

Report of the  
COHASSET / FOREST RANCH  
Planning Area Committee

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To: Board of Supervisors

From: Cohasset/Forest Ranch Planning Area Committee

The attached is the report of the study committee established by the Board of Supervisors to study foothill development within County Planning Area No. 2 and to recommend to the Board a land use plan based on considerations of rare and endangered species, animal habitat, soils, slope, water, sewage disposal, service needs and density (minutes of the Board meeting, April 8, 1983).

The accompanying report contains specific recommendations with respect to each of these items except density. The great variation of conditions present within the study area simply do not lend themselves to any abstract standard of density. Only after consideration of all of the variables can the proper density of a given parcel be determined. It is the consensus of the committee that if the specific recommendations of the committee are adopted and strictly enforced, they will, by their limitations, establish a density of use which will minimize the adverse effect on the environment and the economic impact of the proposed development.

There is another factor which should be considered in reviewing this report. The committee's consideration of each area of the study led to a unanimous conclusion that the Board of Supervisors should, whether by policy or ordinance, encourage or even require development of cluster housing for the foothill area. Such development would by its very nature, mitigate some of the impact on rare and endangered species, animal habitat, fire and police protection, water quality and sewage disposal (through the use of community facilities).

For purposes of this study, the foothill area has been defined as that portion of Planning Area No. 2 lying approximately between 300 and 3,000 foot elevations at ridge top. The use of the term subdivision means any division of land.

This report represents the consensus of the entire committee. It does not necessarily represent unanimous approval of each and every recommendation.

It is the recommendation of the committee that the Board of Supervisors adopt an area plan for the foothill areas within Planning Area No. 2, incorporating within that plan the attached recommendations and that the Board set hearings for this purpose at the earliest possible date.

While the committee has restricted its recommendations to County Planning Area No. 2, the Planning Department's forecast is that the bulk of rural development will occur in the foothill areas of the county and, therefore, considerations of equity and the fact that other foothills areas present similar problems, it is recommended that the standards be applied throughout all foothill areas of the county.

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Alan Avis, Chairperson

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BUTTE COUNTY FOOTHILL DEVELOPMENT COMMITTEE  
ENVIRONMENTAL CONSTRAINTS TO DEVELOPMENT

GENERAL CONSTRAINTS

Policies

Proposed land uses which significantly increase: local traffic volumes; ambient noise levels; nighttime glare; the loss of native vegetation or soils; displacement of native wildlife; hazards to property and to the health and safety of present and future residents; potential deterioration of air and water quality; and the uncompensated loss of scenic vistas, historical sites and open space should not be permitted in the foothills without effective mitigations.

Discourage residential land subdivision on canyon slopes, within ravines or along watercourses where slope, flood, erosion and fire hazards are likely and where sensitive vegetation, fauna and archaeological resources are common.

Residential densities in the foothills should be limited by the significance of environmental conditions and hazards in an area and by the adequacy of public access and availability of emergency services.

Implementation Measures

Higher development densities should be clustered in areas of deep, well-drained soils, level surfaces (see slope policies), low environmental sensitivity and hazards and near maintained all-weather roads connecting to public highways.

Where foothill areas exhibit environmental and wildlife sensitivities, slope, soil and geologic constraints; and natural hazards, development should be allowed only under strict conditions of; unit clustering at environmentally suitable focal points; provision of community waste disposal systems and emergency facilities; preservation of open space tracts, unfenced and held in common, which exceed in acreage that area given over to development.

All subdivisions in the foothills should be conditioned to insure provision of adequate waste disposal, fire protection (see fire policies), limitations on disturbance of vegetation and soils and restrictions on lot fencing. All weather access roads should be required to such land divisions.

An environmental constraints assessment should be prepared for all foothill areas subject to subdivision to define environmental suitability for such development and recommended design and density levels appropriate for development.

## SOILS CONSTRAINTS

### Soil Depth Policy

Limit development on shallow foothill soils.

#### Implementation Measures

Prepare maps indicating soil depth in all potential foothill development areas.

Where soils are less than 5 feet in depth to rock base, development relying upon subsurface waste disposal should not be permitted.

Development on shallow soils should be permitted only if community waste collection and disposal systems are provided by the developer.

### Soils Policy for Liquid Waste Disposal

Conditions should be imposed for developments on slowly or rapidly permeable soils to insure protection of water quality and health.

#### Implementation Measures

Limit development using subsurface liquid waste disposal where soils are classed as slowly permeable or less. (Soil Conservation Service Classifications greater than 120 min. or less than 10 min/inch). Require community disposal or sanitary sewer systems as a condition for approval.

Establish a foothill septic tank policy to insure the efficient operation of existing on-site waste disposal systems.

Monitor leach fields and down stream water courses for evidence of septic tank failure.

### Soil Erosion Policy

All foothill development proposals should be conditioned by requirements to minimize erosion of native soils during and following construction.

#### Implementation Measures

Require drainage and erosion control plans for all proposed developments in foothill areas subject to erosion hazard potential to be submitted prior to initiation of clearing or grading work.

Require containment of sediment on site during construction and require drainage control improvements that will bring runoff to near pre project levels.

Improve and enforce the county grading ordinance and apply it to all proposals for foothill subdivision.

## SLOPE CONSTRAINTS

### Policy

Development should be encouraged on level terrain and discouraged on steep slopes to minimize deterioration of environment and danger to life and property due to fire, earth movements and infrastructure failure.

### Implementation Measures

No construction of buildings or infrastructure should be permitted on slopes exceeding 30%.

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~~Where slopes average between 15% and 30% only limited development and infrastructure should be permitted. Unit densities should not exceed one unit per 20 gross acres. Strict erosion and fire protection programs should be implemented. No vegetation should be removed from areas outside construction sites, except as required by fire protection policy. No topographic grades should be altered and grading should be limited to homesite preparation and access. Natural surfaces should be used as much as possible for infrastructure improvements.~~

On slopes between 5% and 15% all development should be in accordance with county grading policy and vegetation or topographic alterations should be by permit only.

Prepare a slope map of all potential foothill development areas.

## VEGETATION CONSTRAINTS

### Policy

Foothill vegetation ecology is delicately balanced by highly variable soils, slope, geologic base, water availability and exposure and should be carefully assessed for potential upset by urban development.

### Implementation Measure

Prepare detailed vegetation association maps of potential foothill development areas as a part of a master foothill environmental assessment.

## FLOOD HAZARD CONSTRAINTS

### Policy

Manage development design to minimize surface storm runoff and flooding.

### Implementation Measures

Approve only those development and grading proposals that do not increase local or downstream flood damage potential.

Insure that natural drainageways are maintained and completely unobstructed.

Require a flood hazard assessment of all development proposals to ascertain limits of the 100 year floodplain and the effect of increased runoff due to development on potential flood zones.

## GEOLOGIC CONSTRAINTS

### Policy

In view of the geologic complexity of the foothills, limit infrastructure and development in areas where local geologic conditions may present a hazard to human life and property.

### Implementation Measures

Require a review of geologic conditions and potential hazards by a qualified geologist for all new foothill development projects and new land divisions.

Development should not be permitted where liquid waste may be transmitted through geologic faults and fractures to local groundwater or points of surface issuance.

Development should not be permitted where liquid waste may be transmitted through porous materials (at a rate of fewer than 10 minutes per inch drop in a test hole) such as river rock, sand or gravel into local ground or flowing water.

Development should not be permitted in areas of known or likely geologic activity such as active fault lines, surface rock or soil movements or unstable soil or rock materials.

Require a geologic stability and hazards assessment for all developments located within 100 feet of a canyon rim or abrupt change in slope.

Require engineering supervision and an engineering report

Geologic Constraints (continued)

to insure safe road construction design in canyons where heavy winter storm runoff, landslides and instability of roadbed materials may present a hazard to residents or heavy construction, service and emergency vehicles.

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## WATER SUPPLIES

### POLICY - ENSURE THAT ALL NEW DEVELOPMENT HAS AN ADEQUATE SUPPLY OF POTABLE WATER

#### Implementation Measures

While the provisions for domestic flows in Sections 12.01 and 12.02.2 of the Butte County Subdivision Standards appear adequate, the committee felt that a single pump test prior to recordation of a parcel or subdivision map is not satisfactory for establishing reliability of a water source. A second pump test should be required prior to issuing building permits and if more than one year elapses between preliminary and final map approval. Pump tests conducted in the summer months in above average rain years should not be used to meet minimum standards. A new, higher standard needs to be developed.

Since underground water supplies in foothill areas are highly variable in both quality and quantity, waivers of proof of availability by the County Health Officer should not be permitted in foothill areas.

The requirement regarding notes on final maps indicating "WATER: There is no evidence that domestic water is available" should be modified. The current requirement (12.02-2(2) for parcel maps of 5 acres or less should be increased to 20 acres or less in foothill areas.

Encourage community water systems with deep wells and regular tests for water quality.

### POLICY - PREVENT CONTAMINATION OF SURFACE AND GROUND WATERS BY NEW DEVELOPMENTS

Current County standards are not restrictive enough because they are not specific enough with regard to soil types and textures.

#### Implementation Measures

Increase the standard for separation of any domestic well from any source of sewage or effluent. A minimum of 5 feet of suitable soil beneath the leachline trench should be required for any subsurface disposal of liquid wastes. Require a separation of 100 feet between any waste disposal system and any permanent body of surface water.

SUGGESTED REVISED SEPARATIONS  
FOR ANY DOMESTIC WATER SOURCE

Source	75 min/inch	30-75 min/inch	10-30 min/inch	10 min/inch
Sewer Line	50'	100'	200'	500'
Septic Tank	50'	100'	200'	500'
Sewage Leachfield	100'	150'	300'	1000'
Sewage Seepage Pit	150'	200'	400'	1500'

Wells less than 50' deep would not be permitted within 1000 feet from any source of sewage or effluent.

Ensure that sanitary seals are poured from the bottom up through the use of pouring sleeves ("elephant trunks") or increase fees to cover the cost of a sanitarian's presence when seal is poured.

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POLICY - DEVELOP AND ENFORCE A GRADING ORDINANCE THAT ESTABLISHES STANDARDS FOR LAND ALTERATION WITHIN 100 FEET OF ANY PERMANENT STREAM

Implementation Measures

Expand existing grading ordinance, adopted as part of the 1979 UBC, to cover a wider range of activities in foothill areas, including construction of roads, creek ( permanent or intermittent) crossings and building pads.

## FOOTHILLS OF PLANNING AREA TWO

### Transportation and Circulation Policies

#### A. OBJECTIVES:

To encourage integrated, efficient and well-designed road systems for all future development.

#### B. POLICIES:

The following suggested transportation and circulation policies for foothill development in Planning Area #2 have been excerpted primarily from Part Two of the proposed Butte County Transportation Element. A few of the excerpted policies have been expanded or altered for clarity or specificity and a few additional policies have been added. Naturally, the entire County Transportation Element would be considered in development planning for the foothills.

1. Circulation plans for the County's foothill areas should be designed around patterns which encourage development near existing highway corridors and emphasize development near existing rural community centers. For development in more remote areas, small convenience centers should be encouraged.
2. The most important roads and highways, i.e. Cohasset Road, Centerville Road and SR32, should be designed and maintained to the highest possible level of service and convenience. The least important roads and highways should receive only the improvements necessary to maintain their structural integrity and operational safety.
3. Butte County should encourage and support sincere efforts by County residents to form assessment districts for road maintenance and road drainage.
4. The short-term and long-term costs of improving and maintaining the circulation infrastructure should be a major factor in determining land use and development decisions. The cost of new roads should be borne as equitably as possible among benefiting property owners and/or users.
5. Butte County should promote transportation modes and programs that are capable of reducing total and per capita transportation energy consumption, including public transit, ridesharing and car-pooling.
6. For general and circulation planning purposes, the County should follow the system of classification of streets, roads and highways currently in existence.
7. The County should assume maintenance responsibility only for roads which meet full County standards.
8. Private subdivision roads should be built to full County

standards and privately maintained throughout their maintenance cycle.

9. New roads resulting from land divisions should be constructed to County standards whenever an area has potential for significant traffic from future development. A lower standard may be considered reasonable for roads which will always serve as only lot access and will never be suitable to become County roads.

10. The County should require grading permits for erosion mitigation and control on all new developments and road encroachments to prevent soil loss during and after road development activities.

11. All road systems, both public and private, should provide for the safe evacuation of residents and adequate access for fire and other emergency services by providing at least two means of access to an interconnected collector system.

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12. Development project applications should assess the potential impact on traffic accidents and estimate the impacts on law enforcement.

13. Specific plans should be encouraged for land use, circulation and cumulative transportation impacts for planning areas.

#### C. IMPLEMENTATION:

1. After thoroughly considering the impact upon the County in general and upon Planning Area #2, the County should implement those policies which tend to accomplish the planning objective. Procedural promulgation and implementation of regulations regarding transportation issues should be accomplished within the existing framework of the County's Planning and Public Works Departments.

2. Adopt and enforce a grading ordinance for construction of all new roads.

## WILDLIFE AND ECOLOGY IN THE FOOTHILLS

### Endangered Habitat

Riparian Habitat - Usually a narrow band along streams, it supports the greatest wildlife densities and diversity of all habitats.

Policy - As a habitat type it should be protected.

Implementation - Enforce and obey existing state laws protecting riparian habitat; strengthen and enforce updated Open Space and Conservation Elements of the General Plan.

### ENDANGERED SPECIES

American Peregrine Falcon, Bald Eagle, Bells Vireo, Golden Eagle, Prairie Falcon.

### RARE OR THREATENED SPECIES

Wolverine, Swainson's Hawk.

### SPECIES OF SPECIAL CONCERN

Osprey, Purple Martin, Yellow Warbler, Yellow Breasted Chat, Black Swift, Sharp-shinned Hawk, Burrowing Owl, Coopers Hawk, Long Eared Owl, Merlin, Willow Flycatcher, Turkey.

Policy - Preserve and protect these animal species and their habitats.

Implementation - Enforce and obey all State and Federal laws regarding these species and update the Conservation and Open Space Elements of the General Plan to further protect these species.

### PROTECTION OF RARE AND ENDANGERED PLANTS

Policy - In the past, Butte County has done a relatively good job of protecting rare plants. However, we must continue to preserve rare plants.

Implementation - Obey existing laws and strengthen the new Open Space and Conservation Elements of the General Plan in this area.

## EAST TEHAMA MIGRATORY DEER HERD

Policy - Because of the adverse environmental impact of residential development on the critical winter range of the East Tehama Herd, development should not be allowed in sensitive deer feeding, watering, shelter and reproductive areas and should be encouraged adjacent to the existing major transportation corridors in Planning Area II, i.e. Cohasset Rd., Highway 32 and Centerville Roads. This development should be in a clustered manner.

Implementation - Revise Open Space and Conservation Elements of General Plan with recognition of existing and future problems involving migratory deer herds and residential development. Prepare studies identifying critical deer regions depicting known areas for deer feeding, watering, shelter and reproduction. Restrict land divisions in critical deer habitat areas.

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## CONTROL OF DOMESTIC PETS

Policy - Because of the adverse impact that packs of roaming domestic dogs have on game species and cattle, some method of control must be found.

Implementation - Require covenants, conveyances and restrictions (CC and R's) that limit the free movement of domestic animals.

## FINANCING PUBLIC SERVICES

Policy - Establishment of geographic districts within the study area.

Implementation - accessibility to public services being a primary concern, the topography of the area will control the establishment of districts. Therefore, the following service districts are recommended:

1. Keefer/Cohasset/  
Musty Buck Ridges - bounded on the west by the west line of Planning Area No. 2 and on the east by Chico Creek.
2. Forest Ranch - bounded on the west by Chico Creek and on the east by Little Chico Creek.
3. Doe Mill Ridge - bounded on the west by Little Chico Creek and on the east by the east ridge line of Doe Mill Ridge.
4. Butte Creek Canyon - bounded on the west by the east ridge line of Doe Mill Ridge and on the east by the eastern ridge line of the canyon.

Policy - Establishment of service districts to provide additional essential services to each district.

Implementation - A service district be formed under the Mello-Roos Community Facilities Act for each of the above described districts for the purpose of providing police and fire protection, emergency medical services, domestic water, waste disposal, flood control and arterial roads.

It is recommended that such districts and their taxing authority be established at the earliest possible date in any district in which there is any significant development activity. The formation of such districts would:

1. more equitably distribute the cost of public services to all property owners and residents within the district.
2. defer the expense of capital improvements and their maintenance until a need is established.
3. place in the hands of the property owners and residents within each district the decision of what level of service they want and are willing to pay for.

The precise boundaries and services to be provided within each district can only be determined after public input by the owners and residents within the districts. This recommendation is not intended to preclude the formation of special districts within the basic service districts defined herein to provide for specific services.

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## LAW ENFORCEMENT

Policy - Provide adequate Law Enforcement for present and new developments in Study Area #2.

Implementation - It is the recommendation of this committee that the Board provide a financing vehicle that will allow the residents to finance a higher level of service if they want it.

FOOTHILL DEVELOPMENT PLANNING COMMITTEE

FIRE

Realizing that water is an essential ingredient for fire suppression; that adequate roadways are essential to provide means of travel for fire apparatus access to combat fire while simultaneously allowing means of escape for potential victims to prevent injury, loss of life and property damage; to reduce the threat of fire to the flora and fauna in these "high" and "extreme" fire risk areas, we recommend that Butte County adopt the following policy and means of implementation:

POLICY

~~Ensure that all new development in the study area be adequately protected from loss or injury by the peril of fire.~~

IMPLEMENTATION

Through the adoption of the enclosed fire standards.

## FOOTHILL DEVELOPMENT PLANNING COMMITTEE REPORT ON FIRE STANDARDS

The attached fire safety standard recommendations have been prepared with the following considerations:

1. The foothill study area is designated as "extreme" or "high" fire hazard in the Butte County General Plan Safety Element.
2. Water is an essential ingredient for fire suppression.
3. Adequate roads are essential to provide means of travel for fire apparatus access to combat fire while simultaneously allowing means of escape for potential victims to prevent injury, loss of life and property damage.
4. The insurance service office may recommend reduced fire insurance premiums if the fire agency has the capability of supplying four thousand (4000) gallons of water during a twenty (20) minute time frame at the "risk" location.
5. The standards should be equitable to both developer and owner/builder.
6. To reduce the threat of fire destroying the flora and fauna and thus preserve the qualities that attract people to this area.

The recommendations also anticipate that:

1. There will be no permitted dwellings with more than two (2) stories above ground level.
2. Planned area cluster is a committee recommendation.
3. Commercial and industrial enterprises, mobile home and recreational vehicle parks shall be confined to areas where adequate water systems are required.

PROPOSED

FOOTHILL DEVELOPMENT FIRE PROTECTION POLICIES

- A. Policy: Private driveways and all roadways and bridges in new subdivisions of property should be adequate to permit safe movement and turning of firefighting equipment. (Implementation measures 1-6, pp

1. PRIVATE DRIVEWAYS

1.1 Less than two hundred (200) feet in length shall:

1.1a be not less than twelve (12) feet  
in width.

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1.2 More than two hundred (200) feet in length shall:

1.2a be not less than sixteen (16) feet  
in width.

1.2b be terminated by a circular driveway  
with a minimum diameter of ninety (90)  
feet or a "hammerhead" or "L" as shown  
on attachment.

1.3 More than six hundred (600) feet in length shall:

1.3a have an alternate "emergency escape"  
route with a roadbed width of not less  
than twelve (12) feet and an all weather  
roadbase of maintained gravel acceptable  
to the Department of Public Works.

2. CUL-DE-SACS

2.1 Cul-de-sacs shall:

2.1a be not longer than six hundred (600)  
feet in length.

2.1b be terminated by a turnaround of not  
less than ninety (90) feet in diameter.

2.1c meet minimum standards for roads.  
(See 3)

3. ROADS

3.1 Serving two (2) or more dwellings shall:

- 3.1a have a minimum travelled width of sixteen (16) feet.
- 3.1b have a paved, all weather roadbed surface.
- 3.1c have a maximum grade of fifteen (15) percent.

#### 4. CURVES

##### 4.1 No curve shall:

- 4.1a have a centerline radius of less than fifty (50) feet on any road or private driveway with a length greater than two hundred (200) feet.

#### 5. VERTICAL DIPS

##### 5.1 No vertical dip shall:

- 5.1a have a radius of less than fifty (50) feet on any road or driveway with a length greater than two hundred (200) feet.

#### 6. BRIDGES AND CULVERTS

##### 6.1 On roads and private driveways longer than two hundred (200) feet but less than one fourth (1/4) mile in length shall:

- 6.1a have a load limit of twenty (20) tons.

##### 6.2 On roads and private driveways longer than one fourth (1/4) mile shall:

- 6.2a have a load limit of forty (40) tons.

##### 6.3 All bridges and culverts shall:

- 6.3a have a width equal to or greater than the roadbed it serves.

- B. Policy: Roads and buildings should be identified by signs, effective naming, numbering and placement in a standardized and systematic fashion to facilitate prompt response by emergency services equipment and officers. (Implementation measures 7-8, pp.

## 7. ROAD IDENTIFICATION SIGNS

### 7.1 Road identification signs shall:

- 7.1a be placed at all road intersections.
- 7.1b be not less than six (6) inches by thirty (30) inches in size.
- 7.1c have letters or numbers not less than four (4) inches in height with not less than a one half (1/2) inch stroke.
- 7.1d be located on a standard not less than six (6) feet nor more than nine (9) feet in height.
- 7.1e be located not more than ten (10) feet nor less than three (3) feet from the road intersection.
- 7.1f have numbers or letters in a color contrasting with the background.
- 7.1g be clearly visible from a distance of at least one hundred (100) feet.
- 7.1h be maintained so vegetation growth and weather does not reduce the visibility or legibility.

RECOMMENDATIONS: Road names should not be duplicated.  
(Example: Ridge Road, Ridge Drive, Ridgeway, etc  
  
Phonetically similar names should be avoided:  
(Example: Philbrook, Hillbrook, Stillbrook, etc.

## 8. STRUCTURE IDENTIFICATION

- 8.1 All major structures shall be assigned a number, or combination of numbers and letters, which is logically and sequentially descriptive of that specific structure location. That structure identification shall be displayed on a sign or signs which shall:
  - 8.1a be constructed of a non-combustible material.
  - 8.1b have letters and numbers not less than four (4)

inches in height with a minimum stroke of one half (1/2) inch in a color contrasting with the background.

8.1c be located not more than fifty (50) feet from the major structure.

8.1d be located not more than fifty (50) feet from the nearest access road available to through traffic.

8.1e be clearly visible from a distance of at least one hundred (100) feet.

- C. Policy: Subdivisions located within or adjacent to existing or proposed water service districts should insure adequate water flow and pressure, fire hydrant specifications and spacing. (Implementation measure 9.1, pp.

9. FIRE PROTECTION WATER STANDARDS

9.1 For subdivisions and land divisions within or adjacent to a public, mutually owned, locally formed or private water service having a pressurized water system capable of supplying a fire hydrant system as set forth below. There shall be such hydrant system installed and in service prior to the issuance of any building or mobile home permit.

9.1a A fire hydrant system shall meet the following requirements:

LAND USE	MINIMUM FLOW	HYDRANT SIZE	MAXIMUM DISTANCE TO HYDRANT
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Residential:

Single Family, one or less per acre two (2) story maximum	500 GPM	6"	375 ft.
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Residential:

Multiple Family, not more than four (4) family units one or less per acre two story maximum	800 GPM	6"	250 ft.
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In all cases, there shall be a second hydrant available at a distance not greater than one thousand (1,000) feet from the hydrant nearest to the structure.

LAND USE	MINIMUM FLOW	HYDRANT SIZE	MAXIMUM DISTANCE TO HYDRANT
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Residential:

Multiple Family, from five (5) to eight (8) family units, two (2) story maximum, one or less per acre	1600 GPM	6"	250 ft.
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Light Commercial Light Industrial Public Meeting Facility Two (2) story maximum	2500 GPM	6"	250 ft.
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Mobile Home Parks Four (4) or less per acre			
1-20 spaces	500 GPM	6"	250 ft.
21-50 spaces	1000 GPM	6"	250 ft.
51-100 spaces	2500 GPM	6"	250 ft.

Recreation Vehicle Parks			
1-50 spaces	500 GPM	6"	375 ft.
51-100 spaces	1000 GPM	6"	375 ft.

- 9.1b Must be capable of sustaining the fire flow required for a minimum of two (2) consecutive hours in addition to the maximum daily flow requirements of other consumptive users.
- 9.1c Must maintain normal operating pressures of not less than twenty (20) P.S.I. residual pressure at the required rate of flow.
- 9.1d Must have a supply and distribution system of adequate size, and so designed, to be capable of maintaining the minimum fire flow at the required pressure.
- 9.1e Fire hydrants shall be attached to the distribution system at locations approved by the responsible fire agency.

9.1f All fire hydrants must:

1. have a minimum barrel size of six (6) inch diameter.
2. be approved by A.W.W.A.
3. have one (1) 4 1/2" and two (2) 2 1/2" N.S.T. connections.
4. be of the dry barrel type.
5. be fitted with proper size inlet bury and gate valve. (As shown in FS-1 and FS-2 attached)

9.1g All materials and installation must be approved by the responsible fire agency.

9.1h Where pumping equipment is required to maintain fire flow requirements, there shall be an alternate or back-up power source, on site, capable of maintaining the minimum pressure and flow rate period of not less than two (2) hours without the need to transport fuel or energy from a remote source.

D. Policy: Subdivisions which are distant from water district supplies should maintain adequate alternative water sources, water storage, adequate water conduit materials and their adequate placement to insure effective fire fighting capacity. (Implementation measures 9.2, 9.3, pp.

9.2 For subdivisions and land divisions not within or adjacent to a public, mutually owned, locally formed or private water service having a pressurized system capable of supplying a fire hydrant system as set forth in 9.1a: There must be compliance with the following standards with the system installed and in service, approved by the responsible fire agency prior to the issuance of any building or mobile home permit:

9.2a Single and multiple family dwellings with four (4) or fewer family units and two (2) stories or less above ground level must have:

1. a water source capable of delivering one (1) gallon of water a minute for each ten (10) square feet of floor space of all dwelling structures located on the parcel for a continuous time period of not less than twenty (20) minutes. All water sources used to meet minimum fire flow requirements must be capable of delivering a minimum of two hundred (200)

gallons per minute for a continuous time period of twenty (20) minutes.

- 9.2b A water source as required by this section may be storage tank or tanks, swimming pool, cistern, pond, well, creek or ditch with a known adequate and dependable water flow or other suitable option, and:
1. shall have adequate plumbing to be immediately usable by fire apparatus.
  2. All plumbing materials used shall have not less than a 2 1/2 inch inside diameter.
  3. All valves available for use by the fire apparatus shall be gated valves with a male national standard thread which shall be protected by a protective cap.
  4. No fire discharge valve shall be located closer than fifty (50) feet to any structure.
  5. No water source shall be more than one thousand (1000) feet from the structure (S) served by that source.
  6. All water sources requiring drafting shall be equipped with a screened drafting connection and shall have a vertical lift requirement of not more than fifteen (15) feet as measured from bottom of water source pipe to top of connection pipe.
  7. have an all weather access permitting fire apparatus to approach within sixteen (16) feet of such facility.
  8. All fire apparatus connections above ground shall be painted "red".
- 9.2c Multiple users on single water source:
1. A single water source used to provide fire flow requirements for two (2) or more dwellings must have sufficient quantity to meet the cumulative total of all fire flows of all dwellings served by that source.
  2. Not more than ten (10) dwellings may use the same water source. (Exception: when a creek or ditch is used as a water source, the responsible fire agency must approve the source if there is another water source pick-up point located within one fourth (1/4) mile.)

9.2d Fire flow reductions: (No central water system)

1. The above requirements will be waived if the responsible fire agency has the capability of transporting not less than four thousand (4000) gallons of water to the scene on the first dispatch from a road distance of not greater than five (5) road miles.
2. The above requirements may be reduced if the construction of the dwelling is such that a reduction may be reasonably justified and the granting of such reduction shall not be detrimental to the public safety or welfare and will not increase the threat of damage to property in the vicinity.

9.2e All domestic wells and other sources with a pressure system shall have a hydrant installed in that system as shown in Section 9.2b even though the system does not meet minimum fire flow requirements.

9.3 Fire protection fire flow requirements - commercial, industrial mobile home parks, recreational vehicle parks and public meeting facilities:

9.3a shall be permitted only when located in a water service area and meets all hydrant requirements as set forth in 9.1a.

E. Policy: Foothill subdivisions should respect more restrictive building placement standards to lessen the threat from grassland and brush fires. (Implementation measures 10.1-10.4, pp

10. BUILDING CONSTRUCTION STANDARDS (MOBILE HOMES SHALL BE CONSTRUED AS DWELLINGS)

10.1 Set Backs:

10.1a All buildings shall be located not closer than thirty (30) feet from the parcel line on which that building is located nor closer than one hundred (100) feet to any distinct line of demarcation of slopes when the most severe slope exceeds one hundred (100) percent. (Exception) When the maximum slope is a cliff or bluff, and it can be shown that there is insufficient combustible material at a lower elevation which would increase the fire threat to the structure the responsible fire agency may waive this section.

10.2 Spacing:

10.2a All buildings located on a single parcel shall be

not closer than sixty (60) feet to another building.  
(See 11, p. 26)

10.3 Slope:

10.3a No building shall be located on a slope in excess of thirty (30) percent.

10.4 Well Pump Power Supply:

10.4a All buildings located on a parcel with an electrical well pump shall have an acceptable electrical control switch which enables the fire agency to shut off power to all structures while maintaining power to the well pump. This switch will not be closer than fifty (50) feet to any structure.

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~~F. Policy: Building roofing materials should be fire resistant.  
(Implementation measures 10.5-10.7, p~~

10.5 Tile Roofs:

10.5a Tile roofs shall be fire stopped with concrete or equivalent resistive material to prevent entry of flame or embers.

10.6 Untreated shake or wood shingles shall not be allowed.

10.7 Roofing Materials:

10.7a Used in "high fire hazard" areas must meet uniform building code standard 32.7 Class B.

10.7b Used in "extreme fire hazard" areas must meet uniform building code standard 32.7 Class A.

G. Policy: All fire sources should be controlled to prevent sparks and flammable materials escaping to the air and ground. (Implementation measure 10.8, p.

10.8 Spark Arrestors:

10.8a Any building containing any device that burns liquid or solid fuel and employs a chimney, flue or stove pipe for the exhaust of smoke shall have such exhaust system equipped with an approved spark arrestor.  
(Refer to Title 24, California Administration Code, Section 2-1217)

H. Policy: Construction standards should be improved to prevent fires from spreading rapidly to the building exterior. (Implementation measures 10.9-10, p.

10.9 Spaces between rafters, the wall plate line and the underside of the roof sheathing:

10.9a shall be filled with solid blocking.

10.10 Vent Opening:

10.10a All ventilation openings shall be not greater than that required by the Uniform Building Code and all shall be screened.

I. Policy: All dead brush, construction debris and fire hazardous vegetation should be removed from immediate building areas. (Implementation measures 10.11-12.3, p. 26)

10.11 Debris:

10.11a All brush, timber and building debris created by building or road construction shall be removed or disposed of prior to the final inspection and approval by the Building Department.

11. BUILDING CONSTRUCTION STANDARDS ALTERNATIVE MEASURES:

The responsible fire agency may accept a low fire hazard landscaping as an alternative to the requirement of sixty (60) foot spacing between buildings as set forth in 10.2 (In event will spacing between buildings be less than thirty (30) feet.) (Refer to Section 4291 of the Public Resources Code.)

12. POSSIBLE MITIGATION CONSIDERATION:

12.1 Fuel breaks and greenbelts might be considered; however, it poses a problem of unsure maintenance and poses a possible threat to the environment of the area under study.

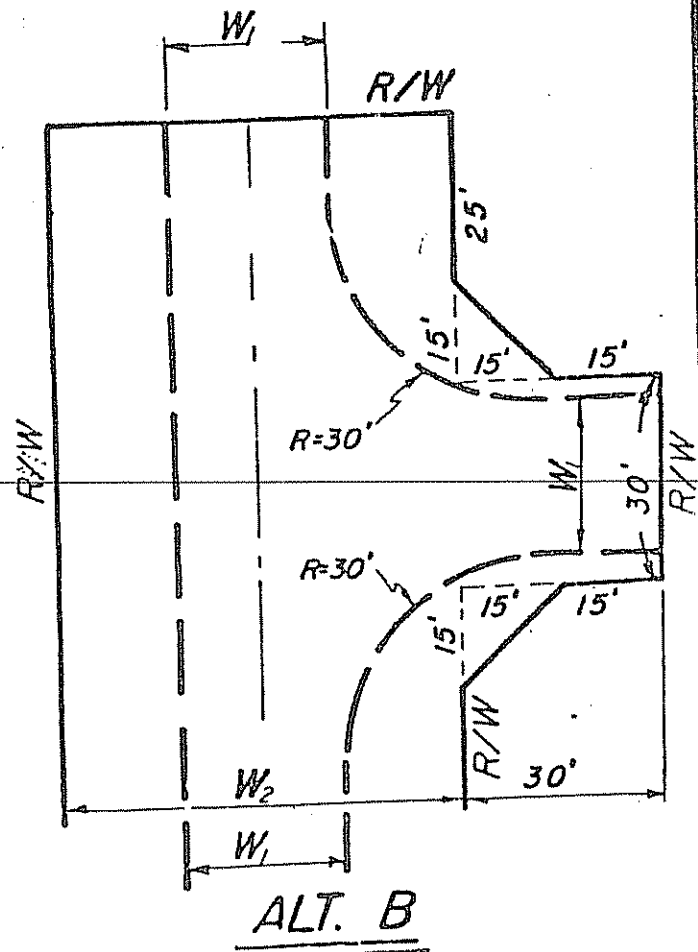
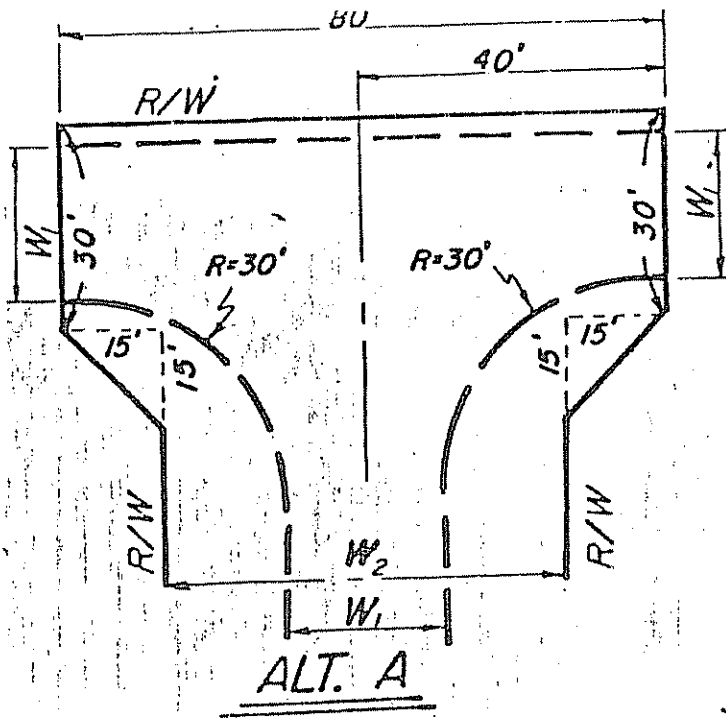
12.2 Low pressure sprinkler systems are recommended in all dwellings served by community water systems.

12.3 Exterior walls with one (1) hour fire resistance capability.

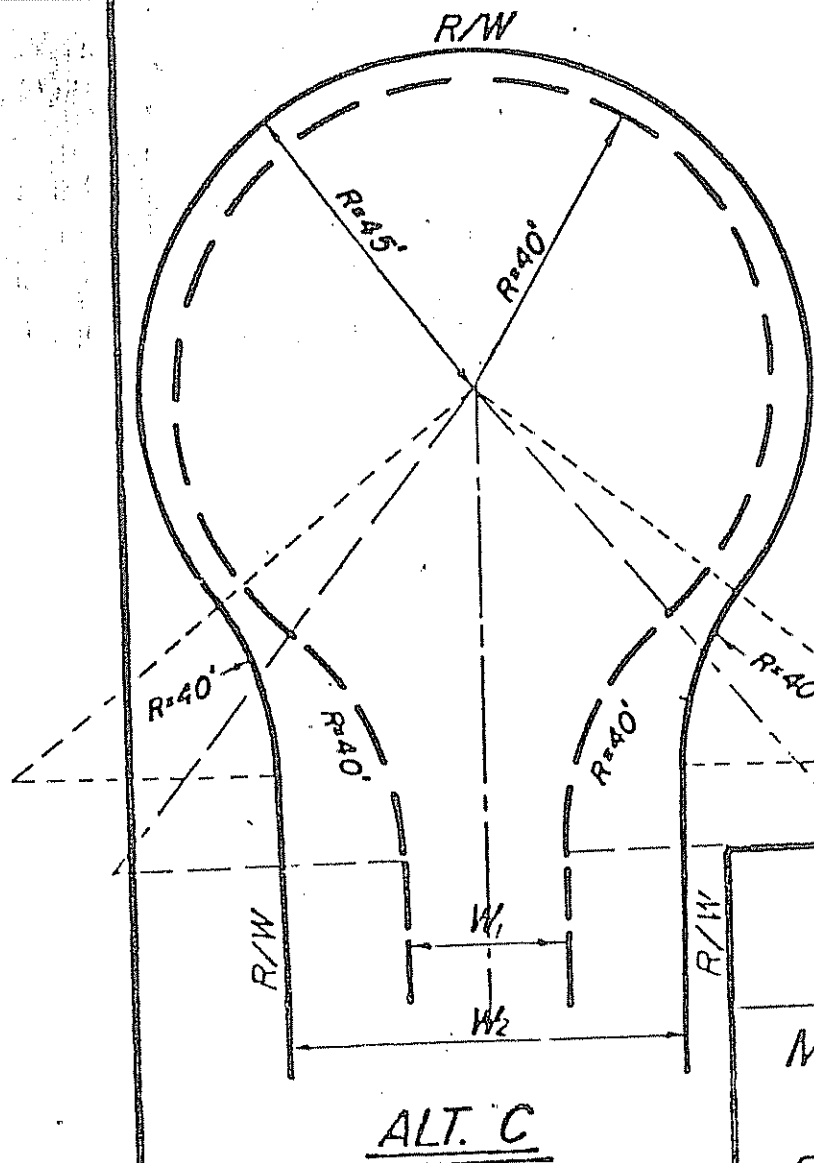
J. Policy: All development plans should be submitted to the County Fire Warden for review and recommendations; creation of a fire facility or fire company will be recommended at the appropriate point of construction or occupancy. (Implementation measure 13.1, p. 26)

13. DEVELOPMENT PLANS:

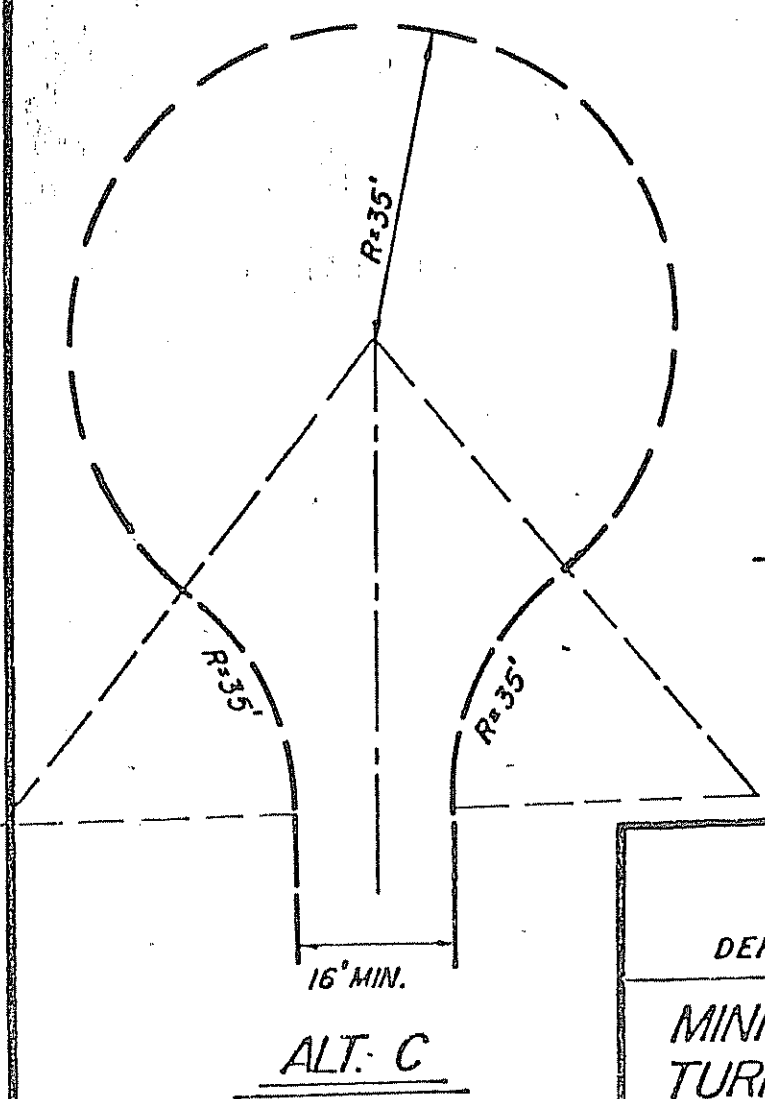
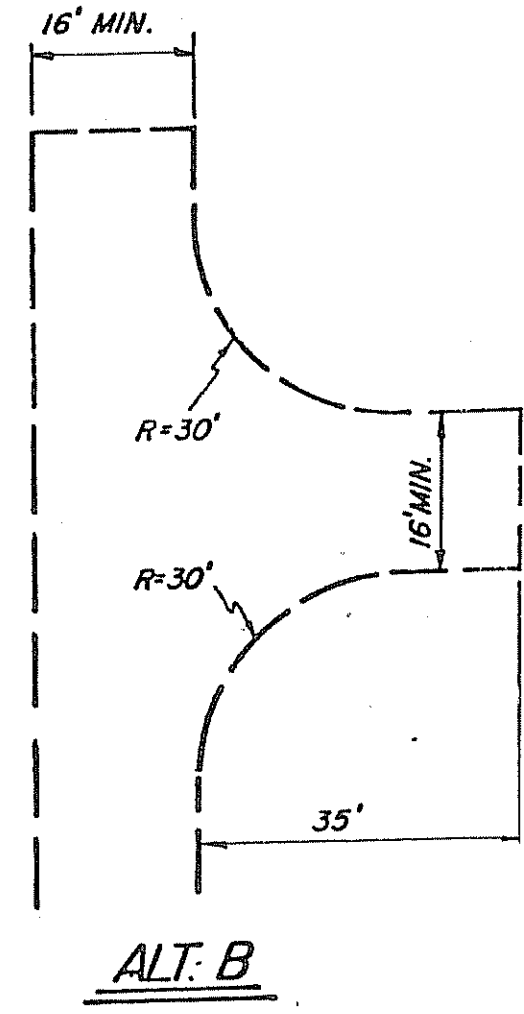
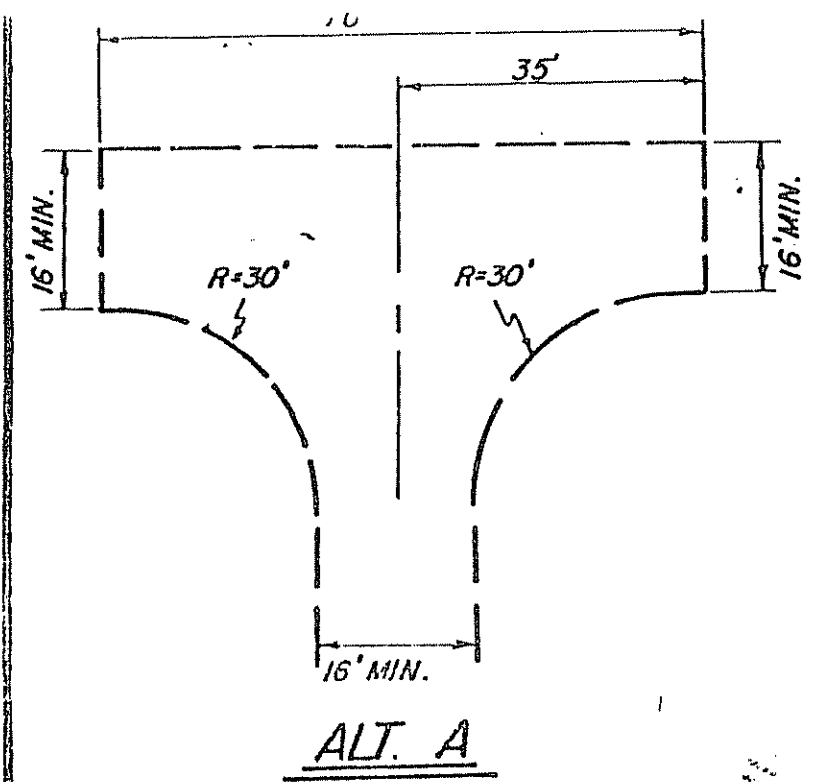
13.1 All development plans be submitted to the County Fire Warden for review with it being understood that the Fire Warden may make recommendations concerning the creation of a fire facility and fire company at a given point of construction or occupancy



- - - - - EDGE OF ROADWAY  
 $W_1$  = WIDTH OF REQUIRED ROAD  
 $W_2$  = WIDTH OF REQUIRED R/W



STATE OF CALIFORNIA  
 DEPARTMENT OF PUBLIC WORKS  
 MINIMUM FIRE STANDARD  
 TURNAROUND ALTERNATES  
 FOR PARCEL MAP ROADS  
 REVISED 10-81



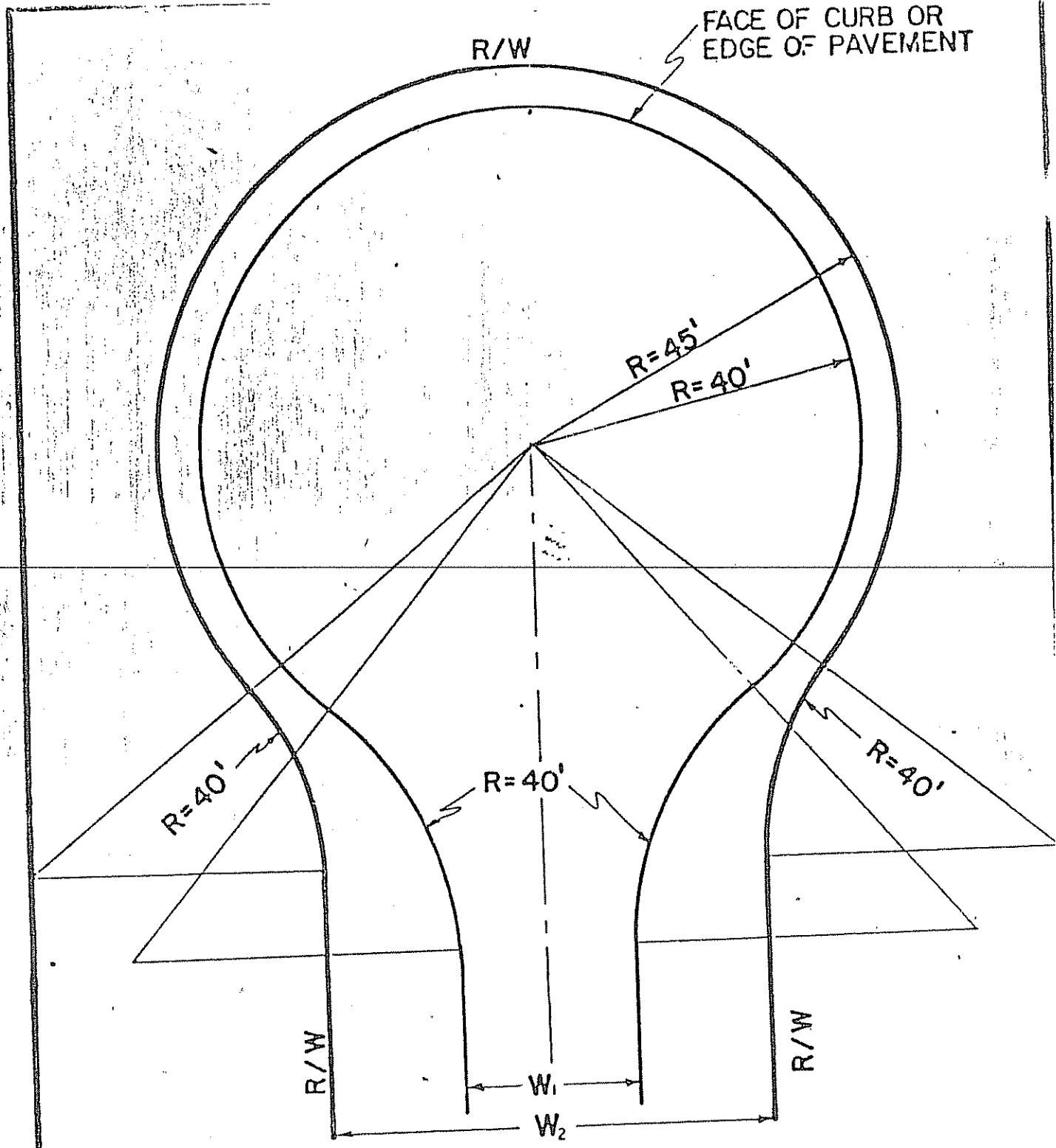
--- BOUNDARY OF CLEARED AND LEVELED AREA

STATE OF CALIFORNIA

DEPARTMENT OF PUBLIC WORKS

MINIMUM FIRE STANDARD  
TURNAROUND ALTERNATES  
(FOR PRIVATE DRIVEWAYS OVER 200 FEET  
IN LENGTH)

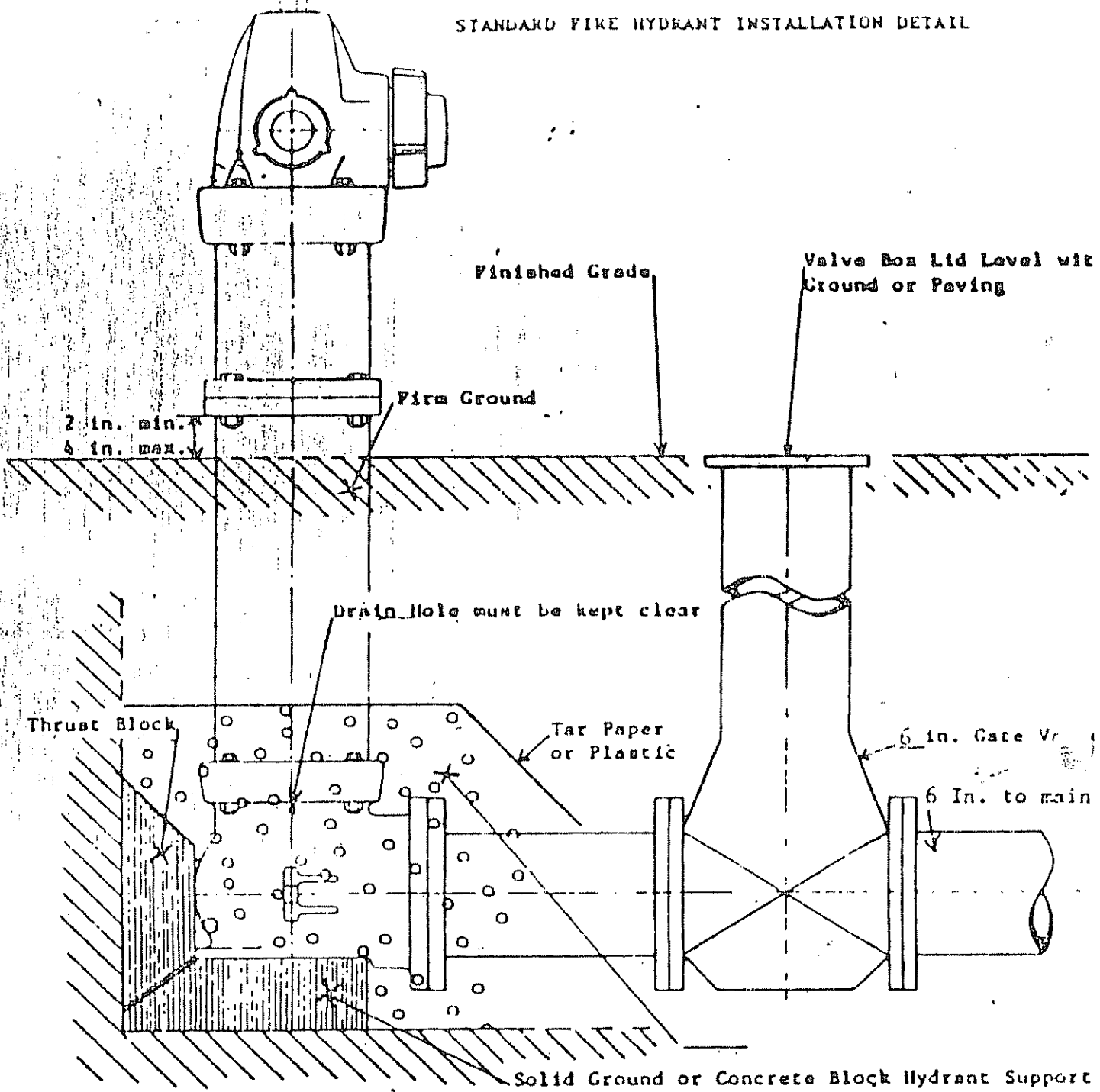
DESIGNED BY



$W_1$  = WIDTH OF REQUIRED ROAD  
 $W_2$  = WIDTH OF REQUIRED R/W

STATE OF CALIFORNIA  
 DEPARTMENT OF PUBLIC WORKS  
**MINIMUM FIRE STANDARD  
 CUL-DE-SAC  
 FOR SUBDIVISION ROADS**  
 REVISED 10-81

STANDARD FIRE HYDRANT INSTALLATION DETAIL



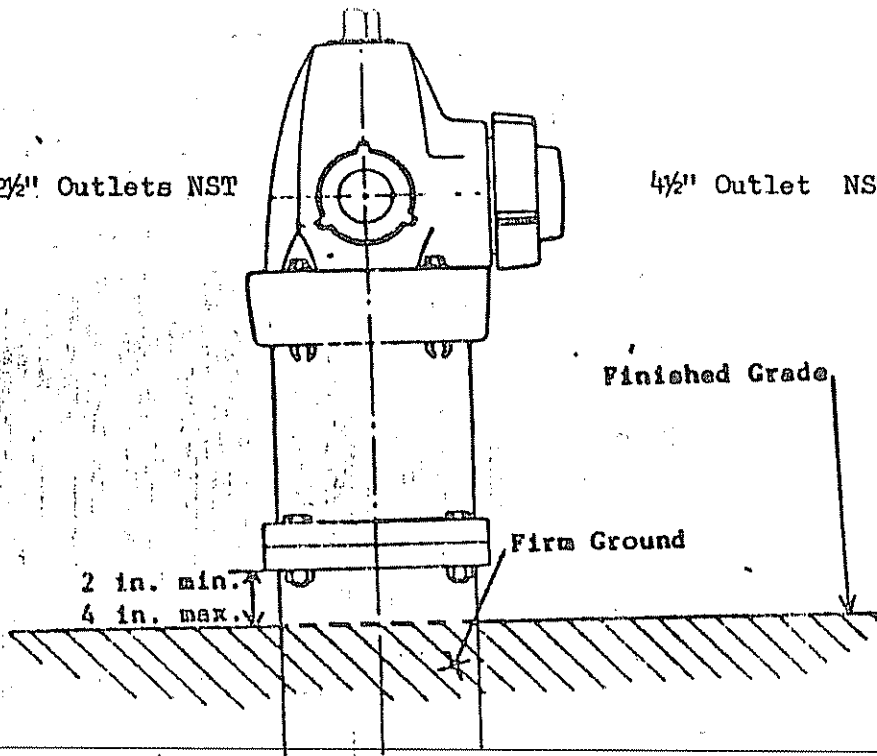
STATE OF CALIFORNIA

MINIMUM FIRE  
FIRE HYDRANT

STANDARD  
INSTALLATION

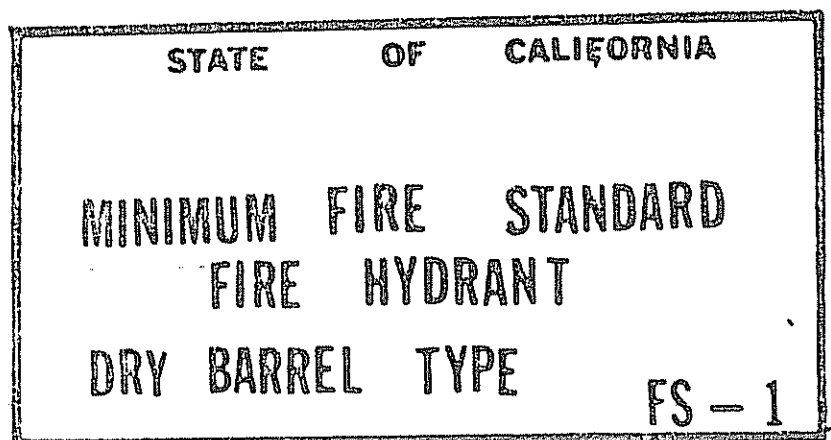
Two - 2½" Outlets NST

4½" Outlet NST



**NOTE:**

- (1) Each hydrant must be gated between hydrant and street main.
- (2) Each hydrant shall be placed in such a manner that the 4½ inch outlet faces the street.
- (3) For easy access to fire engines, hydrant shall be placed within 36" maximum from curb or shoulder of roadway.
- (4) Barrel must be of dry type or protected from freezing.
- (5) Hose threads on outlets to be National Standard dimensions.
- (6) Hydrants outlet shall not be less than 18" or more than 25" above roadway level.



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