



**REQUEST FOR INFORMATION  
No. DC191029RFI**

**VARIOUS EQUIPMENT  
For  
Oregon State University's  
Advanced Wood Products  
Manufacturing Laboratory**

## I. SCHEDULE OF EVENTS

### SCHEDULE OF EVENTS:

Issue Date..... December 13, 2017

Due Date and Time..... January 12, 2018 (10:00 AM, PT)

## II. ISSUING OFFICE AND CONTACT

### ISSUING OFFICE:

The Procurement, Contracts and Materials Management (PCMM) department of Oregon State University (OSU) is the issuing office and is the sole point of contact for this Request for Information. All concerns or questions pertaining to this Request for Information should be appropriately addressed to the individual identified below:

### CONTACT PERSON:

Name: Donna Cain  
Title: Purchasing Analyst 3  
  
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Fax: (541) 737-2160  
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Address: Oregon State University  
Procurement and Contract Services  
644 SW 13<sup>th</sup> Avenue  
Corvallis, Oregon 97333

## III. INTRODUCTION

### INTRODUCTION:

This is a Request for Information (RFI), issued by Oregon State University (OSU) Procurement, Contracts and Materials Management (PCMM). The purpose of this RFI is to solicit input from potential contractors for information pertaining to various equipment for an advanced wood products manufacturing laboratory.

## OREGON STATE UNIVERSITY:

Founded in 1868, Oregon State University is a comprehensive, research-extensive, public university located in Corvallis. Oregon State is one of only two American universities to hold the Land Grant, Sea Grant, Space Grant and Sun Grant designations. Oregon State is also the only Oregon institution to have earned the Carnegie Foundation classifications for Highest Research Activity and Community Engagement, a recognition of the depth and quality of its graduate education and research programs.

Through its centers, institutes, Extension offices and Experiment Stations, Oregon State has a presence in all of Oregon's 36 counties, including its main campus in Corvallis, the Hatfield Marine Sciences Center in Newport and OSU-Cascades Campus in Bend. Oregon State offers undergraduate, masters and doctoral degrees through 11 academic colleges enrolling more than 31,000 students from every county in Oregon, every state in the country and more than 110 nations.

The TallWood Design Institute is the nation's only research collaborative that focuses exclusively on the advancement of structural wood products. It conducts the research needed for widespread adoption of mass timber building technology in the United States. The Institute is a partnership between Oregon State University and the University of Oregon, bringing together the strengths of OSU's College of Forestry and College of Engineering, and the University of Oregon's College of Design. The Institute and its affiliated wood science, architecture and engineering faculty are playing a key role in developing market-ready mass timber products, offering a depth and breadth of expertise related to wood-based design, engineering and construction that is unparalleled within the US.

## **IV. REQUIREMENTS**

The TallWood Design Institute, at this time, is getting a better understanding of equipment options that currently exist in the market that will help to support their mission and goals for their new laboratory.

The A.A. "Red" Emmerson Advanced Wood Products Laboratory will house sophisticated manufacturing systems, a high-bay lab with a unique strong floor for full-scale product design, and a design lab to support interdisciplinary education programs. The building includes 14,000 square feet of structural testing and pilot manufacturing space, a flexible demonstration and classroom area, and the TallWood Design Institute Offices. A 60-foot long strong wall and floor system will facilitate testing of up to a 3-story wood structure or simultaneous running of multiple testing projects. The manufacturing bay will include an 8x10-foot Minda CLT press (already purchased), a large-scale CNC machine capable of fabricating panels up to 10x40 foot dimensions, and a robotic cell mounted on a linear track system, as well as various breakout equipment. This area will support wood products design and manufacturing research for the built environment. We intend to work with a wide range of materials such as cross-laminated timber, dimensional lumber, plywood, LVL, solid sawn beams and many other wood products, but with a focus on producing structural products and systems that will allow wood to be used in building applications that are currently dominated by concrete and steel. Our research activities will include prototyping, design modifications, manufacturing analysis and improvement, coatings and adhesives development, and whole building system studies and education. In keeping with our education initiative, we intend to host design-build courses, training workshops and classes in the laboratory to provide hands-on experience for both students and industry professionals. Our target audiences for these programs includes architects, structural

engineers, building code officials, construction managers and workers, and the management and staff of wood products manufacturing companies.

**\*\*\*VENDOR INSTALLATION FOR MACHINES IS OPTIONAL\*\*\***

**\*\*\*Equipment selection will be constrained by the building footprint**

**EXHIBIT A: Advanced Wood Product Lab, Draft Equipment Layout, Level 1 Plan - included in this RFI.**

## **1. LIST OF REQUIRED EQUIPMENT:**

### **A. CNC Panel/Beam Processing Machine**

Maximum machine footprint size: 21' x 61'

5-axis processing capabilities

Workpiece types to be used: cross-laminated timber, LVL and similar panel products, straight and curved glulam and timber beams

Preferred maximum panel size: 10'x40'

Preferred maximum beam size: 12" wide x 14" deep

Purpose: Perform sizing, routing and cutting operations, cut end-to-end joints in beams, etc.

Notes: We are interested in obtaining a flexible manufacturing solution that will allow us to work with the maximum range of materials possible, and to perform as wide a range of processing tasks as can be accomplished on a single machine. The machine should allow for a wide range of tooling to be used and be able to perform 5-axis machining operations. Unlike typical industry production settings, a wide variety of proof-of-concept, demonstration and training projects will take place in our lab – hence flexibility is a much more important consideration than processing or setup speeds.

### **B. Robotic Cell**

Articulated arm with 6 axis

≥ 120kg Payload

≥ 2700mm reach

Repeatability +/-0.05mm or less

IP65 robot wrist, IP65 robot arm Protection Rating

Floor/Track Mounting

Integral fork lift brackets

Detachable robot connection cables

Brakes on all six axes

Force torque control

ISO flange

Universal mastering interface

Work piece positioner (payload ≥500kg)

Locally maintained resolver positioning data

Machining spindle, tooling and semi-automatic tool changer

• Power: ≥ 20 hp

• Continuous Stall Torque: ≥ 55 Nm

• Speed Range: ≥ 0-3,000 RPM

• Supply Voltage: 480VAC, 3-phase

- Speed Regulation:  $\pm 2\%$  (Reversible)
  - Tool Weight:  $\leq 85\text{kg}$
  - Sealed spindle bearings
  - BT40 tool holder
- Solutions for dust control that will not impede machine movement

Workpiece types to be used: cross-laminated timber, LVL and similar panel products, straight and curved glulam and timber beams

#### C. 4-sided Planer or Moulder

Maximum machine footprint size: 12'6" x 6'6"  
 Product type: solid dimensional lumber  
 Preferred product size: US standard dimensional lumber  
 Preferred product thicknesses: 1.5"-6"

Purpose: prep lumber for use in CLT panels and beams

#### D. Straight Line Rip Saw

Product type: solid and composite lumber  
 Maximum machine footprint: 4' x 8'  
 Preferred product size: US standard dimensional lumber  
 Maximum material thickness: 4"  
 Maximum material width: 18"

Purpose: prep lumber for use in CLT panels and beams

#### E. Chop Saw

Product type: solid and composite lumber  
 Maximum machine footprint: 2'6" x 25'  
 Preferred product size: US standard dimensional lumber  
 Maximum material thickness: 2"  
 Maximum material width: 18"

Purpose: prep lumber for use in CLT panels and beams

Please keep in mind that this is a laboratory and equipment will not run at production capacity nor will the layout of the lab be typical of a production facility. Flexibility in the types and sizes of wood products that we can process is much more important than speed.

## **2. PRICING/COST MODEL(S)**

**OSU is open to considering the options below for obtaining all equipment identified from a single vendor or different combinations of the identified equipment from different vendors.** Responses should include a breakdown of all costs including, but not limited to, support and maintenance, training, software, upgrades, installation (optional) and shipping:

1. Fixed or open term loan of machines (or subset of machines) to OSU in return for use of space by vendor by appointment to demonstrate machine to potential clients, carry out promotional events, training, etc.
2. Fixed term lease of machines (or subset of machines), with or without a purchase option at the conclusion of the lease.

3. Purchase of machines (or subset of machines) on payment terms over time.
4. Gift or partial gift of machines (or subset of machines) in which the total or partial value of the equipment qualifies for favorable tax treatment as a charitable donation.

## V. SUBMITTALS

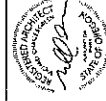
Respondents are requested to submit the following:

- Submit one (1) electronic copy of your response to [donna.cain2@oregonstat.edu](mailto:donna.cain2@oregonstat.edu).
- Narrative describing the respondent's approach to fulfilling OSU's requirements. Note any requirements that cannot be met.
- Marketing material or brochures of goods or services referenced in the narrative;
- Examples of work and materials from similar projects.

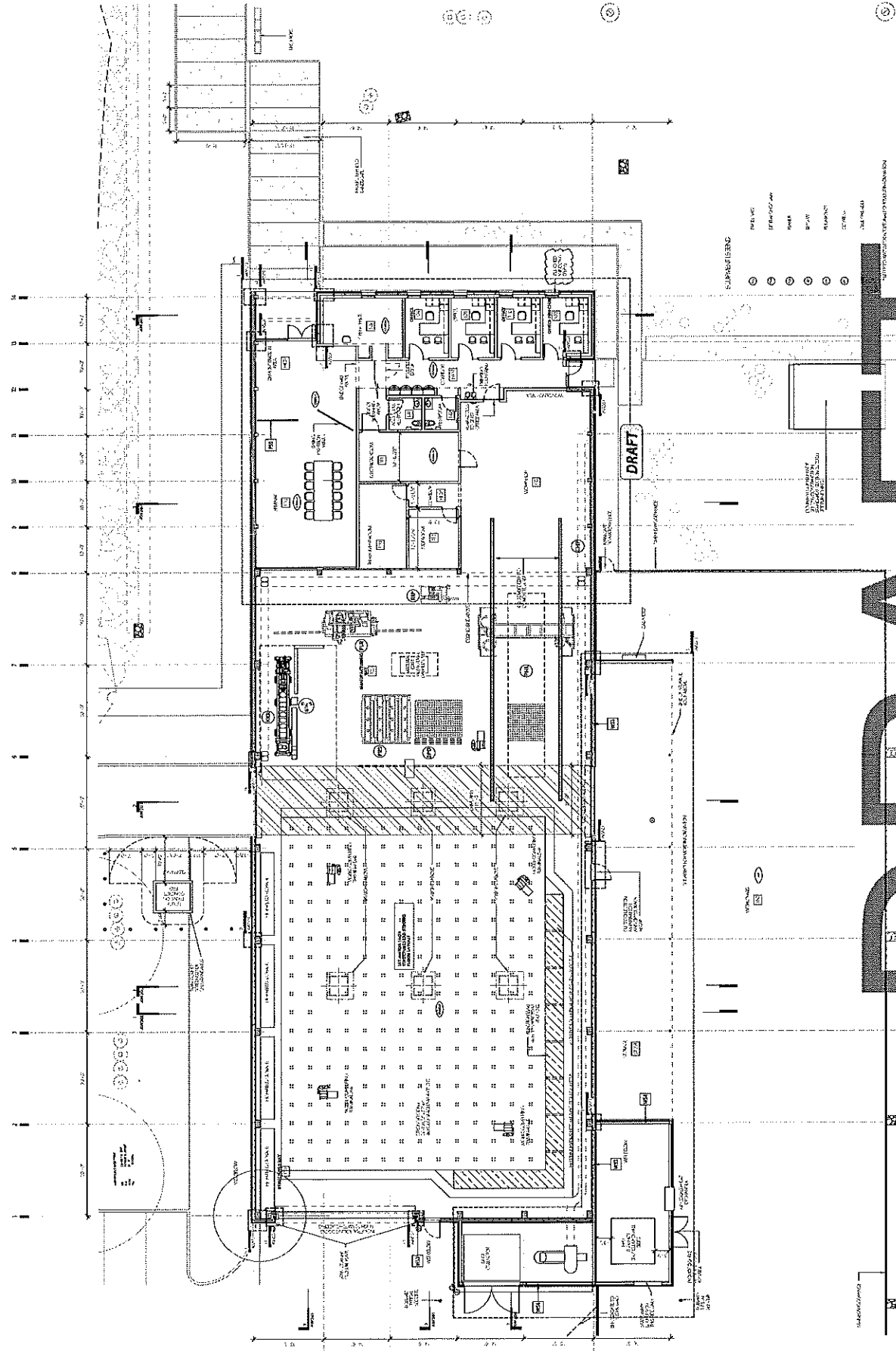
To be considered, responses to this RFI must be received no later than the due date and time indicated in the Schedule of Events. Responses must be sent to the contact person identified in Section II of this RFI.

Information gathered in this process could potentially be incorporated in an Invitation to Bid (ITB) or Request for Proposal (RFP). Any resulting RFP or ITB will be openly competitive and therefore responses should not be exclusive or restrict competition. This RFI does not obligate OSU to issue an RFP or ITB nor to include information submitted by respondents.

A contract will not be issued directly from this RFI, nor will issuance or acceptance of submittals or subsequent conversations bind OSU into any type of contractual obligation or relationship.



Revised No.	Revised For	Date



# DRAFT

**DRAFT**

**EXHIBIT A**  
**Advanced Wood Product Lab**  
**Draft Equipment Layout, Level 1 Plan**  
**(#DC191029RFI)**