



## **Best Practices Compilation for Ashland, Oregon:** Community Programs and Implementation Practices Across the West



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## Overview

This document provides the City of Ashland with best practices from across the west. Community examples highlight successful mitigation programs, landscaping codes, WUI codes professional qualifications, which may assist in the City's implementation of future regulations and related activities. Additional community examples are also available through [the Community Planning Assistance for Wildfire](#) website.

## Case Studies on WUI Code Adoption Process

### Wenatchee, Washington

In 2015, the City of Wenatchee experienced the Sleepy Hollow fire, which burned 30 homes on the outskirts of town (due to direct flame impingement and embers) and multiple commercial warehouses in the urban downtown core (due to the transportation of embers from the burning structures). As part of the Fire Code, the City has a [WUI Standard](#) in place. The WUI Standard does delineate the City into two distinct zones, however, the standard does not fully capture the set of conditions that promotes the ignition and spread of fire through the WUI fuel complex (wildland and built fuels). Wenatchee's *current* designation for the WUI is below:

#### **3.36.010 Wildland-Urban Interface Zone Designation**

“The code official shall have final authority in determining which properties shall be affected by the WUI zone designation. The determination shall be made based on the property's location and exposure to large tracts of natural vegetation. Property and structures immediately adjacent to undeveloped land with natural vegetation without fuel breaks establish the interface line or primary zone and are subject to all of the provisions of this chapter. Property and structures located to the east, or the developed side, of the primary zone and within 1,500 feet of the interface line are included in the secondary zone.” (Ord. 2011-13 § 1)

While this designation delineates boundaries for enforcement within the WUI, it does not capture the true scope of the City's risk to wildfire. Taking previous fire experiences and risk information into account, the Community Planning Assistance for Wildfire (CPAW) team worked with the City to provide recommendations to improve its WUI approach. Included in the final recommendations was a priority recommendation for the City to redefine the WUI and implement a WUI risk assessment program (currently in the implementation stages) to better prepare for potential wildfire impacts in Wenatchee. As part of this, the CPAW team recommended that the entire City be identified as the WUI, with a re-defined Primary and Secondary Zone. The most stringent WUI Standards are recommended to apply to the Primary Zone, where structures will be potential exposed to radiant and convective heat transfer, as well as burning airborne embers. Less stringent standards are recommended to apply to the Secondary Zone, where structures are potentially exposed to localized radiant and convective heat, as well as short, medium and long range burning embers. (The final report on CPAW's recommendations to Wenatchee can be downloaded [here](#).)

Within the currently adopted [Fire Code WUI Standards \(3.36.160\)](#), Wenatchee provides the definition of defensible space, outlines the responsibilities of the land owner, and references the ICC International WUI Code and the NFPA 1144, Standard for Reducing Structure Ignition



Hazards from Wildland Fire. The Code provides characteristics of fire resistant vegetation according to the Firewise website. The descriptions from the Wenatchee WUI Standards are listed below (note: CPAW also provided recommendations to this section; current language may change based on future revisions):

- (1) Growth with little or no accumulation of dead vegetation (either on the ground or standing upright. Although green, both juniper shrubs and arborvitae accumulate large amounts of dead material).
- (2) Nonresinous plants (willow, poplar or tulip trees).
- (3) Low volume of total vegetation (for example, a grass area as opposed to a forest or shrub-covered land).
- (4) Plants with high live fuel moisture (plants that contain a large amount of water in comparison to their dry weight).
- (5) Drought-tolerant plants (deeply rooted plants with thick, heavy leaves).
- (6) Stands without ladder fuels (plants without small, fine branches and limbs between the ground and the canopy of overtopping shrubs and trees).
- (7) Plants requiring little maintenance (slow-growing plants that, when maintained, require little care).
- (8) Plants with woody stems and branches that require prolonged heating to ignite.

For reference on specific plants and their characteristics, see <http://firewise.org>. (Ord. 2011-13 § 1)

## Flagstaff, Arizona

Located in a Ponderosa Pine forest, Flagstaff Arizona is subject to and familiar with wildland fires and the potential impacts on its community. Following a 1996 fire season, City leaders took action to mitigate against wildfire. Following ten years of education and various programs, the City adopted the WUI code in 2008. The code development and adoption success was a result of a two year public outreach process that familiarized the local stakeholders and residents with wildfire risk reduction measures. The City produced a [Wildland-Urban Interface Code Adoption: How to avoid the agony](#) document to illustrate the community's approach for adopting the International Fire Code and Wildland Urban Interface Code.

Flagstaff also had steep slope and natural resource protection ordinances in place as part of a Resource Protection Overlay Zone. When the WUI code was adopted, language in the planning and zoning documents clearly identified the WUI code to supersede the resource protection documents as identified in [Flagstaff 's Resource Protection Standards \(10-50-90\)](#). Additional Information on the Resource Protection Standards is in the City's Resource Protection Standards [Appendix 5](#) (Additional Information).



## Home Ignition Zone: Incentivizing Property Mitigation

Communities seeking to implement WUI codes and regulations often struggle with how to address existing development. Combining regulatory and voluntary approaches can help address this challenge by offering programs which incentivize defensible space and home retrofits. Two Colorado counties serve as examples: the REALFire program (Eagle County, CO) and the Wildfire Partners program (Boulder County, CO).

Both counties have implemented regulations for future development in concert with voluntary programs which incentivize risk reduction practices and provide valuable homeowner education. Programs partner with fire departments, fire districts and other local stakeholders and private organizations to offer property assessments. Each program utilizes the “home ignition zone” concept, introduced by Dr. Jack Cohen (USFS), and further incorporate science from in the Insurance Institute for Business and Home Safety (IBHS) to provide the following:

- An in-depth assessment of a home, property, and accessory structures and other attachments performed by a trained mitigation specialist.
- Landscaping guidance based on the [Colorado State Forestry Service Firewise Guidelines](#).
- A detailed and customized report, including a mitigation checklist to guide the homeowner’s mitigation actions.
- A follow up site visit to verify completion of work.
- A certificate to acknowledge successful completion, which may also be shared with insurance providers to secure or renew coverage.

Each program also takes advantage of the \$2,500 tax deduction available for Colorado homeowners creating defensible space.

### Eagle County, CO

#### *Existing Regulations for New Construction*

Regulations in Eagle County are meant to reduce risk, provide a set of strategies to help minimize impact to adjoining properties, and provide firefighter access when wildfires do occur. When possible, development in high-risk locations is avoided altogether. Eagle County’s land use regulations include a section for [Development in Areas Subject to Wildfire Hazards in the Eagle County \(Section 4-430\)](#). This section is applicable to any application for a Special Use Permit, Subdivision or Planned Unit Development. It requires the submittal of a vegetation management plan, and includes detailed language on plan requirements, procedure and standards. The County’s [development standards](#) require:

- A wildfire hazard rating for a plat before any building permit is issued.
- A Vegetation Management Plan for new development be generated by a natural resource professional.
- Fire resistant materials for interior walls and ceilings with a one hour rating (e.g., 5/8” thick gypsum board) along with a non-combustible exterior such as brick or mortar.
- Adequate defensible space around the structure.
- A water supply and access plan identifying adequate turn arounds and dual point access in new developments.



## ***REALFire® Program***

The REALFire® program was established by the Vail Board of Realtors® and Eagle County, Colorado. It uniquely engages Realtors in local wildfire risk reduction efforts by engaging their support and expertise in marketing and outreach with local members and other Realtors associations. Eagle County provides assessment data, program coordination and outreach with local fire protection districts. A home assessment app has also been generated based on home ignition zone best practices, which automatically generates a full property assessment report. Each completed assessment is automatically stored in a database for easy access and management of collected information.

The program is funded through Eagle County, Vail Board of Realtors, several Homeowner Associations, and state and federal grants. Assessments were initially offered at \$50 and will be offered at no cost during the 2017 calendar year. Homeowners who successfully complete their wildfire mitigation activities can obtain a wildfire certificate for their individual properties. This certification can be used to enhance real estate transactions by reassuring prospective buyers that wildfire risk reduction has been achieved. More information is available on the REALFire® [website](#).

## **Boulder County, CO**

### ***Existing Regulations for New Construction***

In response to multiple wildfires affecting the Boulder County community, the County surveyed and mapped the WUI area to identify the extent of the wildfire hazard (further explanation found in the [County CWPP](#) Pg.65). Over the course of several decades, the County initiated and revised development regulations for new development in the identified WUI hazard area to address:

- Defensible space practices for all new development
- Building material restrictions including roofing, siding, walls, and windows
- [Site Development Standards/site plan reviews](#) addressing site location, building construction and design, landscaping/defensible space/fuel management, access and water availability.

The County's current Wildfire Mitigation program is administered through the County's Land Use Department. Prior to the issuance of a building or grading permit, a wildfire mitigation plan must be submitted to and approved by a County Wildfire Mitigation Specialist. The wildfire mitigation plan must include a [site plan](#) showing the location of structures and other improvements, extent of defensible space management zones, the location of a fire cistern, and a written narrative detailing the site location, construction design and materials, defensible space and forest management, driveway access for emergency vehicles, water supply and maintenance. Prior to a foundation inspection, the majority of defensible space and forest management must be completed.

Wildfire mitigation [forms and publications](#) for landowners are easily accessible online, and include guidance on defensible space, landscaping, building with ignition-resistant materials, fire sprinkler approval form, rock installation around structures, woody material disposal, and a wildfire mitigation timeline for the building permit application process.



## **Wildfire Partners Program**

The Boulder County’s Wildfire Partners program has been active for three years and has become a template for communities to engage homeowners in the WUI. The program is run completely by Boulder County and, according to the Wildfire Partners Website, “is funded by Boulder County, a \$1.5 million grant from the Colorado Department of Natural Resources and a \$1.25 million grant from the Federal Emergency Management Agency.” These major funding sources have allowed the program to offer reduced assessment rates and financial awards to subsidize work being done by designated contractors or homeowner material costs. Through the partnerships with the insurance companies in the area, receiving a certificate can translate into reductions in insurance premiums and the renewal of insurance policies in wildfire risk areas. More information is available on the Wildfire Partners [website](#).

## **Language on "Qualified Professional" References**

To support the implementation of mitigation programs, communities may rely on qualified professionals to review, develop or submit plans. Examples include:

### **Larimer County, Colorado**

Within Larimer County Colorado’s Land Use Code, Chapter 8 Standards for All Development, [Section 3 Hazard Areas](#) outlines the entire development process in identified hazard zones including professional qualifications, stating:

“All maps and reports required by this section must be prepared by or under the responsible direction of a duly qualified expert. Wildfire hazard analysis must be performed by a professional forester with at least two years’ experience with wildfire hazards in the Rocky Mountain Region.”

### **Boulder County, Colorado**

In Article 3 Application Submittal Requirements, Section 203 Standards for Submittal Requirements of [Boulder County’s Land Use Code](#), necessary professional qualifications and details for hiring consultants are outlined:

#### **“B. Professional Qualifications**

1. A professional consultant may not be necessary for all applications. Only the following will require professional assistance.

a. Improvement plans and reports for water supply, sanitation, drainage, utilities, soils, grading, roads, structures, and other civil engineering work must be certified by a registered Colorado Professional Engineer

b. All documents containing land survey descriptions must be certified by a registered Colorado Professional Land Surveyor

c. Geology reports shall be prepared by either a member of the American Institute of Professional Geologists, a member of the Association of Engineering Geologists, or an individual registered as a geologist by a state



d. Wildlife impact reports, where required, shall be prepared by an approved wildlife expert retained by the County Parks and Open Space Department and paid for by the applicant

2. All data and plans submitted for review must show the qualifications of the individual in charge of the work.

#### C. Consultants

1. If the County does not have qualified staff to review certain elements of a proposal or referral agencies are not able to adequately advise the County regarding certain elements of a proposal, the Board of County Commissioners may authorize the review be performed by a consultant engaged or approved by the Land Use Director after discussion with the applicant.

2. A referral agency may impose a fee for the review of the development proposal.

3. The costs of either review are the responsibility of the applicant. No hearings will be held if the consultants fee has not been paid.”



## **Appendix A: Additional Examples and Resources for Landscaping Regulations**

### **Community Examples**

#### ***Kittitas County, Washington***

Kittitas County adopts the most current ICC WUI code along with Appendix B Vegetation Management Plan in the [Kittitas County Code- Title 20- Fire and Life Safety](#). The county also designated all unincorporated areas to be within the WUI. Further Explanation of Defensible Space is located on their [Building Permit Submittal](#).

#### ***Ruidoso, New Mexico***

Ruidoso was heavily affected by the Little Bear fire in 2012. The City took it upon themselves to mitigate wildfire risk to the community by integrating multiple ordinances, including a comprehensive description of proper defensible space, into their city code. While some of the language would need to be revised due to differences in fuels, [Ruidoso's Fuel Management Standards \(42-80\)](#) provides an excellent example of what can be done when implementing wildfire landscaping ordinances.

Section 42-80 A3 addresses vacant lots and absentee land owners and is measured based on the risk to neighboring properties. The City will notify the landowner of the situation and give a proper timeline to correct the issue. If not corrected a series of escalating fines are imposed until the problem is corrected.

#### ***San Diego, California***

San Diego California may be the most regulated area in the country for defensible space landscaping regulations. [Section 142.0412 Brush Management](#) is a helpful example of defensible space being implemented into landscaping regulations.

The code gives the fire chief specific authority to regulate brush management in addition to overriding specific environmental regulations when necessary. The 100ft defensible space area is broken down into Zone 1 and Zone 2 with extremely detailed outlines for necessary actions in both. These zones and actions could easily be manipulated for local use.

### **Fire Resistant Plant Lists**

[Pacific Northwest Fire Resistant Plant List](#)

[Landscaping Network Fire Resistant Plant List](#)

[FireSmart Canada Guide](#)



## ICC WUI Code Appendix B- Vegetation Management Plan

### APPENDIX B

#### VEGETATION MANAGEMENT PLAN

The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance.

#### SECTION B101

##### GENERAL

##### B101.1 Scope.

Vegetation management plans shall be submitted to the code official for review and approval as part of the plans required for a permit.

##### B101.2 Plan content.

Vegetation management plans shall describe all actions that will be taken to prevent a fire from being carried toward or away from the building. A vegetation management plan shall include at least the following information:

1. A copy of the site plan.
2. Methods and timetables for controlling, changing or modifying areas on the property.

Elements of the plan shall include removal of slash, snags, vegetation that may grow into overhead electrical lines, other ground fuels, ladder fuels and dead trees, and the thinning of live trees.

3. A plan for maintaining the proposed fuel-reduction measures.

##### B101.3 Fuel modification.

To be considered a *fuel modification* for purposes of this code, continuous maintenance of the clearance is required.