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A quarterly publication of the New Hampshire Chapter of the Construction Specifications Institute Vol. 2 No. 3



# Special Inspections for Fire Rated Penetrations and Joints

By Mark R. Richards, PE

The 2015 edition of the International Building Code (<u>IBC-2015</u>) is scheduled to take effect in New Hampshire on September 15, 2019. This will introduce new requirements, including special inspections for fire rated penetrations and joints. These inspections have gained popularity in recent years. They will now be mandatory to reflect the importance of maintaining fire rated assemblies.

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### Load Bearing Walls: Are Fire Doors Required? By Code Red Consultants

If load bearing walls are required to have a fire-resistance rating based on their construction type per IBC Section 601, wouldn't all doors within the wall need to be protected accordingly? This question often comes up where load bearing walls are located within residential units, and if interpreted incorrectly, could result in substantial cost implications on a project.

The short answer to the question is not necessarily.

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contemplate"; the second means "sick at the stomach." Do not, therefore, say "I feel nauseous," unless you are sure you have that effect on others."

— E.B. White

## **September Meeting Announcement**



# Shop Drawings & Submittals: Benefits, Legalities, and Liabilities

### **NHCSI September 17 Dinner Meeting**

Our Tuesday, September 17<sup>th</sup> meeting will be held at the offices of Red Thread, 650 Elm Street, Suite 103, Manchester, NH.

Ken Lambert, Architectural Products Sales Consultant, Red Thread, will explain the importance of:

- the formal process;
- the benefits;
- the legalities and
- the liabilities of the submittal and shop drawing process

For more information and to register, please click here.

## **Upcoming Meetings**

October: Tour of California Paints factory in Andover, MA.

November: NH Building Code Changes

## Inside

President's Corner	2
Milton Potee, CSI College of Fellows	
Ever Wonder About those Disclaimers	3
The Value of CDT Certification	4
AWI Leads New Woodwork Standards	5
Digital Badges	5
Head In The (Point) Clouds	6

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## **Member Highlights**

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Ken Lambert, CSI Architectural Products Sales Consultant Red Thread Boston, MA. klambert@red-thread.com

> Tom House, CSI, AIA THA Architects, LLC PO Box 88 Stratham, NH 03885 603.770.2491 thouse@thaarc.com

Rich Saklad, RA, CSI Property Manager Wentworth-Douglas Hospital Dover, NH saklad-r@myfairpoint.net

Wayne Wheeler, PE, CSI, CDT 2 Winsor Avenue Concord, NH 03303 wadowheels@icloud.com

Dick Crow, Sr, CSI Construction Services 3 Arrowhead Drive Londonderry, NH 03053-3729 w.crow@myfairpoint.net

Bob McEachern, CSI, CCPR Roof Tech Sales , LLC 17 Holiday Lane Hampstead, NH 03801-0395 603.494.3757 bmceachern@rtsreps.net

Linda McNair-Perry, PE, CSI Summit Engineering, Inc. 5 Greenleaf Woods Dr, Portsmouth, NH 03801 linda@summitengineeringinc.com

### New Members 2019

John Gant—March 2019, <u>Allegion</u> <u>Whit Whitman</u>—April 2019, <u>AW Hastings</u> <u>Matt Mead</u>—May 2019, <u>Aquafin</u> <u>Ry Ward</u>—August 2019, <u>RW Advisors</u>



## **President's Corner**

First, thanks for reading our quarterly NHCSI newsletter. I'm glad to be more involved in this Chapter, as the recently elected President. It already is a good group of people and I hope to expand on that this season and this year.

As always, if you (as a CSI member or not) have any advice or suggestions as far as what you would like to see in a Chapter meeting or in this newsletter, please reach out to me anytime.



The key aspect I wanted to touch upon in my first "President's Corner" is that of the proper and growing role of the <u>sales engineer/technical sales representative</u> in today's world of construction. (For our purposes, we will use those two position titles interchangeably.)

My current and previous company position has been as a sales engineer. However, my prior industry experience has mainly been as a project manager and estimator within contracting firms. From that side of the table, I can assure you that a **knowledgeable and available** sales engineer can be a huge help to a general contractor or a subcontractor in getting their projects done correctly and efficiently.

Today's construction projects are more intricate and more proprietary than those of decades past. There is more emphasis on delegated design and design-build implementation. One of the main focuses of a sales engineer is to drive the specification at the A&D level. But, their job does not end there.

If a product is specified in a project, and then purchased by a contractor, that of course is a "win" for the sales representative. However, if the installation/ implementation of said product does not go well or as planned- that can quickly turn into a disaster on many levels. All the upfront sales and marketing and detailing work can fly out the window in a hurry.

I think contractors, and designers alike, should lean on the specific product and industry expertise of the sales engineers in their networks. If discussed correctly and at the proper milestone times, this collaboration & cooperation can often be the make or break to the success of a new building project.

Thanks for your interest in CSI and if I have not met you or spoken to you prior, I hope to in the near future.

Best, Ken Lambert. CSI

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## Milton Potee, CSI College of Fellows, Class of 1980

By Sheldon Wolfe, FCSI, CCS, CCCA

Milton C. Potee was a member of the CSI Chicago Chapter, and of the PDCA (Painting and Decorating Contractors of America).

After an active career as a manufacturer's representative and as an active CSI member, he moved to Arkansas sometime around 1989. Unfortunately, we lost track of him, so we didn't learn he had died until year later. As History Chair for the College of Fellows, I've seen this before, and each time, I'm saddened by the fact



that we didn't maintain contact with one of our members. In 2010, we learned that one of our Fellows and his wife had died in 2008.

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## **Test Your Knowledge**

Be one of the first three to answer the following CSI CDT study questions correctly to be eligible to have your business card published in the next edition.

1. Which of the following entities are responsible for design compliance with the authorities having jurisdiction?

A. Owner

- **B.** Architect/Engineer
- C. Contractor
- D. Plan reviewer
- 2. Marked-up or corrected contract drawings that indicate changes incorporated in the Work are known as:
  - A. Contract forms
  - **B.** Closeout submittals
  - C. Record drawings
  - D. As-built
- 3. Payment and performance bonds are which type of document?
  - A. Information available to bidders
  - B. Construction document
  - C. Preconstruction submittal
  - D. Closeout submittal

Submit your answers and contact info to info@nhcsi.org

## Ever Wonder About those Disclaimers at the End of E-mails?

by Kevin O'Beirne, PE, FCSI, CCS, CCCA, CDT

Most people who exchange e-mails with employees of certain corporations are familiar with disclaimers that often appear at the end of employees' external e-mails. The disclaimer used by this writer's former employer is:

This email and any files transmitted with it are the property of [company name redacted] and its affiliates. All rights, including without limitation copyright, are reserved. This email contains information that may be confidential and may also be privileged. It is for the exclusive use of the intended recipient(s). If you are not an intended recipient, please note that any form of distribution, copying or use of this communication or the information in it is strictly prohibited and may be unlawful. If you have received this communication in error, please return it to the sender and then delete the email and destroy any copies of it. While reasonable precautions have been taken to ensure that no software or viruses are present in our emails, we cannot guarantee that this email or any attachment is virus free or has not been intercepted or changed. Any opinions or other information in this email that do not relate to the official business of [company name redacted] are neither given nor endorsed by it.

If you are uninformed and read something like the above, it almost seems a bit scary. For example, the above appears to say that, if the e-mail is misdirected by the sender, the unintended recipient somehow undertakes certain obligations and could even be prosecuted if they do not comply with the sending person's employer's directives.

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## **Sponsorships Available!**

Contact the Editor for further details. Sizes and Cost One year = 4 Issues Business Card \$60 Per Year 1/8 Page \$80 Per Year 1/4 Page \$165 Per Year 1/2 Page \$250 Per Year Full Page \$375 Per Year

Editor: Wayne Wheeler, PE, CSI, CDT info@nhcsi.org



# CONSTRUCT EDUCATION: October 9 - 11, 2019 EXHIBITS: October 10 - 11, 2019 AEC EDUCATION & EXPO | Gaylord National Resort & National Harbor, MD, USA

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## The Value of CDT Certification

by Randy Nishimura, AIA, CSI, CCS - Principal at Robertson/Sherwood/Architects, Let's Fix Construction Blog

Change is a constant in architecture and construction. If anything, the pace of this change is accelerating. We all struggle to keep up with the latest developments in an effort to remain competitive. Our success is contingent upon how quickly we adapt in an environment buffeted by forces largely beyond our control. Survival of the fittest is a maxim always in play.

If there is another constant in our industry it is the importance of clear, concise, correct, and complete construction documentation and communications. Architecture and construction are increasingly dependent upon the effective conveyance of design intent. They are likewise dependent upon the clear definition of project responsibilities and roles detailed by the forms of agreement most widely used in construction projects. It's important and necessary for everyone — owners, architects, engineers, specifiers, general contractors, subcontractors, construction materials suppliers, and others — to understand project delivery options, standard forms of agreement, means for organizing drawings and specifications, etc.

Change and the Four C's of construction documentation are not incompatible. A key to managing the former and mastering the latter is knowledge, specifically fluency with the lingua franca of our industry. Knowledgeable employers highly value those who understand the language of construction, its underlying principles and terminology, and the critical relationships between all the participants in any design and construction undertaking. Employees who thoroughly understand this language not only survive but are more likely to thrive. They are the winners in today's challenging and constantly changing environment.

So, how can you demonstrate your construction knowledge and competence? How can you stand out in the crowd? One of the best ways is to achieve <u>CSI's Construction Docu-</u> <u>ments Technologist (CDT)</u> status.

The Construction Specifications Institute developed the CDT program decades ago to provide training in construction documentation for architects, contractors, contract administrators, specifiers, and manufacturers' representatives. Since then, it has become the cornerstone for <u>all of CSI's</u> <u>certification programs, which presently include Certified</u> <u>Construction Specifier (CCS), Certified Construction Contract Administrator (CCCA), and Certified Construction Product Representative (CCPR).</u>

Passing the CDT examination means you have become fluent with construction project processes and communication. It means you've demonstrated professional commitment, credibility, and reliability to your employer, colleagues, and clients. Obtaining CDT status benefits you, your company, and your customers. Getting your CDT also means acquiring the privilege to add "CDT" after your name on your business card and resume.

In some respects, I regard the value of the CDT as analo-

gous to that of a liberal arts degree, in that both provide a foundation for more advanced learning. I became a CDT back in 1989, and subsequently achieved Certified Construction Specifier status a couple of years later. There's no doubt in my mind that studying for and passing both examinations has served me very well professionally. What I learned provided me with a solid knowledge base I've relied upon throughout my career. I know I'm a much better architect than I might have been without the benefit of what I learned through those two certification programs. I truly believe this knowledge equipped me with the ability to better cope with the accelerating changes in our industry by ensuring I first thoroughly grasped the time-tested fundamentals of construction documentation and communications.

I highly encourage any of you who are simply curious about CDT certification to seriously consider learning more about its value. Ask others besides me who have become CDTs. Or check out <u>CSI's YouTube channel</u> for informational webinars about its certification programs. The webinars provide more information than I have shared here. Each webinar covers the requirements and resources needed for successful exam preparation and study. Many local CSI chapters also offer educational courses to help those interested prepare for the examinations.

As the saying goes, knowledge is power. Knowledge provides a competitive edge. Give your knowledge about construction documents and communication a boost by becoming a Construction Documents Technologist. The true value of CDT certification is beyond calculation—it's priceless.

"The CSI, CDT benefits any discipline because this is a certificate that is not only discipline specific to architects. And if you don't know how everyone on the project works, you're making mistakes and creating risks. The CSI, CDT will give you the knowledge you need to do your job well."

Cherise Lakeside, CSI, CDT <u>Specifier/Strategic Coach</u>, LSW Architects, <u>Let's Fix Construction</u> Co-Founder

## Why Get a CDT?

The Construction Documents Technology (CDT®) certification provides a comprehensive program of study for anyone seeking to enhance and demonstrate knowledge of writing, interpreting, enforc-ing and managing construction documents.

Fall 2019 Certification Registration (CDT<sup>®</sup> only)

Exam Window: October 14 – November 22, 2019 Registration: July 8 – October 9 Late Registration: October 10 – October 31 Pass/Fail notification: January 2020\*

For additional information, please click here.

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#### AWI Leads New Woodwork Standards Development Through ANSI Process New Casework Performance Duty Levels Established

**Potomac Falls, VA, July 10, 2019** – The Architectural Woodwork Institute (AWI) is creating a new suite of standards for architectural woodwork. The creation of these standards, which is expected to continue over the next three years, will define and address each aspect of architectural woodwork. Development of the **AWI 0641 – Architectural Wood Casework Standard** is currently underway in its second round of public comment.

**AWI 0641 - Architectural Wood Casework Standard** features the well-known Premium, Custom or Economy Grades as designations for aesthetic requirements while a new designation of **Casework Performance Duty Levels** is being introduced. Through rigorous casework testing performed at AWI's National Testing Center in Americus, GA, AWI established data-driven designations of casework load performance measures as Duty Levels 1, 2, 3, & 4.

"Providing specifiers and design professionals with simpler and clearer methods to designate casework performance and casework appearance improves the specification and design process and contributes to the owners receiving the best value", stated AWI staff member Margaret Fisher. The new AWI 0641 - Architectural Wood Casework Standard is expected to complete the American National Standards Institute (ANSI) vetting process and is slated for publication in first quarter of 2020.

While the Architectural Woodwork Standards (AWS), Edition 2, 2014 remains AWI's current and recognized woodwork standard, Ms. Fisher, noted that several standards, including AWI's first ANSI-designated standard, AN-SI/AWI 0620-2018 – Finish Carpentry/Installation, became effective on March 15, 2019.

The ANSI/AWI 0620-2018 – Finish Carpentry/ Installation Standard, along with AWI 100 – Submittals, AWI 200 – Care & Storage, and AWI – 300 Materials, are currently available for download and reference from AWI's website, <u>www.awinet.org</u>. Design professionals and specifiers are encouraged to use AWI's new Standards in upcoming project specifications. Meanwhile, interim specification language recommended by AWI is as follows: "All work in this section shall comply with AWI's published standards, latest edition, for grades of architectural woodwork indicated for construction, finishes, installation, and other requirements."

AWI will continue to provide technical assistance for the users of the current **AWS**, **Second Edition** and each new AWI Standard as they are released. Technical help is available by contact AWI Technical Director, Ashley Goodin, at 229-389-2543 or by email at <u>help@awinet.org</u>.

If you would like more information about this topic, please contact Margaret Fisher at 571-926-5522 or by email at <u>mfisher@awinet.org</u>.

**About AWI**: The Architectural Woodwork Institute (AWI) is a nonprofit trade association founded in 1953. Today, AWI represents nearly 3000 members consisting of architectural woodworkers, suppliers, design professionals and students from around the world. 46179 Westlake Drive, Potomac Falls, VA 20165

## **Digital Badges**

CSI is now issuing digital credentials issued to all recipients of the CDT®, CCCA, CCS and CCPR certifications. These well-established and well-known industry designations will gain enhanced visibility within and beyond our industry through verified digital distribution.



Certificants can accept, display and share their credential through email,

social media (LinkedIn, Twitter, and Facebook accounts) and on their professional signature lines. The Construction Specifications Institute is proud to recognize learning and enhance the verification of our credentialing programs in this innovative method.

There is no fee for this service and acceptance of your badges is entirely up to you.

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## Head In The (Point) Clouds - A Quick Introduction To 3D Scanning

By Gregory Ceton, CSI, CDT

#### Point Clouds - What's the Point?

For those unfamiliar, a point cloud is a three-dimensional set of fixed location points in space that reference the edge and surface points of objects in that space. These point sets, known as "point clouds," are typically generated by using a 3D scanner of some kind.

The initial use of point clouds and scanners on projects was limited by the cost of the equipment and the shortage of people trained in its use. Like every technology, its cost has dropped over time, making this service, once reserved for very large-scale projects, available to virtually everyone. In addition to lower cost, new tools provide more spatial information and gather it in a shorter period of time than their predecessors, making point cloud scanning less of an event and more of an everyday construction site practice.

#### **Environment Capture**

Two leading technologies can be used for generating 3D models of an environment.

<u>Photogrammetry</u> starts with a photograph, video, or series of photographs and generates a model of the physical environment using software analysis of objects in the captured images. This process is used to generate Google Maps from aerial photos among other resources.

Light Detection and Ranging (LIDAR) uses a pulsed laser and software to generate a non-photorealistic 3D map of the environment. LIDAR is used for piloting many self-driving vehicles, and combined with photogrammetry, generates the explorable Google Maps street views.

Though both methods have the potential for use in design and construction, LIDAR-generated point clouds are now capable of capturing RGB data, and typically result in more reliable information about the space being measured and the objects in it at any point in time. As a result, LIDAR scans are more applicable for use in most construction projects.

The speed of LIDAR scanning to generate a point cloud of a space is impressive. Space area that can be captured accurately is set by the equipment being used, but the process of generating the capture can be as little as two to three minutes.

#### **Use with BIM and Project Execution**

Once generated, the cloud can be aligned with the design or construction models. Doing so allows for check of construction progress, confirmation that work is being conducted consistent with what was designed and specified, and even remote inspection of the quality of some forms of work. Doing so on a regular basis can also surface problems before corrections become more costly in terms of money or schedule. This bottom-line reassurance is meaningful to project managers and owners.

At a recent conference, I spoke with <u>Kyle Barker, AIA</u>, about this type of use during delivery. He performs point cloud

scans of sites as a regular part of project management and quality assurance/control. The cost savings, early correction of mistakes, and peace of mind that the technology provides are well worth the minor investment in equipment and becoming familiar with the tools and what they deliver. As he put it, "There's really no going back to a tape measure and photo-based site inspection once you've done it with a laser scanner."

In addition to use during project execution, point clouds provide a fast and easy way to ensure that measurements, whether provided in a bidding package or taken by a contractor preparing a bid, are generated quickly, cheaply, and accurately. Accuracy of the dimensions of a space, the size of objects in the space that may need selective demolition, and the condition of existing work that will need to be renovated or replaced are all made more reliable and less prone to observation errors.

#### Project Closeout

Looking forward, it is easy to see how point cloud surveys taken by the contractor could be submitted to building code officials along with video and photographs as a substitute for physical inspection of many projects. This would enable greater time efficiency for code inspectors and provide a better record of code compliance for owners and other project participants.

For owners, a final scan of project spaces would provide the basis for very accurate and inexpensive "as-built" models. Once aligned with the design and construction models they could be the basis of one set of information available for facility maintenance and space planning.

## **Help Wanted**

**Members:** Must be enthusiastic, willing to learn something new, fun loving, and sympathetic to engineers. Click <u>here</u> to join.

**Directors and Committee Chairs:** Must be willing to work for free; periodic planning meetings with meal included; become eligible for 2 CEUs for <u>architects</u> and <u>engineers</u>.

**Dinner Meeting Venues:** Willing to offer office conference room for a group of engineers, architects, product representatives and contractors. No registration fees or dinner charges for staff attendees.

**Sponsors:** In order to keep meeting registration costs low, we need website, newsletter, and meeting sponsors.

**Newsletter Articles:** We need your articles for the newsletter; business card ad included at no charge.

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Please email us at info@nhcsi.org.

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### Christa McAuliffe Elementary School The future of elementary learning

Christa McAuliffe Elementary School, in Concord, NH, is one of three visionary elementary schools debuted by Concord School District designed to meet the changing needs of 21st century learning. The new school consolidates six aging buildings and has propelled Concord's early education facilities into the future with collaborative, multi-purpose, open spaces that support individualized learning.

Administrators selected <u>norament® grano</u> to cover the facility, which can accommodate about 480 students. "The school reimagines and successfully demonstrates what the future of elementary learning will be," says Matt Cashman, director of facilities & planning. "A variety of spaces promote hands-on exploration and group interaction. Throughout the building, the floor's durability, comfort, sound absorption and chemical-free maintenance has been transformative for our staff and students."

The school takes into account the evolving role of the library and incorporates a variety of mediums and methods of consuming information. Throughout the facility, norament grano rubber flooring supports a vision of open, collaborative, flexible and technology-integrated multi-use learning spaces.

"The facility is not only an elementary school, but also a community building that is heavily used before and after school for several town programs, such as the Boys & Girls Club," says Matt Cashman, director of facilities & planning. "The durability and increased stain resistance – without the use of chemical cleaners or coatings – is a huge benefit realized by our district, when compared to our previous dealings with VCT." The selection of nora® flooring also helped the district meet <u>Northeast-CHPS standards of sustainability</u>.

"The elimination of coatings and chemicals has been a breath of fresh air, literally," says Rusty Bonner, head custodian. The absence of fumes often associated with the application of these substances has positively impacted the well-being of the maintenance staff, as well as students and teachers. "Just a few regular washes with little more than water erases any staining, allowing the floors to easily maintain their new appearance," says Bonner. This is especially beneficial in spill-prone areas, including the cafeteria and art rooms. "It's an easy-maintenance flooring," says Bonner. "As a result, we can devote more time to cleaning alternate surfaces, such as glass."

The rubber flooring also plays an important role where acoustics are concerned. Open project areas throughout the school, including an amphitheater, circular story room, reading nooks and spaces for small group work complemented by smartboards, benefit from the floor's ability to attenuate unwanted ambient noise. Students and staff can better focus on listening and learning.

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