ENGINEERING AND CONSTRUCTION BULLETIN

US Army Corps of Engineers

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SUBJECT: Publication of Technote 30: Nail Laminated Timber (NLT)

CATEGORY: For Information and Guidance

1. **Purpose.** The purpose of this ECB is to promulgate knowledge of Nail Laminated Timber (NLT), a mass-wood building technology described in Technote 30 (Reference a.) NLT is site-built panelized structural system similar to Cross-Laminated Timber (CLT), which is manufactured off-site. CLT is the subject of Technote 23 (Reference b.)

2. **References.**

a. Technote: 30 Nail Laminated Timber (NLT)
https://wbdg.org/ffc/army-coe/technotes/technote-30

b. Technote: 23 Cross Laminated Timber (CLT)
https://wbdg.org/ffc/army-coe/technotes/technote-23

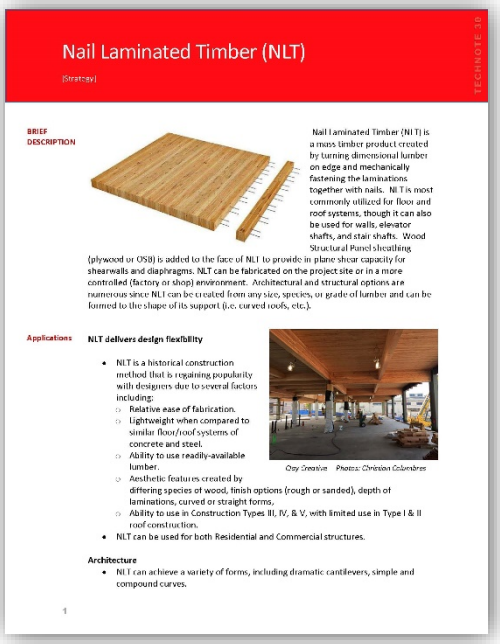
c. H.Rpt. 115-673, Military Construction, Veterans Affairs, and Related Agencies Appropriations Bill (H.R. 5786), 2019
https://www.congress.gov/115/crpt/hrpt673/CRPT-115hrpt673.pdf

d. Unified Facilities Criteria (UFC) 1-200-02, High Performance Sustainable Building Requirements
https://www.wbdg.org/ffc/dod/unified-facilities-criteria-ufc/ufc-1-200-02

3. **Background.** In publishing H.Rpt. 115-673 (Reference c.) the congressional committee again indicates their particular interest in using advanced wood construction for military facilities. The report specifically cites UFGS 06 17 19 “Cross Laminated Timber” which is also a mass-timber building technology and requires that the Secretary of Defense gather and report on our progress in implementing the use of innovative renewable building materials, systems, and design techniques. Wood is renewable, sustainable, easy to work with, and can be more economical than steel or concrete.

4. **Applicability.** This structural solution can be applied to the design and construction of new and renovated Government-owned facilities for the Department of Defense (DoD). It is applicable to all methods of project delivery and levels of construction. The location of project sites will significantly influence the viable applicability of NLT versus CLT as a proposed structural system for a project.

5. **Guidance.** Personnel involved with the project development of military facilities are asked to become familiar with advanced wood building techniques and consider their application in all new projects. Using the links and resources provided in the referenced Technotes, the nearest availability of CLT to a given project area should be determined. Although more manufacturers are coming online in more regions, transportation costs may be a limiting factor economically. Where that is the case, NLT should be considered. NLT can be site-built from readily available "2x" commodity lumber. For assistance, a non-profit industry and government partnership group, Woodworks (woodworks.org, referenced in both Technotes) provides project consultation and design assistance services at no cost. Advanced wood building technologies should be implemented wherever technically and logistically feasible. When performing economic analyses, attention should be paid to the speed of panelized construction in addition to the material and labor costs. The choice of NLT or CLT as a structural system is consistent with the goals of UFC 1-200-02 (Reference d.)



6. **Update.** Technote 30 has been published and will be maintained along with Technote 23 on the Whole Building Design Guide website at the URL shown under Reference a.

7. **Points of Contact.** HQUSACE point of contact for this ECB is Eric Mucklow, CECW-EC, eric.mucklow@usace.army.mil.

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