

**Site Planning Guide for Residential Occupancies based upon The
2009 International Fire Code as Adopted and Amended by Resolution
by the Arvada Fire Protection District.
Unincorporated Jefferson County**

This site planning guide for residential occupancies is based upon the 2009 International Fire Code, as amended and adopted by Resolution by the Board of Directors of the Arvada Fire Protection District. This site planning guide for residential occupancies is based upon the 2009 International Fire Code and the 2009 International Residential Code. Residential occupancies include for site planning purposes one and two family dwellings and town homes as classified by the International Residential Code as Group R, Division 3 Occupancies. This guide is prepared for use within the Unincorporated Areas of Jefferson County that is within the boundaries of the Arvada Fire Protection District. This information is intended to be used as a guide for site planning purposes. This guide is not designed or intended to be inclusive of all code requirements. Additional requirements based upon the International Fire Code as amended, may be addressed upon the submittal and review of site plans by the Division of Fire Prevention.

Street Signs:

Streets and roads shall be identified with approved signs. Temporary signs shall be installed at each street intersection when construction of new roadways allows passage by vehicles. Signs shall be of an approved size, weather resistant and be maintained until replaced by permanent signs. Street signs, temporary or permanent shall be installed prior to above grade construction.
IFC 09 505.2.

Private Street Signs:

Street signs for private streets are not provided by the City of Arvada. The installation of street signs shall be the responsibility of the developer. Street signs shall meet the requirements of the Model Traffic code. The street sign design shall be approved by the Division of Fire Prevention prior to installation.

IFC 09 505.2.

Building Address Numbers:

New buildings shall have approved address numbers, building numbers or approved building identification placed upon the building in a position that is plainly legible and visual from the street or roadway fronting the property. The address numbers shall contrast in their background. Address numbers shall be Arabic numerals or alphabet letters. Address or building identification numbers shall be a minimum height of not less than four (4) inches, and with a minimum stroke width of not less than 0.5 inches. Where access is by means of a private road and the building cannot be viewed from the public way, a monument, pole or other sign or means shall be used to identify the structure.

IFC 09 505.

Fire Apparatus Access Roads:

Approved fire apparatus access roads shall be provided for every facility, building or portion of a building hereafter constructed or moved into the Arvada Fire Protection District. The fire apparatus access road shall comply with the requirements of the fire code and shall extend to within one-hundred-fifty (150) feet of all portions of the exterior wall of the first story of the building as measured by an approved route around the exterior of the building or facility.

IFC 09 503.1.1.

Exception: The fire marshal or designated representative is authorized to increase the dimension of one-hundred-fifty (150) feet where:

1. The building is provided throughout with an approved automatic sprinkler system installed in accordance with Section 903.3.1.3 of the fire code.
2. Fire apparatus access roads cannot be installed because of location on property, topography, waterways, nonnegotiable grades or other similar conditions, and an approved alternative means of fire protection is provided.
3. There are not more than two Group R-3 or Group U occupancies.

Additional Access:

The fire marshal is authorized to require more than one fire apparatus access road based upon the potential for impairment of a single road by vehicle congestion, condition of terrain, climatic conditions or other factors that could limit access.
IFC 09 503.1.2.

Dedication of Fire Apparatus Access Roads:

Fire apparatus access roads such as, but not limited to, private streets and alleys shall be dedicated on the Final Plat as “Emergency Access Lanes” or language that is acceptable to the Jefferson County Attorney’s Office.

Private Street and Alley Widths:

Fire apparatus access roads that are private streets or alleys shall have a minimum unobstructed width of twenty-six (26) feet.
IFC 09 503.2.1. Amended.

Exception:

The width of private streets may be reduced from the required twenty-six (26) feet if a specific access and parking design is approved by the Fire Marshal. The resulting street width shall not be less than twenty-four (24) feet of unobstructed width.
IFC 09 503.2.1. Amended.

Vertical Clearance:

An unobstructed vertical clearance of not less than thirteen (13) feet, six (6) inches shall be provided and maintained.
IFC 09 503.2.1.

Authority:

The fire marshal shall have the authority to require an increase in the minimum access widths where they are inadequate for fire or rescue operations.
IFC 09 503.2.2.

Surface:

Fire apparatus access roads shall be designed and maintained to support the imposed loads of eighty-five-thousand (85,000) pound fire apparatus and shall be surfaced with the first lift of asphalt to provide all-weather driving capabilities, and shall be installed prior to above grade construction.

IFC 09 503.2.3.Amended.

Grass-crete, Ritter Rings or similar landscape treatments that will prevent a fire apparatus access road from being maintainable as an all-weather surface and immediately discernable, shall be prohibited.

Turning Radius:

The required turning radius for fire apparatus shall be a minimum of forty-seven (47) four (4) inches outside radius. The inside radius shall be a minimum of twenty-six (26) feet, four (4) inches with a four (4) foot bumper overhang.

IFC 09 503.2.4.

A PDF of turning radius templates is available on our web site.

Dead End Fire Apparatus Access Roads:

Dead end fire apparatus access roads in excess of one-hundred-fifty (150) feet in length shall be provided with an approved area for the turning around of fire apparatus.

IFC 09 503.2.5.

Dead End Fire Apparatus Access Roads in Group R, Division 3 Occupancies:

Where a property is a Group R, Division 3 occupancy, the length of a dead end fire apparatus access road may be increased to one-hundred-seventy-five (175) feet without the provision for the turning around of fire apparatus, if approved by the fire marshal.

IFC 09 503.2.5.1. Amended.

Bridges and Elevated Surfaces:

Where a bridge or elevated surface is part of a fire apparatus access road, the bridge shall be constructed and maintained in accordance with AASHITO HB-17 and Jefferson County Engineering and Transportation Standards. Bridges and surfaces shall be designed for a live load of a minimum of eighty-five-thousand (85,000) pound fire apparatus. Vehicle load limits shall be posted at both entrances to bridges. Where elevated surfaces which are not designed as for use of fire apparatus, approved barriers or signs shall be installed and maintained.

IFC 09 503.2.6.

Fire Apparatus Access Road Grades:

The grade of fire apparatus access roads shall not exceed Jefferson County Engineering and Arvada Fire Protection District Standards.

IFC 09 503.2.7.

Angles of Approach and Departure:

The angles of approach and departure for fire apparatus access roads shall be within the limits established by the fire marshal based upon the fire department's apparatus.

IFC 09 503.2.8.

Marking of Fire Apparatus Access Roads:

"No Parking Fire Lane" signs shall be installed on each side of fire apparatus access roads, private streets or alleys to identify such roads and to prohibit parking. The maximum spacing between signs shall not exceed one-hundred-thirty-five (135) feet.

"No Parking Fire Lane" signs shall meet the requirements set forth within the Jefferson County Traffic Engineering Division Standards.

IFC 06 503.3.

Curbs:

Vertical curbs shall not be placed at the entrance of or within fire access lanes or roads. Mountable curbs and gutter may be used, if approved by the fire marshal.

IFC 09 503.2.9. Amended.

Gated Communities:

Gated communities may be permitted providing the community meets the following requirements detailed herein and is subject to the approval of the fire marshal. The fire apparatus access roads within a gated community shall be a minimum of twenty-eight (28) feet of unobstructed width.

IFC 06 503.2.9. Amended.

Exception. Street widths may be reduced to twenty-six (26) feet and fire hydrant spacing may be increased to five-hundred (500) feet when each individual dwelling unit within the gated community meeting the requirements of a Group R-3 Occupancy as defined by the International Residential Code is provided with an approved NFPA 13-D Residential Sprinkler System as approved by the fire marshal.

Fire apparatus access roads shall be maintained as an all-weather surface and shall meet the requirements set forth in Section 503 of the fire code.

IFC 09 503.2.3 Amended.

The unobstructed vertical clearance for fire apparatus access roads shall not be less than thirteen (13) feet six (6) inches.

IFC 09 503.2.1

Two (2) separate means of ingress and egress shall be provided into the site.

IFC 09 503.2.10. Amended.

Gates shall be staffed on a twenty-four (24) hour basis or be equipped with an automatic and manual system approved by the fire marshal.

IFC 09 503.2.10. Amended.

Water Supplies and Fire Hydrants for Fire Protection:

Water lines and fire hydrants shall be installed, operational and capable of providing the minimum required fire flow for the building sites prior to above grade construction.

IFC 09 507.5.1.

Water lines shall be installed and looped in accordance with the Water District of

jurisdiction standards.

Minimum Required Fire Flow:

The minimum required fire flow for one and two family dwellings are calculated from the International Fire Code Appendix B, Section B105.1.

IFC 09 Appendix B

The minimum required fire-flow requirements for one-and two family dwellings having a fire flow calculation area which does not exceed three-thousand-six hundred (3,600) square feet shall be 1,000 gallons per minute, IFC 09 B105.1.

Fire flow and duration for dwelling units having a fire-flow calculation area in excess of three-thousand-six-hundred (3,600) square feet shall be not less than that specified in Table B105.1.

IFC 09 Appendix B

Exception:

A reduction in the required fire flow of 50 percent, as approved is allowed when the building is equipped with an approved automatic sprinkler system.

Fire Hydrant Spacing:

Group R-3 and Group U Occupancies with streets having a thirty-two (32) foot flow line to flow line in width or larger:

Fire hydrants shall be spaced at maximum distance of five-hundred (500) feet between units.

Group R-3 and Group U Occupancies with streets having less than a thirty-two (32) foot flow line to flow line in width:

Fire hydrants shall be spaced at a maximum distance of three-hundred (300) feet between units.

IFC 09 507.5.1. Exception 2.1.

Fire hydrant locations shall be approved by the Water District of jurisdiction and the Division of Fire Prevention.
IFC 09 507.5.1.

Fire Hydrants and Installation:

Fire hydrants shall be installed in such a manor that the four and one half (4-1/2) inch discharge nozzle on the fire hydrant is a minimum of eighteen (18) inches above finished grade or in accordance with Water District of jurisdiction standards.

Fire hydrant discharge nozzle threads shall be National Treads or in accordance with Water District of jurisdiction standards.

Landscaping/Fencing/Obstructions:

Obstructions:

Unobstructed access to fire hydrants shall be maintained at all times. The fire department shall not be deterred or hindered from gaining immediate access to fire protection equipment or fire hydrants.
IFC 09 507.5.4.

Clear Space Around Fire Hydrants:

A minimum of a three (3) foot clear space shall be provided and maintained around the circumference of fire hydrants.
IFC 09 507.5.5.