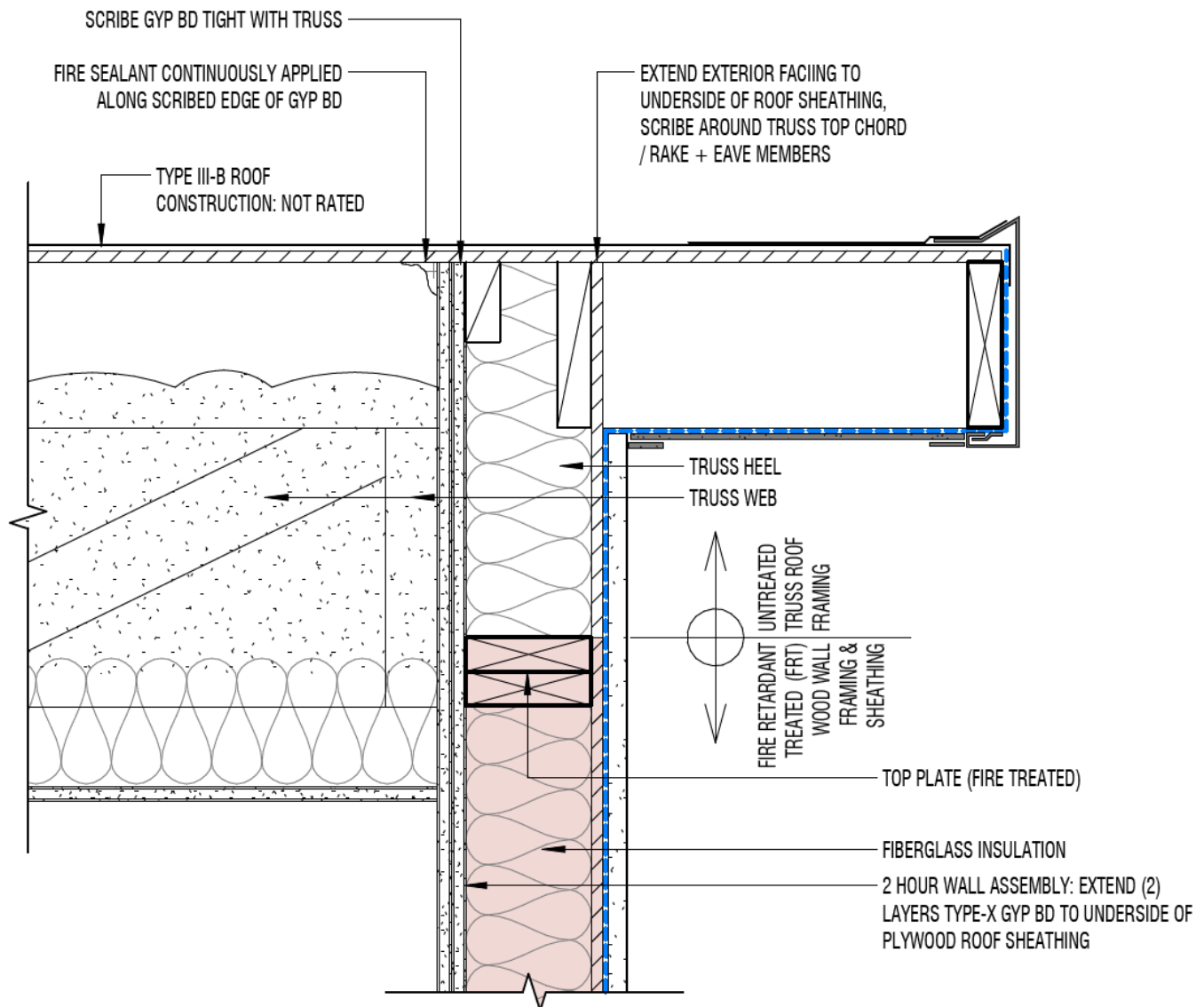


## Type III exterior wall and wood truss roof intersection

### Condition

In a building of type IIIB construction, the roof is framed with wood trusses with energy heels. The energy heels form a vertical element in-line with the building's *exterior wall*. The *fire-resistance-rated* wall assembly of the exterior wall extends to the underside of the roof deck.



## TYPE III-B EXTERIOR WALL-TO-ROOF DETAIL

### Question

Would the heel segment of the wood roof truss need to be FRTW as if it were a portion of the exterior wall per IBC 602.3?

### Building Code Sections

2018 IBC:

602.3. Type III. Type III construction is that type of construction in which the exterior walls are of noncombustible materials and the interior building elements are of any material permitted by this code. *Fire-retardant-treated wood* framing and sheathing complying with Section 2303.2 shall be permitted within *exterior wall* assemblies of a 2-hour rating or less.

705.6. Exterior walls shall extend to the height required by Section 705.11...

705.11. A parapet need not be provided on an exterior wall where ...

- [#3] Walls terminate at roofs of not less than 2-hour fire-resistance-rated construction (wall terminates at ceiling)
- [#6] Where the wall is permitted to have not less than 25 percent of the exterior wall areas containing unprotected openings based on fire separation distance as determined in accordance with Section 705.8.

#### Interpretation

Where the exterior wall is not required to extend to a parapet or to the underside of the roof deck per 705.11, then the heel of the roof truss would not be required to be FRTW. We would treat the truss heel as part of the roof construction for purposes of applying 601.

If there is a required parapet per 705.6 and 705.11, then the *exterior wall* construction (noncombustible and fire-resistance-rated per 602.3) would need to extend to the height required for *exterior walls* per 705.11. If there is a shaft adjacent to the exterior wall, that shaft wall would need to comply with 713.6 and 713.12.

This interpretation would not apply where the roof truss assembly encloses storage space or other occupiable space.

Typically, where the fire separation distance is less than 5 feet, 705.11 Exception 6 would not apply. Unless a 2-hour roof assembly is provided per Exception 3, the Type IIIB *exterior wall* construction (noncombustible, 2-hour rated) would need to extend up to the parapet.

#### Important notes

Last reviewed: 28 Sep 2022.

This code interpretation is provided to help applicants understand the building codes. It represents the opinion of the Salt Lake City Building Official in relation to a specific project at the time it was rendered. Per International Building Code Section 104.1, such interpretations shall be in compliance with the intent and purpose of the building code, and they shall not have the effect of waiving requirements specifically provided for in the building code. Therefore, do not assume that any interpretation would also apply to your project. Always consult with a Salt Lake City building plans examiner for specific interpretations as needed regarding your project.