

Fire Safety Workshop

August 18, 2009

Fire Safety Regulations

- Design and Improvement Standards Manual
 - Adopted by County 1986
 - Update of prior Interim Design Manual
- Fire Safe Regulations
 - Adopted by Board of Forestry 1991
 - Part of California Code of Regulations (CCR)
 - EDC version adopted 1993
 - Incorporated parts of DISM and County Code

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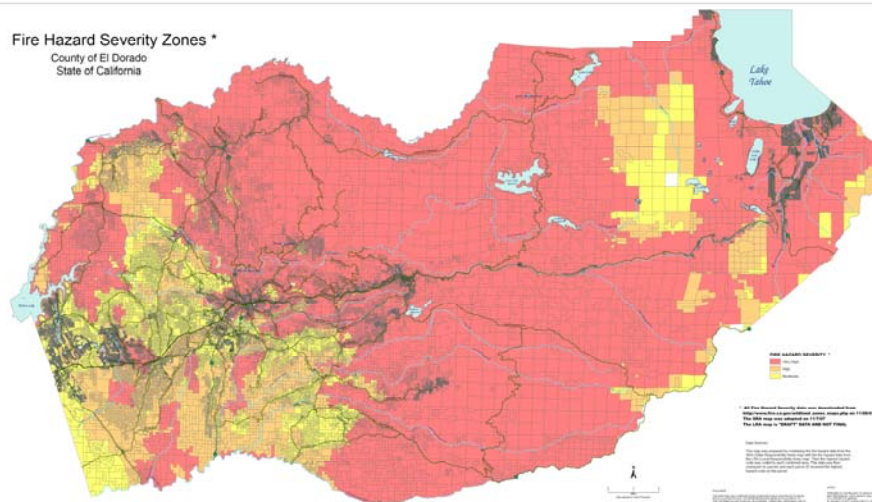
Fire Safety Regulations

- 2007 California Fire Code
 - Adopted by each fire protection district in County
 - Ratified by County Feb. 26, 2008

- 2007 California Building Code
 - Chapter 7A – Wildland-Urban Interface (WUI) Fire Area standards
 - Effective Jan. 1, 2008

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Fire Hazard Severity Zones *
County of El Dorado
State of California



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Applicability

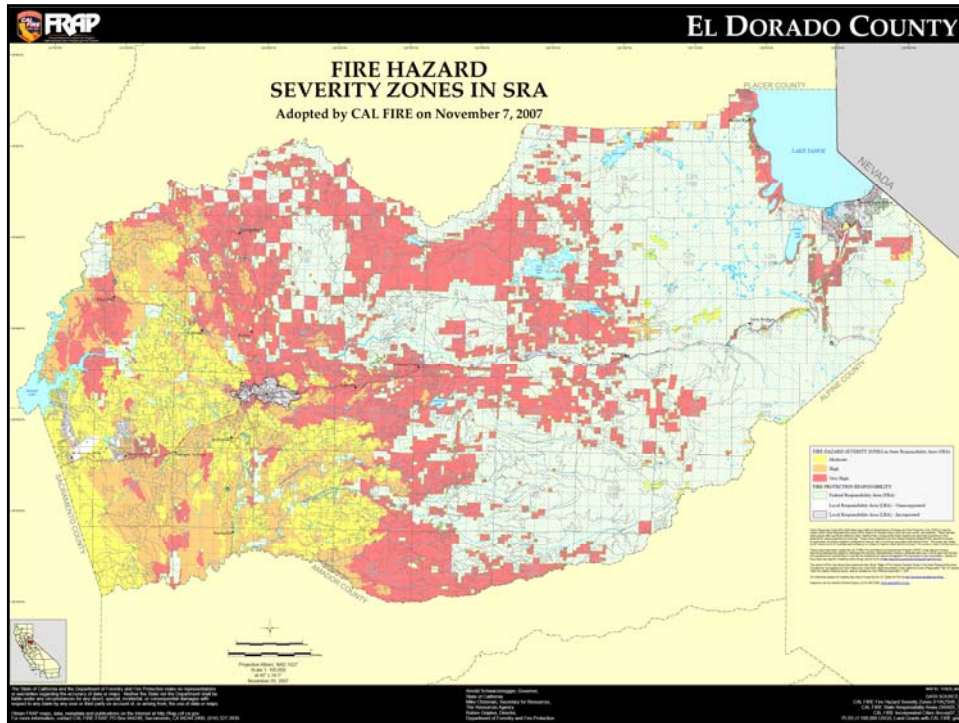
- State Responsibility Area (SRA)
 - Lands where the financial responsibility of preventing and suppressing forest fires is primarily the responsibility of the state.
 - Includes all non-federal land outside of incorporated cities and parts of El Dorado Hills and Cameron Park

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Scope

- Fire Safe Regulations apply to new construction in the SRA approved after January 1, 1991
 - Creation of new parcels (parcel map or subdivision map)
 - Building permit for new construction not relating to an existing structure
 - Use permit or other discretionary application
 - Siting of a manufactured home
 - Construction of a new road or extension of an existing road

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Discretionary Permits (Maps, Use Permits, etc.)

- Access & circulation (on-site and off-site)
 - Road width
 - Surfacing
 - Dead-end road length
 - Turning radii
 - Turnarounds and turnouts
 - Bridges

Discretionary Permits (Maps, Use Permits, etc.)

- Signage
 - Street signs
- Emergency Water
 - Hydrant standards
 - Storage & sprinklers where municipal water unavailable or fire flow not met
- Fuel Modification
 - Greenbelts
 - Defensible space

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Ministerial Permits (Building Permits)

- Access (On-site only)
 - Driveways
 - Gates
- Signs
 - Street signs
 - Building numbering
 - Visibility

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Ministerial Permits (Building permits)

- Emergency Water
 - Fire flow
 - Storage & sprinkler requirements
- Defensible Space
 - Setbacks
 - Fuel modification

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Comparison Table - FSR/CFC/DISM Roads

	Roads			Driveways		Dead End Roads			
	Width	Surface	Grade	Curve Radius	Turnaround	Width	Gates	Maximum Length	Number of Lots Served
FSR	18'	40,000 lbs	16%	50' inside	40' radius at end of all dead ends and driveways	10'	2' wider than travel lane	800-5280' based on size of parcels	N/S
CFC*	20'	75,000 lbs	10%	40' inside 56' outside	At end of all roads 150'+	12'	N/S	N/S	N/S
DISM	19'	Support apparatus	10-15%	100' centerline	40' radius at end of roads serving >4 lots	N/S	N/S	2640'	24

* FPOs utilizing draft Standard Plan RS-68 for standards which specify "to be determined by fire official."

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Comparison Table - Water

	Water supply	
	Fire flow	Storage
FSR	N/S	60,000-180,000 gal. based on number of lots in subdivision
CFC	1000 gpm for 2 hours @ 20 psi for homes ≤3600 sq. ft. (50% reduction if sprinkered)	N/S
DISM	500 gpm for 1-2 units/acre 750 gpm for >2 units/acre	Same as FSR

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Standards for discretionary projects Access

- ❑ 20' minimum travel width for roads serving two or more parcels (CFC)
- ❑ Road grade not to exceed 10% (CFC)
- ❑ Dead-end road length (FSR/DISM)
 - 800' parcels less than an acre
 - 1320' parcels under 5 acres
 - 2640' (1/2 mile) 5 acres or more
 - Maximum number of parcels 24 (DISM/CFC)

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Standards for Discretionary Projects Water

- Public Water required lots less than 4.5 acres (DISM/General Plan)
 - Minimum fire flow 1000 gpm/2 hours
- Storage requirements for rural subdivision (FSR)
 - 60,000 gallons 5-50 lots
 - 120,000 gallons 51-100 lots
 - 180,000 gallons >100 lots

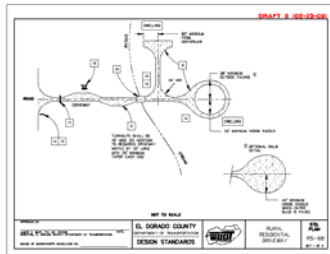
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Standards for Ministerial Projects Access

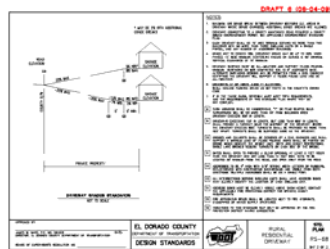
- 12' minimum driveway width (CFC)
- 13' 6" minimum vertical clearance (CFC)
- 40' radius turnaround required at end of all driveways longer than 300', within 50' of building (CFC/FSR)
- Turnout required at midpoint if between 150-800', every 400' if longer than 800' (FSR)

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Draft Standard Plan RS-68



- Currently used by FPOs as standard for driveways in lieu of 20' access road requirement
 - 12' width
 - Turnouts
 - Turn-arounds
 - Driveway grade

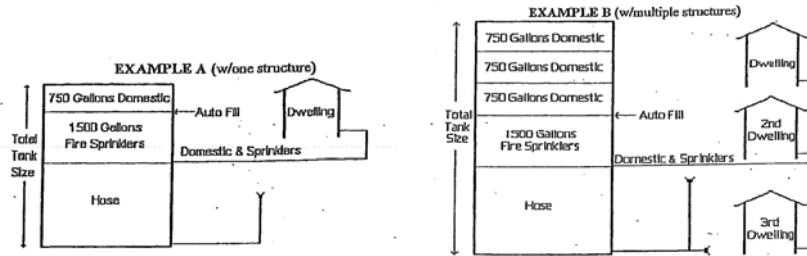


Standards for Ministerial Projects Water

- Fire flow of 1000 gpm minimum
- Increases based on size of structure
- 50% reduction of flow if residential sprinkler system installed
- Tank size
 - 750 gallons domestic use
 - 1500 gallons sprinklers
 - Minimum storage for fire suppression
 - Auto fill above suppression and sprinkler level

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Water Tank Sizing Diagrams



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Standards for Ministerial Projects

Other Criteria

- ❑ Gates – 2’ wider than travel lane (FSR)
 - Knox lock suggested for SFD
 - Gate standard/SUP for multi-parcel gates
- ❑ Address letters/Street signs – 4” height (DISM/CFC); Visible from road (FSR)
- ❑ Setbacks – 30’ for one-acre lots or greater (FSR)
- ❑ Fuel Modification – As required per PRC 4291

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Other Fire Safety Issues

- Wildland-Urban Interface (WUI) Fire Areas
 - Prescribes standards for ignition resistant building material and construction methods to reduce fire risks
- Same Practical Effect
 - Modification of the standards by increasing one standard to compensate for lowering another

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Resources

- El Dorado County Fire Safe Regulations
 - <http://www.edcgov.us/building/FSRegs.htm>
- Defensible space information
 - http://www.fire.ca.gov/CDFBOFDB/pdfs/Copyof4291finalguidelines9_29_06.pdf
 - <http://www.edcfiresafe.org/index.php>
 - <http://www.fire.ca.gov/index.php>

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