

EAST GRAND FIRE PROTECTION DISTRICT
DEVELOPMENT REVIEW CRITERIA

Standards and Codes to be used: NFPA, IFC, IBC, IRC, AASHTO, Mountain Parks Electric, and Public Service (Excel), East Grand Fire SOG.

NFPA Standards: 13, 24, 25, 299, 1142 (and others-most current edition)
International Fire Code (IFC): 2009
International Building Code (IBC): 2009
International Residential Code (IRC): 2009

ACCESS:

In addition to: IFC Appendix D, NFPA Standard 299- Protection of Life and Property from Wildfire, and road standards of Winter Park, Fraser, or Grand County.

ROADWAYS: Minimum width 24 ft. with a hard all-weather surface sufficient to support 84,000 Lbs. fire apparatus. Shoulders are to be a minimum width of 4 ft. on each side. The vertical clearance is to be a minimum of 18 ft. The maximum grade is to be 7 % (See Grand County Road Specifications Section 3.5 for exceptions). Minimum curve radiuses to be 50 ft. measured at centerline, or follow the AASHTO geometric designs for highways and streets manual, for Intercity Bus (BUS-45). At no more than 750 ft. intervals, emergency turnarounds for fire apparatus are needed on all roads. (These can be oversized driveways, intersections or specially constructed areas). No parking is to be allowed along roadways. If parking is to be allowed, 9ft. needs to be added to the width of road on either or both sides of roadway. Cul-de-Sacs are to be avoided, but if necessary, a turnaround of 120 ft. outside diameter minimum at the end and are to be no more than 500 ft. long. No Cul-de-Sacs off of Cul-de-Sacs.

To avoid building construction delays special attention should be given to IFC Chapters 5 and 14. Sections 501, 503, 505, 508, 1410, and 1412.

GATES: Gates are to be avoided, but if necessary shall be considered on a case by case basis. If allowed, the design would need to be approved prior to construction. Gate should consist of a counterweight type barrier that swings completely free of the access when released. A "KNOX" key switch, or other approved device, shall operate the gate electronically.

DRIVEWAYS and ACCESSES: Three homes or more need a road, not a driveway. The minimum driveway width should be 14 ft. with two 1 ft shoulders. If the access or drive extends more than 150 ft. from a roadway there should be a turnaround adequate for our trucks.

BRIDGES: Require a letter from an engineer with his or her stamp certifying that the bridge meets the requirements of the International Fire Code Section 503.2.6 which requires the bridge to be constructed and maintained in accordance with AASHTO "Standard Specification for Highway Bridges." Appendix D Section D102 (as amended) suggests the bridge be capable of carrying the load of 84,000 lbs. Any crossings shall be constructed to the same standards as the traveled way on either side.

WATER SUPPLY:

MUNICIPAL: Reference Appendix B of International Fire Code.

Water supplies needed for firefighting would range between 3500 gallons per minute fire flow for three hours (minimum 630,000 gallons of fire protection storage), to a minimum 2500 gallons per minute for two hours (minimum 180,000 gallons of fire protection storage). A minimum water supply of 1500 gallons per minute fire flow for two hours (minimum 170,000 gallons of fire

protection storage), will be considered in buildings protected by sprinkler systems. Documentation would be needed that adequate flows will be available from the water system at a residual pressure no less than 20 psi. By installing fire sprinkler systems in all structures any large life or property losses would be avoided and would make the best use of the available water supplies. Fire hydrants are to be located at least every 500 ft. or as agreed to by the Fire District. Fire hydrant locations and distribution shall be in accordance with Appendix C of the International Fire Code. For planning purposes the following may be used. Fire hydrants are to be located at least every 500 ft. or as agreed to by the Fire District. Fire hydrants shall be Mueller Super Centurion 250 A-423 (or equivalent) hydrants with one 4 ½ inch NST opening facing the road. Hydrants are to be installed with one 1'-6" extension, with the traffic flange approximately 2" above finish grade, edge of pavement (road surface) or the back of walkway in accordance with manufacturer recommendations. The approach to the hydrant is to be a level-walking surface, free of obstructions or depressions, at least five feet from the center of the hydrant in all directions. Existing Fire Hydrants can be credited for a new development if the hydrant has at least one 4.5 inch opening, a 6 inch barrel, is in good repair, is appropriately located, has adequate access, has adequate flows, and is not a Pacific States Hydrant. If any one of these conditions is not met it will need to be replaced. The International Fire Code tables B105.1 and C105.1 provide further guidance on flows and fire hydrant distribution.

UTILITIES: Careful consideration should be given to the location of all utilities to avoid interference with fire department operations. Meters, transformers, and gas piping all need to be carefully located to avoid damage from ice, snow, and vehicles. All utility meters, shut offs, or other equipment that would be attached to the exterior of a house shall be protected from falling ice and snow by a permanent shed roof section. Shutoffs need to be readily accessible.

WILDFIRE: There is Wildfire potential for this project. Normal precautions of maintaining defensible space around buildings, irrigated grass, mowing, minimizing any inflammable vegetation, and storing combustibles away from the buildings would help. Making the exterior walls and roofs non-combustible would certainly minimize the risk.

Dennis Soles
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East Grand Fire Protection District