

The following provisions shall have the effect of either amending, adding to, or deleting from the International Wildland Urban Interface Code, 2024 Edition:

Add this to section 101.2 Scope: When determining which conditions constitute a distinct danger to life or property, the Code Official may be guided by industry standards, individual site conditions, hazard ratings, risk assessments, basal area calculations, and/or tree densities determined to be effective in identifying and mitigating fire danger and/or protecting property.

In coordination with the Community Development Department, the provisions of this code shall be applied to all future developments to make properties Fire Adapted prior to the application of resource protection standards found in the Land Development Code.

Amend 101.2.1 Appendices by adding:

The following Appendices are hereby adopted as part of the IWUIC:

APPENDIX A – General Requirements

Amend 101.3 Purpose to read: The purpose of this code is to establish minimum regulations for the safeguarding of life and for property protection.

Regulations in this code are intended to mitigate the risk to life and structures from intrusion of fire from wildland fire exposures and fire exposures from adjacent structures and to mitigate structure fires from spreading to wildland fuels. The extent of this regulation is intended to be tiered commensurate with the relative level of hazard present.

The unrestricted use of property in wildland-urban interface areas is a potential threat to life and property from fire, economic, and resulting environmental impacts. Safeguards to prevent the occurrence of fires and to provide adequate fire protection facilities to control the spread of fire in *wildland-urban interface areas* shall be in accordance with this code.

This code shall supplement the jurisdiction's building and fire codes, if such codes have been adopted, to provide for special regulations to mitigate the fire- and life-safety hazards of the *wildland-urban interface areas*.

Amend 106.4 Vegetation management plans to read: Where utilized by the permit applicant pursuant to Section 502 forest stewardship plans shall be prepared and shall be submitted to the *code official* for review and approval as part of the plans required for a permit.

Insert to SECTION 202—DEFINITIONS:

FIRE RESISTIVE VEGETATION is those plants that burn at a relatively low intensity, slow rates of spread, and with short flame lengths. Characteristics include:

1. Growth with little or no accumulation of dead vegetation (either on the ground or standing upright)
2. Non-resinous plants (ex: flowers or aspen trees)
3. Low volume of total vegetation (ex: grass vs. brush)
4. Plants with high live fuel moisture (large amount of water in relation to their dry weight)
5. Drought tolerant plants
6. Stands without ladder fuels (plants without small, fine branches and limbs or adjacent shorter plants that create a ready-avenue for fire to move upward from the ground to the top of the vegetation)
7. Plants requiring little maintenance
8. Plants with woody stems and branches that require prolonged heating to ignite

FOREST MANAGEMENT PLAN is a comprehensive management plan that is applied to all lands within the city boundary, as well as any parcels or areas served by an emergency response/suppression contract.

FOREST STEWARDSHIP PLAN applies to subdivisions, multi-family residential, commercial, and industrial development both inside and outside the Resource Protection Overlay. It does not apply to individual hazard tree removal or individual single family residential parcels. Specific determination of need will be made by Staff.

- Forest Stewardship Plan must include both narrative and descriptive maps documenting how existing forest conditions will be modified to align with the desired conditions and tree density as stated in the Forest Management Plan.

- The Forest Stewardship Plan is in addition to the Flagstaff Zoning Code standards.

- If a parcel falls within the Resource Protection Overlay, a Forest Stewardship Plan must be reviewed and approved prior to the submittal of the Natural Resource Protection Plan that aligns with the Resource Protection Standards (10-50.90).

The Forest Stewardship Plan template is available on the Flagstaff Fire Department Wildland Fire Management website.

HAZARDOUS FUELS are weeds, grass, needles, straw, brush, trees, vines, wood chips, firewood, or other vegetation - living or dead - that a) if ignited, will present a risk to life or property, or b) if left in its current or natural state, will create an impediment to access, pose a threat to improvements, infrastructure, or public safety, or may cause a fire to ignite.

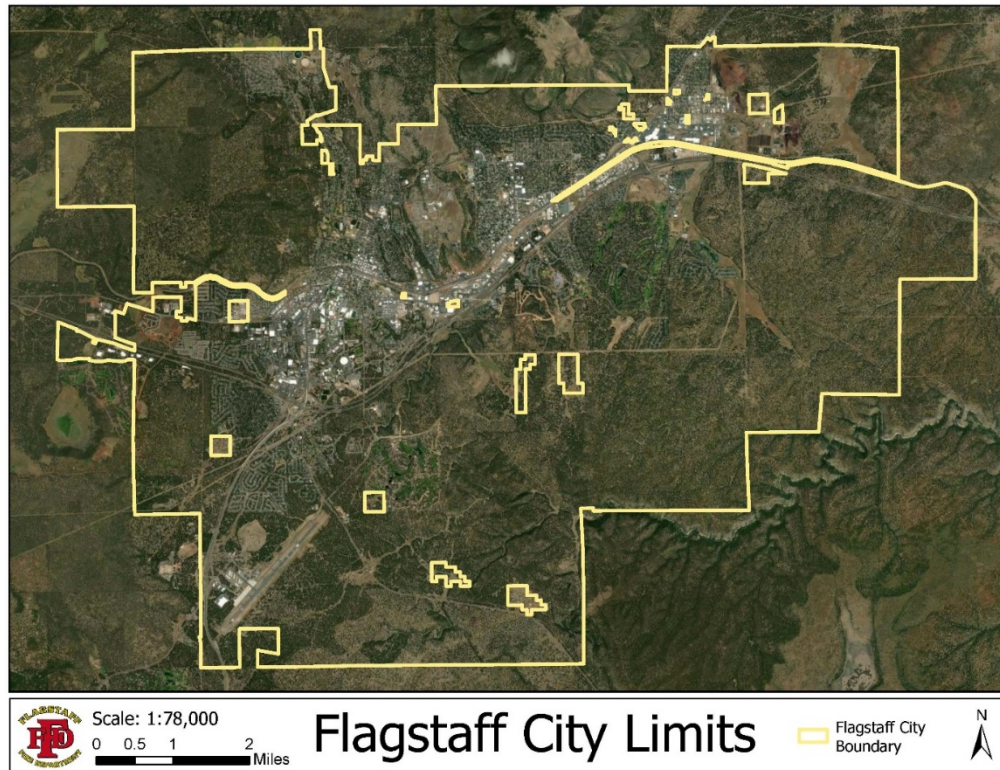
VEGETATION MANAGEMENT is a plan or operational activity, described below, that is undertaken by property owners at their own discretion or directed/approved by the Code Official designed or required to reduce wildfire threat, promote environmental sustainability, public welfare, and/or community well-being.

1. **Debris Disposal** - Removal of cut, dead, dying, and/or downed vegetation or other combustible materials, including flammable landscaping plants.
2. **Marking** - Designating trees or other vegetation, by location, paint, flagging, or other identification system, that are to be either removed or retained.
3. **Prescribed Fire** - The planned use of fire under specific environmental conditions to achieve forest management or community protection objectives. Used to reduce hazardous fuel levels, control unwanted vegetation, recycle nutrients, favor desired vegetation, and improve visibility and wildlife habitat.
4. **Selective Tree Thinning** - The periodic removal of individual trees or groups of trees to reduce threat of wildfire, improve individual tree vigor and forest health, or achieve other desired objectives.

Amend 301.1 Scope to read: The provisions of this chapter provide methodology to establish and record *wildland-urban interface areas* based on the findings of fact: high temperatures, low relative humidity, breezy/windy conditions, low fuel moistures, weather-related ignition potential, human-related ignition potential, historical fire data, natural fire adapted ecosystem, ember lofting and carrying potential, tree densities, crown closure, ladder fuels, surface fuels, and other fire risk factors.

Amend 302.3 Review of wildland-urban interface areas to read:

All land within the Flagstaff City Limits is considered Wildland Urban Interface.



Section 4 WILDLAND-URBAN INTERFACE AREA REQUIREMENTS

Delete: User notes:

About this chapter: Chapter 4 provides requirements that apply to all occupancies in the wildland-urban interface and pertain to all the following:

1. Fire service access to the property that is to be protected, including fire apparatus access roads and off-road driveways.
2. Premises identification.
3. Key boxes to provide ready access to properties secured by gated roadways or other impediments to rapid fire service access.
4. Fire protection water supplies, including adequate water sources, pumper apparatus drafting sites, fire hydrant systems and system reliability.
5. Fire department access to equipment such as fire suppression equipment and fire hydrants.
6. Fire protection plans.

Amend 402.2.2 Water supply to read: Individual structures hereafter constructed or relocated into or within *wildland-urban interface areas* shall be provided with a conforming water supply in accordance with Section 404.

Exceptions:

Buildings containing only private garages, carports, sheds and agricultural buildings with a floor area of not more than 600 square feet (56 m²).

Delete Section 5 and replace with:

SECTION 501—GENERAL

501.1 Scope. Buildings and structures shall be constructed in accordance with the *International Residential Code and International Building Code* and this code.

Exceptions:

1. Accessory structures not exceeding 120 square feet (11 m²) in floor area where located greater than or equal to 50 feet from buildings containing habitable spaces.
2. Agricultural buildings greater than or equal to 50 feet from buildings containing habitable spaces.

501.2 Objective. The objective of this chapter is to establish minimum standards to locate, design and construct buildings and structures or portions thereof for the protection of life and property, to resist damage from wildfires, and to mitigate building and structure fires from spreading to wildland fuels. The minimum standards set forth in this chapter vary with the critical *fire weather*, slope and fuel type to provide increased protection, above the requirements set forth in the *International Building Code*, from the various levels of hazards.

501.3 Fire-resistance-rated construction. Where this code requires 1-hour *fire-resistance-rated construction*, the fire-resistance rating of building elements, components or assemblies shall be determined in accordance with the test procedures set forth in ASTM E119 or UL 263.

Exceptions:

1. The fire-resistance rating of building elements, components or assemblies based on the prescriptive designs prescribed in Section 721 of the *International Building Code*.
2. The fire-resistance rating of building elements, components or assemblies based on the calculation procedures in accordance with Section 722 of the *International Building Code*.

SECTION 503 NON-COMBUSTIBLE CONSTRUCTION AND MATERIAL

503.1 General. Buildings and structures hereafter constructed, modified or relocated into the City of Flagstaff, shall meet the construction requirements in accordance with Section 503.2 and 504.

503.2.1 Noncombustible material. Material shall comply with the definition of *noncombustible* materials in Section 202.

SECTION 504 EXTERIOR CONSTRUCTION

504.2 Roof assembly. Roofs shall have a *roof assembly* that complies with a Class A rating when tested in accordance with ASTM E108 or UL 790. For *roof assemblies* where the profile allows a space between the *roof covering* and *roof deck*, the space at the eave ends shall be fire stopped to preclude entry of flames or embers or have one layer of 72-pound (32.4 kg) mineral-surfaced, nonperforated cap sheet complying with ASTM D3909 installed over the combustible *roof deck*.

Class A rated roof covering types include, but are not limited to:

- Cement shingles or sheets.
 - Exposed concrete slab roof.
 - Ferrous or copper shingles or sheets.
 - Slate shingles.
 - Clay or concrete roofing tile.
- o Where provided, barrel tile or corrugated roof coverings shall include noncombustible bird stops at the eave ends to prevent the entry of embers and debris.
- The use of wood shake, wood shingle, or any wood roof covering material regardless of test rating are not permitted.

504.2.1 Roof valleys. Where provided, valley flashings shall be not less than 0.019 inch (0.48 mm) (No. 26 galvanized sheet gage) corrosion-resistant metal installed

over a minimum 36-inch-wide (914 mm) underlayment consisting of one layer of 72-pound (32.4 kg) mineral-surfaced, nonperforated cap sheet complying with ASTM D3909 running the full length of the valley.

504.3 Protection of eaves. Eaves shall be enclosed or protected on the exposed underside using noncombustible materials.

504.4 Gutters and downspouts. Gutters and downspouts shall be constructed of *noncombustible* (metal) material. Gutters shall be covered with a noncombustible material to prevent the accumulation of leaves and debris in the gutter.

504.5 Exterior walls. Exterior walls of buildings or structures shall be constructed with:

1. *Approved noncombustible materials.* (e.g., metal, fibercement, masonry veneer, stucco, brick, concrete).
 - Where provided, all shutters (e.g., decorative and operable) shall be made of noncombustible material.
 - Note: Combustible wall cover material (e.g., wood shake, wood shingle, or any other wood siding material including ignition-resistant treatments and coatings) by construction or assembly are not permitted.
3. Heavy timber or *log wall construction may be permitted for projects based on Fire Code Official approval and Community Development review.*

504.5.1 Flashing. A minimum of 6 inches (152 mm) of metal flashing or noncombustible material applied vertically on the exterior of the wall shall be installed at the ground, decking and roof intersections where any non-combustible-gaps may occur.

504.6 Underfloor enclosure. Buildings or structures shall have underfloor areas enclosed to the ground with exterior walls in accordance with Section 504.5 with noncombustible corrosion-resistant mesh not to exceed 1/8-inch in diameter covering any openings.

Exception: Complete enclosure shall not be required where underfloor areas are elevated more than 4 feet above the ground. In such a case, columns and supporting walls must either be non-combustible or covered with non-combustible material.

504.7 Appendages, projections, attached patios, decks, and overhead structures (e.g., Covered Porches, Pergolas, Carports, and Gazebos). Unenclosed accessory structures attached to buildings with habitable spaces and projections, such as decks, shall be constructed in accordance with one of the following methods:

1. All the components including posts, joists, railings, stairs, and walking surfaces are constructed with noncombustible materials.
2. Deck walking surfaces constructed with a solid (no gaps), noncombustible material such as metal or light-weight concrete; railings within 5 feet of the home constructed of a noncombustible material, including where railings attach to the home; and deck posts with a minimum of 6 vertical inches of noncombustible material at grade.

Staircases 4 feet in width or less that attach to a deck and are open underneath, shall meet one of the following requirements:

- Open risers (no solid risers)
 - shall have a minimum of 6 vertical inches of the bottom of stairs made from noncombustible material.
 - Stair treads should be a solid (no gaps), noncombustible material, such as metal or light-weight concrete.
- Closed risers
 - shall have a minimum of 6 vertical inches of the bottom of stairs made from noncombustible material.
 - Stair treads and risers should be a solid (no gaps), noncombustible material, such as metal or light-weight concrete.
 - Staircases wider than 4 feet that attach to a deck, the staircase shall be cleared underneath and enclosed with a noncombustible corrosion-resistant mesh with openings not to exceed 1/8-inch in diameter and meet the following requirements:

3: Retrofits

- Deck Walking Surfaces shall be constructed with a solid, noncombustible material (e.g., metal or lightweight concrete) with no gaps.

- o Deck Railings within 5 feet of the home shall be constructed with noncombustible material, including where they attach to the home.
 - o Deck posts shall have a minimum of 6-inches of noncombustible material (e.g., metal flashing or fiber-cement board) applied vertically to the base.
 - o Stairs Attached to a Deck shall meet one the following requirements:
- Stairs Less than 4 Feet Wide and Open Underneath:
 - o A minimum of 6-inches of noncombustible material (e.g., metal flashing or fiber-cement) shall be applied vertically at the exterior base, measured from the ground at grade.
 - o Stair treads shall be a solid (no gaps) and made of noncombustible material (e.g., metal or lightweight concrete).
 - o Exception: If stairs are constructed with closed risers, they shall also be solid (no gaps) and made of noncombustible material.
- Stairs Wider Than 4 Feet:
 - o The area underneath shall be enclosed with noncombustible, corrosion-resistant mesh with openings not to exceed 1/8-inch in diameter.
 - o A minimum of 6-inches of noncombustible material (e.g., metal flashing or fiber-cement) shall be applied vertically at the exterior base, measured from the ground at grade.
 - o Stairs shall have closed risers. Stair treads and risers shall be a solid, and made of noncombustible material (e.g., metal or light-weight concrete) with no gaps.
- **Roof Covering** – Shall meet one of the following requirements:
 - o A solid roof covering material with a Class A rating when tested in accordance with ASTM E108 or UL 790, or
 - o Constructed of combustible slats (e.g., pergola) that cover no more than 15% of the total surface area.

- **Setback** – A detached combustible overhead structure (e.g., pergola and gazebo) on an attached deck shall be at least 10 feet from all exterior walls of the home.

- o *Exception:* An overhead structure constructed entirely of noncombustible materials is permitted with no setback requirement.

- **Posts** – exterior surface of the post must be non-combustible

- **Other** – Shall be free of any vegetation, curtains, drapes, and shade screens.

- o *Exception:* Shade screens that retract into noncombustible housing are permitted.

- **Carports and Garages** – Must have noncombustible wall covering material and the 0–5 Foot Noncombustible Zone under and around the structure.

- o An open carport with exposed combustible interior wall covering (e.g., wood), shall be enclosed.

- **6-inch Vertical Noncombustible Clearance** – Shall have noncombustible covering material for all posts, supporting walls, and stairs measured from the ground at grade.

- **Lattice and Mesh** – Must be noncombustible material (e.g., metal). Where noncombustible corrosion-resistant metal mesh is provided, the mesh shall be installed on the outside of the lattice.

- o *Exception:* An open outdoor living area under the deck shall meet the same requirements (see “Top of walking surfaces” above).

- Additionally, decks with a walking surface of 4 feet or less above the ground, shall be enclosed with the following:

- o When measured from the walking surface to the ground, the underdeck area with this height or less shall be enclosed with noncombustible, corrosion-resistant mesh. The mesh openings shall not exceed 1/8-inch in diameter and shall fully enclose the outer edge of the deck from the walking surface to the ground. This enclosure is required to reduce debris accumulation and limit ember intrusion beneath the deck.

Detached Decks and Overhead Structures (e.g., Covered Porches, Pergolas, Carports, and Gazebos) Where provided, detached decks and overhead structures within 10 feet of the home shall meet the same requirements as attached decks

504.7.1 Underfloor areas. Where the attached structure is located and constructed so that the structure or any portion thereof projects over a descending slope surface greater than 10 percent, the area below the structure shall have underfloor areas enclosed with exterior wall construction in accordance with Section 504.5.

504.8 Exterior glazing. *Exterior Glass (Windows, Skylights, and Glazed Openings within Doors)*

All exterior windows, skylights, and glazed openings within doors shall comply with one of the following requirements:

- Multipaned glass with at least two tempered panes.
- Glass with a minimum of 20-minutes fire-resistance rating when tested in accordance with NFPA 257.
- Glass blocks (windows only).
- Operable skylights shall be protected by a noncombustible mesh screen where mesh openings shall not exceed 1/8-inch in diameter
 - All retrofit/replacement windows must comply

504.9 Exterior doors. All exterior doors shall comply with one of the following requirements:

- Exterior doors shall be approved noncombustible construction, or solid-core wood not less than 1-3/4 inches thick (44 mm). The exterior doors shall be constructed with noncombustible threshold. Windows within doors and glazed doors shall be in accordance with this standard's exterior glass requirements (see 3.1.5 Exterior Glass).
- Exterior door assembly shall have a fire-resistance rating of not less than 20-minutes when tested according to NFPA 252.
- Doors made of combustible material (e.g. non-solid core wood doors) are permissible provided a noncombustible exterior storm door is installed as the outermost door.

504.10 Vents. Where provided, ventilation openings for enclosed attics, gable ends, ridge ends, under eaves and cornices, enclosed eave soffit spaces, enclosed rafter spaces formed where ceilings are applied directly to the underside of roof rafters, underfloor ventilation, foundations and crawl spaces, or any other opening

intended to permit ventilation, either in a horizontal or vertical surface, shall meet one of the following requirement options:

- **Performance-based Option** – Corrosion-resistant vents installed, conforming with the following ASTM E2886 test requirements for flame- and ember-resistance:

- o No flaming ignition of the cotton material during the Ember Intrusion Test.
- o No flaming ignition during the Integrity Test portion of the Flame Intrusion Test.
- o Temperature of the unexposed side of the vent does not exceed 662°F.
- o *Note:* Joints around such vents shall be sealed with sealants in accordance with vent manufacturer installation instructions to avoid ember and flame intrusion through the joints.

- **Prescriptive Option** – Vents shall be covered with a noncombustible, corrosion-resistant mesh with openings not to exceed 1/8-inch in diameter for ember-resistance.

- o *Exceptions:*

- o Forced air vents (e.g., dryer and central vacuum) shall have a functional louver or flap made of non-combustible material in lieu of mesh.
 - o Plumbing vents are excluded from this requirement.

504.10.3 Vent locations. Attic ventilation openings shall not be located in soffits, in eave overhangs, between rafters at eaves or in other overhang areas. Gable-end and dormer vents shall be located not less than 10 feet (3048 mm) from lot lines. Underfloor ventilation openings shall be located as close to grade as practical.

504.11 Detached accessory dwelling units and accessory structures. All accessory structures with a footprint greater than or equal to 120 square feet shall fully comply with Section 5 Construction, unless more than 50 feet away from habitable spaces.

SECTION 507—REPLACEMENT OR REPAIR

507.1 General. The *roof covering and siding* on buildings or structures in existence prior to the adoption of this code that have 25 percent or more replaced in a 12-month period shall be replaced with new construction requirements specified in

accordance with Section 5. All *windows, eaves, vents, and exterior doors* on buildings or structures in existence prior to the adoption of this code must be replaced with new construction requirements specified in accordance with Section 5.

Additional information regarding eligibility, designation levels, requirements, process, and timing for the Insurance Institute for Business and Home Safety Wildfire Prepared Home program is available here: <https://wildfireprepared.org/>

Amend SECTION 602—AUTOMATIC SPRINKLER SYSTEMS to read: 602.1 General. Sprinkler systems must comply with ARS 9-807.

Amend 603.2 Fuel modification to read: Buildings or structures, shall comply with the 0-5 foot non-combustible info below, and with the City of Flagstaff Forest Management Plan, Landscaping Code and Resource Protection Standards.

Delete table 603.2

Insert 603.2.1 The 0–5 Foot Noncombustible Zone shall meet all the following requirements:

0–5 Foot Noncombustible Zone – Area within 5 Feet of the Home and Attachments

The first five feet surrounding the home and its attachments (e.g., decks, patios, overhead structures, stairs) is the **most critical area of defensible space**. This zone shall be established and maintained as noncombustible. The 0-5 Foot Noncombustible Zone is measured horizontally from the edge of the home's exterior walls and, if present, the outermost posts of a deck or overhead structure, extending outward to 5 feet (see Figure 2). This noncombustible area also extends vertically to the sky. The 0–5 Foot Noncombustible Zone shall meet all the following requirements:

• Vegetation –

o Shall remove all vegetation (e.g., grass, artificial turf, weeds, flowers, succulents, cacti, plants, shrubs, bushes, and vegetative debris) within 5 feet to bare mineral soil.

o Shall remove all trees, limbs, branches, and vines that are within and that overhang the 0–5 Foot Noncombustible Zone.

- **Groundcover –**

- o Shall remove all combustible groundcover materials (e.g., wood and rubber mulch and exposed weed cloth) within 5 feet to bare mineral soil.

- **Note:** Noncombustible hardscape materials (e.g., gravel, pavers, river rocks, decomposed granite, steppingstones, and concrete) are permitted.

- **Fencing and Retaining Walls –**

- o Shall remove combustible fencing materials (e.g., wood and vinyl), posts, gates, and retaining walls within 5 feet or replace with noncombustible material.

Parallel Fences within 5 to 30 feet

Back-to-back (parallel) combustible fencing (meaning separate fences that are combustible and closer than 5 feet apart) are not permitted.

- *Exception:* If one or both back-to-back (parallel) fences are constructed with noncombustible materials (e.g., concrete or metal).

- *Note:* Meeting this requirement may necessitate coordination with neighbors or an HOA to eliminate at least one of the combustible parallel fences.

Refer to City of Flagstaff Forest Management Plan and Landscaping Code for Tree and Shrub Spacing outside of the 0-5 foot zone.

Insert 603.2.2 Trees. Tree stems and canopies are allowed outside of the 0-5 foot zone, provided that they meet City of Flagstaff Forest Management Plan and Landscaping Code.

Other Requirements

- o Tree limbs may not extend into the vertical plane of a chimney outlet
 - o Tree limbs shall not touch roof coverings at any time
 - o Hazard trees, as determined by the Code Official, shall be removed. When determining hazard trees, the Code Official may be guided by industry standards, individual site conditions, hazard ratings, risk assessments, basal area calculations, and/or tree densities determined to be effective in identifying and mitigating fire danger and/or protecting property. Trees that are in such a position fall and endangering life or property are determined to be hazard trees.

Amend 603.2.3 Ground cover to read: Deadwood and litter shall be regularly removed from trees. Needles and/or duff layer shall not exceed 3 inches in depth.

Delete 604.4, 604.4.1, 604.4.2

Amend A104.4 Smoking to read: Where required by the *code official*, signs shall be posted stating NO SMOKING. Persons shall not smoke within 15 feet (4572 mm) of combustible materials or nonfire-resistive vegetation.

Smoking and use of electronic cigarettes is always prohibited in all public places within the City of Flagstaff.

Amend A104.5 Equipment and devices generating heat, sparks or open flames to read: Equipment and devices generating heat, sparks or open flames capable of igniting nearby combustibles may be prohibited in the wildland urban interface by the Code Official during periods of very high or greater fire danger as determined by the Coconino National Forest

Amend A104.6 Fireworks to read: The sale or use of consumer-grade fireworks within the City of Flagstaff may be prohibited based on fire restrictions

Amend A104.7.1 General. No person shall build, ignite, or maintain any outdoor fire of any kind for any purpose within the City of Flagstaff, except by the authority of a written permit from the Fire Department.

Exception: Outdoor fires within inhabited premises or designated campsites where such fires are in a permanent barbecue, portable barbecue, outdoor fireplace, incinerator or grill, or any other outdoor fire appliance for such purposes, and are not less than 15 feet (9144 mm) from any combustible material or nonfire-resistive vegetation.

Amend A107.4 Trees. Portions of trees that extend to within 30 feet (9144 mm) of combustible portions of water storage and pumping facilities shall be removed unless approved by the Code Official.