

Stephen V. Skalko, P.E. & Associates, LLC

P.O. Box 7821
Macon, Georgia 31209

(478) 477-5028
svskalko@svskalko-pe.com

March 11, 2022

Washington State Building Code Council
P.O. Box 41449
Olympia, Washington 98504-1449

RE: Code Change Log Number 21-GP1-021:

TO: State Building Code Council members,

The Northwest Cement Council recommends disapproval of code change 21-GP1-021 regarding the use of sprinkler protection in accordance with the National Fire Protection Association (NFPA) Standard 13R for the following reasons.

The scope of NFPA 13R has always been to protect residential buildings up to 4-stories and with limited roof height. Residential buildings using 13R systems are typically in the nominal 40 to 50-foot range in roof height. The height limitation of Standard 13R is partly due to the limited presence of the sprinkler protection within the building. Sprinklers are present in the occupied spaces but not within any concealed combustible spaces, such as wood truss floor systems and wood framed attic spaces. The lack of sprinklers in these concealed combustible spaces reduces the effectiveness of these sprinklers to control a fire occurring in these spaces and complicates the ability of the fire service to manage a fire event when the fire occurs in this space or extends into these spaces from fires in occupied spaces below.

This code change will permit a significant increase in the height of residential buildings beyond the 4-stories and nominal 40 to 50-foot range of a building when using these limited 13R sprinkler protection systems. This increase is based on the code change 21-GP1-021 allowing the number of stories and height to be measured from the top of a podium structure as permitted by Sections 510.2 and 510.4 of the building code. With this change those sections will permit residential buildings of wood frame construction to be built on top of a fire resistive podium structure, such as a parking garage, and to count the stories starting at the horizontal floor assembly forming the interface between the podium and the residential building. These podiums place the 4-story residential building much higher up than would exist if they were built at the ground level.

Stephen V. Skalko, P.E. & Associates, LLC

21-GP1-021 loosens the height limit allowed for the residential building by increasing the allowable height from 30-feet above fire department vehicle access (typically at ground level) to be 60-feet above grade plane (average height of the ground around the building). That can result doubling of the present code permitted height of a building depending on the physical configuration of the land surrounding the building. In some cases, the height can be more than doubled if a sloped roof is used for the residential building because the building height gets measured to the average roof height based on slope and not to the peak of the roof.

Based on the present building code requirements, combustible roofs, which are typically used for these residential buildings above the podium structure, already present a significant challenge for the fire service if a fire occurs in the attic because the 13R sprinkler system standard does not require sprinklers in the attic. This proposal makes the fire fighter challenge worse by allowing the height of the combustible roof & attic to be higher. This is contrary to what you would expect the objective of a building code requirements to be.

Recommend disapproval of **21-GP1-21**

Thank you for the opportunity to offer this comment.



Stephen V. Skalko, P.E.

On behalf of the Northwest Cement Council

Stephen V. Skalko, P.E. & Associates, LLC
P.O. Box 7821
Macon, GA 31209
(478) 477-5028 – Office
(478) 731-4321 – Mobile
svskalko@svskalko-pe.com