

*Kovesdi*

**EROSION REDUCTION PLAN  
HIGHWAY 58-229 FIRE  
Summary Evaluation of the Existing Conditions Following Fire  
Findings and Recommendations**

Prepared By:  
**Upper Salinas-Las Tablas Resource Conservation District**  
Donald J. Funk and Adriana Morales

In cooperation with  
**USDA Natural Resources Conservation Service**  
Margy Lindquist, Ken Oster and Karl Striby

August 14, 2002

For:  
David Williams, Owner Representative  
Rachel Kovesdi, EDA



**Focus of Report**

This report evaluates possible measures to reduce the potential for soil erosion at the Highway 58-229 Burn Area. Here are some thoughts on our visit to the wildfire on the Williams property. The site is located east of the intersection of Highways 58 and 229, south of Creston and east of Santa Margarita. The area was subject to a brush fire on July 18 and 19, 2002. The fire was believed to be set by arsonists. The fire began near the intersection of California Highway 58 and Highway 229. The fire spread rapidly toward the east and eventually burned an area of several square miles. (see attached map and aerial photo)

On August 1, 2002, Adriana Morales (US-LT RCD Biologist), Donald J. Funk (US-LT RCD river morphologist), Ken Oster (NRCS soils scientist) and Karl Striby (NRCS range conservationist) conducted a site evaluation. The study team was escorted around the burn area by Rachel Kovesdi, EDA and David Williams representing the owners of approximately 600 acres of the burned area. Site photos accompany this report.

**Observations of Existing Conditions**

The burn area was heavily impacted by the fire. Much of the smaller shrubs and grasses as well as some of the larger pine trees were incinerated by the fire. However, many of the oak trees,

while singed, are anticipated to survive. The fire appears to have been very hot and generally all of the vegetation was affected. While the fire personnel were able to save a number of existing homes in the area, we observed one residence destroyed by the fire. Most of the ground cover was burned.

The ash appears to contain seeds needed for reestablishment of the native plants. Given warm temperatures and adequate rainfall during the fall, it is expected that many of the seeds could germinate. This assumes that the first rains are light to moderate. If the first rains are too heavy, it is possible that much of the existing seed bank could be lost to erosion.

The landowner, Mr. David Williams, indicated an interest in using mechanical equipment on the burned site. This is not recommended. The soil types are class 7 and 8, extremely poor, and have a high possibility of erosion if disturbed. Except on roads, it is recommended that either aerial seeding or hand seeding methods be used.

#### **Project Objectives**

- Protect Homes (there are several homes along the Huerhuero that may be impacted by erosion and excessive runoff from the burn area)
- Protect roads and access
- Decrease personal liability because of off-site effects on downstream neighbors
- Protect fishery and habitat (primarily by reducing sediment into Huerhuero Creek and Salinas River). Salinas River provides access for steelhead migration from tributaries in SLO County to ocean. Huerhuero Creek is a major source of excessive sediment in the Salinas River. Mining and excavation in portions of Huerhuero Creek results in the removal of vegetation, channel erosion and additional sediment production.
- Avoid flooding
- Minimize impacts to wildlife
- Restore original vegetation
  - Chaparral will return by sprouting
  - Most oaks survived
  - Foothill pines may or may not survive
  - Seed bank mostly survived in grassy areas
- Good public image and public relations

#### **Hazards:**

- Burn intensity
  - Medium to high burn intensity of chaparral throughout
  - Low to medium burn intensity of grassy drainageways

- Soils
  - Negligible water repellency in soils
  - Mostly Cieneba coarse sandy loam on steep and very steep hills
    - Hydrologic Soil Group C: Moderately high runoff potential
    - Erosion hazard is very high
    - 1/3 of minor drainageways are loaded with sediment
  - Metz loamy sand in gently sloping drainageways
    - Hydrologic soil Group A: Low runoff potential
    - Erosion hazard is slight in a natural condition with good vegetation
    - Vulnerable to scouring by concentrated flow
- Many vertical cuts in drainageways along Highway 229
- Some culverts along Highway 229 are likely to plug with sediment after storms threatening to close highway.

**General Suggestions:**

1. Water bars on sloping roads and firebreaks
2. Seed roads, areas cleared by CDF fire equipment, vehicle tire scars and firebreaks
  - Blando brome (12 lb/ac), Zorro annual fescue (4 lb/ac), Rose clover (optional)(9 lb/ac) PLUS ATTACHED SUPPLEMENTAL LIST
  - OR
  - Barley (125 lb/ac)
  - AND
  - Straw mulch
3. Aerial seeding for protection against sheet and rill erosion (effectiveness will depend upon rainstorm intensity, soil warmth and other factors)
  - Optional task, aerial or hand seed over burn area (NO ground vehicle use):
  - Blando brome (12 lb/ac), Zorro annual fescue (4 lb/ac), Rose clover (optional) (9 lb/ac) PLUS ATTACHED SUPPLEMENTAL LIST
  - OR
  - Barley (125 lb/ac)
  - AND, if possible, add
  - Straw mulch
4. Planting of blue line stream channels
  - Hand plant willow cuttings, seed and plant with natives indicated below and add straw mulch

5. Cut down dead and dying trees (under the review and direction of a qualified arborist). Recommend leaving downed trees in place except in the middle of waterways. The portions of trees downed in the waterways should be moved out of the waterways.
6. Series of small check dams in minor drainageways to catch sediment moving in concentrated flow  
Check after each storm, remove when fail or after first winter
7. Temporary sediment basins (engineered to handle anticipated flows) in major drainageways. These basins are recommended to only be used high in each drainage in locations of low slope-swales and where access does not impact hillsides. (to be determined on field inspections by RCD and owner's engineer)  
Perforated vertical inlets to reduce plugging of drain pipes  
Remove after vegetation has re-established unless county and RCD approve longer term or permanent use  
Large basin in eastern blue line stream may be effective in reducing sediment into Huerhuero Creek, but engineering may make this basin too expensive.
8. Enlarge undersized culverts as necessary (recommend working with Caltrans to ensure adequacy of highway culverts)
9. Clean out culverts. Replace damaged culverts at road crossing of Huerhuero Creek (engineering suggested to properly size these culverts. Contact agencies for possible permit approval).
10. Drainage structure designs, including basins, recommended to be reviewed by RCD District Engineer prior to installation and after completion.

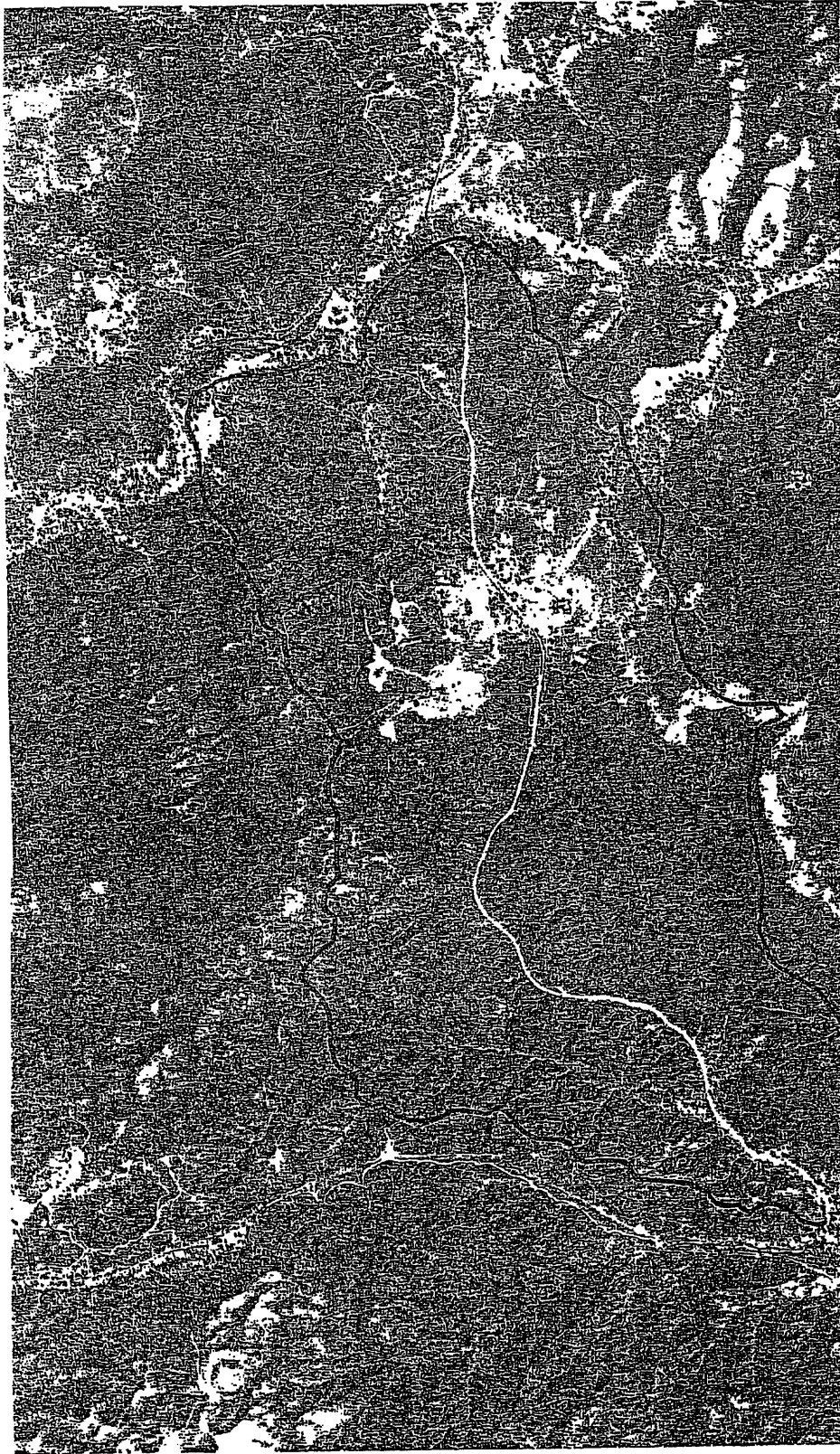
## Highway 58-229 Fire Planting Options

### Suggestions:

#### Vegetation Restoration in Channels:

The site has a dominant sandy soil. Also the channel has intermittent flows and is dry. The erosion in the channels is severe. After the correction of the slope and to maintain it in shape, it is recommended to use:

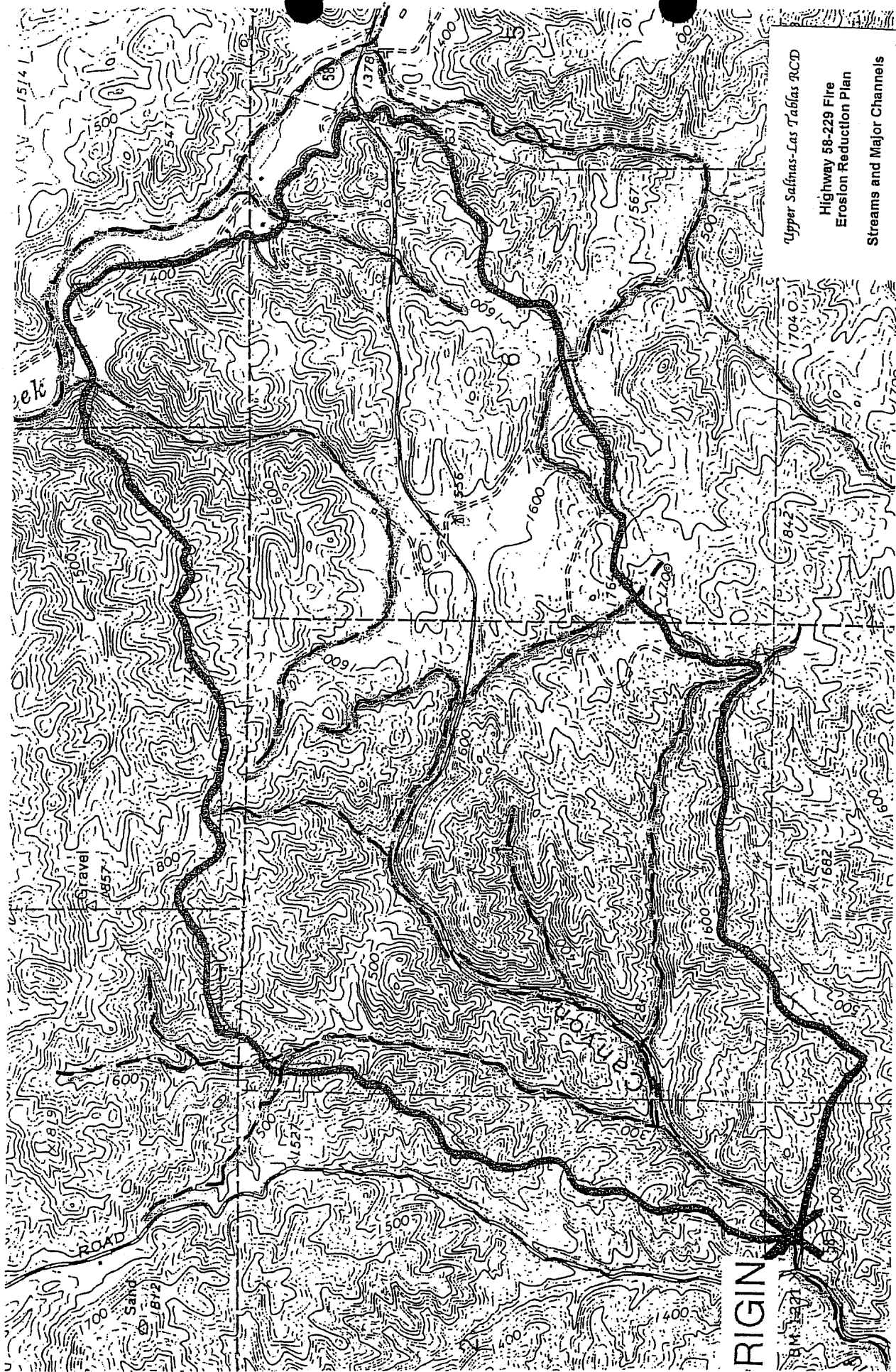
- Native Grass Seeds (7 lb/ac)
  - Pine bluegrass – *Poa scrabella*
  - Sandberg Bluegrass - *Poa secunda*
  - Purple needlegrass – *Stipa pulchra*
  - Nasella pulchra - *Nasella pulchra*
  - Hodding needlegrass - *Hodding needlegrass*
  - Nasella cernua - *Nasella cernua*
  
- Native Oak Trees (plant adjacent to channel)
  - California Scrub Oak - *Quercus dumosa*
  - Valley Oak, California White Oak - *Quercus lobata*
  - Bur Oak, Mossy Cup Oak - *Quercus macrocarpa*
  
- Native Shrubs (plant adjacent to channel)
  - Quail bush – *Atriplex lentiformis*
  - Desert Holly – *Atriplex hymenelytra*
  - Arroyo Willow cuttings - *Salix* (Recommend taking cuttings from channel willows)
  
- Perennials Wild Flowers seed mixture (7 lb/ac)
  - Blue Flax – *Linum lewisii*
  - California Everlasting – *Gnaphalium californicum*
  - Douglas' Wallflower – *Erysimum capitatum*
  - Golden Stars – *Bloomeria crocea*
  - Giant Coreopsis – *Coreopsis gigantea*
  - Indian Milkweed – *Asclepias eriocarpa*
  - Martin's Indian Paintbrush – *Castilleja martinii*
  - Soap Plant – *Chloragalum pomeridianum*
  
- Annual Wild Flowers seed mixture (7 lb/ac)
  - Birdcage Evening Primrose – *Oenothera deltoides*
  - California Poppy – *Eschscholzia californica*
  - Chia – *Salvia columbariae*
  - Elegant Clarkia – *Clarkia unguiculata*
  - Farewell to Spring – *Clarkia bottae*
  - Summer's Darling – *Clarkia amoena*
  - Wild Heliotrope – *Phacelia tenacetifolia*
  - Winecup Clarkia – *Clarkia purpurea*



*Upper Salinas-Las Tablas RCD*

**Highway 58-229 Fire  
Erosion Reduction Plan**

**Aerial Outline of Burn Area  
(1995 photo prior to fire)**



Upper Salinas-Las Tablas RCD

Highway 58-229 Fire

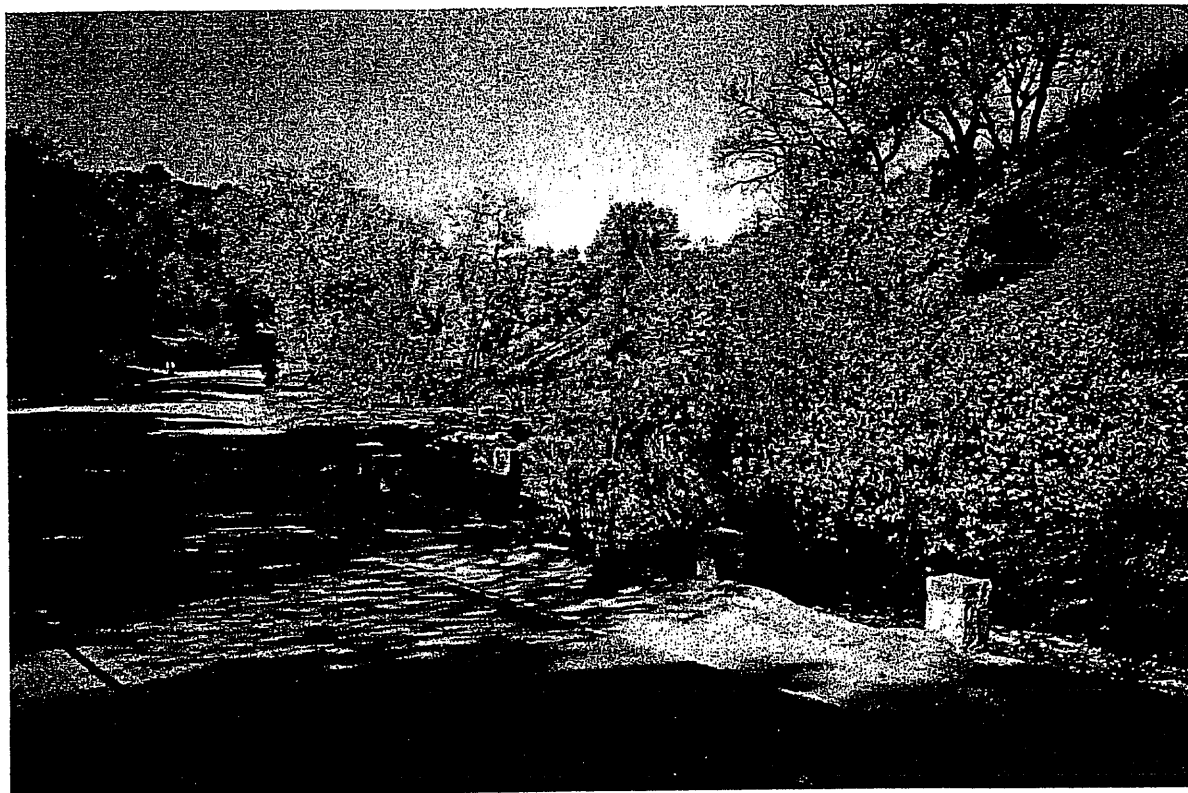
Erosion Reduction Plan

Streams and Major Channels

RIGIN

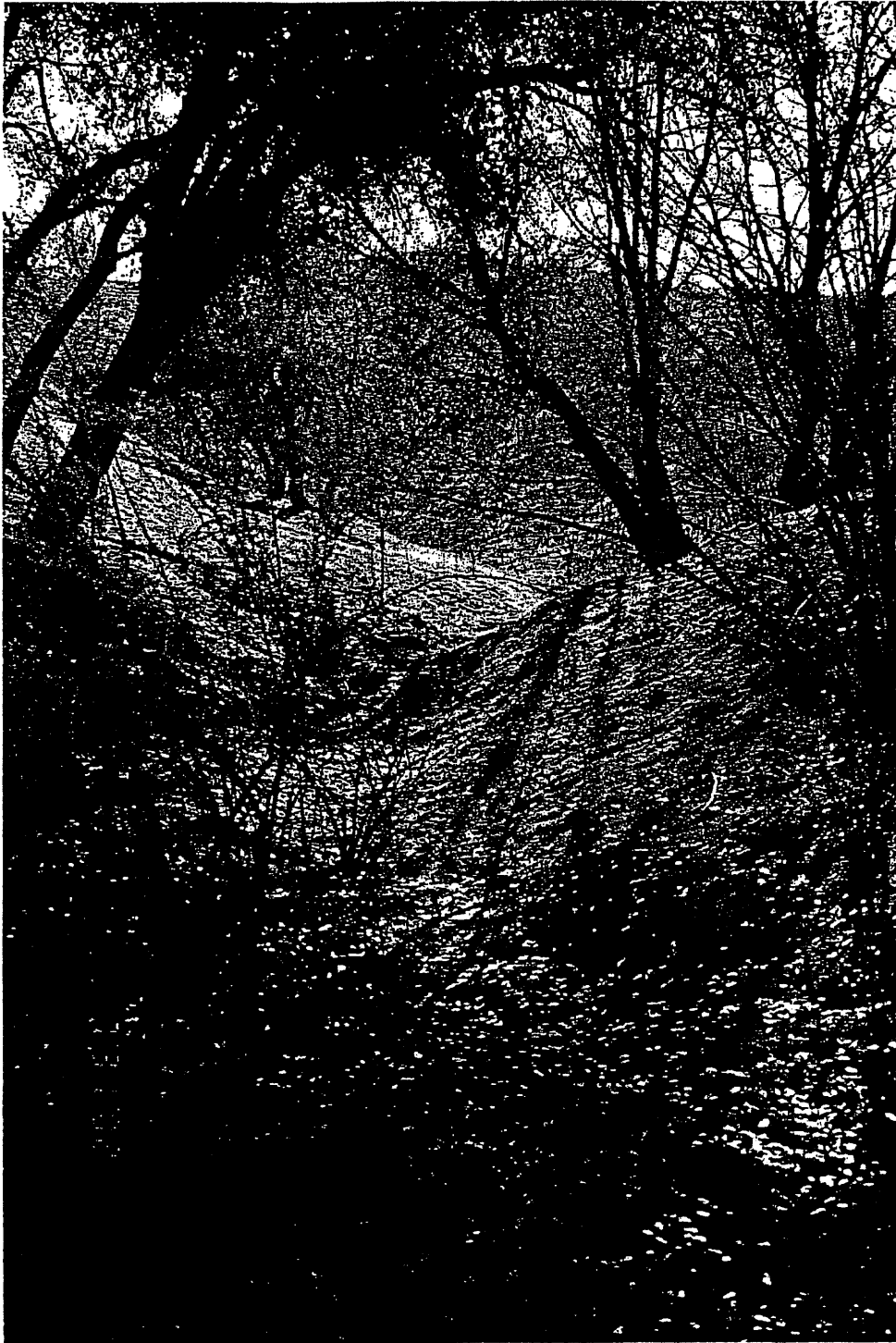
## HIGHWAY 58-229 FIRE

July 18-19, 2002

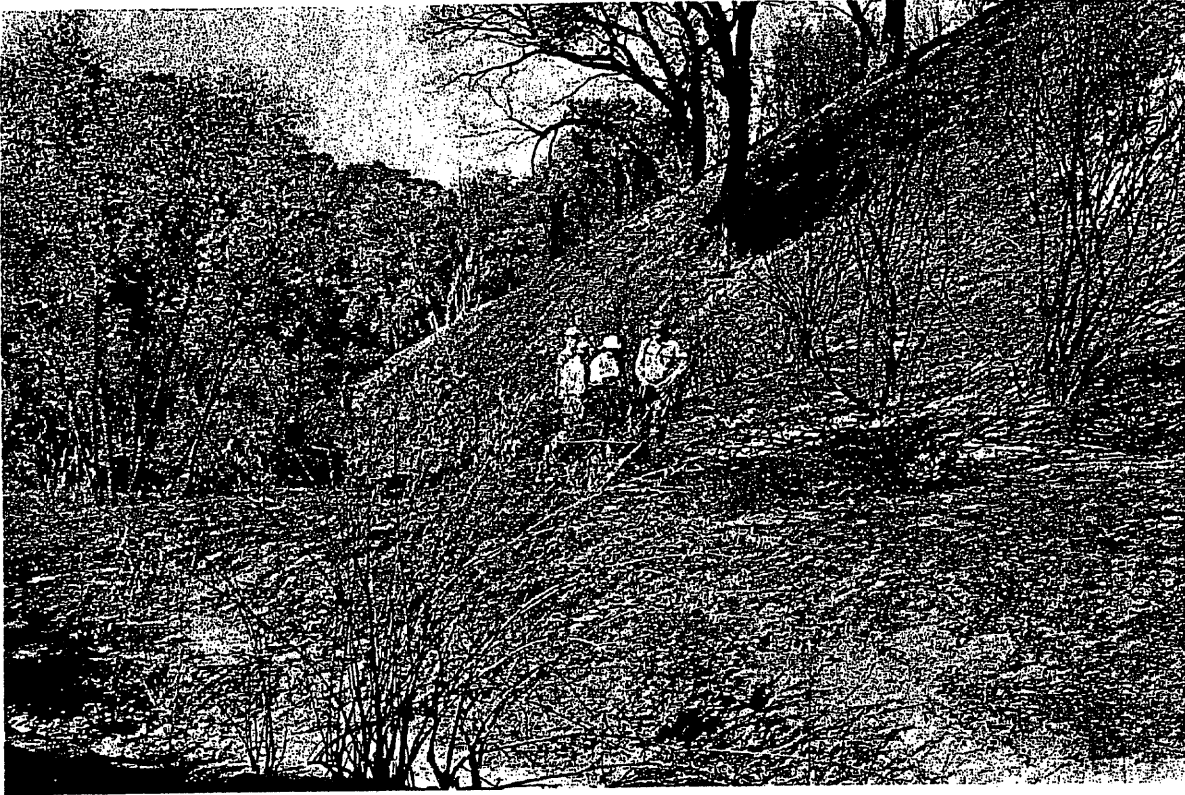


**View of burned area looking east from Highway 58. Note that oak canopy in background is still green.**





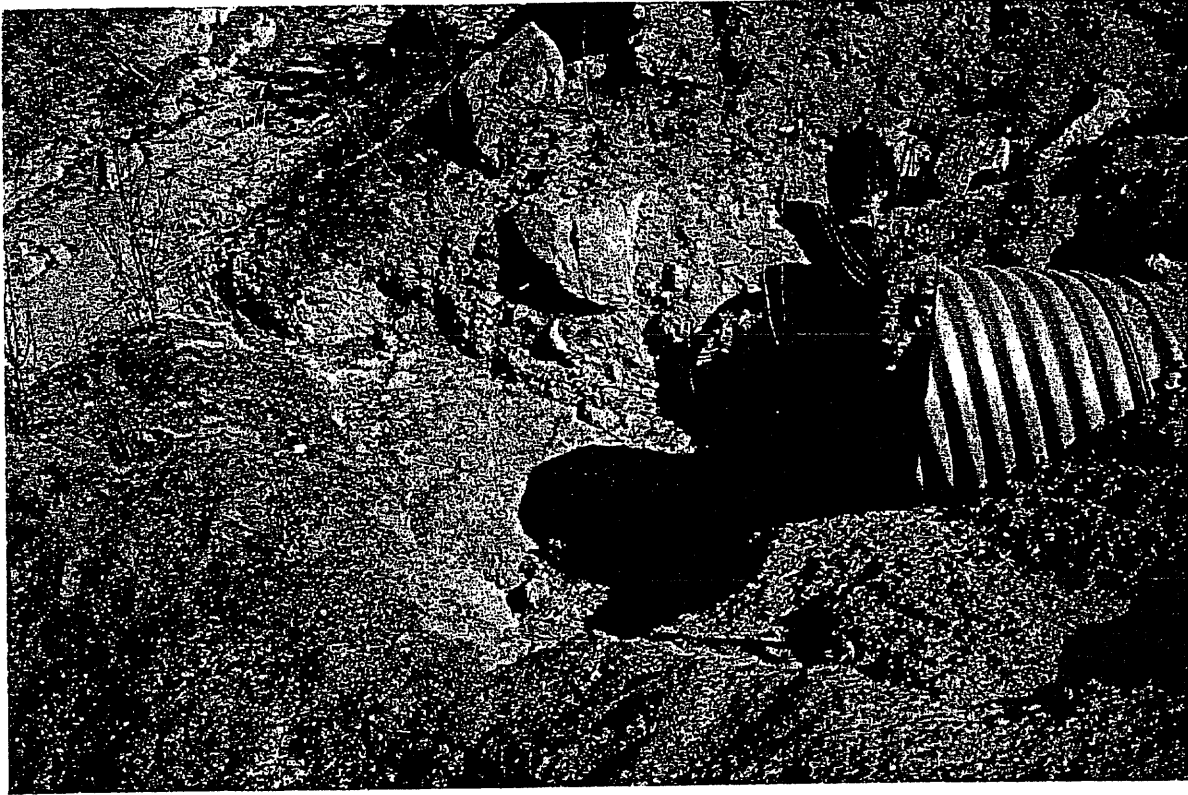
**View of burned area looking south from near Highway 58. Note that lower portion of tree canopy was burned but upper canopy is still green.**



**Burned hillside south of Highway 58 looking northwest. Ash contains seeds for future native chaparral regeneration.**



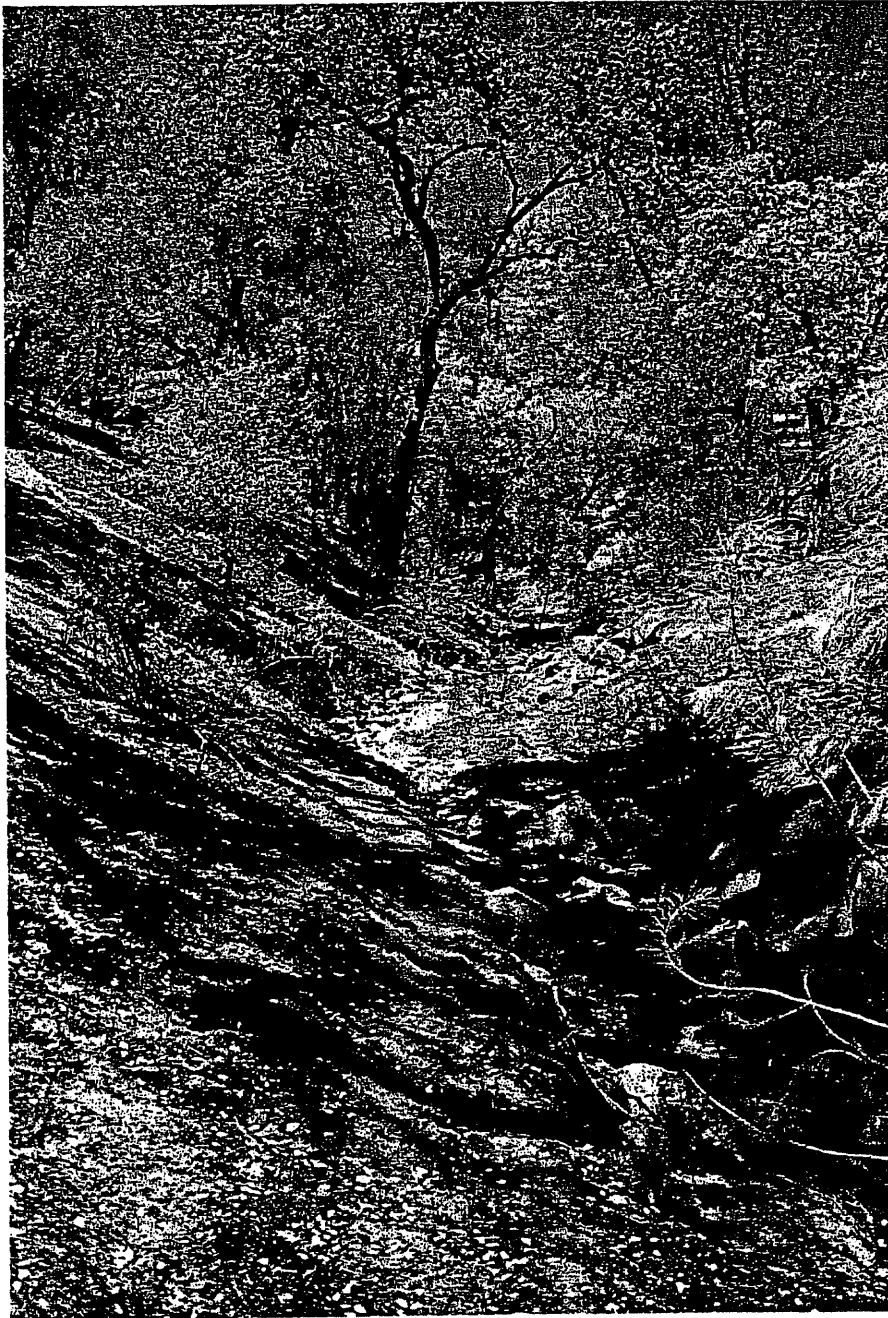
**Eroded unnamed channel paralleling the north side of Highway 58. This blue line stream is a tributary of the Salinas River.**



**Existing highway culverts do not have adequate energy dissipation. Culvert size may not be adequate to handle storm runoff.**



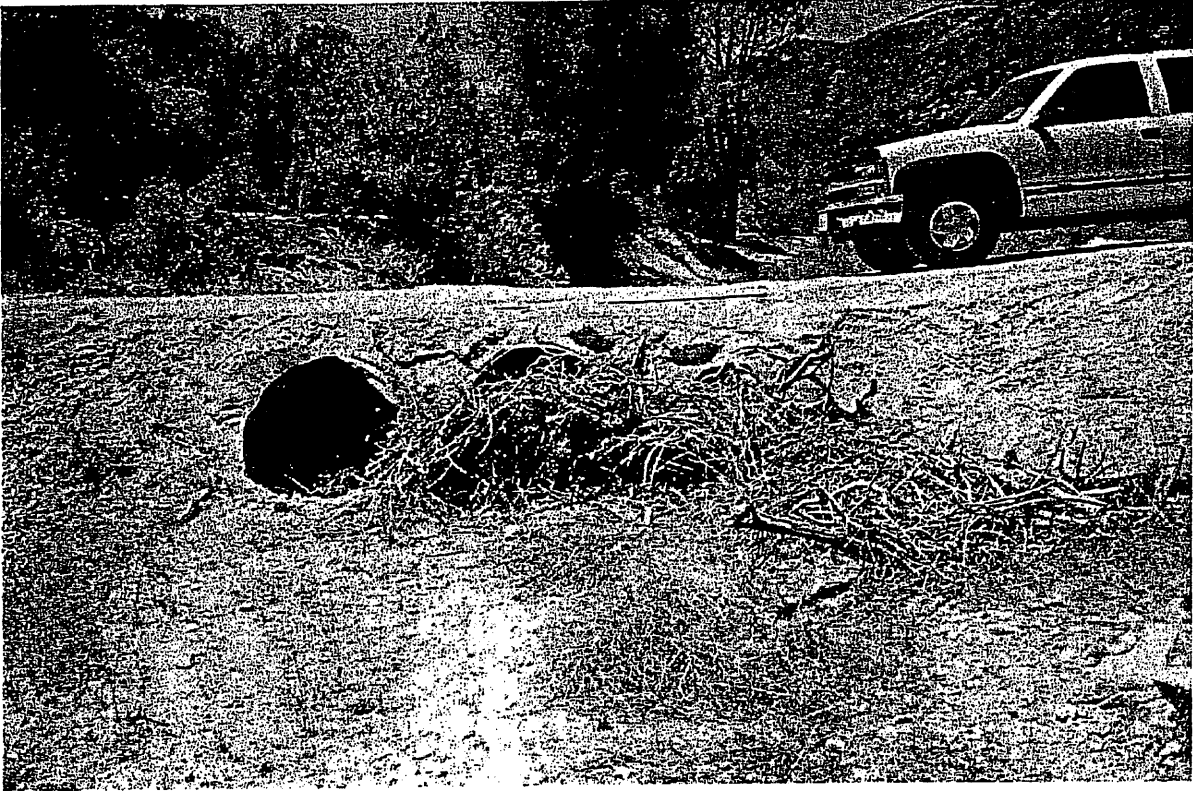
**Burn area viewed from hilltop looking southwest from edge of fire perimeter.  
Note the scar from the bulldozer. Vegetation in the foreground was not burned.**



**Unnamed blue line creek channel near Huerhuero Creek. Photo taken near possible location for large sediment basin (engineering required)**



**Gray pine cones opened by heat of fire.**



**Culverts in Huerhuero Creek choked with debris severely limiting capacity.**