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SUBJECT: Announcing UFGS 06 17 19 Cross Laminated Timber (CLT)

CATEGORY: For Information and Guidance

1. References:

a. Engineering and Construction Bulletin (ECB) 2016-02, TechNote: Cross Laminated Timber (CLT), 13 January 2016

<https://www.wbdg.org/ffc/dod/engineering-and-construction-bulletins-ecb/usace-ecb-2016-02>

b. E&C Webinar series, Cross Laminated Timber (CLT) ECB

<https://mrsi.erdcdren.mil/sustain/webinars/clt-ecb/>

c. Unified Facilities Guide Specification (UFGS) 06 17 19 Cross Laminated Timber (CLT)

<https://www.wbdg.org/ffc/dod/unified-facilities-guide-specifications-ufgs/ufgs-06-17-19>

2. Purpose.

a. This ECB updates the Engineering & Construction (E&C) community on the continued advancement of Cross Laminated Timber (CLT) by announcing the publication of a new Uniform Facilities Guide Specification (UFGS) 06 17 19 Cross Laminated Timber (CLT). CLT is a structural building technology relatively new to the US market. CLT as a building technology can be viewed as falling between lightweight stud construction and heavier steel and concrete systems. Many CLT buildings have been built ten stories or taller, well exceeding the practical height limitation of traditional stud construction. Unlike steel and concrete, wood is a sustainable and renewable resource which sequesters carbon in the environment, keeping it out of the atmosphere. As more domestic manufacturers become available, the cost of CLT is expected to fall between lightweight stud and steel and concrete construction based on the costs of materials and ease of assembly.

3. **Background.** USACE continues to be a leader in the implementation of CLT as a building technology in the industry. Last year, ECB 2016-02 (see Reference 1.a) included a TechNote addressing the emergence of CLT. That ECB stated that a new UFGS would be provided to facilitate specifying CLT for appropriate projects. After that TechNote was released, a webinar was conducted to introduce the E&C community to CLT (Reference 1.b.) Through collaboration with the USDA Forest Service, and other parties, UFGS 06 17 19 is now available for use, hosted on the Whole Building Design Guide (see Reference 1.c.).

ECB No. 2017-10

Subject Announcing UFGS 06 17 19 Cross Laminated Timber (CLT)

4. Guidance.

a. In laboratory tests, CLT has been proven to be fire resistant once an outer layer of charred wood forms and protects the structural wood core. While the International Code Council had formed a committee to revise future codes, the current International Building Code (IBC) limits the height of all structures built out of timber, considering CLT to be “Type IV” construction in the code. Until the code is changed, candidate projects for the use of CLT as a structural system must fall within the allowances of Type IV in the IBC.

b. Ideal projects are those that require, or benefit from, the additional stiffness, durability, and protection from monolithic panels compared to lightweight stud construction. A project site close to where CLT panels are being produced would also benefit. CLT panels are being produced domestically in the Northwest, but manufacturers in other regions of the country are expected to be available soon. The Protective Design Center has been involved in “blast testing” CLT panels and should be coordinated with to address Anti-Terrorism and Force Protection requirements. The latest news and additional design resources on CLT can be found on the website of the Forest Products Council, <http://www.woodworks.org/>.

5. Update. This new UFGS will be maintained and updated as a part of the UFGS library hosted on the Whole Building Design Guide at the link provided in reference 1.c.

6. Point of Contact. HQUSACE point of contact for this ECB is Eric Mucklow, CECW-CE, (202) 761-0522, or eric.mucklow@usace.army.mil.

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