2012 ICC Wildland Urban Interface Code Overview

The objective of this ICC Wildland Urban Interface Code (WUI Code) is to establish minimum regulations consistent with nationally recognized good practice for the safeguarding of life and property. Regulations in the WUI Code are intended to mitigate the risk to life and structures from a wildland fire, and to prevent a wildland fire from spreading as a result of a structure fire. The extent of this regulation is intended to be tiered commensurate with the relative level of hazard present.

This WUI Code will work in conjunction with existing building and fire codes (ICC International Building Codes and ICC International Fire Codes).

What Does the WUI Code Cover?

1. Fire apparatus access roads and driveways if access roads are more than 150 feet away from new construction.
2. Water supply requirements for new construction to ensure continuous water supply during a fire.
3. Address marking and marking of roads.
4. Defensible space.
5. Ignition resistant building materials on new construction, additions or remodels – based on fire hazard severity and compliance with defensible space and water supply requirements.
6. Ignition resistant building techniques (such as covering eaves, no voids under house, etc.) on new construction, additions, or remodels – based on fire hazard severity and compliance with defensible space and water supply requirements.
7. Additions or remodels to existing structures will need to apply to Chapter 5 "Special Building Construction Regulations" of the WUI Code.

The Basic (General) Requirements:

- If **NEW** construction in (or buildings or structures moved into or within) a WUI area, it must comply with:
    - Access Requirements of Chapter 4 which are (generally):
        - Fire apparatus access roads – 20 foot wide
        - Driveways if building is more than 150 feet from an access road
        - If required by the AHJ, two separate access roads if more than 30 residential units on the road (exception if all sprinkler protected) – IFC requirement
    - Water Supply Requirements of Chapter 4 which are (generally):
        - Approved system (may be natural or man-made; hydrants, draft sites, tanks, etc.)
        - 3,600 sf or less = 1,000 gpm
        - More than 3,600 sf = 1,500 gpm
        - 50-75% reduction in required fire flow if sprinkler protected
    - Fire Protection Plan (if required by AHJ)

- Determine Fire Hazard Severity

TABLE 502.1
FIRE HAZARD SEVERITY

FUEL MODEL[b]	CRITICAL FIRE WEATHER FREQUENCY								
	≤ 1 Day[a]			2 to 7 days[a]			≥ 8 days[a]		
	Slope (%)			Slope (%)			Slope (%)		
	≤ 40	41-60	≥ 61	≤ 40	41-60	≥ 61	≤ 40	41-60	≥ 61
Light fuel	M	M	M	M	M	M	M	M	H
Medium fuel	M	M	H	H	H	H	E	E	E
Heavy fuel	H	H	H	H	E	E	E	E	E

a. Days per annum.
b. When required by the code official, fuel classification shall be based on the historical fuel type for the area.
E = Extreme hazard.
H = High hazard.
M = Moderate hazard.

CRITICAL FIRE WEATHER. A set of weather conditions (usually a combination of low relative humidity and wind) whose effects on fire behavior make control difficult and threaten fire fighter safety (See Red Flag Warnings).

- Determine if NEW construction (including buildings or structures moved into or within a WUI area and additions or remodels to existing structures has conforming defensible space.

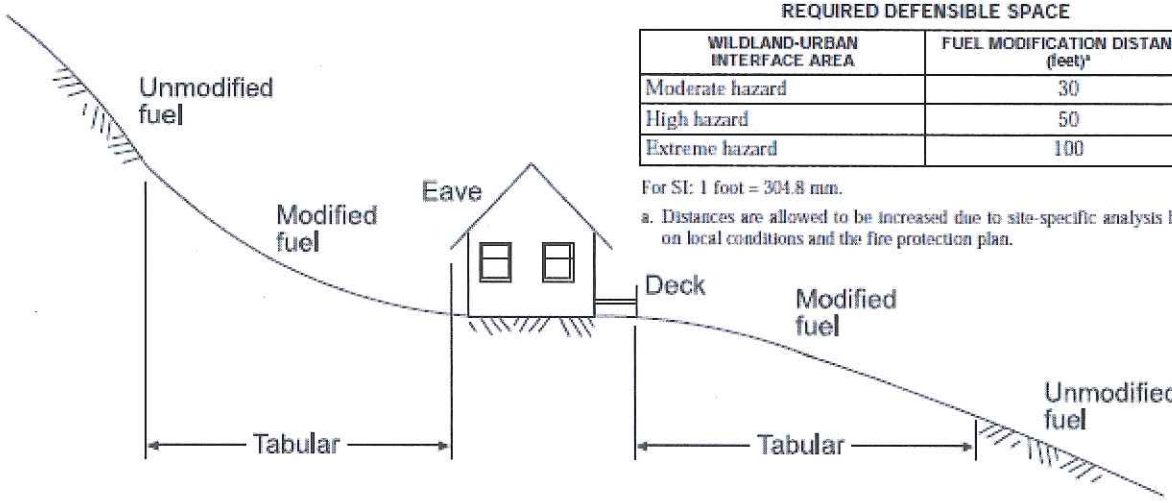

TABLE 603.2
REQUIRED DEFENSIBLE SPACE

WILDLAND-URBAN INTERFACE AREA	FUEL MODIFICATION DISTANCE (feet)[a]
Moderate hazard	30
High hazard	50
Extreme hazard	100

For SI: 1 foot = 304.8 mm.
a. Distances are allowed to be increased due to site-specific analysis based on local conditions and the fire protection plan.

FIGURE 603.2
MEASUREMENTS OF FUEL MODIFICATION DISTANCE

DEFENSIBLE SPACE. An area either natural or manmade, where material capable of allowing a fire to spread unchecked has been treated, cleared or modified to slow the rate and intensity of an advancing wildfire and to create an area for fire suppression operations to occur.

- Determine if NEW construction (including buildings or structures moved into or within a WUI area and additions or remodels to existing structures has a conforming water supply.
- Determine the applicable ignition-resistant construction in accordance with Table 503.1.

TABLE 503.1
IGNITION-RESISTANT CONSTRUCTION[a]

DEFENSIBLE SPACE[c]	FIRE HAZARD SEVERITY					
	Moderate Hazard		High Hazard		Extreme Hazard	
	Water Supply[b]		Water Supply[b]		Water Supply[b]	
	Conforming[d]	Nonconforming[e]	Conforming[d]	Nonconforming[e]	Conforming[d]	Nonconforming[e]
Nonconforming	IR 2	IR 1	IR 1	IR 1 N.C.	IR 1 N.C.	Not Permitted
Conforming	IR 3	IR 2	IR 2	IR 1	IR 1	IR 1 N.C.
1.5 × Conforming	Not Required	IR 3	IR 3	IR 2	IR 2	IR 1

a. Access shall be in accordance with Section 402.
b. Subdivisions shall have a conforming water supply in accordance with Section 402.1.
IR 1 = Ignition-resistant construction in accordance with Section 504.
IR 2 = Ignition-resistant construction in accordance with Section 505.
IR 3 = Ignition-resistant construction in accordance with Section 506.
N.C. = Exterior walls shall have a fire-resistance rating of not less than 1-hour and the exterior surfaces of such walls shall be *noncombustible*. Usage of log wall construction is allowed.
c. Conformance based on Section 603.
d. Conformance based on Section 404.
e. A nonconforming water supply is any water system or source that does not comply with Section 404, including situations where there is no water supply for structure protection or fire suppression.

- Chapter 6 "Fire Protection Requirements" of the WUI Code contains provisions that apply to **NEW** and **EXISTING** buildings, such as:
  - Automatic Sprinkler Systems (required for **NEW** buildings that must meet the requirements for Class 1 Ignition-Resistant Construction.
  - Defensible Space Requirement
  - Maintenance of Defensible Space
  - Spark Arresters
  - LPG Installations
  - Storage of Firewood and Combustible Materials

Fire Weather Definitions

Fire Weather Watch

Fire Weather Watches are issued anytime the area has been dry for a week or two (or for a shorter period during spring green-up or after fall color), the National Fire Danger Rating System (NFDRS) is high to extreme, and critical weather conditions are expected within the next **48 hours**. These critical elements are:

- sustained winds averaging 15 mph or greater
- relative humidity 25 percent or less
- temperature 75°F or greater

Red Flag Warning

Red Flag Warnings are issued anytime there is an ongoing wildfire, or critical weather conditions will occur within the next **24 hours**. These conditions are:

- sustained winds averaging 15 mph or greater
- relative humidity 25 percent or less
- temperature 75°F or greater

Note: Dry lightning and unstable air are also criteria for Fire Weather Watches and Red Flag Warnings in Colorado.