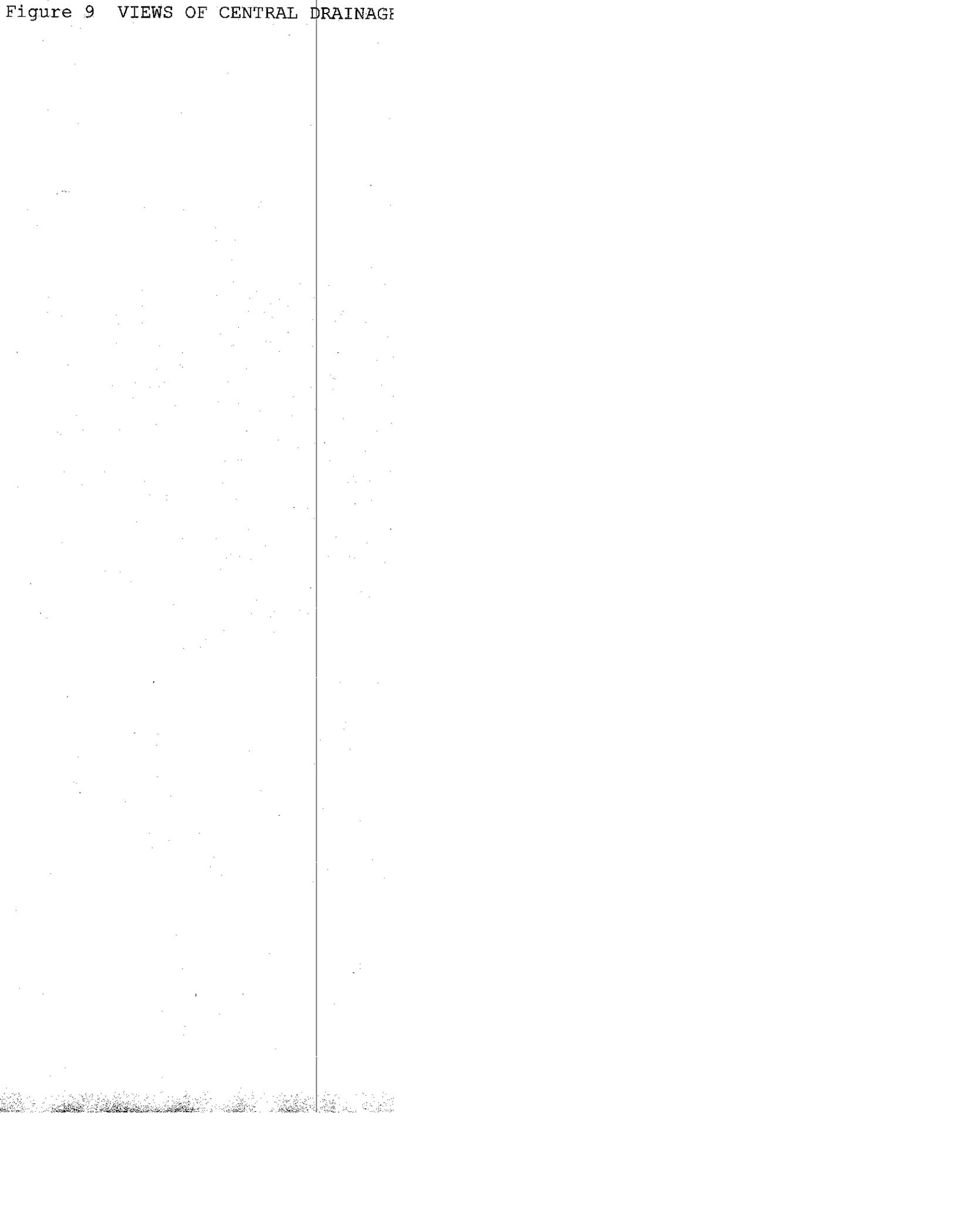


Figure 9 VIEWS OF CENTRAL DRAINAGE



Southern Drainage. The Southern Drainage is the largest stream on the 55-acre property, as indicated by the topography of Figures 2 and 4. It originates on the property at the tall clump of trees shown in the top photo of Figure 10, in the center of the photo next to the large white building. It flows generally southwest to northeast across the property (Figure 3), to the firebreak and a small area of riparian woodland bordering West Lilac Road.

The clump of trees, consisting of a large cottonwood, willows, and ornamentals, sits on the low spot along the eastern border of the property. Just off-property, and running along the property line, is a concrete brow ditch (top photo of Figure 11). The brow ditch collects runoff from the developments adjacent to the east (Figure 3). Water comes onto the property by flowing under the fence at this low spot, apparently supplying the water to maintain the clump of trees. A small (approximately one foot across when discernible) channel moves out of the clump of trees and through the nonnative grassland shown in the bottom photo of Figure 11.

A distinct and incised channel begins to form as the stream flows to the west. The incised channel can be seen on Figure 3, and in the photos of Figure 12. The tape measure is set at two feet in the photo.

As the drainage bends toward the east-west firebreak, it runs through thickets, sometime dense, of coyote bush. The distinct channel disappears as it runs through a weedy area (top photo of Figure 13).

Down gradient from the weedy area is the firebreak that parallels West Lilac Road (Figure 3). Between this firebreak and the road is a patch of riparian woodland, with a culvert under West Lilac Road. The riparian area is heavily disturbed, surrounded by the firebreak and the road, with a lot of junk and litter (bottom photo of Figure 13). The area was dominated by poison oak; despite this there were indications of people living in the area.

As with the other drainages, the firebreaks have affected the topography and the visible indications of any flow. The firebreaks are maintained, and there may not have been sufficient flow in this ephemeral stream to have re-established a distinct channel following firebreak maintenance. It is assumed here that the ephemeral stream would continue to the riparian patch, and then to the culvert under the road.

There are some flow marks downstream of the culvert exit, but these are not distinct (top photo of Figure 14). The dense riparian

vegetation of the off-site floodplain does not show any channel from this culvert. As with the other drainages, there is a network of swales, with no real discernible channels. This would indicate that there has not been sufficient flow to establish a channel. The culvert is largely silted in (bottom photo of Figure 14), indicating there has not been enough energy in any flows to "clean out" the sediment.

For the ephemeral stream, the average width under jurisdiction of the Army Corps was 1.9 feet, giving an area of 1755 square feet, approximately 0.04 acre. Average width of jurisdiction with the California Department of Fish and Game was 5.1 feet, giving an area of 4545 square feet, approximately 0.10 acre.

The riparian patch covers approximately 0.30 acre, and would be considered jurisdictional under the California Department of Fish and Game, as the vegetation would be interpreted as gaining benefit from the waters of the stream.

To be considered a County RPO wetland, the area would need to support "...predominantly hydrophytic vegetation". The 1987 Corps Wetland Delineation Manual notes "When more than 50 percent of the dominant species in a community type have an indicator status... of OBL, FACW, and/or FAC, ** hydrophytic vegetation is present." (The ** refers the reader to a FAC-neutral option.) Selection of dominant species is done using what is referred to as "The 50/20 Rule" by delineators: "For each stratum in the plant community, dominant species are the most abundant plant species (when ranked in descending order of abundance and cumulatively totaled) that immediately exceed 50 percent of the total dominance measure for the stratum, plus any additional species comprising 20 percent or more of the total dominance measure for the stratum." (Wetland Training Institute, 2003).

The shrub layer is comprised of five species - poison oak (*Toxicodendron diversilobum*), wild rose (*Rosa californica*), poison hemlock (*Conium maculatum*), common blackberry (*Rubus discolor*), and mulefat (*Baccharis salicifolia*).

Species	Approximate Cover	Indicator Category
Poison oak	50%	None - upland
Wild rose	25%	FAC+
Poison hemlock	15%	FAC

Common blackberry	7%	FAC+
Mulefat	3%	FACW

Most of this site is made up of the shrub stratum. The most dominant (abundant) species, making up approximately half of the entire shrub stratum, is poison oak, which is not listed as OBL, FACW, or FAC. California rose is the second most dominant species at approximately 25 percent, and is listed as FAC+. These two species are the "dominant species". Because poison oak does not have an indicator status of OBL, FACW, or FAC, more than 50 percent of the dominant species do not have an indicator status of OBL, FACW, or FAC, the indicator for hydrophytic vegetation is not satisfied, and the area would not be considered a RPO wetland.

Wetlands, however defined, are often contentious issues. While it is relatively easy to have consensus on a pond with cattails being a wetland and a patch of coastal sage scrub not being a wetland, the natural areas with characteristics falling between these extremes can be difficult to categorize. This area is associated with an ephemeral stream, one that flows only during and for a short period after precipitation, and the "least wet" of any drainage feature. While the shrub layer dominates the site in abundance, there are six to eight trees present. Most of these are cottonwoods, which are given an indicator status of FAC+, and two willows, which are FACW. These can indicate a wetter area. Because there are only a few individuals and all are very large, mature individuals, this would indicate they became established under wetter conditions than are now present, conditions which allowed them to survive long enough to get their roots down to where more water is available. Their presence, with the absence of young trees, may not tell much about present conditions, particularly in light of the dominance of the non-hydrophytic poison oak.

There are no obligate (OBL) wetland species present. There are only two species that have an indicator status of FACW, and there are fewer than ten individuals - two willow trees and six mulefat. The other species present are facultative, growing in both upland and wetland areas. This composition is typical of a community associated with an ephemeral stream that in most years does not have flows for long durations.

Figure 10 VIEWS OF SOUTHERN DRAINAG

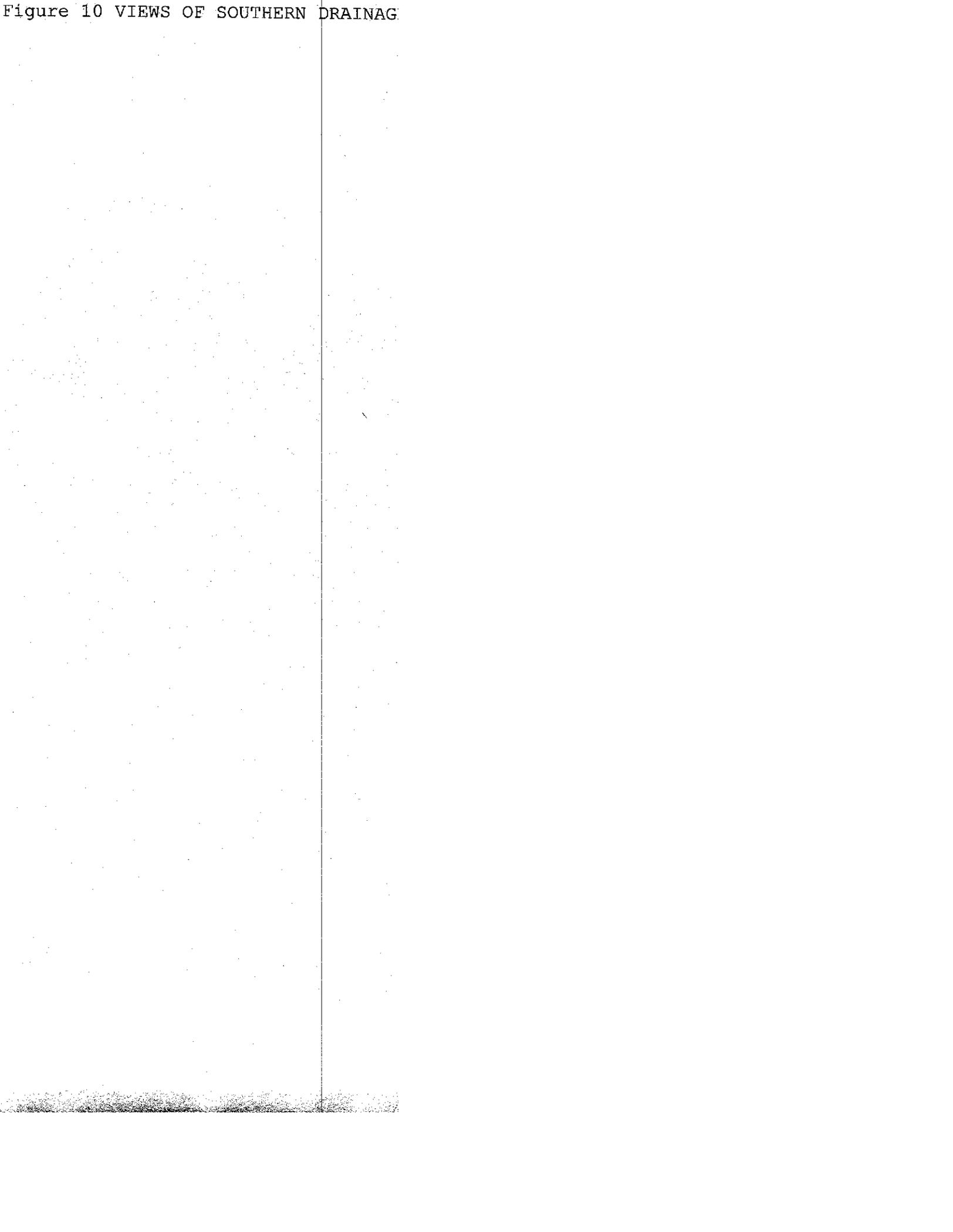


Figure 11 OFF-SITE BROW DITCH

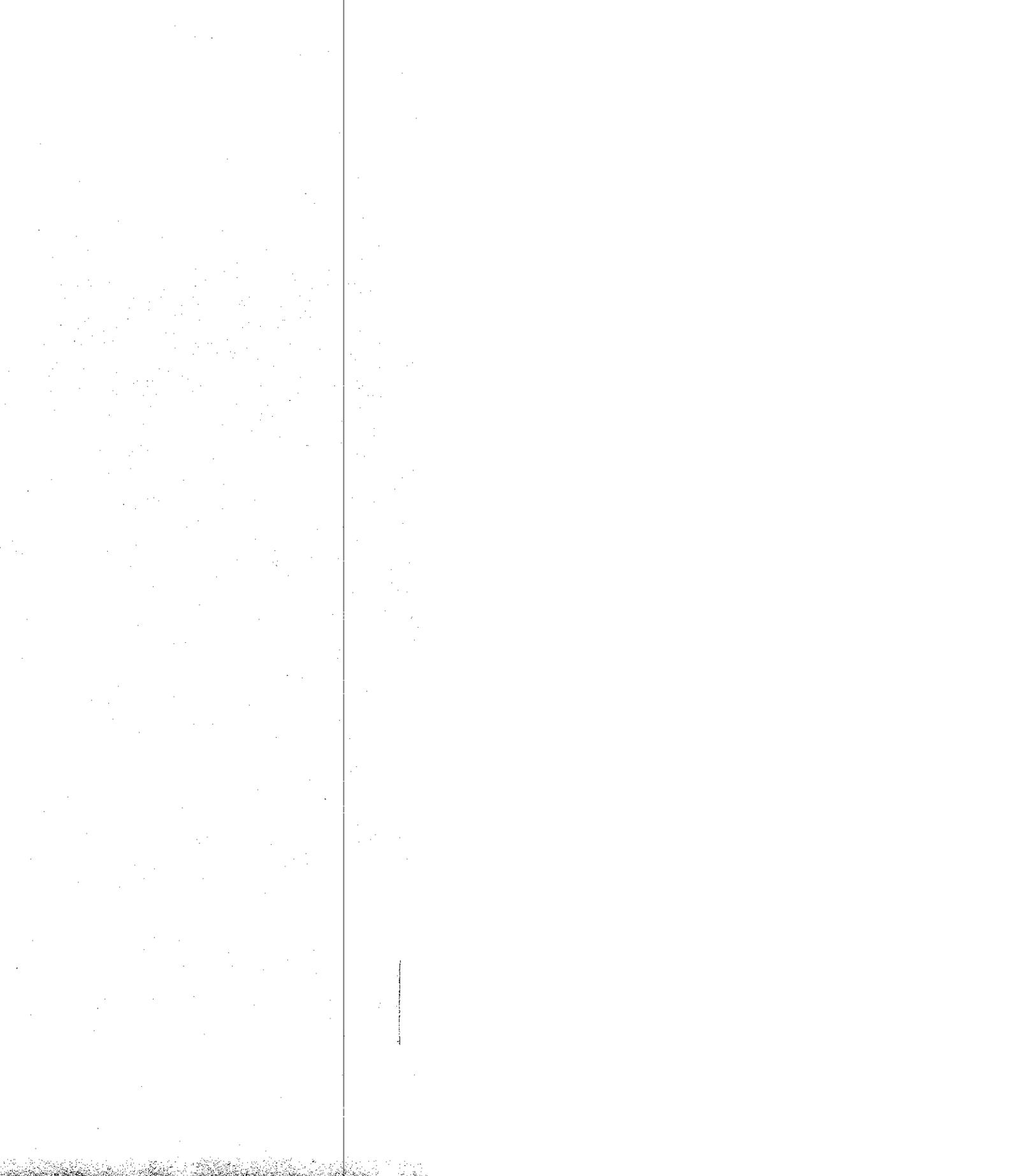
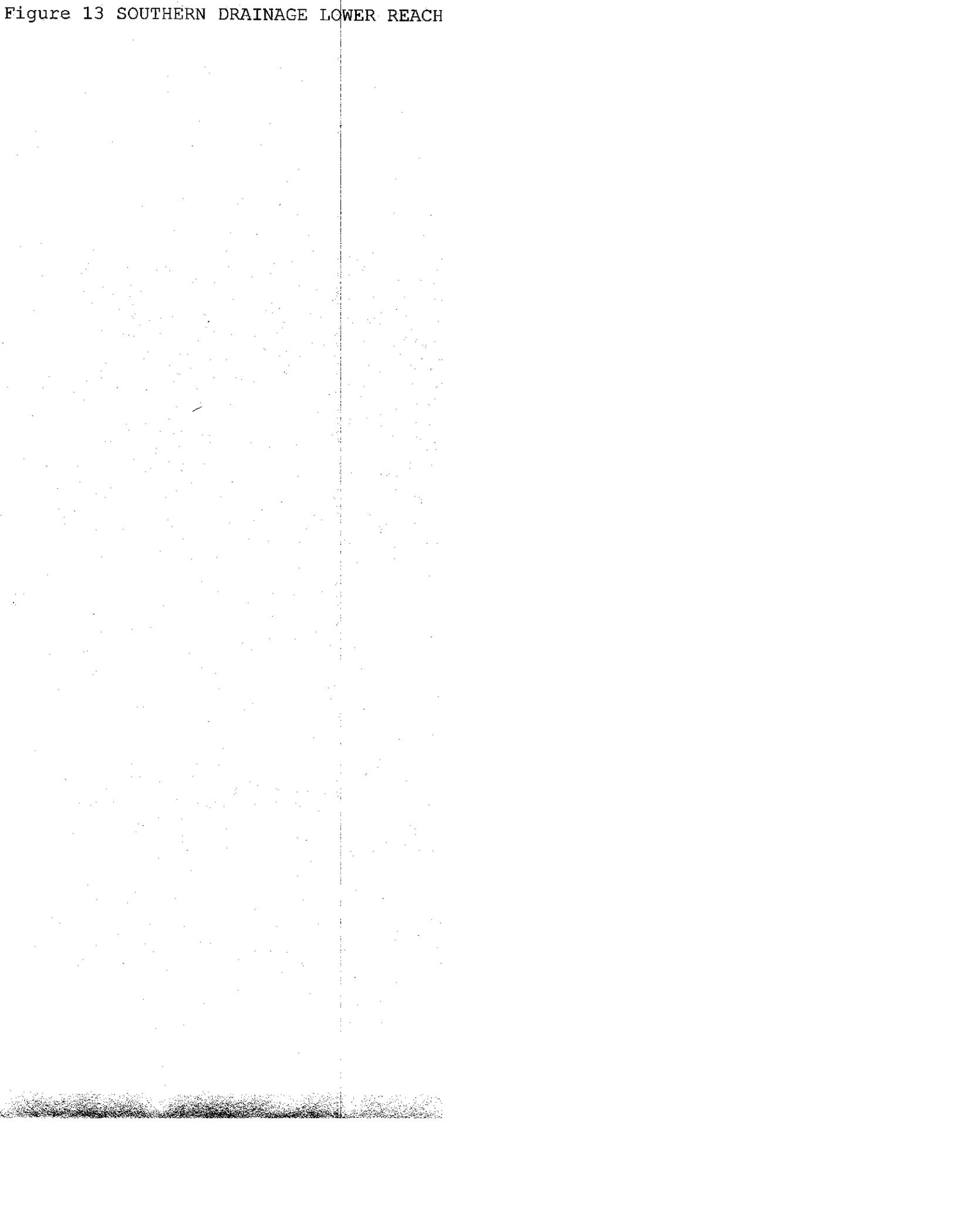


Figure 13 SOUTHERN DRAINAGE LOWER REACH





E. POTENTIAL IMPACTS AND MITIGATION

The proposed pad area and limits of grading are shown on Figure 15. Impacts would only occur on the Southern Drainage.

	Army Corps	CA Fish and Game & County of San Diego
Northern Drainage	0.0 acre	0.0 acre
Central Drainage	0.0	0.0
Southern Drainage	0.03	0.09
Overall Totals*	0.03 acre	0.09 acre

*All totals are the sum of square footages divided by 43,560 to give acreages. As such they may not reflect the sum of rounded acreages.

Along with the changing conditions of the physical environment are the changing interpretations in federal courts of what is and is not jurisdictional under the Clean Water Act - what is and what is not "Waters of the United States" in the real world. In 2001 the Supreme Court held that waters must be significantly linked to major surface waters for federal jurisdiction to apply, but since that ruling there has been much debate over what type of connection or link is needed (Water Policy Report, 11-17-03).

All of the ephemeral drainages of the property flow to culverts that flow to the floodplain of the San Luis Rey River. These would be considered Waters of the United States under current law and court decisions, decided prior to the preparation of this report, for federal jurisdiction. The jurisdictional status of ephemeral streams, and perhaps intermittent streams, may be modified by future Ninth Circuit decisions or Supreme Court decisions.

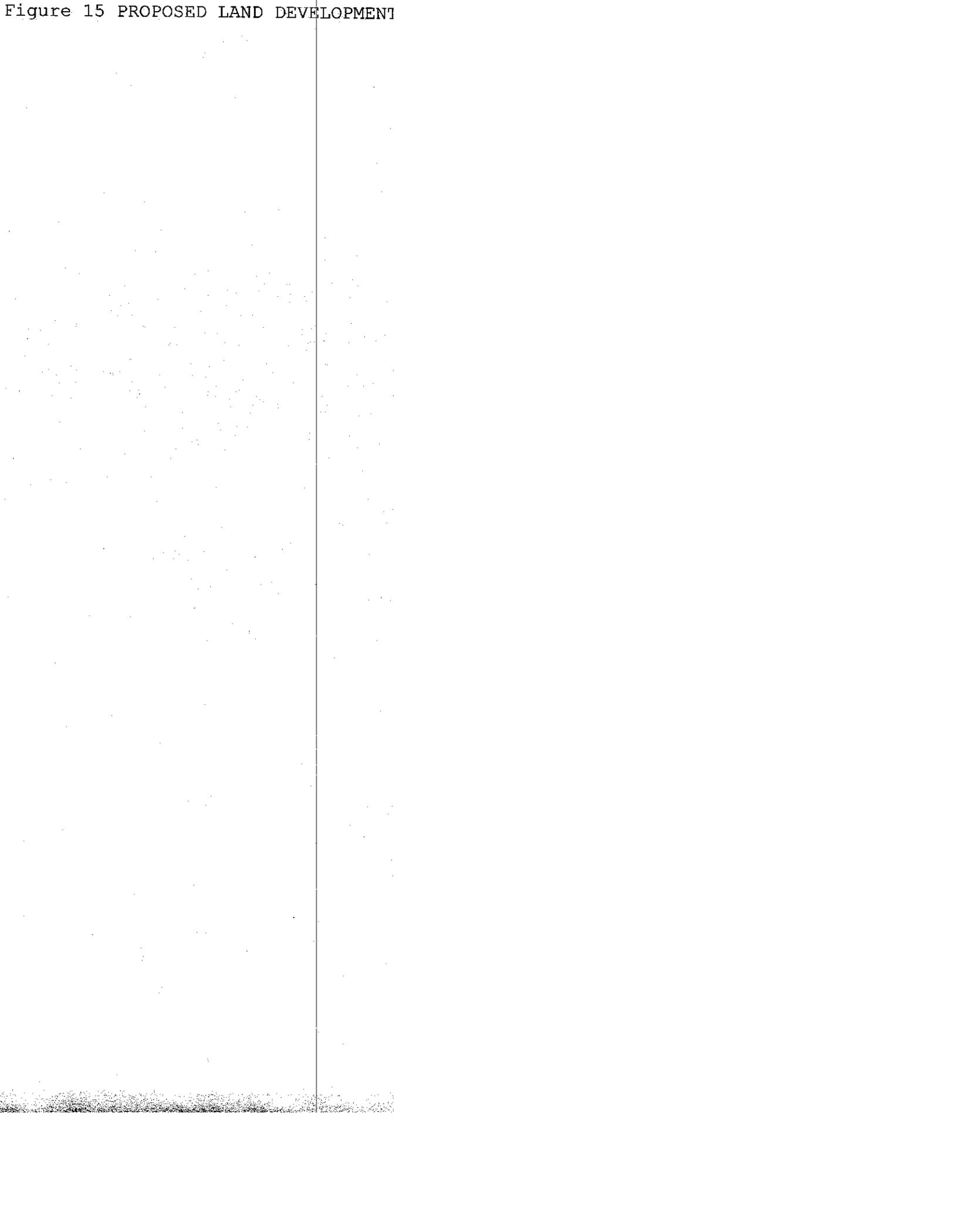
Under the California Department of Fish and Game, a Streambed

Alteration Agreement is applicable to all perennial, intermittent, and ephemeral rivers, streams, and lakes. These ephemeral drainages would be under state jurisdiction.

The project is proposing to partially mitigate the biological impacts by placing a biological conservation easement over the remaining 21.5 acres of on-site habitats. This would include approximately 6.6 acres of disturbed/firebreak areas, which would no longer be cleared and allowed to return to coastal sage scrub habitat. These areas would be incorporated into the MSCP when the North County MSCP is implemented. At least some of the mitigation for fill in the ephemeral streams might be included here. Both the Northern and Central Drainages are interrupted by firebreaks. The drainages could be re-established over the firebreak areas. Any additional mitigation needed will be done on-site or off-site, or would be included in credits acquired in a mitigation bank approved by the County of San Diego and the resource agencies.

The 0.9-acre required as mitigation for impacts to riparian woodland would either be mitigated by purchase of credits or by creation/enhancement of habitat either on- or off-site. Proof of purchase of credits will be required prior to issuance of the project's grading permit.

Figure 15 PROPOSED LAND DEVELOPMENT



F. LITERATURE CITED

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Pierce (ed.). Wetland Training Institute, Inc.
Glenwood, NM. WTI 2003-1.

APPENDIX A

DATA SUMMARY SHEETS

Project 1931
Top Mark Bonnell

Field
Date
6-22-04

Drainage Northern

Stream Flow Type Ephemeral

Length Source Project map & aerial photo

Mean Width Source field measurements

measurements 17

Army Corps

$$\begin{array}{ccccccc} L & \times & \bar{W} & = & ft^2 & \approx & \text{acres} \\ 300' & & 3.0' & & 900 & & 0.02 \end{array}$$

CA F & G

$$\begin{array}{ccccccc} L & \times & \bar{W} & = & ft^2 & \approx & \text{acres} \\ 300' & & 3.5 & & 1050 & & 0.02 \end{array}$$

Additional Areas

None

Project

1931 Top Mark Bonnell

Field
Date

6-22-04

Drainage Central

Stream Flow Type Ephemeral

Length Source scaled project maps & aerial
photo

Mean Width Source field measurements

measurements 24

Army Corps

$$\begin{array}{ccccccc} L & \times & \overline{W} & = & \text{ft}^2 & \approx & \text{acres} \\ 350' & & 2.8' & & 980 & & 0.02 \end{array}$$

CA F & G

$$\begin{array}{ccccccc} L & \times & \overline{W} & = & \text{ft}^2 & \approx & \text{acres} \\ 350' & & 7.8' & & 2730 & & 0.06 \end{array}$$

Additional Areas

None

Project 1931

Top Mark Bousoll

Field Date

6-22-04

Drainage Southern

Stream Flow Type ephemeral

Length Source scaled map & aerial

Mean Width Source field measurements

measurements 39

Army Corps

$$\begin{array}{r}
 L \quad \times \quad \overline{W} = ft^2 \approx \text{acres} \\
 850' \quad \quad 1.9' \quad \quad 1615 \\
 35' \quad \quad 4.' \quad \quad \underline{140} \\
 \quad \quad \quad \quad \quad 1755 \quad \quad 0.04
 \end{array}$$

CA F & G

$$\begin{array}{r}
 L \quad \times \quad \overline{W} = ft^2 \approx \text{acres} \\
 850' \quad \quad 5.1 \quad \quad 4335 \\
 35' \quad \quad 6 \quad \quad \underline{210} \\
 \text{Additional Areas} \quad \quad \quad 4545 \quad \quad 0.10
 \end{array}$$

0.25 acre F&G riparian area @ road per Helix measurement