

BOARD OF FORESTRY AND FIRE PROTECTION

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To: Resource Protection Committee

From: Edith Hannigan, Analyst

Date: March 23, 2016

Re: Shasta County 4290 Certification Request

On January 13, 2016, Shasta County submitted their Ordinance No. 712 for certification by the Board of Forestry and Fire Protection in lieu of PRC 4290/14 CCR § 1270. Staff conducted a review of the submitted ordinances and has provided a comparison matrix indicating where each state regulation is addressed in the county code. In the Certification Matrix, members will find highlighted regulations where the county code is different from and/or in some respect less than the state regulation. The Certification Matrix references the county Zoning Code, which can be viewed online here:

https://www.municode.com/library/ca/shasta_county/codes/code_of_ordinances?nodeId=CD_ORD_TIT17ZO

Staff requests Board members review the attached matrix, particularly the highlighted sections, prior to the April 5 RPC meeting to determine whether to issue a certification to the county to utilize the submitted ordinances in the SRA in lieu of 14 CCR § 1270.

**California Board of Forestry and Fire Protection
SRA Fire Safe Regulations
Certification Matrix**



Without an accompanying letter from the Board of Forestry and Fire Protection, completion of this matrix does not indicate Board certification approval or denial of submitted local ordinances under 14 CCR § 1270.03. This matrix does not reflect the full text of the regulations and should be used as a guide only.

<i>Internal Use Only</i>			
Jurisdiction	Date Received	Board Meeting Date	Board Action
Shasta County	January 13, 2016	April 6, 2016	

CCR Title 14 SRA Fire Safe Regulations	Local Ordinance	Meets or Exceeds
Sec. 1270 Title <i>Statement of the title of regulation</i>	6.01 Authority	
Sec. 1270.01 Purpose <i>Statement of the purpose of regulation</i>	6.01 Authority	
Sec. 1270.02 Scope <i>Statement of the scope of regulation</i>	6.02 Scope	
Sec. 1270.03 Local Ordinances <i>Board may certify local ordinances</i>	N/A	
Sec. 1270.04 Provisions for Application of These Regulations <i>How these regulations will be applied</i>	6.02 Scope	
Sec. 1270.05 Inspection Authority <i>Establishing responsibility for enforcement</i>		
Sec. 1270.06 Inspections <i>Authorization to conduct inspections</i>		
Sec. 1270.07 Exceptions to Standards <i>Exceptions will be made on a case-by-case basis where the exception provides for same practical effect. Exceptions granted shall be forwarded to the CAL FIRE Unit Headquarters.</i>	6.9 Policies and Standards; Exceptions; Appeals	
Sec. 1270.08 Requests for Exceptions <i>Requests shall be made in writing, stating the section(s), material facts, the exception proposed, and a map.</i>	6.93 Exceptions	
Sec. 1270.09 Appeals <i>Applicants may appeal exception denials. The inspection authority shall be consulted. If an appeal is granted, findings must be made and forwarded to CAL FIRE Unit HQ.</i>	6.94 Appeals	
Sec. 1271.00 Definitions <i>Definitions</i>	6.04 Definitions	
Sec. 1271.05 Distance Measurements <i>Distance measurements are along the ground.</i>	6.04 Definitions and 6.11.1 Dead-end Road Length	
Sec. 1272.00 Maintenance of Defensible Space	6.04 Definitions	

CCR Title 14 SRA Fire Safe Regulations	Local Ordinance	Meets or Exceeds
Measures <i>Defensible space maintenance plans shall be provided.</i>		
Sec. 1273.00 Intent <i>Unobstructed traffic circulation during a wildfire emergency and concurrent fire equipment and civilian movement.</i>	6.1 Access	
Sec. 1273.01 Road Width <i>Roads shall have a minimum of two 10-foot traffic lanes, not including shoulder and striping.</i>	6.12(c) Private Road, Public Road, and Non-Residential Driveway Standards	
Sec. 1273.02 Roadway Surface <i>Designed and maintained to support the imposed load of fire apparatus weighing at least 75,000 pounds; provide an all-weather aggregate base; project proponent shall provide engineering specifications to support design if requested.</i>	6.12(c)(4)(a) Private Road, Public Road, and Non-Residential Driveway Standards	
Sec. 1273.03 Roadway Grades <i>The grade of roads shall not exceed 16%.</i>	6.12(c)(9) Private Road, Public Road, and Non-Residential Driveway Standards	
Sec. 1273.04 Roadway Radius <i>Horizontal inside turning radius minimum 50 feet; additional 4 foot with added to curves of 50 to 100 foot radius; additional 2 feet shall be added to curves from 100 to 200 feet. Vertical curves no less than 100 feet.</i>	6.12(c)(5) Gravel shoulders add the extra two feet needed	N
Sec. 1273.05 Roadway Turnarounds <i>Required on driveways and dead-end roads. Minimum turning radius shall be 40 feet, not including parking. The top of the "T" in a hammerhead/T turnaround shall be 60 feet.</i>	6.12(c)(6) Private Road, Public Road, and Non-Residential Driveway Standards	
Sec. 1273.06 Roadway Turnouts <i>Shall be a minimum of 12 feet wide, 30 feet long, and a 25 foot taper at both ends.</i>	6.12(c)(13)	
Sec. 1273.07 Roadway Structures	6.12(c)(8) Roadway Structures	

CCR Title 14 SRA Fire Safe Regulations	Local Ordinance	Meets or Exceeds
<p><i>Designed to carry maximum load according to CVC; must have signage posting maximum weight and height; constructed and maintained according to AASHTO HB-17; one-way bridges must have unobstructed visibility and turnouts each end.</i></p>		
<p>Sec. 1273.08 One-Way Roads <i>All one way roads will have a minimum 12 foot traffic lane, not including shoulders. All one-way roads shall connect a two lane roadway at both ends. Maximum access to no more than 10 dwelling units. Maximum length 2,640 feet. Turnout constructed at approximately mid-point.</i></p>	6.12(c)(12)	
<p>Sec. 1273.09 Dead-End Roads <i>The length of dead-end roads is limited, based upon zoning.</i> <i>-800 feet for parcel zoned for less than one acre.</i> <i>-1320 feet for parcel zoned one to five acres</i> <i>-2640 feet for parcel zoned five acres to 20 acres</i> <i>-5280 feet for parcel zoned larger than 20 acres</i></p>	6.11.1 Dead-end Road Length	
<p>Sec. 1273.10 Driveways <i>All driveways will provide a minimum 10 foot width traffic lane with a minimum width of 14 feet unobstructed horizontal clearance and vertical clearance of 15 feet. Driveways greater than 150 feet but less than 800 feet shall provide a turnout near the midpoint; turnouts every 400 feet if driveway >800 feet. A turnaround is required on all building sites with driveways over 300 feet in length, sited within 50 feet of building.</i></p>	6.13 Residential Driveway Standards	
<p>Sec. 1273.11 Gate Entrances <i>Gates shall be at least 2 feet wider than the width of the traffic lane. Minimum width of 14 feet unobstructed horizontal clearance and 15 feet vertical clearance. All gates shall be located 30 feet</i></p>	6.12(c)(12)	Missing some language

CCR Title 14 SRA Fire Safe Regulations	Local Ordinance	Meets or Exceeds
<i>from the roadway shall provide unobstructed traffic access on the roadway. Security gates shall not be installed without approval. Where a one-way road provides access to a gated entrance, a 40 foot turning radius shall be used.</i>		
Sec. 1274.00 Intent <i>Roadways and buildings are to be clearly identified.</i>	6.22 Street Identification Signing	
Sec. 1274.01 Size of Letters, Numbers and Symbols for Street and Road Signs <i>Size of letters and numbers on street signs to be minimum 4 inch height, 0.5 inch stroke, reflectorized and contrasting with background.</i>	6.22(c) Street Identification Signing	
Sec. 1274.02 Visibility and Legibility of Street and Road Signs <i>Street signs to visible in both directions for a minimum distance of 100 feet.</i>	6.22(b) Street Identification Signing	
Sec. 1274.03 Height of Street and Road Signs <i>Height of street signs to be uniform county wide.</i>	No standard in Fire Standard or Development Standard	missing
Sec. 1274.04 Names and Numbers on Street and Road Signs <i>Streets to be identified in a consistent countywide system. Signs to be mounted in a uniform manner.</i>	6.22(a) Street Identification Signing	
Sec. 1274.05 Intersecting Roads, Streets and Private Lanes <i>Street signs shall be at provided road intersections.</i>	6.22(b) Street Identification Signing	
Sec. 1274.06 Signs Identifying Traffic Access Limitations <i>Shall be placed at the intersection preceding the limitation, no more than 100 feet before the limitation</i>	6.23 Street Limitation Signing	
Sec. 1274.07 Installation of Road, Street and Private Lane Signs <i>Street signs shall be installed prior to final acceptance by local jurisdiction for road</i>	6.22(d) Street Identification Signing	

CCR Title 14 SRA Fire Safe Regulations	Local Ordinance	Meets or Exceeds
<i>improvements.</i>		
<p>Sec. 1274.08 Addresses for Buildings <i>All buildings shall be addressed according to the jurisdiction's address system. Each dwelling unit shall be separately identified.</i></p>	6.21(a) Address for Buildings	
<p>Sec. 1274.09 Size of Letters, Numbers and Symbols for Addresses <i>Letter and numbers for addresses must be minimum 4 inch high, 0.5 inch stroke and contrasting background. Address shall be visible from street.</i></p>	6.21(b) Address for Buildings	
<p>Sec. 1274.10 Installation, Location and Visibility of Addresses <i>All buildings must be clearly identified. Shall have a permanently posted address placed at each driveway entrance, visible from both directions of travel along road. Address shall be posted during construction and maintain thereafter. Address signs along one-way road shall be visible from both intended direction of travel and opposite direction. Multiple addresses on a single driveway shall be mounted on a single post. Addresses for single commercial business shall be placed at the nearest intersection providing access to the site.</i></p>	6.21 Address for Buildings	
<p>Sec. 1275.00 Intent <i>Emergency water for wildfire protection shall be available, accessible, and maintained.</i></p>	6.3 Fire Protection Water Standards	
<p>Sec. 1275.01 Application <i>Emergency water systems shall be installed and made serviceable prior to and during the time of construction except for alternatives approved by the authority having jurisdiction.</i></p>	6.3(c) Fire Protection Water Standards with a Central Water System	

CCR Title 14 SRA Fire Safe Regulations	Local Ordinance	Meets or Exceeds
<p>Sec. 1275.10 General Standards <i>System must meet or exceed NFPA 1142 and California Fire Code fire flow requirements. Water may be provided in a mobile water tender or other containment structure. Nothing prohibits the combined storage of emergency wildfire and structural firefighting water supplies unless prohibited by local ordinance. Freeze protection when required.</i></p>	<p>Water requirements have been in place since the 80's Water tenders always dispatched to fires</p>	<p>N</p>
<p>Sec. 1275.15 Hydrant/Fire Valve <i>Hydrant shall be 18 inch above ground, 8 feet from vegetation, no closer than 4 feet nor farther than 12 feet from roadway, in a location where fire apparatus will not block the roadway. Hydrant servicing an a building shall be not less than 50 feet nor more than ½ mile by road from building it serves and be located at a turnaround along the driveway or road that intersects the driveway. Headed with a 2 ½ inch National Hose male thread with cap for pressure and gravity flow systems and 4 ½ inch draft system. Hydrant shall have wet or dry barrel and shall have suitable crash protection required by local jurisdiction.</i></p>	<p>Figures FS-1 and FS-2: 18" requirements, allows up to 25" above grade; 4-10 feet from roadway 6.35(b) doesn't have ½ mile max limit 6.36(a) dry barrel</p> <p>If project lies within water district, hydrant must be within 750 feet No hydrant location because they use water tenders at fires (see note above in § 1275.15).</p>	<p>Missing ½ mile max distance</p>
<p>Sec. 1275.20 Signing of Water Sources <i>If located along a driveway: marked with a 3 inch reflectorized blue marker on the driveway address sign and mounted on a fire retardant post. If located on a street or road: 3 inch marker shall be mounted on a fire retardant post within 3 feet of hydrant, no less than 3 feet nor greater than 5 feet above the ground Or specified in the OSFM's Guidelines for Fire Hydrant Markings Along State Highways and</i></p>	<p>6.38(e) Hydrant Maintenance and Marking</p>	

CCR Title 14 SRA Fire Safe Regulations	Local Ordinance	Meets or Exceeds
<i>Freeways, May 1988.</i>		
<p>Sec. 1276.00 Intent <i>Reduce the intensity of wildfire through fuel modification for safe emergency operations and civilian evacuation and to establish a point of attack or defense from a wildfire.</i></p>	No real intent section but 6.61, 6.62, 6.63 meet intent	
<p>Sec. 1276.01 Setback for Structure Defensible Space <i>Parceled one acre or larger provide a minimum 30 foot setback. Parcels less than one acre, local jurisdiction shall provide same practical effect.</i></p>	6.51 Building Setbacks. No setback provisions for parcels less than one acre. Less than one acre – county handles all requirements – at least 5 foot requirement in Zoning Code for parcels less than one acre	N
<p>Sec. 1276.02 Disposal of Flammable Vegetation and Fuels <i>Disposal of flammable vegetation and fuel modification to be done prior to final building inspection.</i></p>	6.61 Disposal of Vegetation	
<p>Sec. 1276.03 Greenbelts <i>Subdivisions and other developments, which propose greenbelts as part of their plan, shall locate the greenbelts strategically. The locations shall be approved by the local authority having jurisdiction and may be consistent with the CAL FIRE Unit Fire Management Plan or Contract County Fire Plan.</i></p>	6.62 Greenbelts	

ORDINANCE NO. 712

**AN ORDINANCE OF THE BOARD OF SUPERVISORS
OF THE COUNTY OF SHASTA
AMENDING CHAPTER 6: FIRE SAFETY STANDARDS
OF THE SHASTA COUNTY DEVELOPMENT STANDARDS**

The Board of Supervisors of the County of Shasta ordains as follows:

SECTION 1. *Chapter 6: Fire Safety Standards* of the Shasta County Development Standards is amended in its entirety as provided in Attachment A, attached hereto and incorporated herein by this reference. The *Chapter 6: Fire Safety Standards* will continue to be included as a part of the Shasta County Development Standards.

SECTION 2. Should any resolution or ordinance herein established be held to be invalid or otherwise unenforceable, such determination shall not affect the validity of the remainder of this ordinance or its remaining provisions.

SECTION 3. This ordinance repeals any prior ordinance or resolution inconsistent with the provisions as set forth in this Ordinance.

SECTION 4. This ordinance shall be in full force and effect 30 days after its passage. The clerk shall cause this ordinance to be published as required by law.

DULY PASSED AND ADOPTED this 5th day of January, 2016 by the Board of Supervisors of the County of Shasta by the following vote:

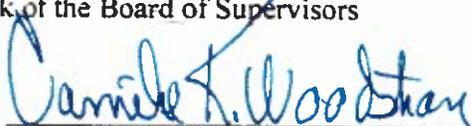
AYES: Supervisors Giacomini, Schappell, Kehoe and Moty
NOES: None
ABSENT: Supervisor Baugh
ABSTAIN: None
RECUSE: None



PAM GIACOMINI, CHAIRMAN
Board of Supervisors
County of Shasta
State of California

ATTEST:

LAWRENCE G. LEES
Clerk of the Board of Supervisors

By: 

Deputy

ORDINANCE NO. 712
January 5, 2016

ATTACHMENT A

CHAPTER 6

FIRE SAFETY STANDARDS

Adopted: September 22, 1981

Revised: August 7, 1986

September 29, 1988

April 1, 1992

September 4, 1992

May 15, 2001

June 1, 2003

September 15, 2004

December 1, 2015

6.0 GENERAL POLICIES

6.01 AUTHORITY

These standards are Shasta County Fire Safety Standards and are adopted by the Board of Supervisors. These standards are inclusive of "State Responsibility Area (SRA) Fire Safe Regulations". These standards shall be administered and implemented by the County Fire Warden, his or her designees, and as otherwise authorized by the Board of Supervisors by adoption of these standards.

6.02 SCOPE

These standards are a component of the Shasta County Development Standards and enhance public and firefighter safety by establishing criteria for development. Addressed within this document are public and emergency responder access requirements, fire protection water standards, building construction standards, fuel modification, and storage and dispensing of flammable and combustible liquids.

These standards shall apply to subdivisions, parcel maps, use permits, administrative permits, building permits, mobile home installation permits, and any other developments which require the issuance of a permit by the County of Shasta.

6.03 CONSISTENCY WITH OTHER STANDARDS AND REGULATIONS

- a. Portions of these standards are required by the California Code of Regulations (CCR) Title 14, Division 1.5, Chapter 7, Subchapter 2, Articles 1-5. Such sections are noted with the CCR section in parenthesis after the section. As minimum State of California Regulations, these sections would supersede other Shasta County regulations and standards.
- b. Sections not noted with the CCR in parenthesis are locally adopted standards which exceed or differ from the requirements of the regulations of the State of California. These standards are adopted by resolution and may be superseded by other Shasta County Ordinances.
- c. These standards are intended to be minimum standards. If other County Standards require a higher standard of development, then the other standard prevails. Where these standards require a higher standard of development, these standards prevail.

6.04 **DEFINITIONS** (CCR T.14, Section 1271.00)

Accessory building: Any building used as an accessory to residential, commercial, recreational, industrial, or educational purposes as defined in the California Building Code, 1989 Amendments, Chapter 11, Group M, Division 1 Occupancy that requires a building permit.

Agriculture: Land used for agricultural purposes as defined in a local jurisdiction's zoning ordinances.

All Weather Access Road: Road surface with suitable aggregate material over compacted subgrade soil.

Building: Any structure used or intended for supporting or sheltering any use of occupancy that is defined in the California Building Code, 1989 Amendments, Chapter 11, except Group M, Division 1, Occupancy. For the purposes of this subchapter, building includes mobile homes and manufactured homes, churches, and day care facilities.

CDF: California Department of Forestry and Fire Protection.

Dead-end road: A road that has only one point of vehicular ingress/egress, including cul-de-sacs and looped roads.

Defensible space: The area within the perimeter of a parcel, development, neighborhood or community where basic wildland fire protection practices and measures are implemented, providing the key point of defense from an approaching wildfire or defense against encroaching wildfires or escaping structure fires. The perimeter as used in this regulation is the area encompassing the parcel or parcels proposed for construction and/or development, excluding the physical structure itself. The area is characterized by the establishment and maintenance of emergency vehicle access, emergency water reserves, street names and building identification, and fuel modification measures.

Development: "Development" means the uses to which the land shall be put, the buildings to be constructed on it, and all alterations of the land and construction incident thereto.

Director: Director of the Department of Forestry and Fire Protection or his/her designee.

Distance Measurements: All specified or referenced distances are measured along the ground, unless otherwise stated.

Driveway: A vehicular access that serves no more than two parcels, with no more than three dwelling units on a single parcel, and any number of accessory buildings.

Dwelling unit: Any building or portion thereof which contains living facilities, including provisions for sleeping, eating, cooking and/or sanitation for not more than one family.

Exception: An alternative to the specified standard requested by the applicant that may be necessary due to health, safety, environmental conditions, physical site limitations or other limiting conditions such as recorded historical sites, that provide mitigation of the problem.

Fire valve: See hydrant.

Fuel modification area: An area where the volume of flammable vegetation has been reduced, providing reduced fire intensity and duration.

Greenbelts: A facility or land-use, designed for a use other than fire protection, which will slow or resist the spread of a wildfire. Includes parking lots, irrigated or landscaped areas, golf courses, parks, playgrounds, maintained vineyards, orchards or annual crops that do not cure in the field.

Hammerhead/T: A roadway that provides a "T" shaped, three-point turnaround space for emergency equipment, being no narrower than the road that serves it.

Hydrant: A valved connection on a water supply/storage system, having at least one 2 1/2 inch outlet, with male American National Fire Hose Screw Threads (NH) used to supply fire apparatus and hoses with water.

Local Jurisdiction: Any county, city/county agency or department, or any locally authorized district that issues or approves building permits, use permits, tentative maps or tentative parcel maps, or has authority to regulate development and construction activity.

Maintenance of Defensible Space Measures: To ensure continued maintenance of properties in conformance with these standards and measures and to assure continue availability, access, and utilization of the defensible space provided for these standards during a wildfire, provisions for annual maintenance shall be included in the development plans and/or shall be provided as a condition of the permit, parcel or map approval.

Occupancy: The purpose for which a building, or part thereof, is used or intended to be used.

One-way road: A minimum of one traffic lane width designed for traffic flow in one direction only. Roads, streets, private lanes: Vehicular access to more than one parcel; access to any industrial or commercial occupancy; or vehicular access to a single parcel with more than two buildings or four or more dwelling units.

Roadway: Any surface designed, improved, or ordinarily used for vehicle travel.

Roadway structures: Bridges, culverts, and other appurtenant structures which supplement the roadway bed or shoulders.

Same Practical Effect: As used in this subchapter means an exception or alternative with the capability of applying accepted wildland fire suppression strategies and tactics, and provisions for fire fighter safety, including:

- (a) access for emergency wildland fire equipment,
- (b) safe civilian evacuation,
- (c) signing that avoids delays in emergency equipment response,
- (d) available and accessible water to effectively attack wildfire or defend a structure from wildfire, and
- (e) fuel modification sufficient for civilian and fire fighter safety.

State Board of Forestry (SBOF): A nine member board, appointed by the Governor, which is responsible for developing the general forest policy of the state, for determining the guidance policies of the Department of Forestry and Fire Protection, and for representing the state's interest in federal land in California.

State Responsibility Area (SRA): As defined in the Public Resources Code section 4126-4127; and the California Code of Regulations, Title 14, Division 1.5, Chapter 7, Article 1, Sections 1220-1220.5.

Structure: That which is built or constructed, an edifice or building of any kind, or any piece of work artificially built up or composed of parts joined together in some definite manner.

Subdivision: As defined in Section 66424 of the Government Code.

Traffic lane: The portion of a roadway that provides a single line of vehicle travel.

Turnaround: A roadway, unobstructed by parking, which allows for a safe opposite change of direction for emergency equipment. Design of such area may be a hammerhead/T or terminus bulb.

Turnouts: A widening in a roadway to allow vehicles to pass.

Vertical clearance: The minimum specified height of a bridge or overhead projection above the roadway.

Wildfire: As defined in Public Resources Code Section 4103 and 4104.

6.1 ACCESS

- a. The following standards shall establish minimum access requirements for public safety. The road and driveway networks shall provide safe access for emergency wildland fire equipment and civilian evacuation concurrently and shall provide unobstructed traffic circulation during a wildfire emergency. The road and driveway network shall also provide all-weather, safe access for emergency personnel responding to medical aids, traffic accidents, and structure fires. The standards shall apply to subdivisions, parcel maps, use permits, administrative permits, building permits, mobile home installation permits, and any other developments which require the issuance of a permit by the County of Shasta.**
- b. In accordance with Sections 6.91 thru 6.94 of these standards, the County Fire Warden or the approving authority may approve or recommend the approval of exceptions to the access standards where the same practical effect can be achieved and where reasonable access can be provided to assure adequate evacuation routes for the public and adequate access routes for emergency personnel and equipment. In determining whether the same practical effect can be achieved, the approving authority shall apply and make findings concerning the performance criteria set forth in Section 6.92.**
- c. For single family residential building permits and residential mobile home installation permits on existing lawful parcels, off-site improvements will not be required if adequate physical access is existing as determined by the County Fire Warden. Private bridges on access roads must be certified by a licensed engineer when required by the County Fire Warden. If modifications are necessary in order to provide adequate physical access for fire apparatus, then a building or grading permit shall be obtained and the necessary modifications shall be made.**
- d. For administrative and use permits, off-site improvements will not be required on public roads and streets constructed prior to January 1, 1992, if adequate physical access exists and the County Fire Warden finds that any increase in personal density created by the project will not adversely affect public safety.**

6.11 GENERAL ROAD DESIGN REQUIREMENTS

Scope:

It shall be the intent of the Fire Safety Standards to provide for safe access for emergency fire equipment, civilian evacuation, and unobstructed traffic circulation by requiring the construction of continuous or through roadways and limiting the length and use of dead-end roads.

6.11.1 Dead-end Road Length:

The maximum length of a dead-end road shall not exceed the following cumulative lengths, regardless of the number of parcels served. Cumulative lengths refer to the combined lengths of dead-end roads accessed from the particular dead-end road in question.

Parcels less than one acre in size - 800 feet

Parcels one acre or larger in size - 1000 feet

All lengths shall be measured from the edge of the roadway surface at the intersection that begins the road to the end of the road surface at its farthest point. Where a dead-end road crosses areas of differing zoned parcel sizes, requiring different length limits, the shortest allowable length shall apply. (CCR T.14, Section 1273.09)

All specified or referenced distances are measured along the ground, unless otherwise stated. (CCR T.14, Section 1271.05)

6.11.1.1 Exception:

The County Fire Warden or approving authority may grant an exception to the maximum length dead-end road standards for parcels 40 acres or larger in size providing the cumulative dead-end road(s) servicing such a parcel are not over 5280 feet in length. In considering such an exception, the County Fire Warden or approving authority shall make findings that the exception does not adversely affect public safety in the area.

6.11.2 Construction Standard:

Continuous or through roads constructed in areas designated by the General Plan as Urban (UR), Suburban (SR), Commercial (C) and Industrial (I) shall be constructed in accordance with Chapter 2 of the Development Standards. Continuous or through roads constructed in all other areas, may be constructed as emergency fire escape roads as determined by the County Fire Warden and the Director of the Department of Public Works. Emergency fire escape roads shall be constructed in accordance with the minimum road standards as specified in Section 6.14 of the Fire Safety Standards.

6.11.3 Density:

Deleted

6.11.4 Open Space and Greenbelts:

Projects creating open space and greenbelt areas shall provide adequate fire department access to such areas as determined by the County Fire Warden or approving authority.

6.12 PRIVATE ROAD, PUBLIC ROAD, AND NON- RESIDENTIAL DRIVEWAY STANDARDS

- a. The following standards are minimum standards and may be superseded by the requirements of Chapter 2 of the Development Standards when said requirements are more stringent than these minimum standards.
- b. Non-residential driveways shall provide fire department access from nearest Shasta County recognized private or public roadway to within 150 feet of any portion of the exterior wall of each building on the premises. An exception to subsection (b) may be approved by the County Fire Warden when buildings (s) are completely protected with an approved automatic fire sprinkler system.
- c. Following are minimum roadway and non-residential driveway construction standards:
 1. Road Width – Minimum driving surface of two 10-foot traffic lanes. These traffic lanes shall provide for two-way traffic flow to support emergency vehicle and civilian egress. (CCR T.14, Section 1273.01)
 2. Shoulders – one (1) foot wide on each side of driving surface.
 3. Vertical Clearance – Fifteen (15) feet, unobstructed. (CCR T.14, Section 1273.10)
 4. Roadway Surface -
 - a. Roadways shall be designed and maintained to support the imposed load of fire apparatus weighing at least 75,000 pounds and provide an all-weather aggregate road base. Applicant shall provide engineering specifications to support design if requested by the County Fire Warden. (CCR T.14, Section 1273.02)
 - b. Those portions of roadways and driveways with grades greater than 12% shall be paved in accordance with Chapter 2 of the Development Standards.
 5. Roadway Radius - (CCR T.14, Section 1273.04)
 - a. Not less than 50 feet inside radius
 - b. Curves having an inside radius of 50-100 feet shall have a minimum surfacing width of 22 feet.
 - c. Curves having an inside radius of 100-200 feet shall have a minimum surfacing width of 20 feet.

- d. Vertical Curvature – Vertical curves shall be designed by a licensed engineer to accommodate fire apparatus.

6. Roadway Turnarounds

- a. Dead-end roads shall be provided with a turnaround. (CCR T.14, Section 1273.05 / 1273.09 / Figure 2-40)
- b. Dead-end non-residential driveways over 150 feet in length shall be provided with a turnaround within 50 feet of the building.
- c. Turnarounds are required on driveways and dead-end roads. The turning radius on a turnaround shall be forty (40) feet from the center line of the road, not including parking. (CCR T.14, Section 1273.05 / Figure 2-40)
- d. Hammerhead or "T" turnarounds may be approved for parcel maps by the approving authority upon considering recommendations by the Department of Public Works and the County Fire Warden. Alternative turnarounds shall be constructed in accordance with Figure 2-40.
- e. Hammerhead or "T" turnarounds may be approved on non-residential driveways by the County Fire Warden. Alternative turnarounds shall be constructed in accordance with Figure 2-40.

7. Hydrant Turnouts

- a. Roads and commercial driveways less than 28 feet in width shall be provided with turnouts at each fire hydrant.
- b. Turnouts shall be a minimum of 12 feet wide and 30 feet long with a minimum 25 foot taper at each end. (CCR T.14, Section 1273.06 / 1275.15 / Figure FS-4)
- c. An exception to the turnout requirement may be granted by the County Fire Warden when fire hydrants are required at intersections.

8. Roadway Structures (Bridges, Culverts, etc.) (CCR T.14, Section 1273.07)

- a. All non-residential driveway, road, street, and private lane roadway structures shall be constructed to carry at least the maximum load and provide the minimum vertical clearance as required by Vehicle Code Sections 35250, 35550, and 35750.

- b. Appropriate signing, including but not limited to weight or vertical clearance limitations, one-way road or single lane conditions, shall reflect the capability of each bridge.
 - c. One-lane bridges shall provide unobstructed visibility from one end to the other and shall be provided with turnouts at both ends per Figure FS-4.
 - d. Where a bridge or an elevated surface is part of a fire apparatus access road, the bridge shall be constructed and maintained in accordance with the American Association of State and Highway Transportation Officials Standard Specifications for Highway Bridges, 17th Edition, published 2002 (known as HL-93).
 - e. Bridges and elevated surfaces shall be designed for a live load sufficient to carry the imposed loads of fire apparatus. Vehicle load limits shall be posted at both entrances to bridges when required.
 - f. Where elevated surfaces designed for emergency vehicle use are adjacent to surfaces which are not designed for such use, barriers, or signs, or both, as approved by the County Fire Warden, shall be installed and maintained.
9. Grades – shall not exceed 16%. (CCR T.14, Section 1273.03)
10. All one-way roads shall be constructed to provide a minimum, not including shoulders, of one 12-foot traffic lane. The County Fire Warden may approve one-way roads. All one-way roads shall connect to a two-lane roadway at both ends, and shall provide access to an area currently zoned for no more than ten (10) dwelling units. In no case shall it exceed 2,640 feet in length. A turnout shall be placed and constructed at approximately the midpoint of each one-way road. (CCR T.14, Section 1273.08)
11. Obstructions – minimum widths and vertical clearance shall be maintained.
12. Gate Entrances (CCR T.14, Section 1273.11)
- a. Gate entrances shall be at least two (2) feet wider than the width of the traffic lane(s) serving that gate and a minimum width of fourteen (14) feet unobstructed horizontal clearance and unobstructed vertical clearance of fifteen (15) feet.
 - b. Gates shall be set back a minimum of 30 feet from the edge of pavement of adjacent roadways.

- c. Security gates shall not be installed without approval and where security gates are installed, they shall have an approved means of emergency operation. Approval shall be by the County Fire Warden. The security gates and the emergency operation shall be maintained operational at all times.
 - d. Where a one-way road with a single traffic lane provides access to a gated entrance, a forty (40) foot turning radius shall be used. (Figure 2-40)
13. Speed Control Bumps on private roads and driveways shall not exceed four (4) inches in height.
14. Turnouts shall be a minimum of twelve (12) feet wide and thirty (30) feet long with a minimum twenty-five (25) foot taper on each end. (CCR T.14, Section 1273.06 / Figure FS-4)

6.13 RESIDENTIAL DRIVEWAY STANDARDS

- a. The following standards are minimum driveway standards to be applied to residential driveways serving no more than three (3) residences located on a single parcel. Residential driveways servicing four (4) or more residences shall meet the requirements of Section 6.12. (CCR T.14, Section 1271.00 / 1273.10)
- b. Residential driveways shall provide fire department access from the nearest Shasta County recognized private or public roadway to within 50 feet of each residence on the parcel. (CCR T.14, Section 1273.10)
- c. Following are minimum residential driveway standards:
 1. Driveway Road Width
 - a. Sixteen (16) feet, unobstructed.
 - b. The County Fire Warden may approve widths of twelve (12) feet for short distances. The lesser widths may be utilized at bridges, culverts, gates, and cattle guards, and in areas where unique topographic conditions exist.
 2. Driveways exceeding 150 feet in length, but less than 800 feet in length, shall provide a turnout near the midpoint of the driveway. Where the driveway exceeds 800 feet, turnouts shall be provided no more than 400 feet apart. (CCR T.14, Section 1273.10)
 3. Shoulders – One (1) foot wide on each side of driveway.
 4. Vertical clearance, fifteen (15) feet, unobstructed. (CCR T.14, Section 1273.10)
 5. Driveway Roadway Surface
 - a. Capable of supporting a 40,000 pound load. Applicant shall provide engineering specifications to support design, if requested by the County Fire Warden. (CCR T.14, Section 1273.02)
 - b. All-weather surface width of not less than twelve (12) feet of the driveway. Minimum surface thickness of 4" of compacted class 3 aggregate base rock.
 - c. Driveways with a grade of over 12% slope shall be paved in accordance with the flaglot driveway standard in Figure 2-16 of the Development Standards.
 6. Driveway Roadway Radius (CCR T.14, Section 1273.04)

- a. Horizontal curves shall have an inside radius of not less than 50 feet.
 - b. Vertical curves shall have a minimum length of not less than 100 feet or be designed to accommodate fire equipment as approved by the County Fire Warden or approving authority. (Figure FS-5)
7. Driveway Roadway Turnarounds
- a. A turnaround shall be provided to all developed and undeveloped building sites on driveways over 300 feet in length and shall be within 50 feet of the building. (CCR T.14, Section 1273.10)
 - b. Turnarounds shall be constructed in accordance with the Shasta County Development Standards. (CCR T.14, Section 1273.05 / Figure 2-42)
8. Hydrant Turnouts – If a fire hydrant is located along a residential driveway, then a turnout shall be provided per Attachment FS-4. (CCR T.14, Sections 1273.06 / 1275.15 / Figure FS-4)
9. Driveway Roadway Structures (Bridges and Culverts): (CCR T.14, Section 1273.07)
- a. Bridges having limitations shall be posted with signs designating the limitations including vertical clearance and weight limitations. (CCR T.14, Section 1273.07)
 - b. Signage, including but not limited to weight or vertical clearance limitations, one-way road or single lane conditions, shall reflect the capability of each bridge.
 - c. Where a bridge or an elevated surface is part of a fire apparatus access road, the bridge shall be constructed and maintained in accordance with the American Association of State and Highway Transportation Officials Standard Specifications for Highway Bridges, 17th Edition published 2002 (known as AASHTO HL-93).
 - d. Bridges and elevated surfaces shall be designed for a live load sufficient to carry the imposed loads of fire apparatus. Vehicle load limits shall be posted at both entrances to bridges when required.
 - e. Where elevated surfaces designed for emergency vehicle use are adjacent to surfaces which are not designed for such use, barriers, or signs, or both, as approved by the County Fire Warden, shall be installed and maintained.

10. Grades shall not exceed 16%. (CCR T.14, Section 1273.03)
11. Driveway Gate Entrances (CCR T.14, Section 1273.11)
 - a. Gate entrances shall be at least (2) two feet wider than the traffic lanes serving that gate and a minimum width of 14 feet unobstructed horizontal clearance and unobstructed vertical clearance of 15 feet.
 - b. Gates shall be set back a minimum of 30 feet from the edge of pavement of the adjacent roadway.
 - c. Gates shall not be installed without prior approval and shall have an approved means of emergency operation. Any gate and emergency operation of that gate shall be maintained at all times.

6.14 EMERGENCY FIRE ESCAPE ROAD (EFER) STANDARDS

Scope:

The following construction standards shall apply to the creation of an emergency fire escape road. The construction standards shall apply only to the emergency fire escape road and not an existing road unless a portion of an existing road becomes part of an emergency fire escape road.

The following standards are minimum standards and may be superseded by the requirements of Chapter 2 of the Development Standards.

6.14.1 Definition:

Emergency Fire Escape Road: A road designed and constructed primarily to provide an alternate route of civilian vehicular egress, in the event of a wildfire, from an area accessed by only one ingress/egress road, and that the area served by the one ingress/egress road exceeds the minimum dead-end road length as indicated in Section 6.11.

6.14.2 Delineation:

Applicant shall submit improvement plans indicating the proposed location and placement of the emergency fire escape road to the Shasta County Fire Department and the Department of Public Works.

6.14.3 Location and Placement:

The County Fire Warden and the Director of the Department of Public Works shall determine the final location and placement of emergency fire escape roads. Emergency fire escape roads shall be located in relationship to topography, fuel types and fuel density in the project area, and serviceability of existing ingress road.

Emergency fire escape roads shall provide a second means of vehicular egress and shall be sufficiently separated from the primary vehicular ingress road to prevent both roadways from being simultaneously obstructed during a wildland fire.

6.14.4 Right of Ways:

Right-of-ways or easements shall be a minimum of 30-feet in width and shall be sufficient to permit construction and maintenance of the required road improvements. Applicant shall acquire and offer rights-of-ways or easements for dedication to the County of Shasta.

6.14.5 Construction Standards:

Emergency fire escape roads shall be either:

- a. Constructed to the standards of a permanent road division emergency fire escape road pursuant to Section 6.14.6 and be maintained by the permanent road division or,
- b. Constructed to the standards of a paved emergency fire escape road pursuant to Section 6.14.7.

6.14.6 Permanent Road Division Emergency Fire Escape Road Construction Standards:

Emergency fire escape roads constructed as a permanent road division emergency fire escape road shall be constructed to the following standards and as shown in Figure FS-8.

6.14.6.1 Road Width:

- a. Minimum driving surface of two 10-foot traffic lanes. These traffic lanes shall provide for two-way traffic flow to support emergency vehicle and civilian egress. (CCR T.14, Section 1273.01)
- b. A vegetative clear zone shall be created on each of the road by removing vegetation smaller than 6-inches in diameter a minimum of 4 feet beyond the edge of the road.
- c. Shoulders – One (1) foot wide on each side of roadway.

6.14.6.2 Roadway Surface:

Shall be 20-foot wide.

Roadways shall be designed and maintained to support the imposed load of fire apparatus weighing at least 75,000 pounds and provide an aggregate base. Project proponent shall provide engineering specifications to support design, if requested by the local authority having jurisdiction. (CCR T.14, Section 1273.02)

6.14.6.3 Vertical Clearance:

Vertical clearance shall not be less than 15 feet unobstructed.
(CCR T.14, Section 1273.10)

6.14.6.4 Grades:

Grades shall not exceed 16%. (CCR T.14, Section 1273.03)

6.14.6.5 Roadway Radius: (CCR T.14, Section 1273.04)

- a. Horizontal curves shall have an inside radius of not less than 50 feet.
- b. Curves having an inside radius of 50-100 feet shall have a minimum surfacing width of 22 feet.
- c. Curves having an inside radius of 100-200 feet shall have a minimum surfacing width of 20 feet.

6.14.6.6 Vertical Curvature:

The length of vertical curves in roadways, exclusive of gutters, ditches, and drainage structures designed to hold or divert water, shall be not less than 100 feet.
(CCR T.14, Section 1273.04)

6.14.6.7 Roadway Structures (Bridges and Culverts): (CCR T.14, Section 1273.07)

- a. Where a bridge or an elevated surface is part of a fire apparatus access road, the bridge shall be constructed and maintained in accordance with the American Association of State and Highway Transportation Officials Standard Specifications for Highway Bridges, 17th Edition, published 2002 (known as AASHTO HL-93).

- b. Bridges and elevated surfaces shall be designed for a live load sufficient to carry the imposed loads of fire apparatus. Vehicle load limits shall be posted at both entrances to bridges when required.
- c. Where elevated surfaces designed for emergency vehicle use are adjacent to surfaces which are not designed for such use, barriers, or signs, or both, as approved by the County Fire Warden, shall be installed and maintained.

6.14.6.8 Gate Entrances:

Gates may be installed in areas so that an emergency fire escape road not provide through access on a continual basis.

- a. Gate entrances shall be at least two (2) feet wider than the width of the traffic lane(s) serving that gate. (CCR T.14, Section 1273.11)
- b. Gates shall be designed to open without the use of a key, tools, or any special knowledge or effort. Gates shall not be locked together rendering the "break away" gate post inoperable.
- c. Gates shall not be locked or rendered unusable by using chains, bolts, and latches or barricaded unless approved and installed per Figure FS-4.
- d. EFER gate location/placement shall be approved by the County Fire Warden.

6.14.6.9 Identification:

- a. Signs shall be constructed and installed adjacent to the beginning of the emergency fire escape road as shown in Figure FS-9.
- b. Road reflectors shall be utilized as deemed appropriate by the County Fire Warden and the Director of Public Works.

6.14.7 Paved Emergency Fire Escape Road Construction Standards:

Emergency fire escape roads constructed as paved emergency fire escape roads shall be constructed to the same standards in accordance with Section 6.14.6 as a permanent road division emergency fire escape road, except that the aggregate base shall be surfaced with 0.17' X 20' of asphalt concrete as shown in Figure FS-8.

6.14.8 Roadway Structures (Bridges and Culverts): (CCR T.14, Section 1273.07)

- a. All road, street, and private lane roadway structures shall be constructed to carry at least the maximum load and provide the minimum vertical clearance as required by Vehicle Code Sections 35250, 35550, and 35750.**
- b. Appropriate signing, including but not limited to weight or vertical clearance limitations, shall reflect the capability of each bridge.**
- c. Where a bridge or an elevated surface is part of a fire apparatus access road, the bridge shall be constructed and maintained in accordance with the American Association of State and Highway Transportation Officials Standard Specifications for Highway Bridges, 17th Edition, published 2002 (known as AASHTO HL-93).**
- d. Bridges and elevated surfaces shall be designed for a live load sufficient to carry the imposed loads of fire apparatus. Vehicle load limits shall be posted at both entrances to bridges when required.**
- e. Where elevated surfaces designed for emergency vehicle use are adjacent to surfaces which are not designed for such use, barriers, or signs, or both, as approved by the County Fire Warden, shall be installed and maintained.**

6.2 STREET SIGNS AND BUILDING NUMBERING

6.21 ADDRESS FOR BUILDINGS

- a. Every building or structure, except accessory buildings shall be permanently posted with a street address marker located with respect to the nearest public highway, street or road servicing such building or structure so as to be clearly visible and legible at all times from the roadway. Each dwelling unit shall be separately identified. (CCR T.14, Section 1274.08 / Section 1274.10)
- b. These numbers shall contrast with their background and addresses shall be Arabic numbers or alphabetic numbers. Numbers shall be a minimum of four (4) inches high, with a minimum stroke width of 0.5-inch reflectorized, contrasting with the background color of the sign. (CCR T.14, Section 1274.09)
- c. Each building, except accessory buildings, shall have a permanently posted address which shall be posted at the intersection of the driveway and the road. Addresses shall be visible from both directions of travel. Where multiple addresses are required at a single driveway, they shall be mounted on single post. (CCR T.14, Section 1274.10)
- d. Address signs along one-way roads shall be visible from both the direction of travel, and the opposite direction. Where access is by means of a private road and the address cannot be viewed from the public way, a monument, pole or other sign or means shall be used to identify the address. (CCR T.14, Section 1274.09 / 1274.10)
- e. Address posting shall be maintained. (CCR T.14, Section 1274.10)
- f. Addresses shall be posted at the beginning of construction and shall be maintained thereafter and the address shall be visible and legible from the road on which the address is located. (CCR T.14, Section 1274.10)
- g. Where a roadway provides access solely to a single commercial or industrial business, the address sign shall be placed at the nearest road intersection providing access to that site. (CCR T.14, Section 1274.10)

6.22 STREET IDENTIFICATION SIGNING

- a. Newly constructed or approved public and private roads shall be identified by a name or number that is non-duplicating and consistent with the Shasta County road naming system. (CCR T.14, Section 1274.04)

- b. Signs identifying roads, streets, and private lanes shall be placed at the intersection of those roads, streets and/or private lanes and shall be clearly visible from both directions of travel for a distance of at least 100 feet. (CCR T.14, Sections 1274.02 / 1274.05)
- c. Letters and numbers for street and road signs shall be a minimum of 4-inch letter height, 0.5-inch stroke reflectorized, and contrasting with the background color of the sign. (CCR T.14, Section 1274.01)
- d. Road, street, and private lane signs required by this article shall be installed prior to final acceptance by the local jurisdiction of road improvements. (CCR T.14, Section 1274.07)

6.23 STREET LIMITATION SIGNING

- a. Newly constructed and approved public and private roads shall be provided with signs identifying any access limitations such as weight limitation, vertical clearance, dead-end road, one-way road, single-lane condition, and other similar limitations. (CCR T.14, Section 1274.06)
- b. Limitations shall be clearly posted at two locations:
 - 1. the intersection preceding the traffic limitation
 - 2. at a location not more than 100 feet before the actual area of traffic limitation (CCR T.14, Section 1274.06)
- c. Letters and numbers for street and road signs shall be a minimum of 4-inch letter height, 0.5-inch stroke reflectorized, and contrasting with the background color of the sign. (CCR T.14, Section 1274.01)
- d. Road, street, and private lane signs required by this article shall be installed prior to final acceptance by the local jurisdiction of road improvements. (CCR T.14, Section 1274.07)

6.3 FIRE PROTECTION WATER STANDARDS

With A Central Water System

- a. The standards in this section apply to new developments within the boundaries of a public or private water service jurisdiction having a pressurized water system that contains water mains that are six inches in diameter or larger in size. The standards in Section 6.31 (c) will not be applied by Shasta County to permit applications for single-family residences on parcels that were created prior to January 1, 1989.
- b. For land divisions, the required water system, including hydrants, must be installed and in service or bonded for prior to recording the map.
- c. For use permits, building permits and other developments, the required water system must be installed and in service prior to the foundation inspection by the Shasta County Building Division.
- d. For single family residential construction, mobile home installation permit or for a building permit for substantial improvements to any such structures as defined by Section 5.01.080 of the Shasta County Ordinance Code, an approved fire hydrant shall be installed at an approved location on water mains four inches or larger in size within 750 feet of the parcel or, the applicant shall contribute to the fire hydrant fund.

6.31 FIRE FLOW AND HYDRANT SPACING

- a. New water facilities shall provide the following flow requirements in addition to the average daily demand.
- b. Proof of the ability to comply with the fire flow requirements shall be submitted with the application for development. Proof may consist of a letter of certification from the responsible water supply entity.
- c. See below:

	Land Use	Min. Flow	Min. Flow w/Sprinklers	Maximum Hydrant Spacing	Maximum Driving Distance *
1.	Single-family residential lots larger than one acre in size***	500 gpm	N/A	750'	750'
2.	Single-family residential lots, one-half to one acre in size.	750 gpm****	N/A	500'	300'
3.	Single-family residential lots, less than one-half acre in size and mobile home parks	1000 gpm****	N/A	500'	300'
4.	Multiple residential, 3-8 units per acre, one story, neighborhood business (C-1 Zone District)	1500 gpm	1000 gpm	500'	300'
5.	Multiple residential, 9 or more units per acre; one and two stories; commercial or industrial buildings not to exceed 10,000 square feet **	2000 gpm	1250 gpm	300'	200'
6.	Multiple residential, 3 stories or higher; commercial or industrial buildings over 10,000 square feet**	2500 gpm	1500 gpm	300'	200'

See next page for asterisked items.

- * **Maximum Driving Distance from Hydrant to Building**
 - ** For specific projects or occupancies, greater fire flows may be required.
 - *** For land divisions creating large lots, a maximum of one hydrant per proposed building site shall be required.
 - **** Fire flows of not less than 500 gpm will be acceptable if the responsible water supply entity is implementing an adopted capital improvement plan to upgrade the water system to provide the needed fire flows. Plans shall be approved by the County Fire Warden.
- d. Fire flows and hydrant spacing for new developments utilizing the planned development zone district, density averaging or clustering will be based upon the actual density created by the clustering.
 - e. In order to qualify for the sprinkler fire flow reduction, a building must be completely protected by an automatic sprinkler system installed in accordance with NFPA 13 and the latest edition of the California Building Code Standards. Approved backflow prevention device(s) may be required by the responsible water supply entity.
 - f. If the fire flows listed above are greater than those required by the Insurance Services Office Guide for Determination of Needed Fire Flow, the lesser fire flow shall be allowed for the development. However, system design may be required to meet higher fire flow requirements for future development or expansion.
 - g. On residential and commercial projects where minimum fire flow or hydrant size or spacing cannot be achieved, the Fire Warden may, where reasonable fire protection can otherwise be supplied, approve reduced fire flows, hydrant size or increase spacing if alternate facilities or construction methods can be provided to assure reasonable fire protection.

6.32 DURATION

The minimum fire flow requirements detailed in Section 6.31 above shall be sustained for a period of at least two hours.

6.33 PRESSURE

The water supply system shall be designed to maintain normal operating pressures of not less than 20 psig at the required fire flow. Static pressure at the hydrant should not exceed 150 psig.

6.34 WATER LINE SIZE AND DESIGN

The distribution system shall be of adequate size and so designed, in conjunction with related facilities, to maintain the minimum fire flow and pressure required. Minimum pipe size for new water lines that supply or may be anticipated to supply fire hydrants shall be not less than six inches in diameter. Water line materials shall be approved by the responsible water supply entity.

6.35 LOCATION

- a. Fire hydrants shall be attached to the distribution system at locations approved by the responsible fire protection agency and water supply entity providing service.
- b. Fire hydrants should be located not closer than 50' to the building being protected unless a second hydrant is available as approved by the responsible fire department. (CCR T.14, Section 1275.15)
- c. Fire hydrants installed after January 1, 1992, shall be located at a turnout or turnaround along the road or driveway so that fire apparatus using the hydrant will not block the roadway. (CCR T.14, Section 1275.15)
- d. Turnouts shall be constructed in accordance with Figure FS-4. An exception to the turnout may be granted by the County Fire Warden when fire hydrants are located at intersections. (CCR T.14, Section 1273.06 / 1275.15)

6.36 MATERIALS AND HYDRANTS

- a. Six inch fire hydrants shall conform to A.W.W.A. standards with one 4 ½" and two 2 ½" NST connections. All fire hydrants shall be a dry barrel type. Each hydrant shall be fitted with a 5 ¼" main valve opening and installed per Figure FS-2.
- b. Fire hydrants shall be:
 1. Mueller Centurion A-423
 2. Kennedy Guardian K-81A
 3. Waterous Pacer WB-67
with oil reservoir
bronze seat ring
weather shield and one piece bronze nut
mechanical attached nozzles
 4. or equivalent, as approved by the respective water service and fire protection agency.

- c. Each hydrant gate valve shall be supplied with an 8" valve box with metal cover, set to finish grade and installed to allow operation of gate valve per Figure FS-2.
- d. All hydrants, valves, fittings, pipe, and installation shall be approved by the responsible fire protection agency and water supply entity providing service.
- e. Protective barriers shall be provided when required by the respective fire department or water supply entity and shall be installed per Figure FS-3.

6.37 HYDRANT INSTALLATION

- a. Fire hydrants shall be installed in accordance with Figure FS-2 and items 1 through 6 of Figure FS-1.
- b. Hydrant installations are to be inspected in a timely manner by the responsible water supply entity or fire agency prior to burial.

6.38 HYDRANT MAINTENANCE AND MARKING

- a. It is essential that hydrants be in operable condition when they are needed; therefore, hydrant maintenance is an important part of these standards.

It is recommended that water and fire districts enter into an agreement to specify which maintenance tasks will be the responsibility of each respective district.

- b. A written record of hydrant inspections and maintenance should be maintained.
- c. The following hydrant maintenance schedule is recommended:

2 year intervals

- paint hydrant - taking care that paint does not interfere with valve stem operation or cap removal

1 year interval

- flush and flow-test hydrant

6 month interval

- check for leaks in valves and repair
- operate and check street valve
- lubricate valve stem
- lubricate threads on outlets and caps

- d. **Marking – public hydrant barrels should be painted chrome yellow in color; private hydrant barrels should be painted red in color.**
- e. **Hydrants installed after January 1, 1992, shall be identified by reflectorized blue markers. (CCR T.14, Section 1275.20)**
 - 1. **On paved roadways located below 2,000 foot elevation, reflectorized blue markers shall be installed in accordance with the State Fire Marshal's Guidelines for Fire Hydrant Markings along State Highways and Freeways, May 1988. See Figure FS-7;**

or

- Hydrants shall be identified by a reflectorized blue dot (minimum (3) three inch diameter) mounted on a metal post located within three (3) feet of the hydrant. The blue dot shall be three (3) feet to five (5) feet above ground level and clearly visible from the road/driveway. (CCR T.14, Section 1275.20)**
- 2. **Along paved roads located at or above the 2,000 foot elevation, and along unpaved roads or driveways, hydrants shall be identified by a reflectorized blue marker on a metal post as specified above. (CCR T.14, Section 1275.20)**
- f. **Flammable vegetation shall be cleared within eight (8) feet of fire hydrants. (CCR T.14, Section 1275.15)**
- g. **Landscaping over four (4) inches in height shall not be permitted within eight (8) feet of fire hydrants.**
- h. **Fences, structures, obstructions, and hydrant protection posts shall not be permitted within three (3) feet of fire hydrants.**

6.4 FIRE PROTECTION WATER STANDARDS

No Central Water System

The following standards shall apply for new developments within areas without a central water distribution facility (either public or private) as described in Section 6.3a.

6.41 DEVELOPMENT WITHING A WATER AGENCY SPHERE OF INFLUENCE

Developments within the sphere of influence of a public water agency or adjacent to a private water system (as described in Section 6.3) may be required to connect to the water system and to meet the requirements of Section 6.3. The respective Fire District and water supply entity shall make recommendations to the Planning Commission or other appropriate board as to whether or not connection to the water system should be required.

6.42 RESIDENTIAL REQUIREMENTS

- a. Each project shall be analyzed for individual requirements by the responsible fire department. Single-family residences outside the boundaries of a public or private water system will normally have water supplied by a fire department water tender. (CCR T.14, Section 1275.10).
- b. Land divisions that create parcels less than two acres in size shall construct a central water system meeting the requirements listed in Section 6.3.
- c. Land divisions that create parcels less than five acres in size shall be located within five road miles of a fire station. Said fire station shall be recognized by the County Fire Warden as being capable of providing fire protection services to the lots being created.
- d. If usable and reliable water supplies exist on site, the responsible fire department may require access to such supplies. Access may be either an all-weather road for direct drafting or a gravity flow minimum 3" feeder line with 2 ½" NST gated valve outlet. Examples of water supplies are swimming pools, ponds, lakes, creeks, streams, irrigation ditches, etc.

6.43 FIRE FLOW - COMMERCIAL

- a. Commercial, industrial, multiple residential (4 units or more) and public assemblies shall develop a private water system that meets the Insurance Services Office Schedule for Needed Fire Flow, June 1980 Edition;

or

Shall participate in a public entity that has plans for developing a water system to provide the needed fire flows. Said plans shall be approved by the County Fire Warden or his representative.

- b. On projects where minimum fire flow, hydrant size or spacing cannot be achieved, the Fire Warden may, where reasonable fire protection can otherwise be supplied, approve reduced fire flows, hydrant size or increase spacing if alternate facilities or construction methods can be provided to assure reasonable fire protection.

6.5 BUILDING CONSTRUCTION STANDARDS

6.51 BUILDING SETBACKS

All buildings and accessory buildings constructed on parcels one acre or larger in size shall be setback a minimum of thirty (30) feet from all property lines and road easements. (CCR T.14, Section 1276.01)

6.52 ROOFING

Roofing materials on buildings and accessory buildings constructed within Shasta County shall have a Class "A" or Class "B" fire retardancy rating as specified by California Building Code:

6.53 CHIMNEY

Each structure equipped with a fireplace, stove, or other device that burns any solid or liquid fuel shall provide and maintain a spark arrester over the outlet of the chimney, stovepipe or duct as specified in this section (Public Resources Code 4291).

A spark arrester is defined as a device constructed of nonflammable material, 12 gauge minimum welded or woven wire mesh, with ½ inch openings or cast iron plate, 3/16 inch minimum thickness or other material found satisfactory by the enforcement agency and having ½ inch perforations for arresting burning carbon or sparks installed in such a manner as to be visible for the purposes of inspection and maintenance as required by Title 24, California Administrative Code, Section 2-1217.

6.54 RAFTERS

The spaces between rafters, the wall plate line and the underside of the roof sheathing shall be filled with solid blocking. No more ventilation than the minimum required by California Building Code shall be allowed. All vent spacing's required by California Building Code shall be screened.

6.6 FUEL MODIFICATION

6.61 DISPOSAL OF VEGETATION

Disposal, including chipping, burning or removal to a landfill site approved by the local jurisdiction, of flammable vegetation and fuels removed during or caused by site development and/or construction, road and driveway construction, or fuel modification, shall be completed prior to recording the map for land divisions or final inspection for building permits. Disposal of vegetation by onsite burial is not permitted. (CCR T.14, Section 1276.02)

6.62 GREENBELTS

Subdivisions and other developments, which propose greenbelts such as parks, golf courses, irrigated landscaped areas, playgrounds, parking lots, orchards, etc. as a part of the development plan, shall locate said greenbelts strategically to provide a separation between wildland fuels and structures. The location of greenbelts shall be approved by the County Fire Warden and may be consistent with the CAL FIRE Shasta-Trinity Unit Fire Management Plan. (CCR T.14, Section 1276.03)

6.63 VEGETATION CLEANANCES AROUND STRUCTURES

Combustible vegetation shall be cleared around all structures for a distance of not less than 30 feet on each side; or to the property line. This does not apply to specimen trees or irrigated landscaping that will not transmit fire from the native vegetation to the structure. (Public Resources Code Section 4291)

6.7 FLAMMABLE AND COMBUSTIBLE LIQUIDS

6.71 ABOVEGROUND STORAGE TANKS FOR MOTOR VEHICLE FUEL – DISPENSING STATIONS

- a. Except as provided in Sections 6.72 and 6.73, flammable and combustible liquid storage tanks at motor vehicle fuel-dispensing stations shall be located in accordance with divisions VI and IX of Article 79 of the California Fire Code as adopted by the County of Shasta.
- b. The County Fire Warden and his/her designees may grant approval in writing for the installation of aboveground storage tanks for flammable and/or combustible fuels for motor vehicle fuel-dispensing stations as set forth in Sections 6.72 and 6.73.
- c. Fuel-dispensing stations shall obtain any required permits or clearances from the Shasta County Planning Division.
- d. Prior to operation of a fuel-dispensing station, an approved Hazardous Material Business Plan shall be filed with the Shasta County Division of Environmental Health.
- e. Storage of over 600 gallons requires notification to State Water Resource Control Board.

6.72 VAULTED TANKS OF CONCRETE OR EQUIVALENT

- a. Vaulted tanks may be located at commercial, industrial, governmental, or manufacturing establishments and are only intended for fueling vehicles used in connection with the business.
- b. Class I and Class II liquids (such as diesel and gasoline) may be dispensed into motor vehicles from listed and approved concrete-vaulted tanks or tanks providing equivalent fire protection of not less than two hours on all tank surfaces. Tanks shall have UL Listing Label attached.
- c. Tanks shall not exceed 2,000 gallons individual or aggregate capacity, except for Class II liquids installed in accordance with Section 6.73 and/or exceptions processed in accordance with Section 6.91 through 6.94.
- d. Tanks shall be located a minimum of fifteen (15) feet from all property lines and fifteen (15) feet from any buildings on the same property.
- e. Vaulted Tanks shall be provided with automatic fuel shut-off devices capable of stopping the delivery of fuel when the level in the tank reaches 90 percent of tank capacity.

- f. Warning and identification signs shall be clearly posted on the tank in accordance with the current edition of the California Fire Code. Signs shall identify tank contents and flammability; prohibit smoking and open flames within 25 feet; and require vehicle motors to be stopped when fueling.
- g. Protection posts shall be installed in accordance with Figure FS-3 to safeguard the tank against damage from vehicles.
- h. Dispensing systems shall be in accordance with the current edition of the California Fire Code. Dispensing devices are allowed to be installed on top of vaulted tanks. Antisiphon devices shall be installed at each pipe connection when such piping extends below the top of the tank.
- i. Venting and electrical controls, including emergency pump shut-off switch, shall be in accordance with the current edition of the California Fire Code. A permit shall be obtained from the Building Division for all electrical work.
- j. A fire extinguisher with a minimum 2-A, 20B:C rating shall be provided within 75 feet walking distance of the vaulted tank and dispensing area at a location approved by the fire agency having jurisdiction.
- k. Simultaneous tank filling and fuel dispensing into motor vehicles is prohibited and signs shall be posted to this effect.
- l. The vaulted-tank area and dispensing area shall be graded in such a manner that any fuel spilled will not drain towards buildings or other exposures.

6.73 ABOVEGROUND STORAGE TANKS WITHOUT VAULTS

- a. Aboveground tanks may be located at commercial, industrial, governmental, or manufacturing establishments and are only intended for fueling vehicles used in connection with the business and/or as otherwise permitted by Article 79 of the current edition of the California Fire Code.
- b. Aboveground tanks without vaults may only be located in the following zone districts and/or as otherwise permitted by Article 79 of the current edition of the California Fire Code:
 1. Exclusive Agriculture (EA) District
 2. Timber Production (TP) District
 3. Timberland (TL) District
 4. Mineral Resource (MR) District
 5. Light Industrial (M-L) District
 6. General Industrial (M) District
 7. Public Facilities (PF) District

- c. Only Class II fuels (such as diesel) may be dispensed into motor vehicles from approved or listed aboveground tanks without vaults. Class I fuels (such as gasoline) shall be dispensed from underground tanks special enclosures, or vaulted tanks as specified in Section 6.72 and the current edition of the California Fire Code.
- d. Aboveground tanks shall have a maximum individual capacity of 12,000 gallons and a maximum aggregate capacity of 24,000 gallons.
- e. Tanks shall be located a minimum of:
 - 1. 100 feet from any property line.
 - 2. 50 feet from the nearest side of the edge of a road, not including internal driveways on the parcel.
 - 3. 50 feet from any building on the same property.
 - 4. 50 feet from any fuel dispenser.
- f. Only tanks that are designed, and approved or listed for aboveground storage of Class II combustible liquids shall be used. Underground tanks shall not be installed for aboveground use.
- g. The area surrounding the tank(s) shall be provided with a concrete and/or solid masonry-diked area with a concrete floor. The volumetric capacity of the diked area shall not be less than 115 percent of the amount of Class II fuel stored within the diked area. Walls of diked areas shall not exceed six (6) feet above the interior grade. Walls shall be designed and certified by a licensed engineer to be liquid-tight and to withstand a full hydrostatic head. The concrete floor of the diked area shall slope away from the tanks towards the walls of the dike. Diked areas containing two or more tanks shall be subdivided by channels or intermediate dikes. Provisions shall be made for draining or removing water from diked areas in a manner that will protect the environment and not constitute a hazard. Water removal by a sump and pump is preferred; however, drainage by a valve which is operable from outside the dike is acceptable. Such a valve shall be kept locked in the closed position except when water is being drained from the diked area.
- h. A means shall be provided for determining the liquid level in each tank and this means shall be accessible to the delivery operator. Provisions shall be made either to automatically stop delivery of liquid to the tank when the liquid level in the tank reaches 98 percent of capacity or to sound an audible alarm when the liquid level in the tank reaches 95 percent of capacity.

- i. **Class II liquids shall not be dispensed from the tank by gravity flow or by pressurization of the tank. An antisiphon device shall be installed to prevent the release of fuel by siphon flow. A solenoid valve may be required at the tank outlet when the tank elevation produces a gravity head.**
- j. **If a submersible pump system is used, a listed emergency shut-off valve shall be installed at each dispensing device. If a suction pump-type dispensing device is used, a listed vacuum-activated shut-off valve with a shear section or equivalent-type valve shall be installed directly under each dispensing device.**
- k. **Piping shall be protected from physical damage. Piping subject to external corrosion shall be protected by approved or listed corrosion-resistant materials such as fiberglass reinforced plastic.**
- l. **Tanks shall be protected from unauthorized entry either by chain-link fence at least six (6) feet high around the tank or around the perimeter of the yard area.**
- m. **Diked areas shall be kept free of vegetation and combustible materials.**
- n. **The delivery connection shall be located within the diked area. A check valve and shut-off valve with a quick-connect coupling or a dry-break valve shall be installed at the connection and disconnection location for tank filling.**
- o. **Tanks and dispensing areas shall be clearly posted with warning and identification signs in accordance with the current edition of the California Fire Code.**
- p. **The remote fuel dispensing system shall be protected against physical damage by a six (6) inch high concrete curb or protection posts installed in accordance with Figure FS-3.**
- q. **Venting and electrical controls including the emergency pump shut-off switch shall be in accordance with the current edition of the California Fire Code.**
- r. **A permit shall be obtained from the Building Division for the tank foundations and all electrical work.**
- s. **A fire extinguisher with a minimum 2-A:20-B:C rating shall be provided within 75 feet walking distance of the diked-tank area and the dispensing area at a location approved by the fire agency having jurisdiction.**
- t. **Plans for the motor vehicle fuel dispensing facility and the aboveground tank installation shall be submitted to the County Fire Warden or fire agency having jurisdiction for review and approval prior to any construction.**

6.8 (Reserved for future additions to Standards.)

6.9 POLICIES AND STANDARDS; EXCEPTIONS; APPEALS

6.91 POLICIES AND STANDARDS NOT A LIMITATION

The policies and standards established by this chapter are not a limitation upon the powers of an approving authority to protect public health and safety and to ensure consistency between the projects and all elements of the General Plan, all other applicable laws, policies and standards of Shasta County, and all applicable state and federal laws and standards. The approving authority by 4/5 vote or greater may, with appropriate findings, grant an exception to the design and construction standards for an individual project in order to avoid physical obstructions which are extremely difficult or impossible to remove; to avoid irreparable damage to natural features; and to handle similar situations which are unforeseen by these standards. Exceptions from the generally applicable Standards shall result in the same practical effect of the general standards by meeting the performance criteria listed in Section 6.92. (CCR T.14, Section 1270.07)

6.92 CRITERIA FOR EXCEPTIONS AND APPEALS

- a. The approving authority shall apply the following criteria when granting exceptions or appeals:
 1. Exceptions shall provide defensible space consistent with the "SRA Fire Safe Regulations." (CCR T.14, Section 1270.09)
 2. Exceptions shall provide safe emergency access for fire equipment.
 3. Exceptions shall provide for unobstructed traffic circulation during an emergency.
 4. Exceptions shall provide for safe civilian evacuation during an emergency.
 5. Exceptions shall not cause delays in emergency response or interfere with the ability of emergency personnel to locate an incident.
 6. Exceptions shall provide a sufficient quantity of water for both wildfire and structural fire fighting at a location where it is immediately available to emergency personnel.
 7. Exceptions shall not result in fuel modification that would adversely affect access or defensible space thereby jeopardizing civilian and firefighter safety.

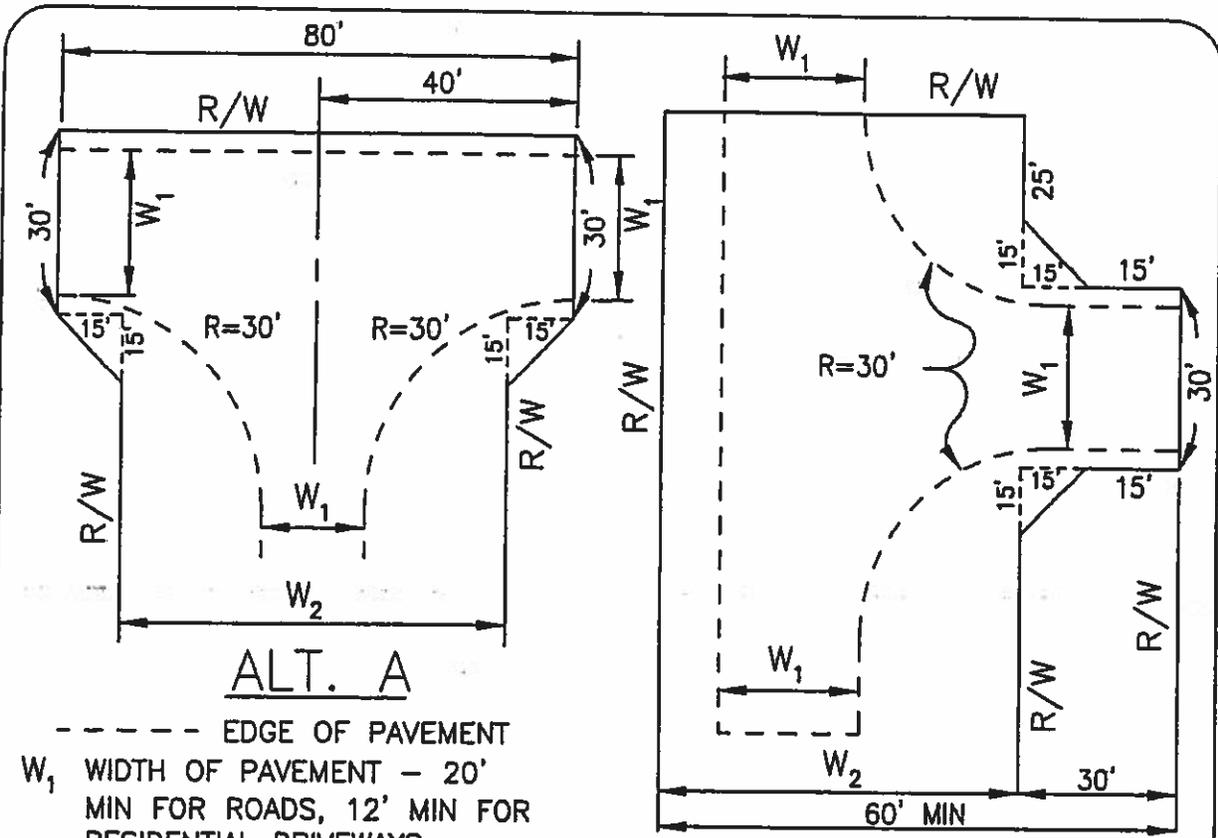
- b. The approving authority shall consider recommendations from the County Fire Warden and/or the fire agency having jurisdiction in the exception or appeals process. The County Fire Warden and/or fire agency having jurisdiction shall provide documentation outlining the effects of the requested exception on fire protection services.
- c. The approving authority shall make a written statement of findings as to the reason for the decision. A copy shall be provided to the applicant and the County Fire Warden.

6.93 EXCEPTIONS

- a. Requests for exceptions shall be made in writing to the County Fire Warden by the applicant or the applicant's authorized representative. Requests shall state the specific section(s) for which an exception is requested, material facts supporting or justifying the exception, and proposed alternative mitigation measures. (CCR T.14, Section 1270.08)
- b. For projects or permits under the jurisdiction of the Planning Division, the County Fire Warden will forward requests for exceptions to the Planning Commission or Board of Administrative Review along with his or her recommendations. The Planning Commission or Board of Administrative Review may grant or deny an exception in accordance with Section 6.92. A request for exception on a project subject to an administrative permit may, at the discretion of the Director of Resource Management, be referred to the County Fire Warden for approval or denial of the exception in accordance with Section 6.92.
- c. For permits under the jurisdiction of the Building Division, the County Fire Warden may grant or deny the exception in accordance with Section 6.92.

6.94 APPEALS (CCR T.14, Section 1270.07)

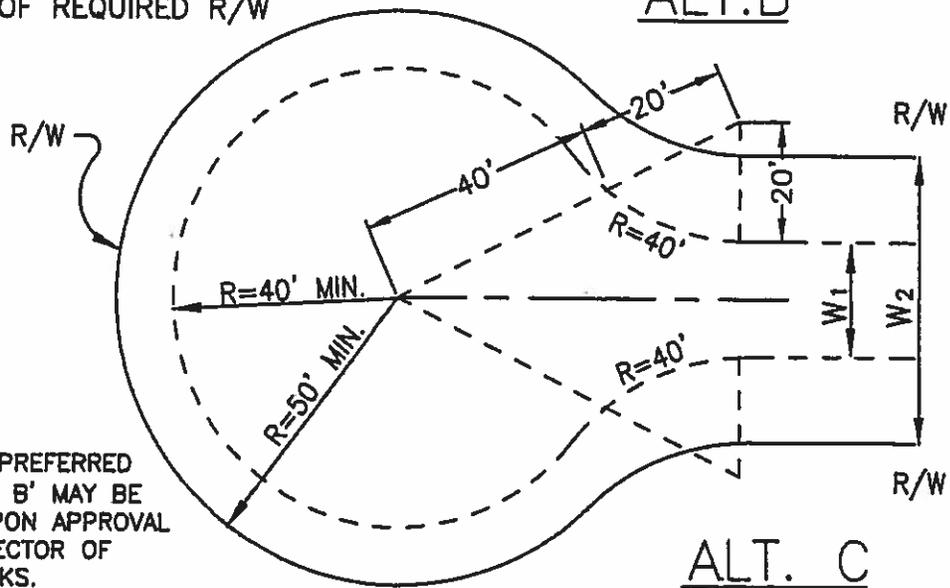
- a. Where an exception is not granted by the approving authority, appeals shall be processed in the manner provided for in the Shasta County Code. Planning Commission or Board of Administrative Review appeals shall be processed in accordance with Section 15.08.140. Building permit appeals shall be processed in accordance with Section 16.04.080.
- b. Upon appeal, the Board of Building Appeals may grant or deny an exception in accordance with Section 6.92.
- c. Upon appeal, the Board of Supervisors may grant or deny an exception in accordance with Section 6.92.



ALT. A

ALT. B

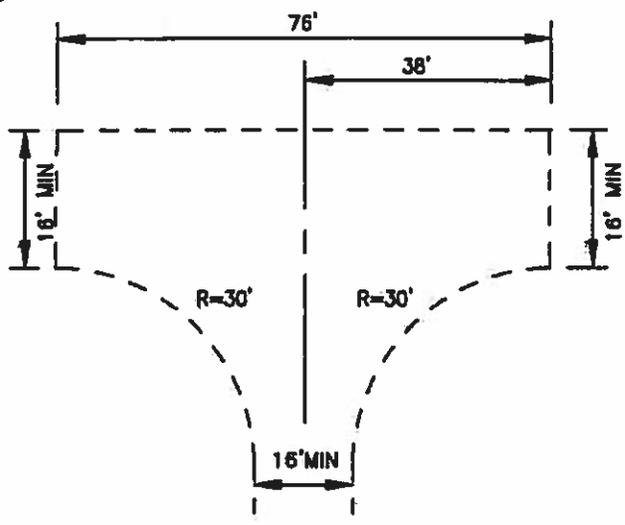
----- EDGE OF PAVEMENT
 W₁ WIDTH OF PAVEMENT - 20' MIN FOR ROADS, 12' MIN FOR RESIDENTIAL DRIVEWAYS
 W₂ WIDTH OF REQUIRED R/W



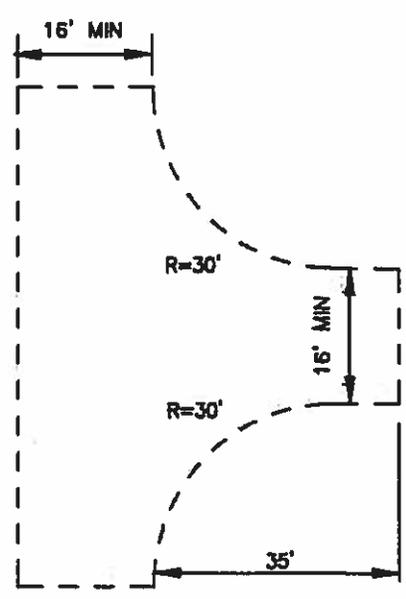
ALT. C

NOTES
 ALT. 'C' IS PREFERRED
 ALT 'A' AND 'B' MAY BE ALLOWED UPON APPROVAL BY THE DIRECTOR OF PUBLIC WORKS.

SCALE: NTS	DATE: 1996	SHASTA COUNTY DEPARTMENT OF PUBLIC WORKS	
DWG No.		APPROVED BY:	<u>TURNAROUND ALTERNATES</u> FOR RURAL GENERAL PLAN DESIGNATIONS
13	DATE: 2015	_____	
Fig 2-40	REVISION	_____	

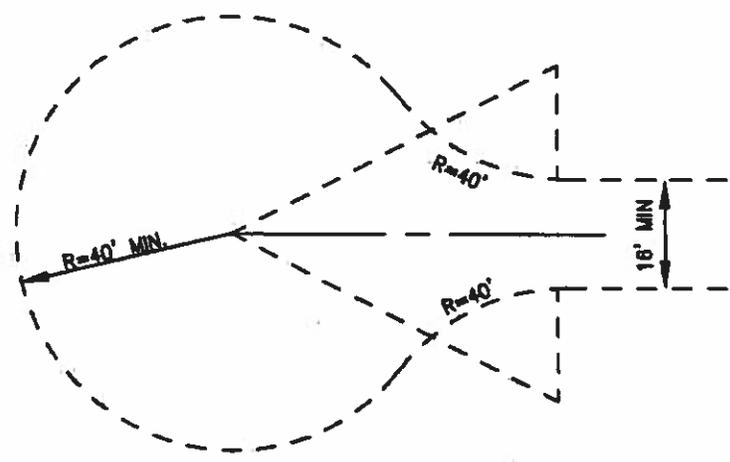


ALT. A



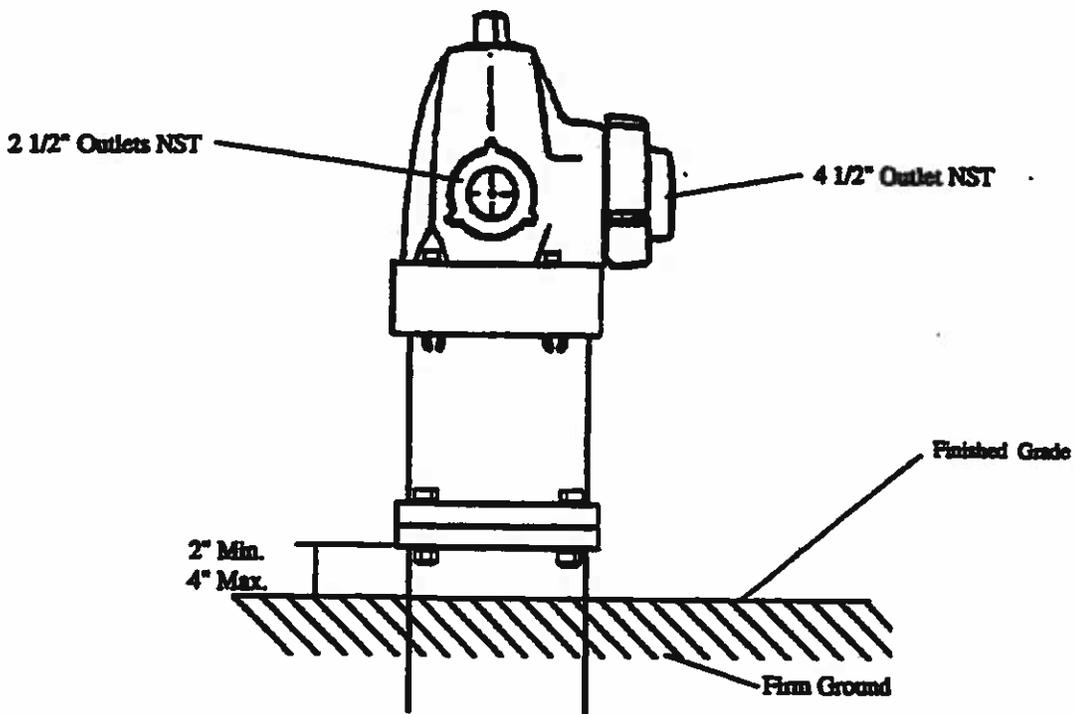
ALT. B

--- BOUNDARY OF CLEARED AND
LEVELED AREA



ALT. C

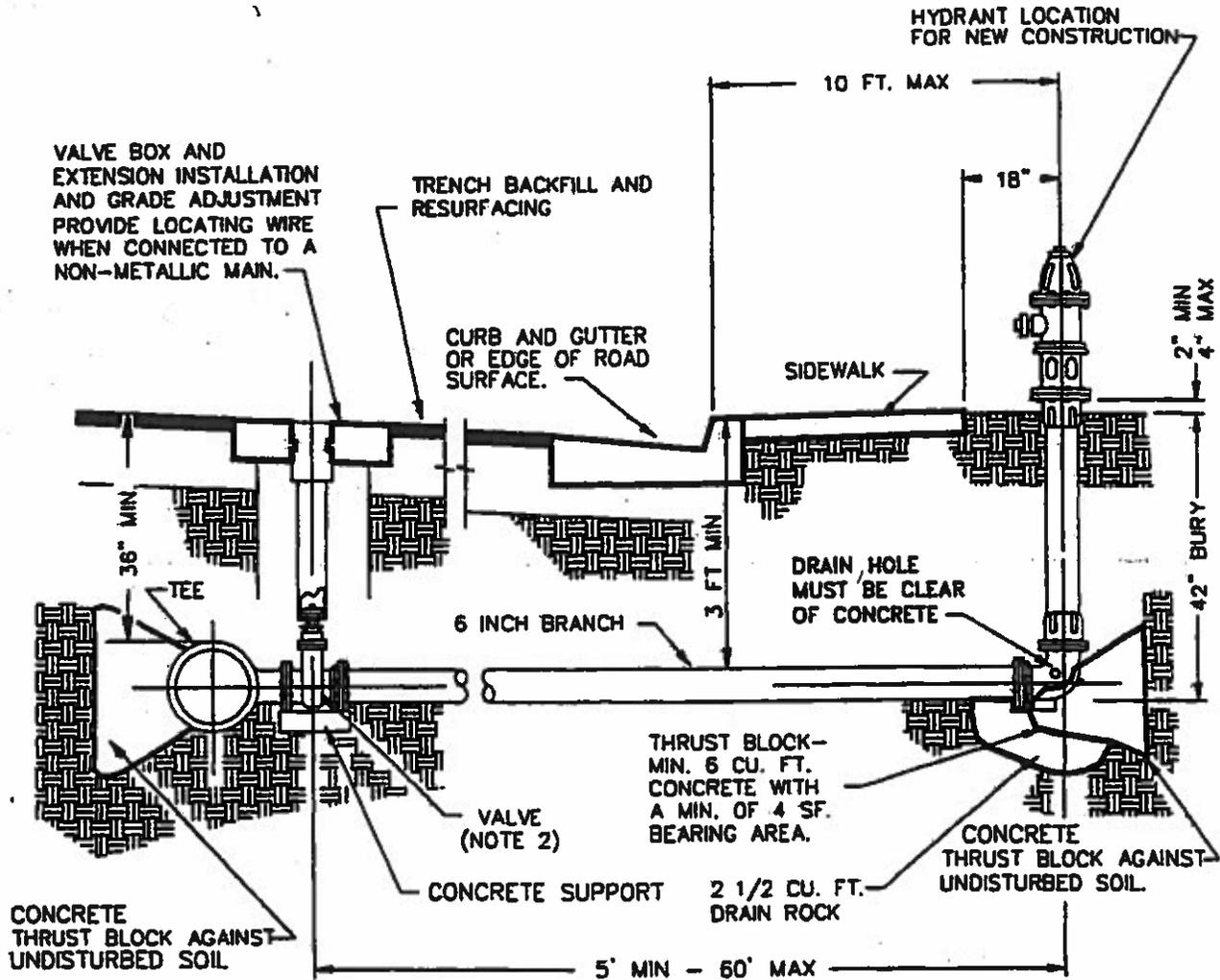
SCALE: NTS	DATE: 1996	SHASTA COUNTY DEPARTMENT OF PUBLIC WORKS	
		APPROVED BY:	MINIMUM FIRE STANDARD TURNAROUND ALTERNATES (FOR RESIDENTIAL DRIVEWAYS OVER 300 FEET IN LENGTH)
Fig 2-42	DATE: 2015 REVISION	_____	



NOTES:

- (1) Each hydrant must be gated between the hydrant and street main.
- (2) Each hydrant shall be placed in such a manner that the 4 1/2 inch outlet faces the street.
- (3) Fire hydrants shall be placed a minimum of 4 feet and maximum of 10 feet from the edge of the road surface or turnout, or as otherwise approved by the respective fire district and water service entity.
- (4) Barrel must be of dry type.
- (5) Hose threads on outlets shall be National Standard dimensions.
- (6) Hydrants shall NOT be less than 18 inches or more than 25 inches above the grade of the roadway or driveway.

<p>STATE OF CALIFORNIA COUNTY OF SHASTA FIRE DEPARTMENT</p> <p>MINIMUM FIRE STANDARD FIRE HYDRANT DRY BARREL TYPE</p> <p style="text-align: right;">Fig. FS-1</p>
--



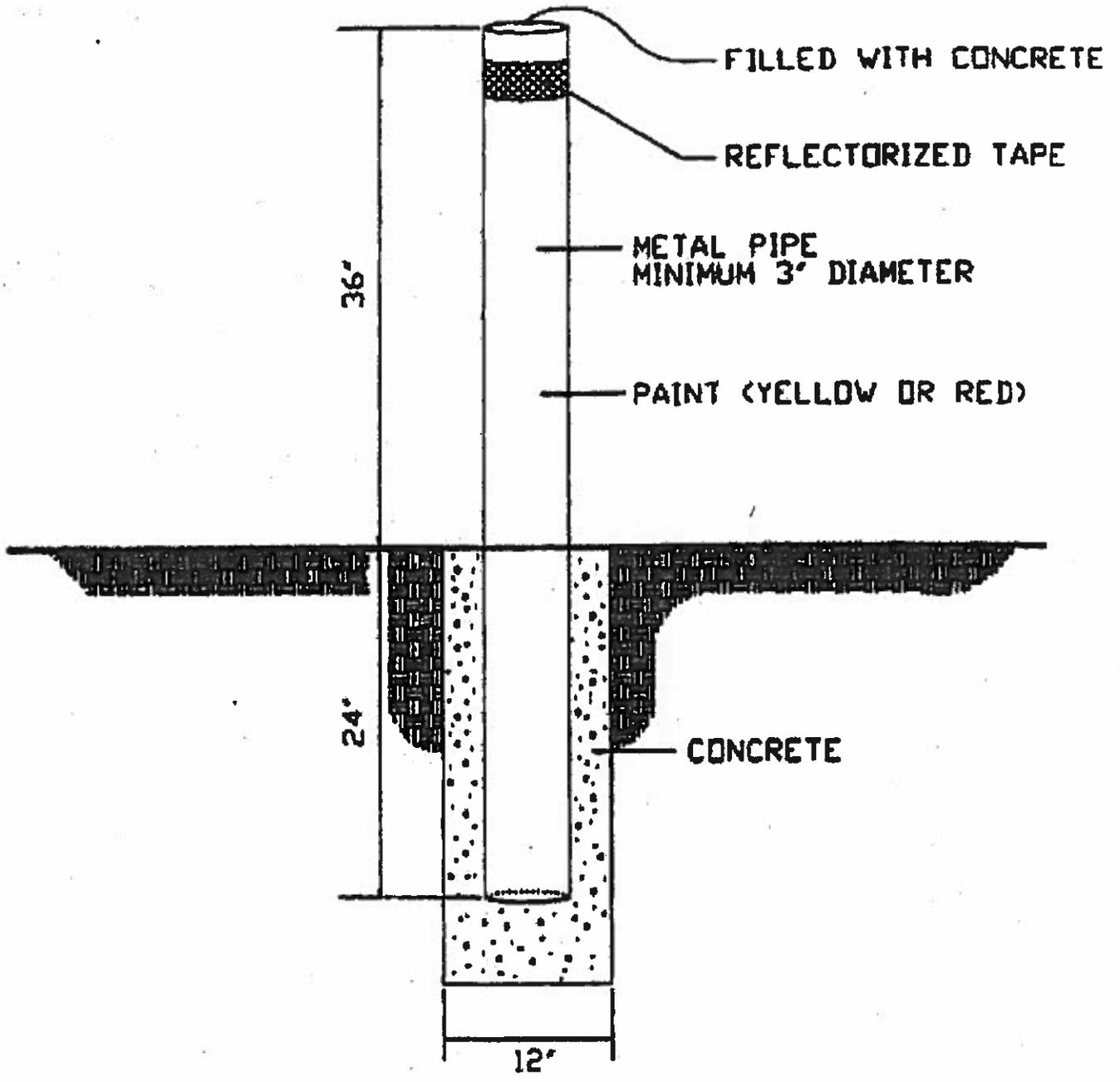
NOTES:

1. ALL CONSTRUCTION SHALL BE INSPECTED BY THE RESPONSIBLE AGENCY PRIOR TO BURIAL.
2. FOR ALLOWABLE FIRE HYDRANTS, VALVES, PIPE AND FITTINGS SEE SECTION 5.36. (GATE VALVE ACCORDING TO A.W.W.A. STANDARDS)
3. HYDRANT BURY DEPTH MAY VARY WITH PRIOR APPROVAL OF THE WATER SERVICE ENTITY.
4. PRIVATE ON-SITE HYDRANT LOCATIONS TO BE APPROVED BY THE FIRE AGENCY HAVING JURISDICTION.

STATE OF CALIFORNIA
 COUNTY OF SHASTA
 FIRE DEPARTMENT

**FIRE HYDRANT
 INSTALLATION**

Fig. FS-2



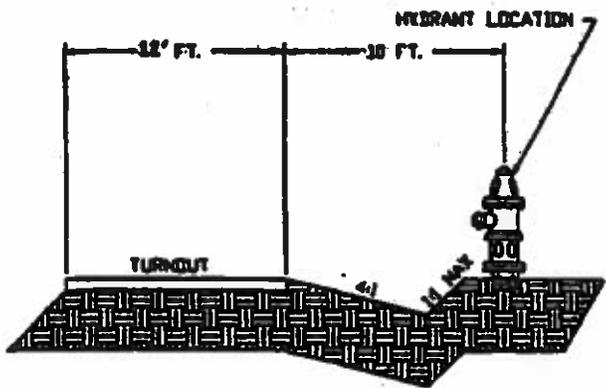
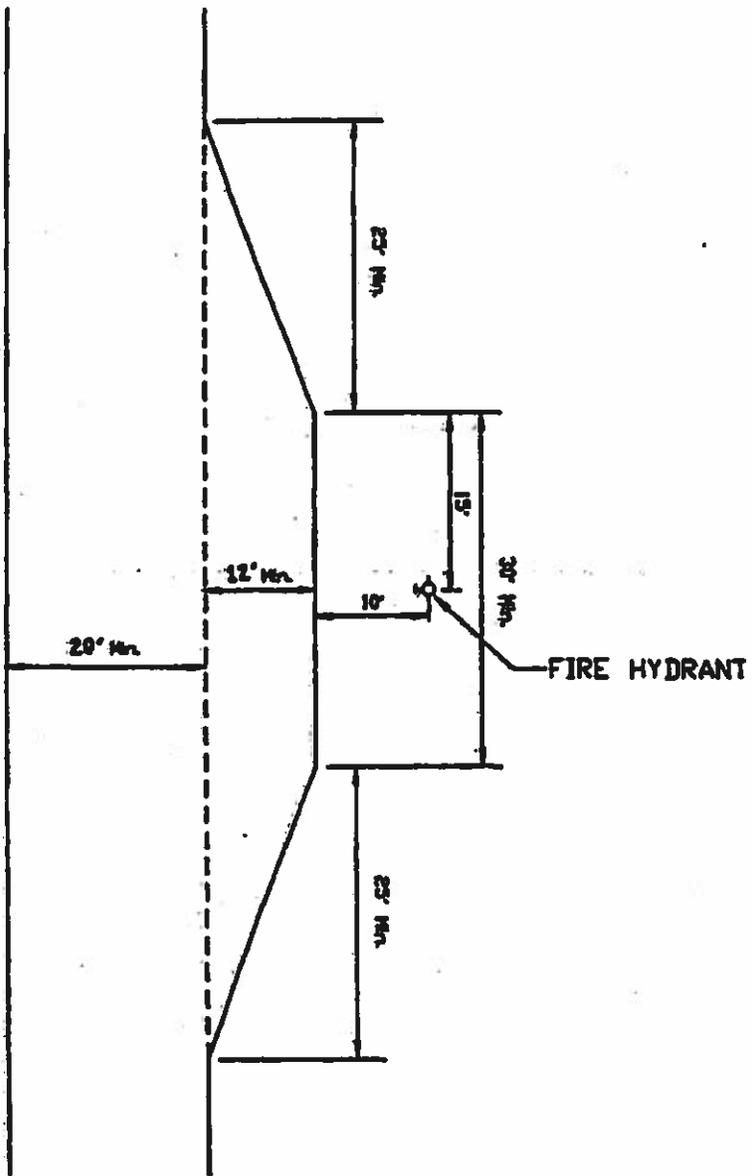
*** NOT FOR USE ON
PUBLIC OR PRIVATE
ROADWAYS

FOR USE ON
PRIVATE PROPERTY
ONLY

STATE OF CALIFORNIA
COUNTY OF SHASTA
FIRE DEPARTMENT

MINIMUM FIRE STANDARD
HYDRANT
PROTECTION POST

Fig. FS-3

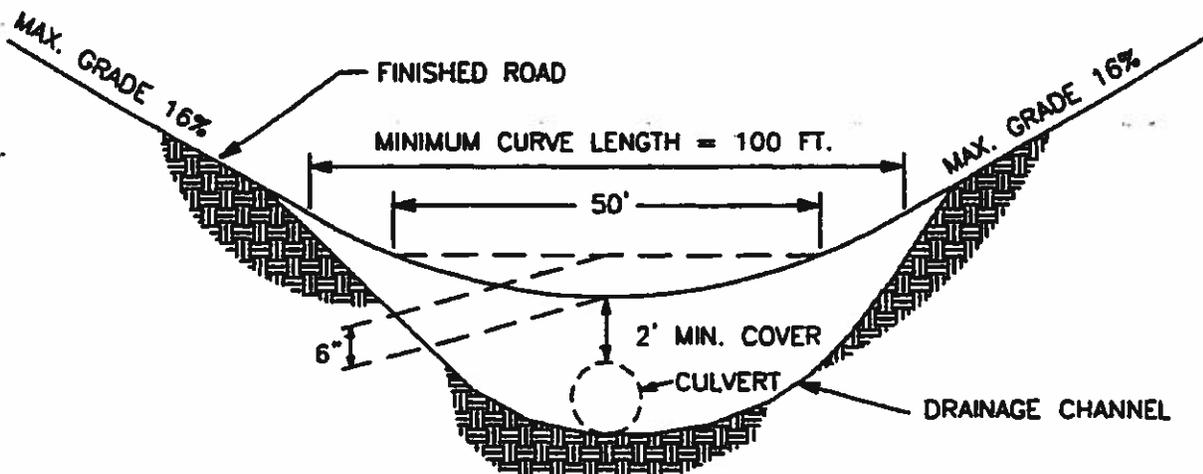
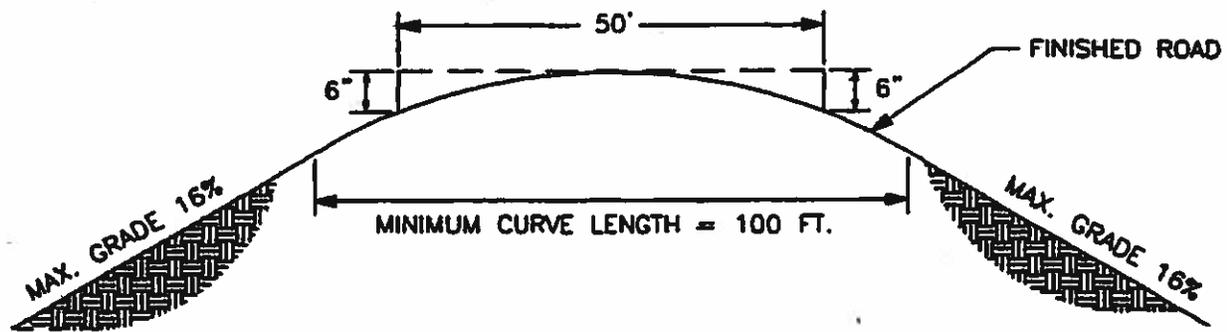


STATE OF CALIFORNIA
 COUNTY OF SHASTA
 FIRE DEPARTMENT

TURNOUT
 FOR FIRE HYDRANTS

Fig. FS-4

*** NOT DRAWN TO SCALE



NOTES:

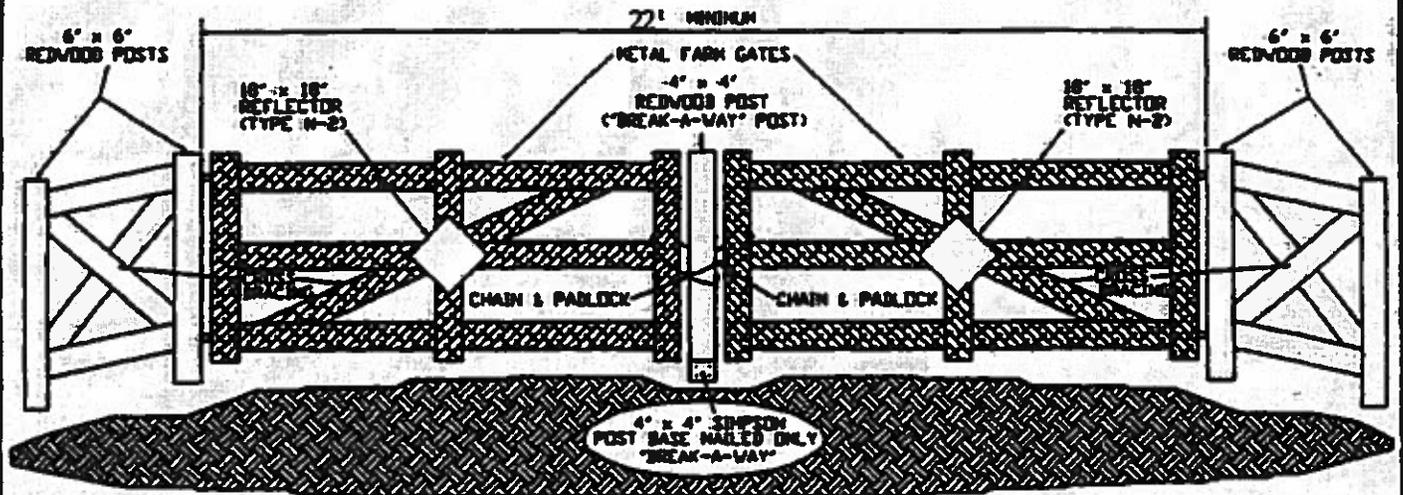
1. Culvert size to be established by a licensed Engineer.
2. Culverts should have a minimum depth of 24" of cover or an amount equal to 1/2 of the diameter of the culvert, whichever is greater.
3. Contact the Shasta County Building Division to determine whether a grading permit is required.
4. Contact the California Department of Fish and Game prior to grading within creeks and drainages.

STATE OF CALIFORNIA
COUNTY OF SHASTA
FIRE DEPARTMENT

TYPICAL VERTICAL CURVES

FOR PRIVATE RESIDENTIAL
DRIVEWAYS

Fig. FS-5



- *** NOTES:
- 1) All exposed surfaces to be painted with 2 coats of white exterior grade paint.
 - 2) Set all posts in 3' of concrete.
 - 3) 2 SEPARATE CHAINS AND PADLOCKS,
ONE SET FOR EACH GATE

STATE OF CALIFORNIA
 COUNTY OF SHASTA
 FIRE DEPARTMENT

BREAK-A-WAY
 GATE ASSEMBLY

Fig. FS-6

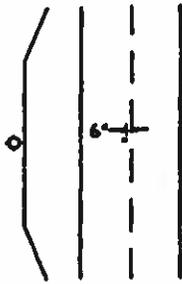


FIGURE 1
TWO LANE STREET

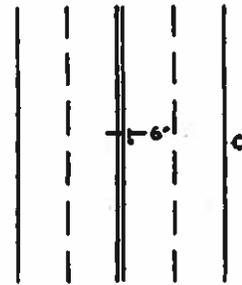


FIGURE 2
MULTI-LANE STREET

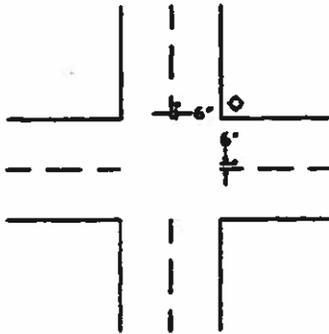


FIGURE 3
AN INTERSECTION

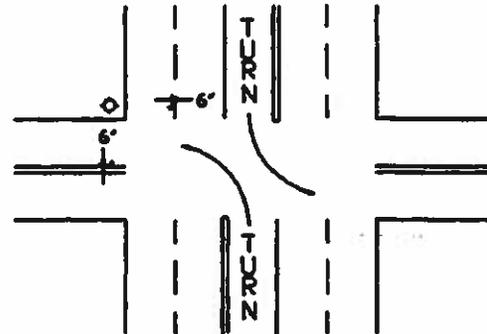


FIGURE 4
FOUR LANE STREET WITH
TURN LANE AT INTERSECTION

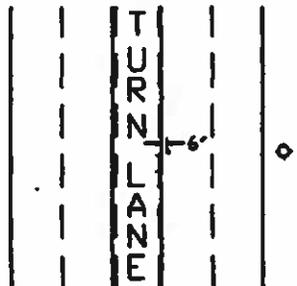


FIGURE 5
MULTI-LANE STREET
WITH TURN LANE

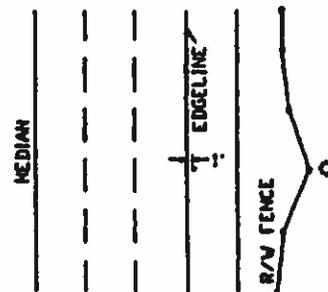


FIGURE 6
FREEWAYS AND EXPRESSWAYS

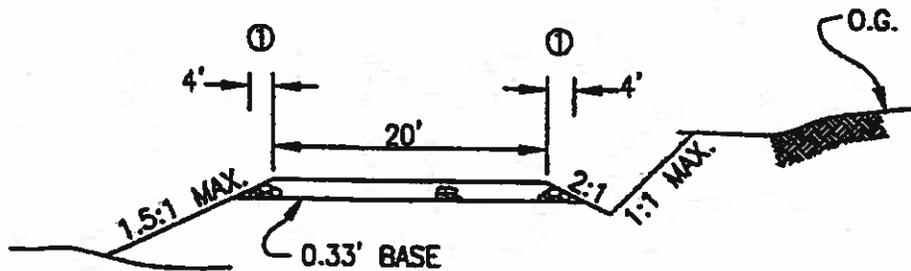
- ◊ = FIRE HYDRANT
- = BLUE PAVEMENT MARKER

JTE: REFLECTIVE SURFACE OF
BLUE DOT TO FACE
DIRECTION OF VEHICLE
TRAVEL

STATE OF CALIFORNIA
COUNTY OF SHASTA
FIRE DEPARTMENT

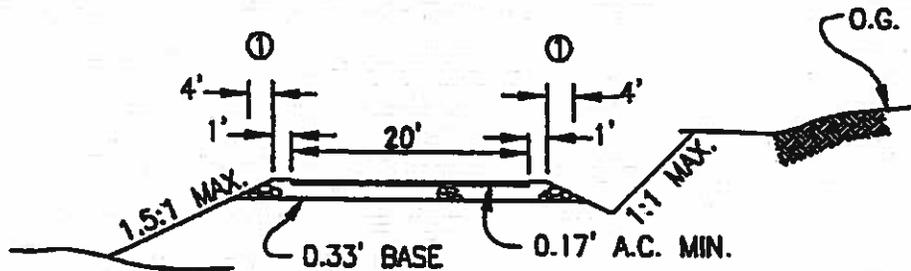
TYPICAL
HYDRANT MARKER
LOCATION

Fig. FS-7



PRD EMERGENCY FIRE ESCAPE ROAD

- ① VEGETATION CLEAR ZONE, REMOVE VEGETATION SMALLER THAN 6-INCH IN DIAMETER A MINIMUM OF 4 FEET BEYOND THE EDGE OF ROAD



PAVED EMERGENCY FIRE ESCAPE ROAD

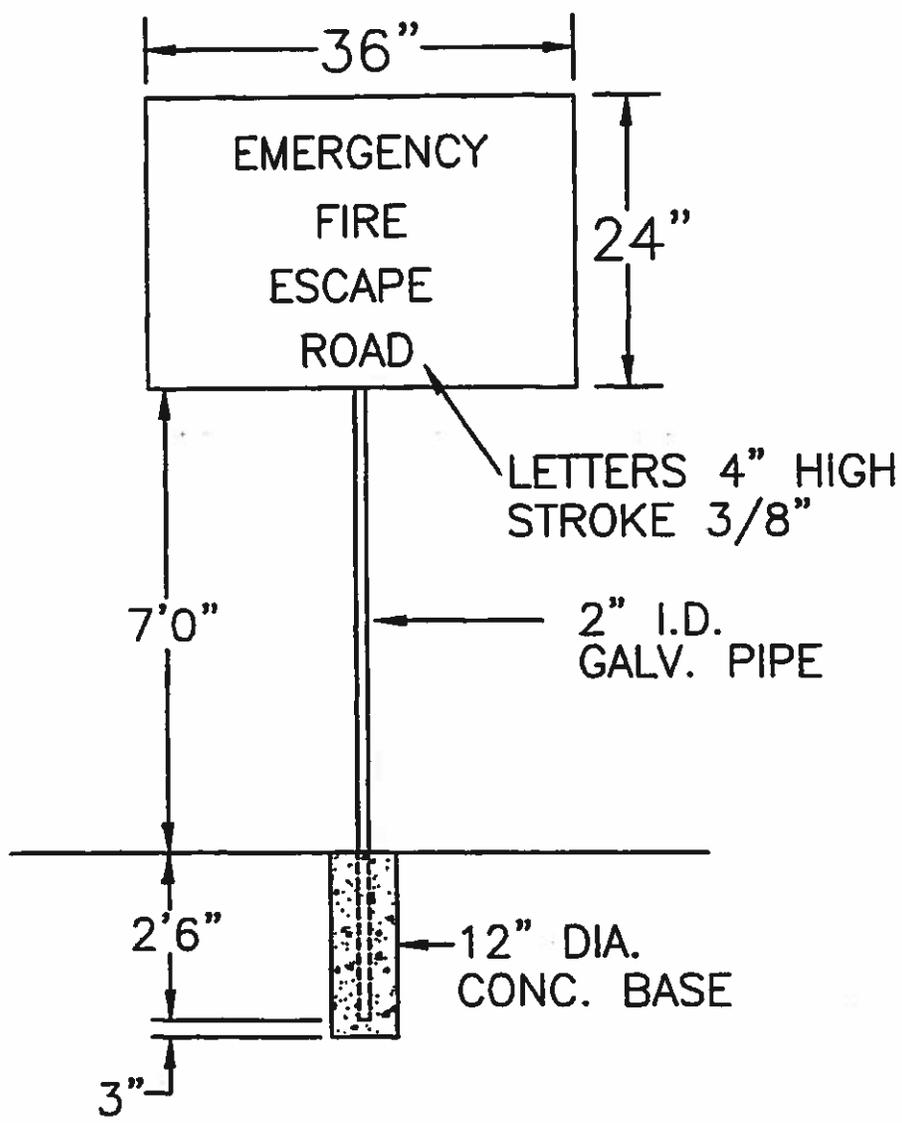
- ① VEGETATION CLEAR ZONE, REMOVE VEGETATION SMALLER THAN 6-INCH IN DIAMETER A MINIMUM OF 4 FEET BEYOND THE EDGE OF ROAD

TYPICAL SECTIONS

SCALE: NTS | DATE: 08-2004 | SHASTA COUNTY DEPARTMENT OF PUBLIC WORKS

TYPICAL SECTIONS
FOR EMERGENCY FIRE ESCAPE ROAD

FS-8



REFLECTIVE WHITE LETTERS ON
REFLECTIVE GREEN BACKGROUND

SCALE: NTS | DATE: 01-2003 | SHASTA COUNTY DEPARTMENT OF PUBLIC WORKS

SIGN
FOR EMERGENCY FIRE ESCAPE ROAD

FS-9