



Memorandum

To: Vail Town Council

From: Mark Novak, Fire Chief and Paul Cada, Wildland Program Manager

Date: April 5, 2022

Subject: Proposed Amendments to Code for Reduction of Wildfire Hazards

**See Section IV for modifications to Ordinance No. 2, Series of 2022 incorporating Town Council input from the March 15, 2022 meeting.*

I. Background

The wildfire situation in the Western US is continuing to grow worse, fueled by climate change, community development and excessive fuel loading. Scientific studies released in 2021 have pointed to expanded risks to higher elevation communities such as Vail. Since 2001 fires above 8000ft in elevation have nearly tripled in frequency and acres burned. Another study pointed to a near doubling of moderate and high intensity fires during that same period leading to significantly higher damage to ecosystems and the communities that are built within them.

This intensification of wildfire events has also led to a steep increase in impacts on communities throughout Colorado and the west. Fires such as December's Marshall Fire, burning in areas previously not thought of as "at risk" from wildfires are sustaining significant loss. These losses have led to a growing body of research on what is causing both individual and community losses from wildfire.

In March of 2022 the National Institute of Standards and Technology (NIST) released "WUI Structure/ Parcel/ Community Fire Hazard Mitigation Methodology" which synthesized the most recent research and post fire study of structure loss from wildfire. The report very clearly articulates risk from wildfire as a function of community density and makes very clear connections in shared risk between structures built within 30 feet of each other. Approximately 62% of all structure in the Town of Vail are built within 30 feet of the nearest neighbor. This number does not consider the flammable landscaping or other fuels that may be located between the existing structures reducing the effective separation.

In high density communities ignited structures present high risks to surrounding structures by exposing them to large amounts of heat and embers for long periods of time. The most effective way to prevent community wide loss is by preventing the first

structure from igniting. The report further points out that “*Community participation is necessary in high-density communities. This is due to the disproportionate impact of a single structure ignition on the community.*”

At the February 1st, 2022 Vail Town Council meeting Vail Fire and Emergency Services presented a proposal for the adoption of code that would require the creation and maintenance of a five foot wide area of non-combustible landscaping around all structures in Vail.

II. Current Situation

Vail Fire and Emergency Services is proposing amendments to Title 5- Public Safety, mandating that all structures in the Town of Vail create and maintain an ignition resistant landscaping feature from the foundation wall extending 5 feet from the structure. This area is described as the Fire Free Five. The Fire Free Five represents the largest area where embers may accumulate during a wildfire and is the most critical part of defensible space. Creating a Fire Free Five is the most important action that property owners can take to protect their structure as well as those in proximity.

The Fire Free Five will be consistent with the currently adopted Vail Fire Ignition Resistant Landscaping standards that were vetted by DRB and PEC. These Ignition Resistant Landscape standards are currently required for new development and significant additions.

Under the proposed code each building shall create an area of ignition resistant landscaping which extends from the foundation wall or attachment, such as deck or stairs, whichever is greater out five feet. Within this area allowable landscaping would include:

- Hardscaping such as on-grade patios, walkways, driveways, etc.
- Non-combustible mulch
- Well maintained and irrigated lawn
- Perennial flower beds
- Perennial ground cover

Trees and shrubs would not be allowed to be planted (stem within 5' zone) within the Fire Free Five, however accommodations can be made for existing plant materials that hang over into the 5' zone. Trees planted outside the 5' zone that hang over into the zone must be limbed up to a height of 6' or 1/3 the total height whichever is less and must be trimmed to leave at least a 2' gap between the nearest branch and the building. Heritage trees, those greater than 12" DBH and 40' tall, within the village core may be exempted from the requirements of this code following a site-specific hazard evaluation.

The Fire Free Five shall also apply to material placed or stored within this area. Combustible materials such as firewood, construction materials or other combustibles may not be stored within this zone. Combustibles may be allowed to be stored within this zone if they are enclosed in a manner to prevent the ignition from wildfire flames or embers.

To reasonably implement a mandatory Fire Free Five, an extended implementation period of 3 years from the date of adoption is proposed. During this time each property in the Town of Vail will be evaluated, and educational information describing compliance options will be provided to each owner. Beginning in 2025 each property would be evaluated once every 3 years for compliance. Properties not in compliance will be provided with written notice. The emphasis will be to gain voluntary compliance. In cases where voluntary compliance is not achieved, the case may be referred to the Vail Municipal Court. Mitigation actions may be mandated by the municipal judge. This extended implementation period will also allow town staff to work together to develop resources to assist community members in the implementation of the Fire Free Five. These resources include direct assistance to property owners to complete tasks such as limbing trees and financial assistance to offset costs associated with implementing the Fire Free Five.

The concept of the Fire Free Five was presented to the Building and Fire Code Board of Appeals at their December 2021 meeting and the Design Review Board on January 19th, 2022. *The Fire Free Five was presented to the PEC at the February 14, 2022 meeting. The PEC did not take action on the Fire Free Five as amendments to Title 5 of the Town Code is outside their purview.* These bodies recognized that this may be a significant change in some portions of the community, however they also saw the great value in reducing the shared risk from wildfire.

Since the Town Council Fire Free Five presentation on February 1st, each property owner in Vail has received a postcard mailing inviting them to attend community gatherings and explore information on the Towns webpage www.vailgov.com/firefreefive. On February 28th and March 4th Vail Fire and Emergency Services hosted community meetings in East and West Vail respectively to provide information on the proposal and answer community members questions. 31 community members attend the gatherings to learn more about the proposal. Department members were also available at the March 8th Community meeting to inform the public and answer questions. The Fire Free Five information was also featured in a news article by the Vail Daily as well as included in the KYZR 8150 Report in February.

Implementation of the Fire Free Five is critical. Between 2017 and 2021 Vail Fire conducted a curbside wildfire hazard evaluation of every parcel with Vail and the results were shared with every property owner. During this process staff identified that 79% of structures within the community do not have an adequate Fire Free Five. As described in the NIST study the only way to prevent large scale community wide loss is through

III. Alignment with Existing Plans

The Fire Free Five requirement is consistent with the following Town Council adopted plans:

- A. **Council Action Plan:** *Sustainability-Institute Measures to Best Mitigate Wildfire Danger*

- B. **Town of Vail Community Wildfire Protection Plan:** *Goal 1-Reduce the Risk of a Wildland Urban Disaster within the Town of Vail*
- C. **Vail Fire and Emergency Services Strategic Plan:** *Objective CRR 2.1- Adopt Codes that Reduce Structural Ignitability from Wildland Fire at a Community Level- Require a 5' Non-combustible Zone Adjacent to structures*

IV. Actions since introduction of Ordinance No. 2 at the March 15 Town Council meeting.

- A. *Modifications to Ordinance No. 2, Series of 2022*
 - 1. *An exemption has been created for Heritage Trees regardless of geographical location within the Town of Vail. Large aspen trees (>8' Diameter at Breast Height) have been added to the definition of potential "heritage trees".*
 - 2. *Provides accommodation for nesting birds.*
 - 3. *Specifies that Ordinance No. 2 is not effective until 2025.*
- B. *Staff has proposed the creation of the Fire Free Five Community Assistance Program with initial funding of \$150,000 (pending TC approval)*

V. Staff Recommendation

Approve on first reading Ordinance No. 2, Series of 2022, an ordinance amending Chapter 11 of title 5 of the Vail Town Code to reduce the risk of wildfires in the Town of Vail.