From: Schmidt, Evan <evan.schmidt@oregonstate.edu>
Sent: Wednesday, September 25, 2019 11:07 AM
To: DES SBCC <sbcc@des.wa.gov>
Subject: endorse proposal #67 under the 2018 IRC proposed amendments "new Section R602.1.1.1 Used sawn lumber".

Doug,

Writing to you to endorse proposal #67 under the 2018 IRC proposed amendments "new Section R602.1.1.1 Used sawn lumber".

About me: I am an employee at the TallWood Design Institute, which is a research collaborative between Oregon State University's Colleges of Forestry and Engineering, and University of Oregon's College of Design. My educational background is a bachelors in Architecture at U. San Fran, and a masters in Wood Science at OSU. I work in outreach/extension of wood construction and engineering research to the professional building community.

About the amendment: Reclamation of wood from construction sites is essential to the development of a sustainable built environment in regards to building and material life cycle, yet currently it is nearly impossible to reclaim wood for reuse due to regulatory and financial barriers. This amendment would divert end-of-building-life wood from the landfill by creating a viable end-use. This would be a critical stepping stone in the long-term development of a financially viable deconstruction/reuse industry, and could have resounding implications for various sustainability initiatives in the region and elsewhere. This amendment is conservative in nature, since most reclaimed wood, particularly from older homes, is built with higher quality, often old-growth wood, that has gained in strength over the years through loss of residual moisture content. Recently completed research at OSU indicated that engineered wood products made from randomly selected reclaimed wood in the PNW region performed at least equivalently to virgin lumber products in structural applications. The issue is less the performance of the materials, and more the cost-effectiveness of deconstructing a building (instead of demolishing and landfilling) and processing the residual boards (removing nails, etc.). Again, this amendment would at least give an end use to the products, which would be a critical first step in fostering a more resilient deconstruction industry.

Sincerely,
Evan Schmidt

R602.1.1 Sawn lumber. Sawn lumber shall be identified by a grade mark of an accredited lumber grading or inspection agency and have design values certified by an accreditation body that complies with DOC PS 20. In lieu of a grade mark, a certification of inspection issued by a lumber grading or inspection agency meeting the requirements of this section shall be accepted.

R602.1.1.1 Used Sawn Lumber. Used sawn lumber in good condition and devoid of areas of decay shall meet the requirements of Section 602.1.1 or shall comply with the following:
1. Dimensional lumber that has a nominal thickness of 2-inches with a nominal width of 6-inches, or less, shall be assumed to be spruce-pine-fir stud grade and shall have structural properties assigned in

accordance with current adopted standards. All other dimensional lumber shall be assumed to be hem-fir No. 2 grade and shall have structural properties assigned in accordance with current adopted standards.

5. Briefly explain your proposed amendment, including the purpose, benefits and problems addressed. Specifically note any impacts or benefits to business, and specify construction types, industries and services that would be affected. Finally, please note any potential impact on enforcement such as special reporting requirements or additional inspections required.

Quality, ungraded, salvaged lumber currently cannot be reused in a structural capacity without either the high cost of grading or if allowed by the Building Official. The intent of this proposal is to assume conservative material base values that reflect past construction methods which will expand the use of salvaged lumber without compromising safety.

Prior to 1980, douglas fir and hem-fir No. 2 were the predominant wood species used in residential construction. In the 1980's, spruce-pine-fir (SPF) stud grade became more commonly used for non-bearing walls and other non-structural applications in order to help meet the increased building demand in Washington State.

Without grading or certifying the material, we cannot assume that a stud (2x material) extracted from one building in order to be reused in another, is douglas fir. By assigning the base values of SPF stud grade to the lumber, we allow structural use of this material only to the capacity of the weakest wood species that would have been used in a previous building.

To assign hem-fir No. 2 base values for all other dimensional lumber, a factor of safety is built in because these values reflect the minimum quality lumber that would have been used for beams and columns in a previous building.
This proposal provides clear directive to the engineer/designer, removes potential liability from the building official while maintaining safety, and will result in the increased and economical use of salvaged lumber for those wishing to reuse quality material.

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