



County of San Diego, Planning & Development Services
IGNITION RESISTANT EAVE CONSTRUCTION
BUILDING DIVISION

GUIDANCE DOCUMENT

Since the 1980s, the County's fire and building codes have been strengthened in successive code adoption cycles with the primary goal of protecting the safety of our citizens and enhancing a home's ability to survive a wildfire. Although such measures protected many homes located within the areas impacted by the 2003 and 2007 wildfires, analysis of the burned homes identified areas where we could improve our codes; one of these areas is eave construction.

Winds in wildfires carry huge amounts of burning embers, swirling into cracks and crevices, igniting anything that is combustible. Eaves, because they are perpendicular to the wall, tend to capture blowing embers. Eave vents, which are designed to move air in and out of the attic, give opportunity for embers to ignite soffit material or enter attic areas. Once a fire starts in an attic, it goes undetected for some time and is very difficult to stop even under ideal conditions.

As a result, improvements were made to the County's codes to establish a series of permissible ignition resistant eave construction details, see attached. Each detail can be downloaded individually in AutoCAD DWG file format at:

<http://www.co.san-diego.ca.us/pds/bldgforms/eaveindex.html>.

Eave construction on an addition may match the existing structure provided that the square footage of the addition does not exceed 50% of the existing structure or 2,500 square feet, whichever is less. The vents in these eaves must still comply with current County codes requiring resistance to intrusion of flames and embers.

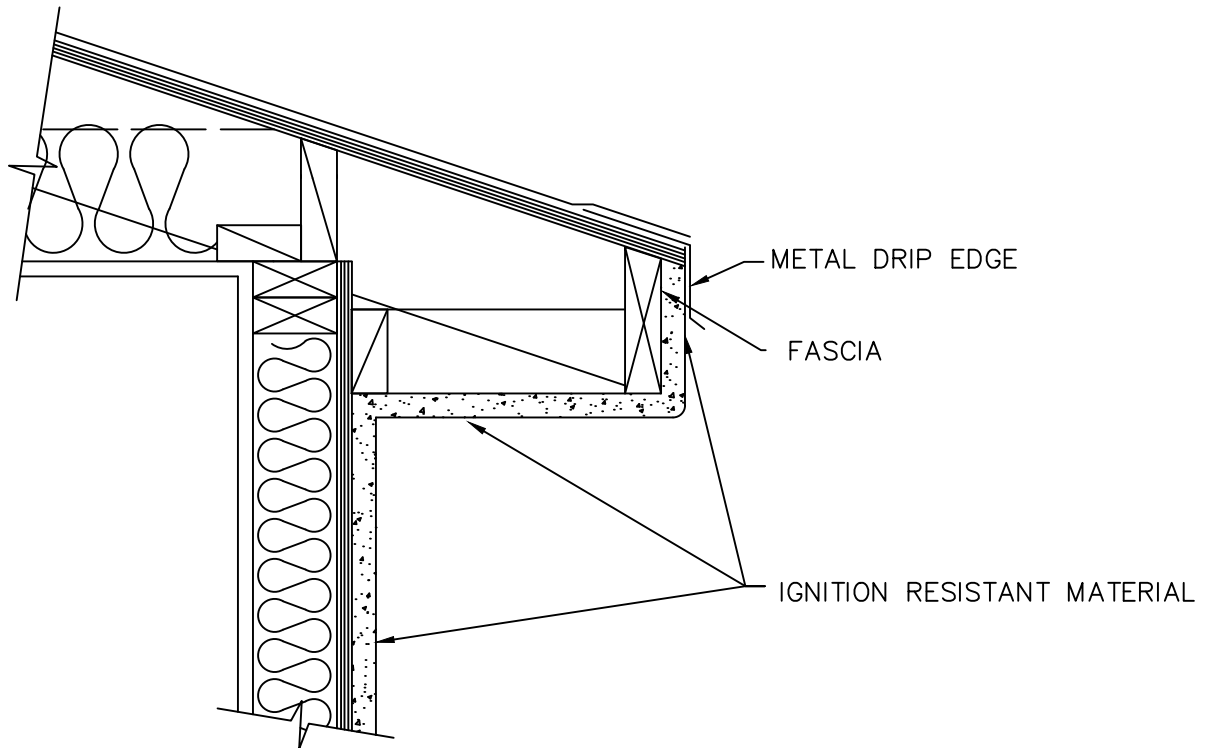
Vents are allowed everywhere. However, all vents (attic, underfloor, combustion air, etc) must resist the intrusion of flames and burning embers into the structure. Ventilation openings for enclosed attics, eave soffit spaces, enclosed rafter spaces formed where ceilings are applied directly to the underside of roof rafters, underfloor ventilation openings, and vent openings in exterior walls and exterior doors shall be listed to ASTM E 2886 and comply with all of the following: (County Building code 92.1.706A.2, 92.1.707A5)

- a. There shall be no flaming ignition of the cotton material during the Ember Intrusion Test.
- b. There shall be no flaming ignition during the Integrity Test portion of the Flame Intrusion Test.
- c. The maximum temperature of the unexposed side of the vent shall not exceed 662 degrees Fahrenheit (350 degrees Celsius).

While these standards will provide a high level of protection to structures built in the wildland-urban interface area, there is no guarantee that compliance with these standards will prevent damage or destruction of structures by fire in all cases. For more information on eave construction or other fire code requirements, please refer to the Wildland-Urban Interface – County Fire and Building Code Requirements (PDS #664) or contact the San Diego County Fire Authority at 858-974-5999.



County of San Diego, Planning & Development Services
GUIDANCE DOCUMENT - IGNITION RESISTANT EAVES
BUILDING DIVISION



DATE: 01-01-2020

SCALE: NONE

FORM: PDS 198

DETAIL 1

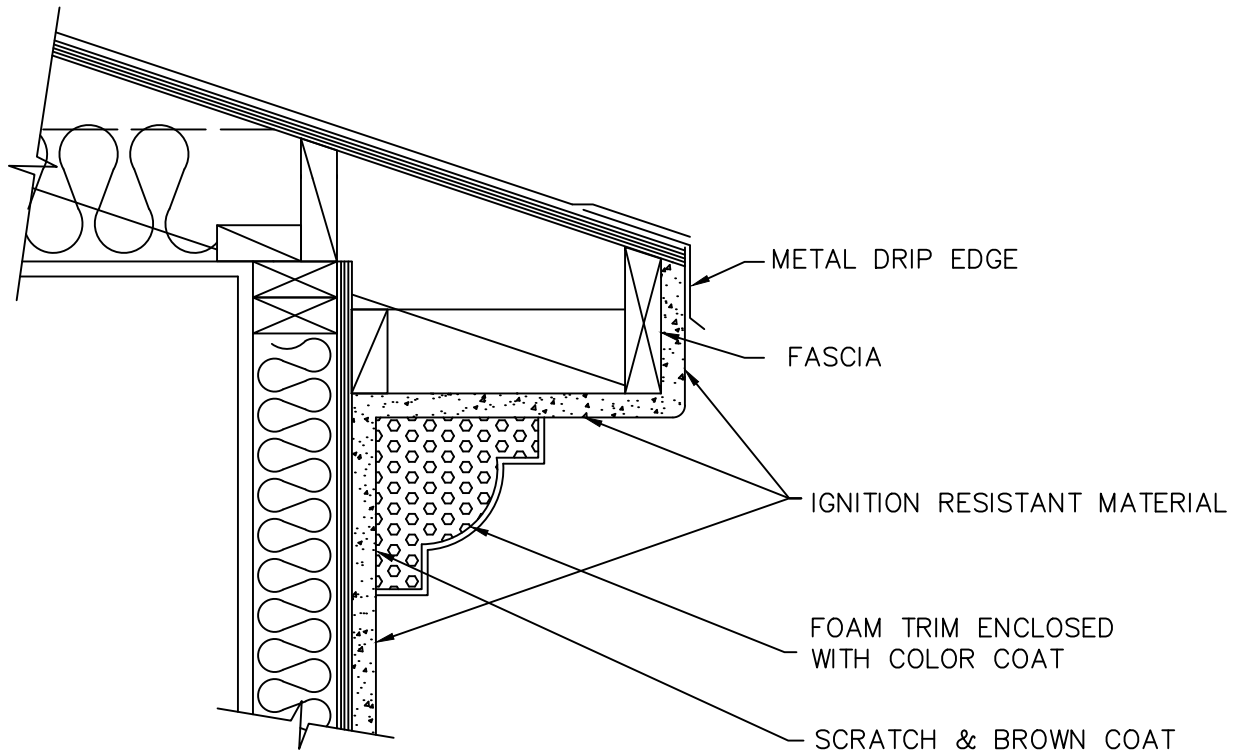
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OF 6 SHEETS

FASCIA PROTECTED



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DETAIL 2

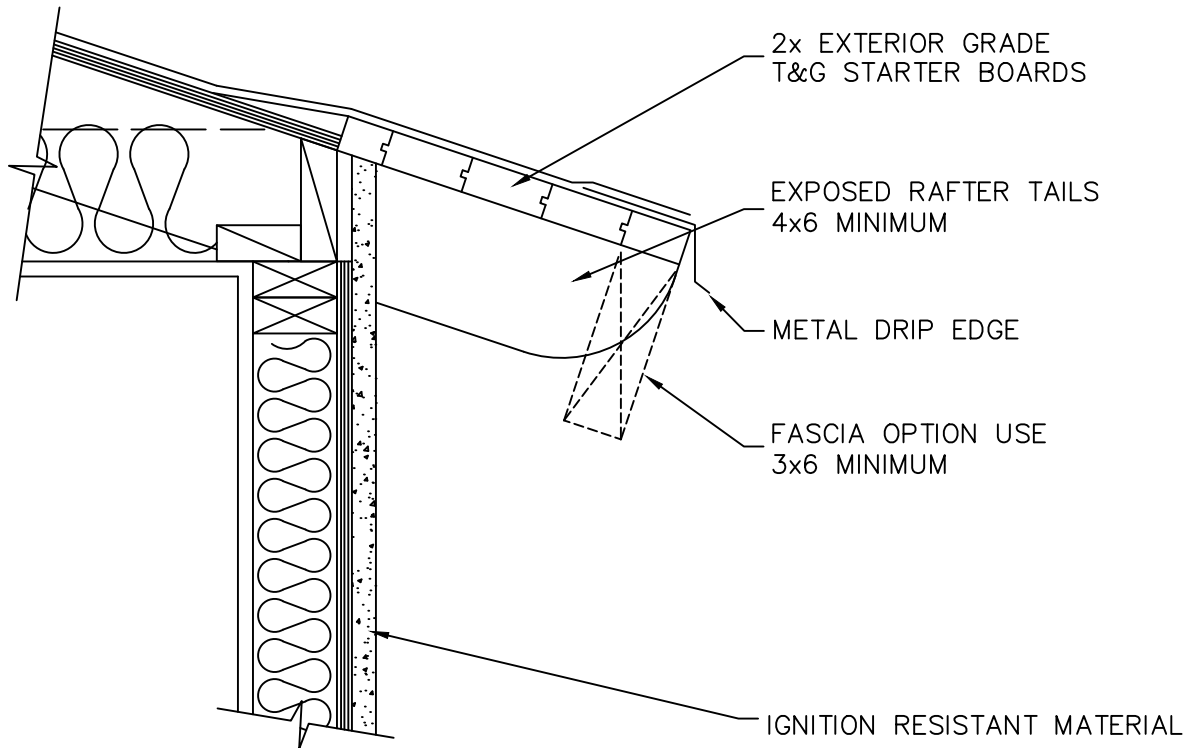
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FOAM TRIM



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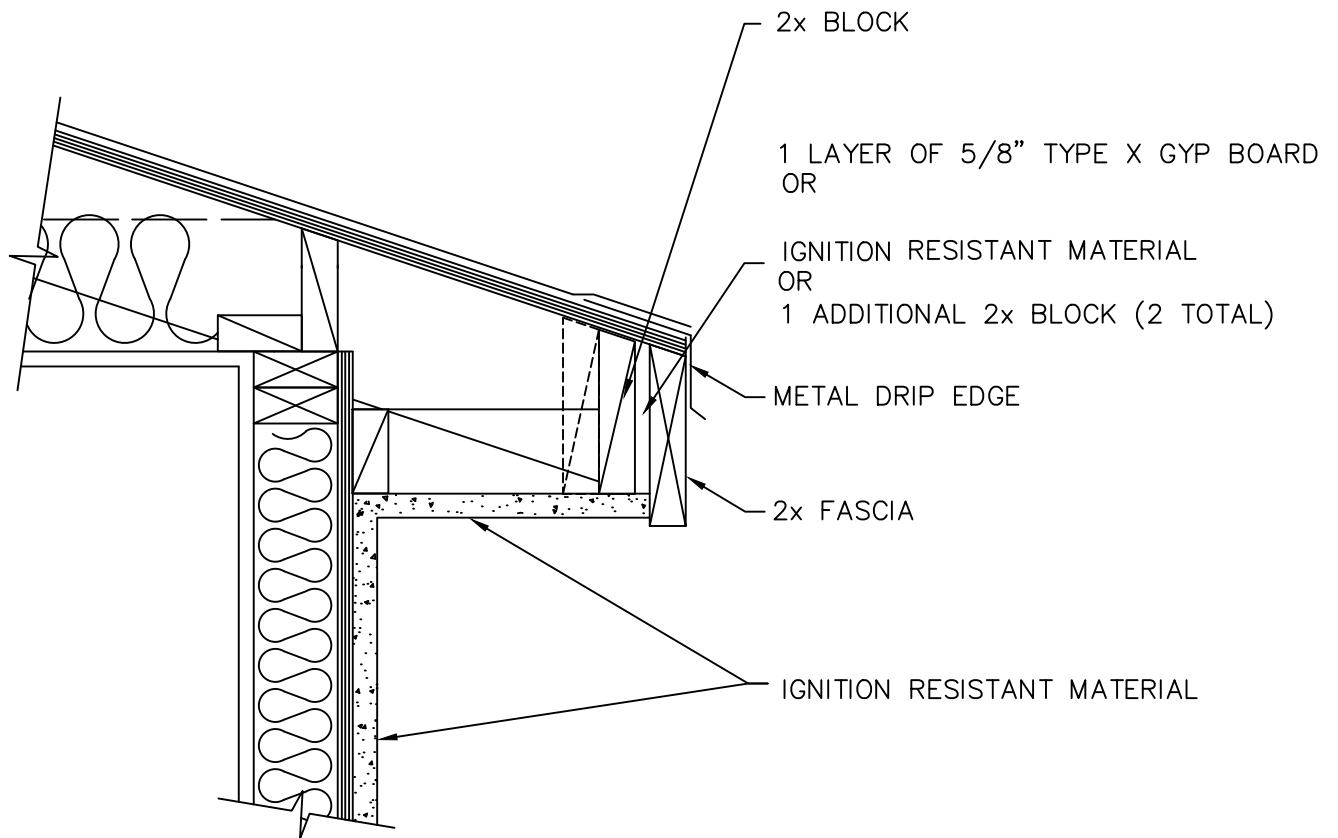
DETAIL 3

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MODIFIED HEAVY TIMBER



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DETAIL 4

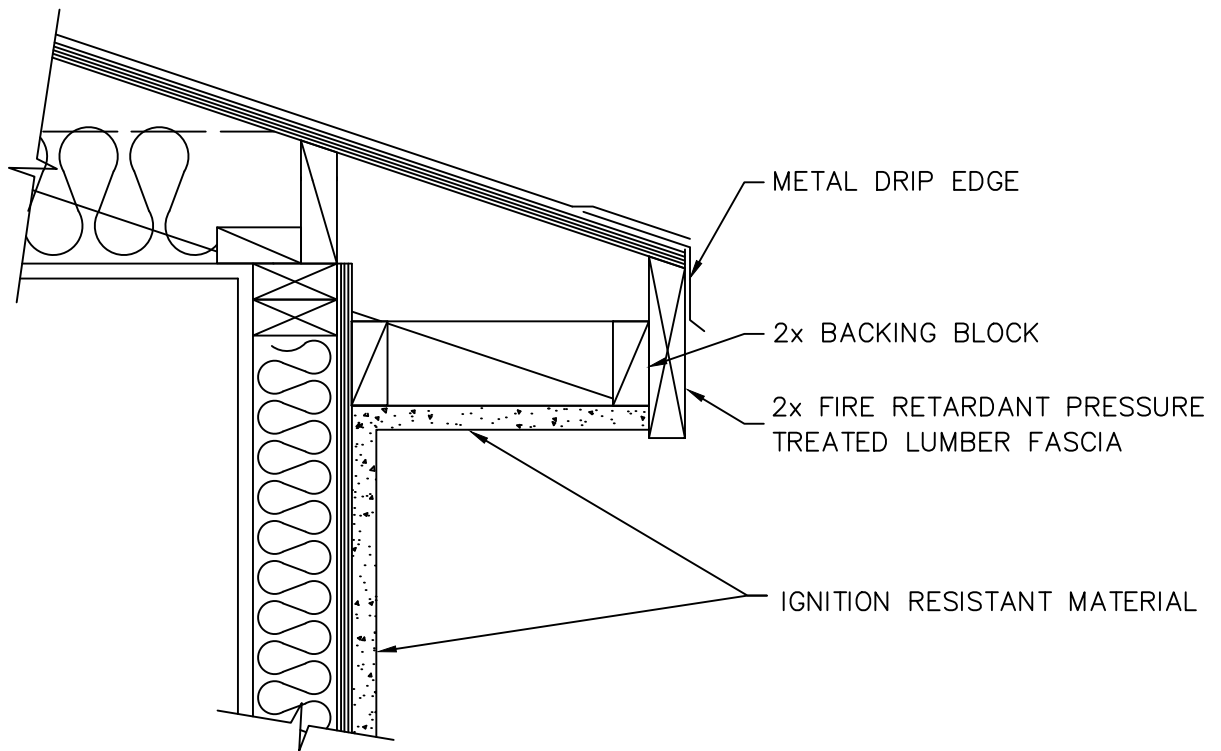
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EXPOSED FASCIA



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FIRE RETARDANT LUMBER:
USE EITHER EXTERIOR FIRE-X RETARDANT TREATED LUMBER,
CA SFM LISTING 2520-1701:100, OR FRX FIRE RETARDANT
TREATED WOOD, ESR-1159.

ALL FIRE RETARDANT TREATED LUMBER SHALL NOT TO BE LEFT
UNFINISHED.

DATE: 01-01-2020

SCALE: NONE

FORM: PDS 198

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DETAIL 5

EXPOSED FIRE RETARDANT
TREATED WOOD FASCIA