



## KITTITAS COUNTY COMMUNITY DEVELOPMENT SERVICES

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**F-001**  
**BULLETIN**

# BUILDING PERMIT SUBMITTAL FOR STRUCTURES ON PROPERTY LOCATED OUTSIDE OF A FIRE DISTRICT

FOR MORE INFORMATION VISIT THE CDS WEBSITE AT: [WWW.CO.KITTITAS.WA.US/CDS](http://WWW.CO.KITTITAS.WA.US/CDS)

If a property is located outside of a fire district then the International Wildland-Urban Interface Code (WUIC) will apply to any structures built on the property. Construction on properties located outside of fire districts must meet certain requirements, such as non-combustible or 1-hr exterior siding materials, defensible space, enclosed non-combustible soffits, a fire suppression sprinkler system and possibly other requirements, which will be determined after a Community Development Services staff member conducts a site visit and meets with you. This process will clearly establish the conditions necessary to ensure that the structure meets the requirements of the WUIC.

### **The following steps must be taken prior to building permit application:**

- SCHEDULE A SITE INSPECTION:** The owner or owner's authorized agent shall schedule a site inspection with Kittitas County Community Development Services. The owner or owner's agent should be on site to facilitate the inspection process. The proposed location of the structure to be built will need to be identified. This can be done with stakes, string or by any obvious means. During the site inspection, Kittitas County Community Development Services staff will determine the fire hazard severity rating of the property determine which WUIC ignition-resistant construction class will be required for the proposed structure.
- PRE-APPLICATION MEETING:** Prior to submitting building plans for permit a pre-application meeting will need to be held with Community Development Services' staff.. During this meeting staff will review the construction drawings and defensible space plan. At the pre-application meeting KCCDS staff will verify that the criterion specified during the site inspection have been appropriately detailed on the construction drawings. An application for building permit will not be accepted until the construction drawings have been reviewed and approved to meet the specified WUIC requirements.
- SUBMITTAL OF PLANS:** Once construction drawings and a defensible space plan have been approved for compliance with WUIC requirements, plans may be submitted for full plan review. During full plan review corrections may be identified necessary to meet life safety and structural code requirements.

### **After issuance of a building permit:**

**FINAL APPROVAL:** Throughout the construction process, and during typical permit inspection stages, KCCDS staff will verify compliance with WUIC requirements as detailed on the permitted drawings and defensible space plan. Prior to final occupancy, a certificate of completion will be issued indicating compliance with the specified WUIC requirements. A certificate of occupancy will not be issued until a WUIC certificate of completion has been issued.

# Wild-Land Urban Interface Code

## Question and Answers

### **Where are the wild-land urban interface areas?**

Currently, the urban wild-land interface areas consist of any area which cannot demonstrate adequate fire flow **and** any area outside a fire district. Also, in heavily timbered, mountainous regions or areas sparsely populated, each jurisdiction can map out additional areas to incorporate into the urban wild-land interface.

### **What is fire flow?**

The flow rate of a water supply, measured at 20 pounds per square inch residual pressure that is available for fire fighting. The criterion of 20 psi residual pressure is used because that is the minimum pressure recommended for fire engines and provides a consistent point from which to measure the available flow.

### **What is the main objective of the WUIC?**

The WUIC mitigates damage and risk to life and property and reduces the risk of forest fires due to structure fires in hazard areas (and vice versa). Fuel reduction at the interface between natural lands and developments can reduce the intensity of the fires before they enter populated areas within the urban wild-land interface.

***Research has shown that the most important factors influencing building survival during a wildfire are fire intensity, vegetation characteristics, building materials (especially roofing) and maintaining defensible space. Strategies for protecting homes from wildfires have been developed with these factors in mind.***

### **How does WUIC affect construction?**

Any building constructed on, or moved to an urban wild-land area must be constructed of ignition resistant materials (Class 1-3). The class of fire resistant materials will depend upon the hazard severity rating (moderate, high, extreme), water supply and defensible space provided for the particular property. The hazard severity rating is determined based upon the fuel type (light, medium, heavy) as well as the slope of the property and the critical fire weather frequency for the area.

***\*The critical fire weather frequency, based on information provided by the Northwest Interagency Coordination Center (NWCC), for Kittitas County is greater than 8 days per year.***

- ❖ Defensible space plans, are required for structures being constructed in urban wild-land areas and must be submitted to the KCCDS prior to a permit being issued.
- ❖ All chimneys must be provided with spark arresters.
- ❖ LPG tanks shall be located within the defensible space listed for that property.
- ❖ Storage of firewood and combustible materials shall be stored within defensible space, but no closer than 20 feet to any structure.
- ❖ No fireworks are allowed within the UWIC
- ❖ Ignition-Resistant construction (Class 1-3) is required based on defensible space and water supply.

## Definitions

**Defensible Space** – The area either natural or man-made, 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.

**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.

**Slope** – the variation of terrain from the horizontal; the number of feet (meters) rise or fall per 100 ft (30480 mm) measured horizontally, expressed in percentage.

**Light Fuel** – Vegetation consisting of herbaceous plants and round wood less than ¼ inch (6.4mm) in diameter.

**Medium Fuel** – Vegetation consisting of round wood ¼ to 3 inches (6.4mm to 76mm) in diameter.

**Heavy Fuel** – Vegetation consisting of round wood 3 to 8 inches (76mm to 203mm) in diameter.

**Heavy Timber Construction** – As described in the International Building Code.

**Log Wall Construction** – A type of construction in which exterior walls are constructed of solid wood members and where the smallest horizontal dimension of each solid wood member is at least 6 inches.

### Critical Fire Weather Frequency Greater than or Equal to 8 days (Kittitas County)

	<i>Slope (%)</i>		
	$\leq 40$	41-60	$\geq 61$
<b>Fuel Model</b>			
Light Fuel	M	M	H
Medium Fuel	E	E	E
Heavy Fuel	E	E	E

**E** = Extreme Hazard      **H** = High Hazard      **M** = Moderate hazard

### Minimum Required Defensible Space

<b>Wildland-Urban Interface Area</b>	<b>Fuel Modification Distance (feet)</b>
Moderate Hazard	30
High Hazard	50
Extreme hazard	100

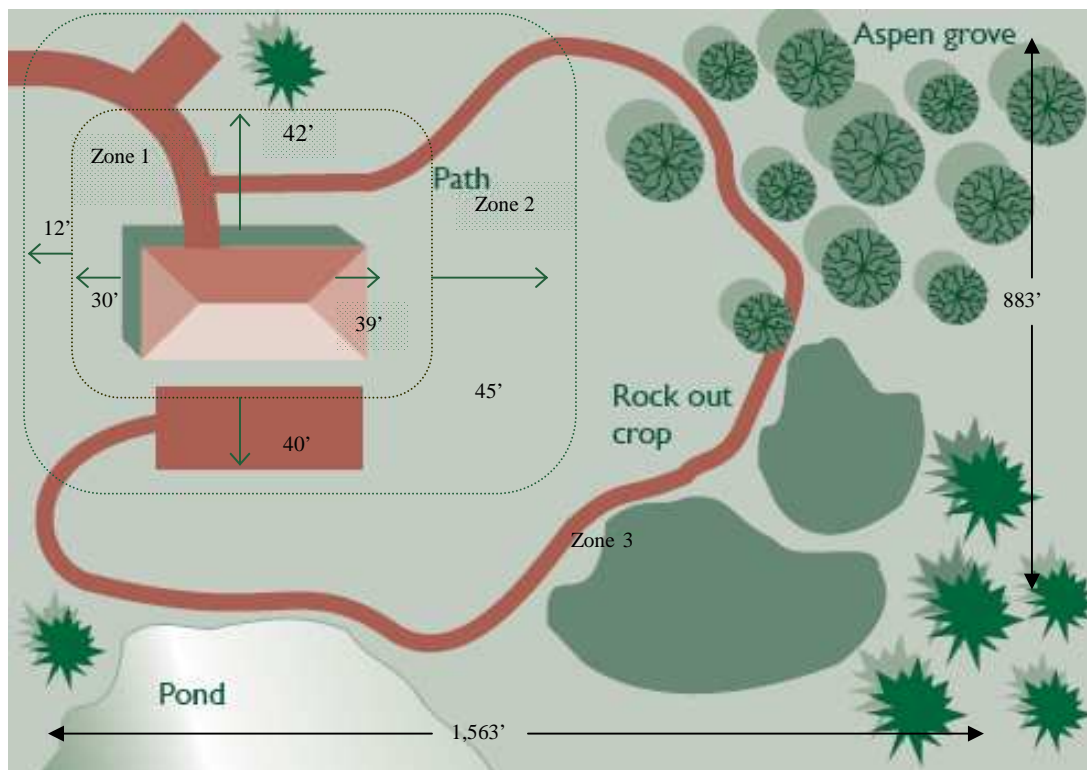
# Defensible Space Plan

**A defensible space plan should include a site plan indicating;**

- \* The property dimensions
- \* Location of any structures on the property, as well as decks, patios, etc.
- \* A cleared space of at least 30' around the structures (see attached diagram). This does not mean that there cannot be natural vegetation in this area, only that the trees, shrubs, etc. should be deciduous, spaced far apart (10' minimum between crowns) and pruned to 10' above ground level.
- \* Any noncombustible surfaces, i.e. gravel, cement sidewalks, driveways, etc.
- \* Slope or grade on property
- \* Dimensions of each zone, see attached
- \* Natural vegetation location and placement in each zone
- \* A brief, written statement of property owner's plan to maintain the defensible space on the property, e.g. removal of dead limbs, continued pruning of trees (crowns), etc.

The site plan diagram should show that moving away from the building out into the wild-land interface, the features gradually shift from man-made to more natural elements.

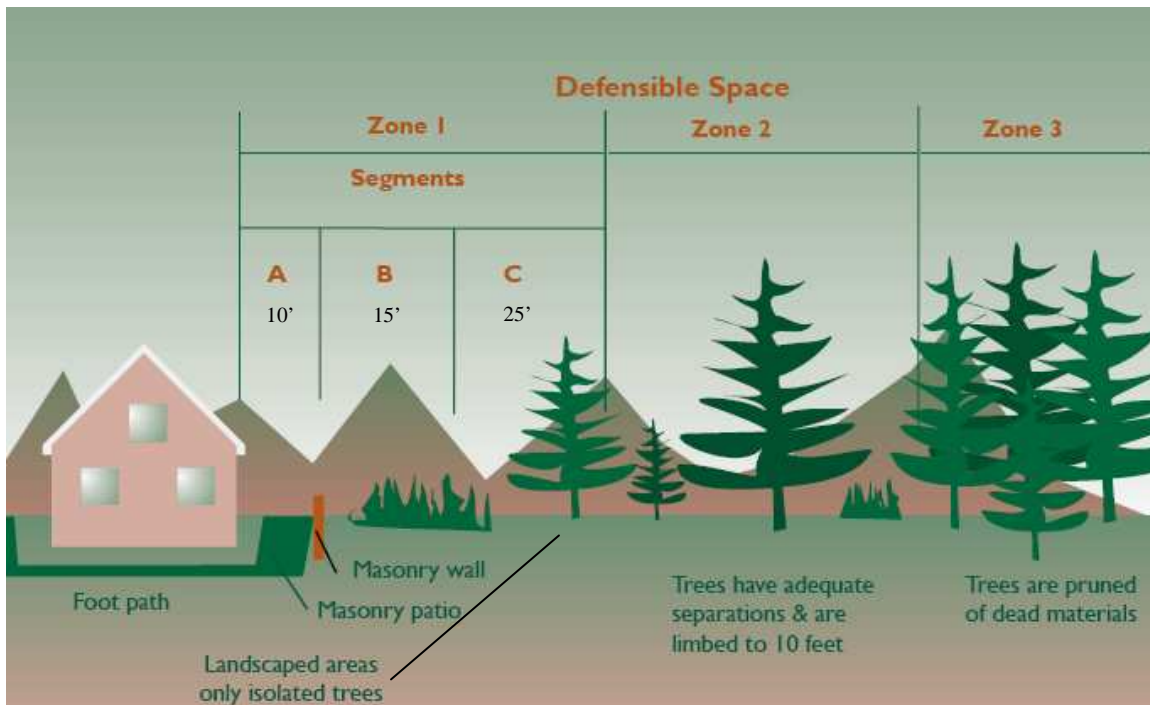
Example-Not to Scale



House located relative to natural and man-made features that buffer against fire.

# Defensible Space Plan

## Example



Zone 1-A—The area directly adjacent to the building(s). This area should contain mostly noncombustible surfaces. Any planting in this area should be deciduous and well trimmed and irrigated. Ground cover should be of flower beds and cut grass.

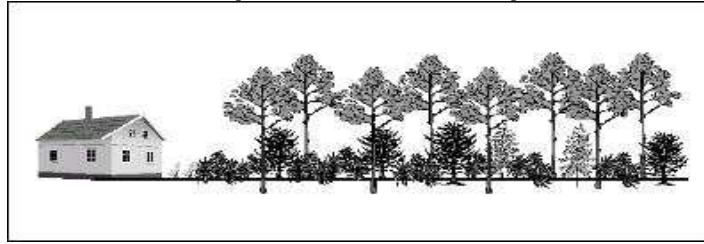
Zone 1-B—This area can have more landscaping and less man-made surfaces. Vegetation should still be deciduous, and the native grasses should be trimmed to approximately 6 inches tall.

Zone 1-C—This area is should change from introduced deciduous trees to the natural vegetation found in the area, including evergreens. These trees should still be maintained far apart and trimmed to 10' above the ground.

Zone 2—The landscape is entirely natural vegetation, but should still be intensely managed. Trim and remove dead material from natural vegetation and the ground. All limbs must be pruned to 10' of the ground, and trim the trees to a minimum of 10' between the crowns of the trees.

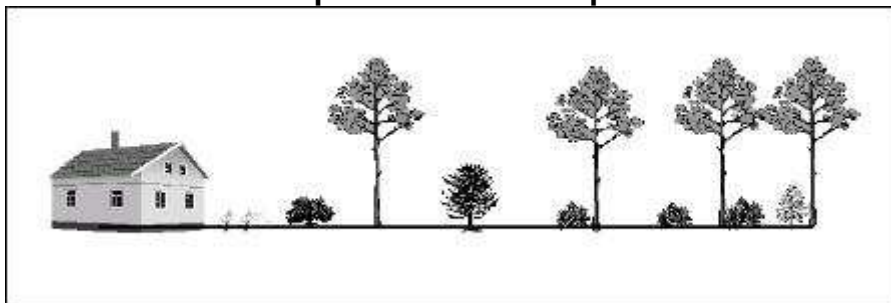
Zone 3—Vegetation management is much less intense. Trees only need to be pruned to 4'-5' above the ground. Dead material should be removed from natural vegetation and the ground.

### Inadequate Defensible Space



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### Adequate Defensible Space



### Adequate Defensible Space



## CLASS I IGNITION-RESISTANT CONSTRUCTION

Roof Coverings	Class A
Protection of Eaves	<p>1-hour fire-resistance-rated construction or 2inch nominal dimension lumber or 1 inch nominal fire-retardant-treated lumber or 3/4" nominal fire-retardant-treated plywood, identified for exterior use and meeting the requirements IBC 2006 section 2303.2</p> <p>* Fascias are required and shall be protected on backside by 1-hour fire-resistance-rated construction or 2-inch nominal dimension lumber.</p>
Gutters and Downspouts	Constructed of noncombustible material
Exterior Walls	<p>1-hour fire-resistance-rated construction on exterior side or Constructed with approved noncombustible materials. Exception: Heavy timber or Log wall construction</p> <p><b><i>Materials must extend from top of foundation wall to underside of roof sheathing.</i></b></p>
Unenclosed Under floor Protection	All under floor areas to be enclosed to ground.
Appendages and Projections	<p>1-hour fire-resistance-rated construction or Heavy timber construction per 2006 IBC or Constructed with approved noncombustible materials. or constructed of fire-retardant-treated wood identified for exterior use and meeting the requirements of section 2303.2 of the 2006 IBC</p>
Exterior Glazing	Tempered glass, multilayered glazed panels, glass block or have a minimum 20 minute fire protection rating.

<p style="text-align: center;">Exterior Doors</p>	<p style="text-align: center;">Solid core wood not less than 1-3/4" thick or Fire protection rating not less than 20 minutes</p> <p style="text-align: center;">Exception: Vehicle access doors</p>
<p style="text-align: center;">Vents</p>	<p style="text-align: center;">Shall not exceed 144 square inches each and shall be covered with noncombustible corrosion resistant mesh with openings not to exceed 1/4"</p> <p style="text-align: center;"><b>Attic ventilation openings cannot be located in soffits, in eave overhangs, between rafters @ eaves or in other overhang areas.</b></p> <p style="text-align: center;">Gable end and dormer vents shall be located 10ft from the property line and under floor ventilation openings should be as close to grade as is possible.</p>
<p style="text-align: center;">Detached Accessory Structures</p>	<p style="text-align: center;">Structures located less than 50 ft from a building containing habitable space shall meet the specified requirements for Class 1 ignition-resistant construction.</p>
<p style="text-align: center;">Fire Sprinklers</p>	<p style="text-align: center;"><b>An approved automatic fire sprinkler system shall be installed in all occupancies in new buildings required to meet the requirements for Class I ignition resistant construction.</b></p> <p style="text-align: center;"><b>(2006 IWUIC Section 602)</b></p>

## CLASS II IGNITION-RESISTANT CONSTRUCTION

Roof Coverings	Class B
Protection of Eaves	Combustible eaves, fascias and soffits shall be enclosed with solid materials of minimum thickness of 3/4". No exposed rafter tails shall be permitted unless constructed of heavy timber materials.
Gutters and Downspouts	Constructed of noncombustible material
Exterior Walls	<p>1-hour fire-resistance-rated construction on exterior side or Constructed with approved noncombustible materials. Exception: Heavy timber or Log wall construction</p> <p><b><i>Materials must extend from top of foundation wall to underside of roof sheathing.</i></b></p>
Unenclosed Under floor Protection	All under floor areas to be enclosed to ground.
Appendages and Projections	<p>1-hour fire-resistance-rated construction or Heavy timber construction per 2006 IBC or Constructed with approved noncombustible materials. or constructed of fire-retardant-treated wood identified for exterior use and meeting the requirements of section 2303.2 of the 2006 IBC</p>
Exterior Glazing	Tempered glass, multilayered glazed panels, glass block or have a minimum 20 minute fire protection rating.
Exterior Doors	<p>Solid core wood not less than 1-3/4" thick or Fire protection rating not less than 20 minutes</p> <p>Exception: Vehicle access doors</p>
Vents	Shall not exceed 144 square inches each and shall be covered with noncombustible corrosion resistant mesh with openings not to exceed 1/4"

	<p><b>Attic ventilation openings cannot be located in soffits, in eave overhangs, between rafters @ eaves or in other overhang areas.</b></p> <p>Gable end and dormer vents shall be located 10ft from the property line and under floor ventilation openings should be as close to grade as is possible.</p>
Detached Accessory Structures	Structures located less than 50 ft from a building containing habitable space shall meet the specified requirements for Class 1 ignition-resistant construction.
Fire sprinklers	Not Required

### CLASS III IGNITION-RESISTANT CONSTRUCTION

Roof Coverings	Class C
Protection of Eaves	No Requirement
Gutters and Downspouts	No Requirement
Exterior Walls	No Requirement
Unenclosed Under floor Protection	All under floor areas to be enclosed to ground
Appendages and Projections	No Requirement
Exterior Glazing	No Requirement
Exterior Doors	No Requirement
Vents	Shall not exceed 144 square inches each and shall be covered with noncombustible corrosion resistant mesh with openings not to exceed 1/4"
Detached Accessory Structures	No Requirement
Fire Sprinklers	Not Required

## FIRE RATINGS FOR EXTERIOR SIDING IN CLASS I & II ZONES

### APPROVED MATERIALS

- \* Fiber-Cement Siding
  - Hazard Rating: Non-combustible.
- \* Vinyl Siding over Fire-Rated Gypsum Board (\*UL Listed and approved)
  - Hazard Rating: 1-Hour Fire Resistance.
- \* Aluminum Siding over Fire-Rated Gypsum Board. (\*UL Listed and approved)
  - Hazard Rating: Non-combustible, not rated.
- \* Brick
  - Hazard Rating: 2-Hour Fire Resistance.
- \* Stucco or cement plaster
  - Hazard Rating: 1-Hour Fire Resistance (1-inch thickness).
- \* Concrete Block
  - Hazard Rating: 2-Hour Fire Resistance.
- \* Heavy Timber or Log Construction
  - Hazard Rating: 1-Hour Fire Resistance.

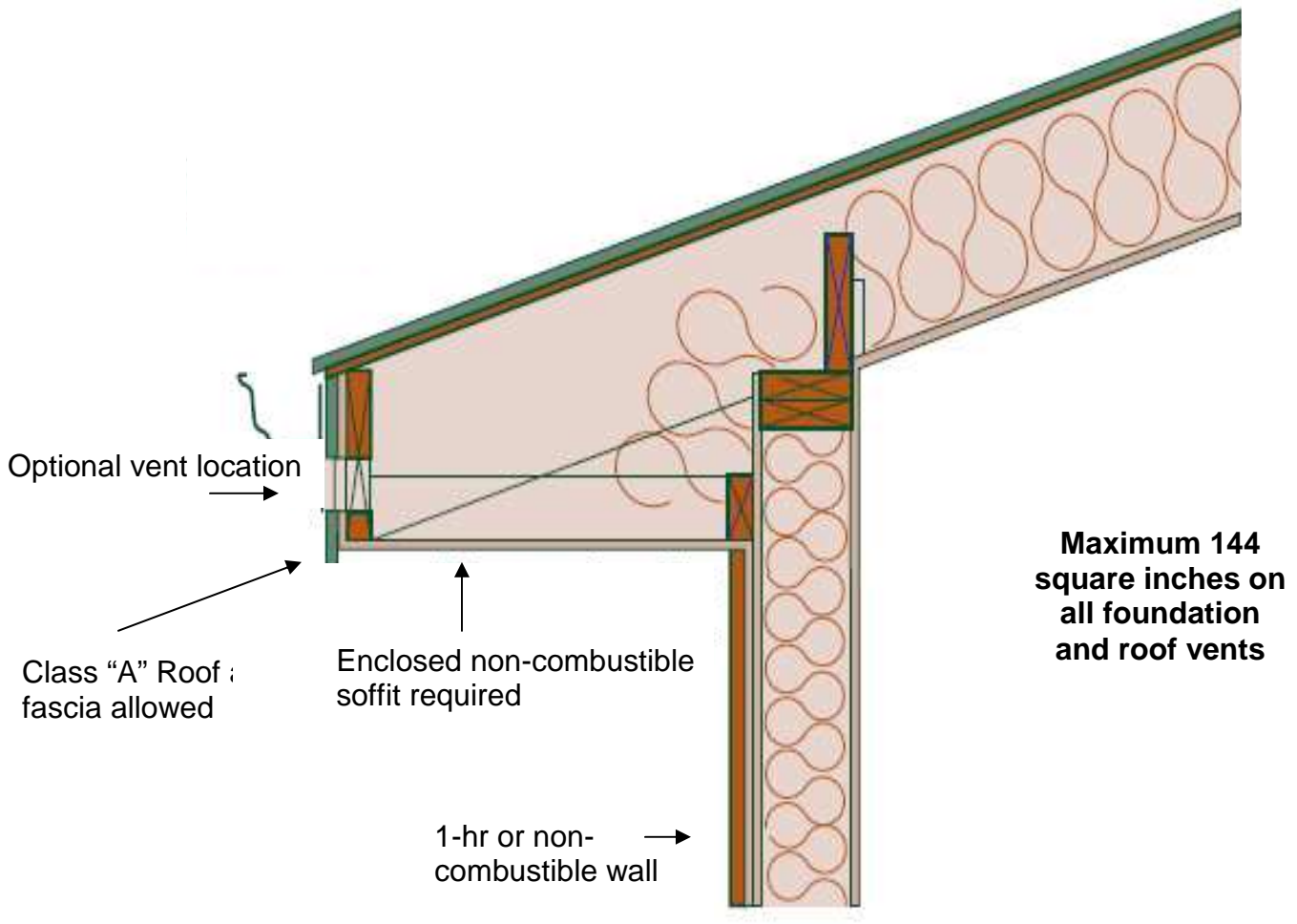
Alternative materials will be considered individually based on ICC Evaluation Reports, UL Testing Reports, Material Safety Data Sheet (MSDS) information, and other documentation provided by a third party testing agency. Documentation from manufacturers only will not be approved for use.

### PROHIBITED MATERIALS

1. Wood Siding- Traditional solid wood siding.
2. Hardboard Siding- Multi-fiber or pressed wood type siding.
3. Engineered Wood Siding- Plywood panel siding.
4. Stains, Coatings, and Other Fire Retardant Treatments.

**\* Plans must include approved UL-listed exterior wall assembly construction details.**

# Roof Diagram- Example Soffits, Fascia, Vents Class I & II Ignition-Resistant Construction



1-hr wall, soffit and fascia required, OR approved non-combustible materials (i.e. cement board).