



**On behalf of the
County of Nevada Community Development
Agency
In partnership with:
CAL FIRE
Nevada County Consolidated Fire District
Penn Valley Fire District**

Common Fire Safe Regulations for Commercial Properties

Under authority of Public resources Code (PRC) Section 4290 and 4291, Nevada County Road and Driveway standards, California Building Code (CBC), and the California Fire Code (CFC) the following items are required by CAL FIRE or by either the: Nevada County Consolidated Fire Department or the Penn Valley Fire District as part of this permit. These requirements are minimums and may be superseded by Nevada County local regulations exceeding these standards.

Refer to the below list as they are common requirements for Commercial Properties within Nevada County. These items when applicable are required to be on project site plans. Review the below items and checkmark ones you believe will apply to your site. Review selected items with your design professional. Understand that each site has its own differences and challenges, some sites will require additional mitigation measures.

Design Standards:

- _____ 1. Provide to the Community Development Agency with your proposed site plan:
 - a) Professional or Professional quality site plan.
 - b) Scale no smaller than 1 inch = 60 feet.
 - c) Printed on paper large enough to easily review.
 - d) Items below that apply to your site are either physically shown on the site plan or on the site plan under: 'Fire Department Notes.'

Addressing:

§ 2474 Section L-VII 1.6 Address standards.

_____B. The address identification shall be legible and placed in a position that is visible from the street or road fronting the property.

_____C. Address numbers shall be Arabic numerals or alphabetical letters. Numbers shall not be spelled out.

_____D. All address signs shall have a minimum four (4) inch high numerals with a minimum one-half (1/2) inch stroke and be mounted or placed on a reflectorized background with contrasting colors.

_____E. Where required by the fire code official, Address identification shall be provided in additional approved locations to facilitate emergency response.

_____I. In all cases, the address shall be posted at the beginning of construction and shall be maintained thereafter, as provided in Section L-VII 1.7

Driveways:

§ 2474 Section L-XVI 3.2 Private Driveway Construction Standards.

***Note: The below Driveway Standards also apply to Commercial Businesses on Residential Parcels.**

All newly constructed single-family residences shall be served by a driveway. Any subdivision proposing that two (2) lots be served by a common driveway shall have the driveway constructed prior to the map recordation. The driveway shall meet the following construction standards as administered by the Building Department through a driveway permit when a grading permit is not applicable. Standards do not apply to driveways that are less than fifty (50) feet or less in length.

A. Driveway Grade:

_____1. Below 4,000 feet elevation, driveway grade shall not exceed twenty percent (20%) unless a Petition for Exceptions is supported by the County Fire Marshal or his or her appointed designee and granted by the planning agency having jurisdiction over the land use entitlement. Notwithstanding Sec. L-XVI 2.6, Exceptions to Standards, there shall be no exceptions granted for grades in excess of twenty-five percent (25%).

_____2. At or above 4,000 feet elevation, driveway grade shall not exceed sixteen percent (16%) maximum. Notwithstanding Sec. L-XVI 2.6, Exceptions to Standards, there shall be no exceptions granted for grades in excess of sixteen percent (16%) where elevations range above 4,000 feet.

B. Driveway Surface:

Driveway surfaces shall be capable of supporting a 40,000 pound legally-loaded vehicle as outlined below:

_____A. Driveways and segments thereof that are between zero (0%) and sixteen percent (16%) grade shall be capable of supporting a 40,000 pound legally loaded vehicle as certified by a registered civil engineer, or a minimum of four (4) inch Class II aggregate base (see detail above).

_____B. Driveways and segments thereof that are sixteen-point one percent (16.1%) grade and above, shall be designed and certified by a registered civil engineer. Prior to foundation inspection, the engineer shall provide stamped and signed written verification to the County Fire Marshal or his or her appointed designee that the rough grade complies with the site plan. Prior to, or concurrent with, final inspection, the engineer shall provide stamped and signed written verification that the final driveway complies with the site plan.

_____C. Driveways between sixteen-point one percent (16.1%) and twenty percent (20.0%) grade shall be engineered with an all-weather surface.

C. Driveway Design:

_____1. At least the first thirty (30) feet of the driveway encroachment from the edge of pavement of the primary roadway shall conform to the design standards for driveway encroachments as illustrated in the Nevada County Department of Public Works Standards Drawings, available from the Department of Public Works (see detail above).

_____2. The driveway must be built to within fifty (50) feet of the nearest point of each dwelling unit.

_____3. Surface width shall be ten (10) feet minimum with one (1) foot shoulders for driveway grades up to sixteen percent (16%). For grades between sixteen-point one percent (16.1%) and twenty percent (20%), a twelve (12) foot minimum surface width with one (1) foot shoulders is required.

_____4. Vertical vegetation clearance shall be fifteen (15) feet minimum, measured from the outside edge of the shoulder.

____ 5. Curve radius shall be fifty (50) feet minimum from centerline. For all driveway radii less than one hundred (100) feet, an additional four (4) feet of surfacing shall be provided on said curves. All driveways shall also comply with Land Use and Development Code Section L-XVII 3.4.F, Design Geometrics: Curve Widening (see detail above).

____ 6. Back-out maneuvering area in front of parking garages and open parking stalls shall be twenty-four (24) feet.

7. Driveway Design Continued: Turnouts and Turnarounds:

____ a. For driveways that are three hundred (300) feet or more in length, a turnaround or hammerhead with a maximum grade of twelve (12) percent shall be provided within fifty (50) feet of the dwelling (see hammerhead detail above).

____ b. Driveways exceeding one hundred fifty (150) feet in length, but less than eight hundred (800) feet in length, shall provide a turnout near the midpoint of the driveway.

____ c. Driveways exceeding eight hundred (800) feet shall provide turnouts no more than four hundred (400) feet apart.

____ d. Turnaround: The terminus bulb shall have a minimum forty (40) foot radius.

____ e. Hammerhead T: The long axis shall be a minimum of sixty (60) feet and the leg shall be a minimum of forty (40) feet (see detail above).

____ f. Turnouts shall be a minimum of ten (10) feet wide and thirty (30) feet long with a minimum twenty-five (25) foot taper on each end.

____ 8. All bridge and culvert portions of the driveway shall support a 40,000 pound legally loaded vehicle

____ 9. Roadside vegetation: A fuel modification area shall be provided for a distance of 10 feet on each side of the driveway.

____ 10. All appropriate grading, drainage and erosion control shall be included pursuant to Chapter V of the Land Use and Development Code.

____ 11. Lateral slopes must be designed and installed to accommodate a minimum two percent (2%) and maximum four percent (4%) cross slopes, taking topography into consideration.

D. Gates on Driveways:

____ 1. Gate entrances shall be at least two feet wider than the width of the traffic lanes serving the gate and shall provide a minimum width of fourteen (14) feet unobstructed horizontal clearance.

____ 2. All gates providing access from a road to a driveway or another road shall be located at least thirty (30) feet away from the edge of pavement of the primary roadway and shall open to allow a vehicle to stop without obstructing traffic on that primary road.

____ 3. Security gates shall not be installed without approval of the Fire Marshal's Office of the fire authority having jurisdiction. Where security gates are installed, they shall have an approved means of emergency operation. The security gates and the emergency operation shall be maintained operational at all times.

Fire Access: Fire Apparatus Roads and Key Boxes

§ 2474 Section L-XVII 3.4 Design Geometrics (Fire Apparatus Access Roads)

***NOTE: Certain sites may require “Fire Apparatus Access Road Standards” as approved by the County based on its adoption of the California Fire Code (CFC) in its entirety. CFC Chapter 5 addresses Fire Road Standards.**

_____ 1. Where required by the Agency Having Jurisdiction, Fire Apparatus Access Roads will meet the following:

- a. Access roads from every building to a public street shall be all-weather hard surfaced, suitable for use of fire apparatus, right-of-way not less than two (2) 10-foot lanes or 20 feet in width, not including shoulder and striping.
- b. Surface capable of supporting a 75,000 lb. vehicle with a minimum 6-inch A.B. compacted to 95%.

§ 2474 Section L-V 5.22 Key Box

_____ 1. A key box or AKA: KNOX box, approved by the responsible fire agency, shall be installed on buildings with automatic fire sprinkler and/or fire alarm systems. The owner or person in charge of the premises shall notify the responsible fire agency without delay when the required keys providing access to the facility have been changed. Proper keys shall be made immediately available.

_____ 2. If the primary access point is through a locked gate, a key box will be mounted near the gate entrance.

Fire Alarms:

§ 2474 Section L-V 5.29 Automatic Fire Alarm System

***NOTE: Below stated is reworded from County Ordinance to accurately reflect the requirements of Nevada County Fire Marshal(s).**

_____ 1. Any Commercial Structure, regardless of size or required fire flow, - utilized in conjunction with the applicant’s Commercial process(s), shall have installed throughout an approved fully-supervised automatic smoke and/or heat detection fire alarm system.

Emergency Water Standards: Tanks and Hydrants:

***NOTE: If the Commercial Building is less than 400 feet of ‘driveable’ distance from a maintained municipal-type water supply or private hydrant a readily accessible by fire apparatus, this section may be omitted. (§ CFC 507.5.1)**

§ 2474 Section L-XVI 4.1 Purpose and Intent

_____ 1. To provide available and accessible emergency water for wildfire protection on SRA lands, in specified quantities and locations to attack a wildfire or defend property from a wildfire. Such emergency water may be provided in a fire agency mobile water tender or naturally occurring or manmade containment structure, as long as the specified quantity is immediately available.

§ 2474 Section L-XVI 4.2 Application

***NOTE: This is based on ‘Remote Single-Family Residential Buildings’, however below stated will also apply to Remote Commercial Applications.**

_____B. The stored amount of on-site water available for fire protection shall be compliant with the National Fire Protection Association (NFPA) 1142, "Standard on Water Supplies for Suburban and Rural Firefighting." The minimum amount of stored water required is 2500 gallons and may be higher dependent on the size of the structures to be protected and will be exclusive of domestic requirements. The water shall be available on-site at the time of the framing inspection. Construction of the water storage facility shall be in compliance with the drawings kept on file in the Office of the Fire Marshal.

_____C. NFPA 1142 calculations/math and required amount of stored water are required to be shown on site plans.

§ 2474 Section L-XVI 4.4 Standards for Hydrants/Fire Valves

_____A. The hydrant shall be located 18 inches above grade in a turnout/turnaround or other approved location, not less than 50' from any building. Flammable vegetation shall be removed within 8' of the hydrant.

_____B. The hydrant shall be: (1) brass with 2 ½ inch National Hose male thread with cap for pressure and gravity flow systems and 4 ½ inch for draft systems; or (2) any hydrant approved by the American Water Works Association. Such hydrants shall be an insulated wet barrel or dry barrel as required by the delivery system. Depending on location of the hydrant, suitable crash protection may be required by the local fire jurisdiction.

_____C. Signing of Water Sources - Each hydrant/fire valve or access to water shall be identified as follows:

1. If located along a driveway, a reflectorized blue marker, with a minimum dimension of 3 inches shall be located on the driveway address sign and mounted on a fire-retardant post, or
2. If located along a street or road, it shall be marked/signed to the satisfaction of the fire agency with fire protection responsibility or the hydrants located along state highways shall be as specified in the State Fire Marshal's Guidelines for Fire Hydrant Markings Along State Highways and Freeways.

Fuel Modification Standards:

§ Section L-XVI 5.1 Purpose and Intent:

To reduce the intensity of a wildfire by reducing the volume and density of flammable vegetation, these areas shall provide (1) increased safety for emergency fire equipment and evacuating civilians; and (2) a point of attack or defense from a wildfire; and (3) strategic siting of fuel modification and greenbelts.

_____1. Show as "Notes" on the site plan:

"Maintain Defensible Space of 100 feet from each side, front and rear of all permitted structures on the property. The amount of vegetation modification necessary shall take into account the flammability of the structure as affected by building material, building standards, location, and type of vegetation. Vegetation shall be maintained in a condition so that a wildfire burning under average weather conditions would be unlikely to ignite the structure. This paragraph does not apply to single specimens of trees or other vegetation that are well- pruned and maintained so as to effectively manage fuels and not form a means of rapidly transmitting fire from other nearby vegetation to a structure or from a structure to other nearby vegetation. The intensity of the vegetation management may vary within the 100-foot perimeter of the structure, with the most intense being within the first 50 feet around the structure."

Additional Fuel Modification Information: Visit www.readyforwildfire.org

Closing Comments:

We understand that you are embarking on a large project that will take months to complete. The purpose of this checklist is to educate you on common items that your Fire Marshal Review will be requiring for your site within the SRA. Again, each site is unique and may have additional requirements. Our intent is that your site plans submitted arrive including the applicable above stated items shown or referenced in the 'Fire Department Notes.' Accurate and thorough submitted site plans will save you valuable time and money avoiding multiple resubmittals. The Fire Marshals of Nevada County are often busy with job related workload, please make all attempts to reference available material online for additional information. We are here to see your project through to the end, ensuring life safety and environmental requirements along each step of the process...

Respectfully,

- Scott Eckman, CAL FIRE
- Terry McMahan, Nevada County Consolidated Fire District
- Clayton Thomas, Penn Valley Fire District