SPECWORK

Little Rock Chapter - Chartered November 1965 August 2025

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CSI® LITTLE ROCK CHAPTER

President's Thoughts

By: Billy J. Mathis, FCSI, CDT, Little Rock Chapter President

In my July "President's Thoughts" I mentioned the various benefits of membership. There was a whole series that were left off unintentionally. I am talking about the various Blog and Community Discussions that take place on a daily basis. An example of one such discussion is shown below. There are many of these discussions taking place daily on the various community platforms and the CSI Blog. Couple these discussions with the inclusion of the monthly "The Construction Specifier" magazine and you have multiple sources of information that you can read, participate or even start a discussion by asking a question. This is something that is invaluable to everyone and is open and accessible to all members and non-members (limited access) alike.

Original Question: We're developing a section to address cleanup and working conditions in an old residential type attic. We are aware of the potential for serious health issues among workers. We find no OSHA references. Has anyone found useful industry references? We're recommending the Architect request the Owner retain an industrial hygienist to advise.

1st Response – Kevin O'Beirne: Other than alerting the contractor to known hazardous conditions, of whatever nature constitutes, "hazardous", why would anyone need to develop a spec section mandating safety requirements applicable to the contractor? Most widely-used standard contract documents, such as AIA and EJCDC, assign to the contractor sole responsibility for safety and protection at the site. When it comes to working in conditions one might consider "hazardous", all that is typically necessary is to furnish bidders and the contractor available information about conditions at the site and let them make their own judgements.

Both AIA A201 and EJCDC C-700 (which one might perhaps say establish what may be considered as "normal" in design-bid-build construction), require the contractor to designate a safety representative. In selected cases, an owner may desire to establish, via the specifications (perhaps in a Section 01 35 23 – Owners Safety Requirements, which is assigned by MasterFormat), certain minimum qualifications for the contractor's safety representative. The ones of which I am aware are 1) Certified Hazardous Materials Manager (CHMM) issued by the Institute of Hazardous Materials Management; 2) Certified Industrial Hygienist (CIH) issued by the American Board of Industrial Hygiene (ABIH), where the CIH may be required to be experienced in ABIH's practice areas of community stressors and hazard controls; and 3) Certified Safety Professional (CSP) issued by the Board of Certified Safety Professionals (BCSP). Perhaps there are others, as well.

Regarding citing safety laws or regulations in construction documents, see Specifying Practices: Laws and Regulations in Construction Documents. It is typically not a good idea to stipulate the contractor's safety practices in the construction contract. Doing so has the potential for the owner and design professional to share, perhaps unintentionally, the contractor's responsibility for safety at the site. Before getting into this type of thing, the design professional should check with their professional liability insurance carrier concerning whether it is covered under the policy in the event the design professional is alleged to have some responsibility for a safety mishap at the construction site, as suffered by the contractor or others.

2nd Response – John Yob - "It is the Contractor's responsibility to assess the existing conditions prior to beginning the work."

Section 02 00 00 - Existing Conditions, Subsection 02 80 00 - Facility Remediation covers handling of hazardous materials typically encountered in residential construction, Asbestos, Lead, PCB's, Lead and Biohazard. A new specification section should not be required.

Any out-of-the-ordinary hazardous materials encountered is the responsibility of the Contractor to notify the Architect. These situations are handled as they are discovered.

A suggestion would be to include a section in the Contract that clearly describes responsibilities when hazardous materials are encountered on the Project. When these materials are discovered, if there is no mention in the Contract documents, disagreements over who will address them and who will cover the expense will likely arise.

Also, the Architect/Engineer of Record does not dictate the Contractor's means and methods. This includes site safety as well as construction. This is considered outside the design professional's expertise and beyond the scope of our liability insurance.

3rd Response – Cam Featherstonhaugh - Philip,

I wouldn't try to specify anything regarding any cleanup of hazardous materials, especially OSHA requiremnets. For one thing, professional liability insurance often does not cover this type of work (my firm's insurance does not, for instance).

If there are known hazardous conditions present or discovered, the Owner needs to hire an environmental consultant to assess presensce the hazardous materials and designate an abatement plan and scope of work for an properly trained and licensed abatement contractor.

Most regular contractors won't touch hazardous materials except in a few instances, like some painters can abate lead paint.

I would also not want to be "notified" of a discovery of hazardous materials as there is not any specific action that I can take with that knowledge.

I would rather be "advised" of the discovery of possible hazardous materials and "copied" on all correspondence with the environmental consultant and/or abatement contractor. Small language choice, but I just don't want any implication that this is the Architect's problem to solve.

Hope this helps.

4th Response – Kevin O’Beirne - Cam – While I generally agree with you, whether or not environmental engineering services for a hazardous environmental condition, discovered at the site, must be handled by a consultant separately retained by the owner, or whether the principal design professional might agree to perform such services, or retain a subconsultant to perform the services, depends on the knowledge, expertise, licensure, and business of the principal design professional. While I would imagine many architecture firms do not have in-house resources for this type of thing, and they probably do not want to touch it even with a qualified environmental engineering subconsultant, in cases where the principal design professional is an engineering firm, they may have either the in-house expertise or be willing to retain a subconsultant to perform the necessary services.

The same also goes for the construction contractor. While many general contractors retained for vertical construction projects might not want to have anything to do with remediating hazardous materials, many of the general contractors with whom I have worked on heavy civil/industrial/process projects have had no problem retaining a qualified environmental remediation subcontractor to perform such work under their construction contract. It all depends on the qualifications, expertise, and insurance policies held by the contractor.

In the end, when hazardous materials are unexpectedly encountered in the work, the owner should consider asking their principal design professional consultant if they can assist with the necessary professional services, and the design professional should ask the contractor if they would be either capable and willing to perform the necessary remediation, or if they would be willing to retain a qualified remediation subcontractor to do it. Both AIA and EJCDC documents fully give the design professional and contractor the right to refuse such requests, which most likely happens when they do not possess the necessary expertise and insurance.

Most of my own prior projects involved repurposing, renovating, or expanding existing municipal water and wastewater treatment facilities. For many decades, it was a routine order of business in our scope of services for preliminary design to retain qualified laboratories to visit the site and perform inspections, sampling, and testing to determine whether any of the existing work areas included hazardous materials like lead-based paint, asbestos-containing materials, PCBs, and occasionally others. When these were found to be present, the owner typically desired us to prepare, and include in the construction documents, requirements for the necessary remediation. For the most part, the firms where I have worked possessed ample in-house experience in designing and specifying requirements for such remediation. Thus, most of the necessary remediation was part of the scope of the construction contract as originally bid and awarded. In all my projects, the general contractor was not, itself, an environmental remediation contractor, but was experienced with retaining a specialized subcontractor to perform the remediation work. Once in a while we found additional hazardous materials during construction, which caused a temporary work stoppage in that area, followed by necessary amendments to the professional services contract (for us) and change orders (for the contractor), followed by the necessary, additional remediation. Again, I fully understand that not all design firms, especially architects, would want to engage in this type of work, but many engineering firms, especially larger firms, do this type of thing all the time.

All this discussion about hazardous material remediation is interesting, but the title of this thread clearly indicates that the original post was regarding "pests". While exactly what that means was not stated, I assume it means the existing building space was infested with something like insects, rats, or some other type of pest, rather than "constituents of concern".

5th Response – Cam Featherstonhaugh - Kevin,

For some reason, I thought maybe they were talking about bats and bat guano. That stuff is nasty and can lead to serious respriatory ailments (Histoplasmosis) and bats are often found in residential attics (or used to before the fungus that causes white nose syndrome killed off much of the North American brown bat population).

As you can see, this is a very informative discussion conducted by people who not only understand the original question but are able to converse about a subject without being defensive or who may become angry when their particular opinion may be challenged. This is a great place to ask and receive answers. It is also a great place to share knowledge and help mentor someone. This is just one of the many benefits of membership.

We're Back – The Little Rock Chapter Lunch and Presentation is back with the three topics shown below. We are also having a couple of evening events including a Panel Discussion and a Holiday Social.

CALENDAR

AUGUST 19, 2025: Polished Concrete

Speaker: David Stephenson, President of Polished Concrete Consultants. With over 20 years in the industry, David has worked as a contractor, owner, product developer, and consultant, serving clients worldwide. He sits on several American Concrete Institute (ACI) committees and specializes in solving concrete-related challenges.

Topic: Polished Concrete Success: Mix Design, Placement & Avoiding Common Pitfalls

This session dives into how early design decisions - mix, curing, and placement - impact polished concrete's long-term quality. We'll explore common mistakes, solutions, and real-world case studies that span the full construction cycle.

Lunch Sponsor: Ameripolish

CEU: Eligible for 1 AIA Learning Unit (LU). Attendees may self-report the course. Certificates of completion will be provided.

SEPTEMBER 16, 2025: Roofing Systems Overview

Speaker: Tyler Newton, Garland Company

Topic: An informative session covering the pros and cons of various commercial roofing systems - built-up, modified bitumen, metal, single-ply, and fluid-applied - along with their construction methods and applications.

Lunch Sponsor: Garland Company

CEU: 1 LU/HSW Credit

OCTOBER 14, 2025: Millwork Shop Tour

Topic: Get a behind-the-scenes look at custom millwork fabrication and best practices.

Location: Custom Millwork (Maumelle)

Tour Host: Donnie Green, CDI Contractors

Presenter/Lunch Sponsor: Solid Surfacing, presented by Mike Perkowski, BPI.

CEU: 1 LU Credit

NOVEMBER (Date TBD), 2025: Panel Discussion – All Things Flooring

Format: Evening Event (Tentative: 4:00 PM) - A candid, expert-led panel tackling common (and uncommon) flooring issues.

Speakers:

- Schluter: Expansion joints & waterproofing
- Bostik: Adhesives & floor prep
- JGP: Lessons from the field
- Mannington: Product-specific insights (carpet/LVT)
- BPI: Moderator & best practices

Topics: Moisture mitigation, incompatible materials, warranty conflicts, coordination gaps, and everything in between – the good, the bad, and the ugly!

DECEMBER (TBD), 2025: Holiday Social + Mini Trade Show

Details coming soon! Expect a festive evening of networking, fun, and industry connection.

CSI LITTLE ROCK CHAPTER

LUNCH AND LEARN

Polished concrete application at Arkansas Museum of Fine Arts (AMFA) in Little Rock

TOPIC: **Polished Concrete Success: Getting It Right from Mix to Finish**

WHEN: **Tuesday, August 19**
12:00 - 1:00 pm
Doors open at 11:30 am

WHERE: **Cromwell "Mixing Room"**
1300 East 6th Street
Little Rock, AR 72202

CEU: **Eligible for 1 AIA LU**
Attendees may self-report.
Certificates of completion provided.

RSVP: Email **mburton@cromwell.com**
Register by Friday, August 15
Open to all industry professionals!

Course will explore how mix design, curing methods, and placement techniques directly impact final appearance, durability, and performance. We'll cover common mistakes—from improper surface prep to poor crack repair and joint treatment—and how to avoid them. Whether you're designing, placing, or finishing, this session offers practical insights for polished concrete success.

David Stephenson

David brings 20+ years of concrete industry experience as a contractor, owner, product developer, and founding consultant of *Polished Concrete Consultants*.

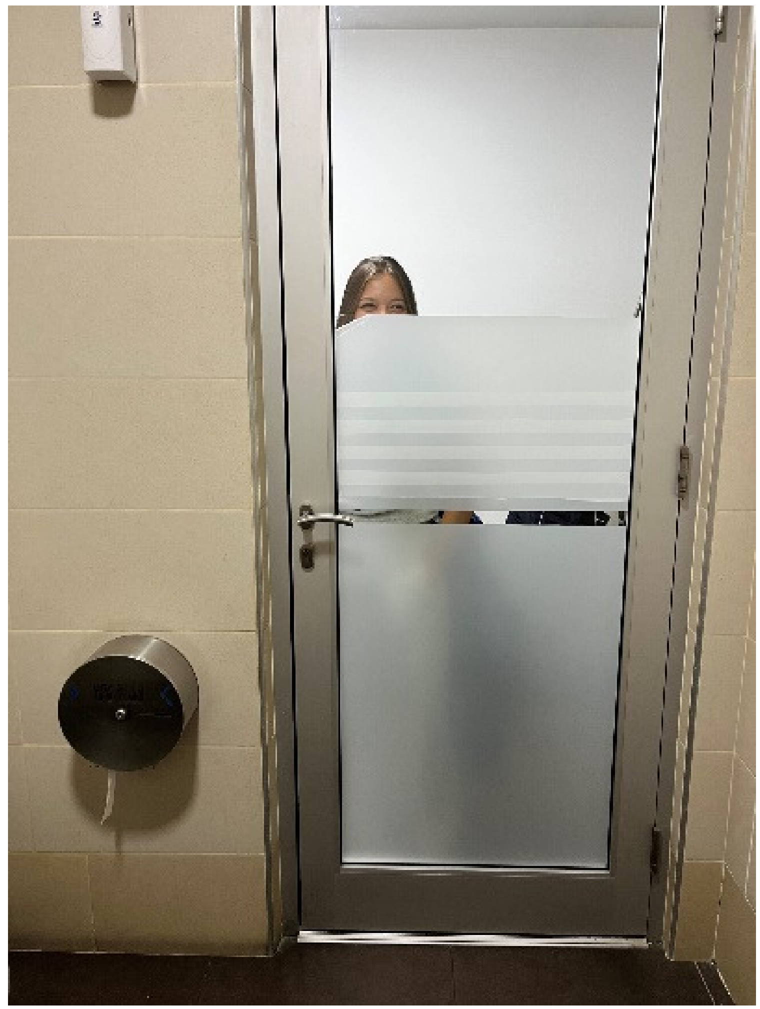
LUNCH PROVIDED BY AMERIPOLISH

Wordless Wednesday: Family Restroom

Posted by Lori Greene, July 2nd, 2025

The memories of the 3rd grade joke (“How do you spell ‘I cup’?”) came flooding back when my kids and I were at the airport in Santa Marta, Colombia. The restroom line was long and there were no families waiting to use the family restroom, so my youngest pointed out that we are a family an therefore eligible under the family restroom rules.

Once inside we realized that not only was the toilet the tiniest I have ever seen, the frosted area on the glass only went up to around 60 inches above the floor. And…there was also no way to lock the door without a key. Oh well, off to the back of the line! But at least I got some Wordless Wednesday photos!



Fixed-It Friday: At the Dollar Store

By: Lori Greene, I Dig Hardware Blog

Last month, Mark Kuhn and I were in Savannah for the BHMA Spring Meetings, and we took a walk to the Amazon Locker which was located inside of a dollar store. When we arrived, we found the entrance doors tied from the inside with a bundle of cord, and a few customers standing outside.

As we all discussed the possible reasons for the doors to be tied shut (like a robbery in progress), Mark bravely started untying the rope. Right around the time he finished, the lone employee showed up and said she had been using the restroom. I think there must be a better “fix”!

Fixed-It Friday: Electric Strike Prep

By: Lori Greene, I Dig Hardware Blog

Just yesterday I was talking with a class about prepping existing frames for electric strikes. I'm not an installer, but something seems off here. What do you think?

Thank you to Tim Weller of Allegion for today's Fixed-it Friday photo!

Wordless Wednesday: Down at the Pizzeria

By: Lori Greene, I Dig Hardware Blog

I know we have seen MANY of these blocked egress photos, but this one is pretty egregious. What I'm wondering is…are there no AHJs who eat here?

Thank you to Tim Weller of Allegion for today's Wordless Wednesday photo!

Decoded: Accessibility Requirements for Automatic Doors

By: Lori Greene, I Dig Hardware Blog

Beginning with the 2021 edition of the IBC, accessible public entrances serving some buildings are required to have automatic doors. This is based on the use group and the occupant load of the building.

Because of a change to the 2021 edition of the International Building Code (IBC), which was carried forward into the 2024 edition, the use of automatic operators is increasing. Although the codes and standards did not prescriptively require automatic doors in previous editions, the IBC change mandates the use of automatic operators on accessible public entrances serving buildings of certain use groups and with an occupant load over a specific threshold.

Given the increased focus on automatic operators, it seems like a good time to answer these questions:

Are automatic doors required to meet the same accessibility requirements as manually operated doors? If not, what are the differences?

The accessibility standards include two separate sections, one for manual doors, doorways and manual gates, and the second for automatic and power-assisted doors and gates. This answers the first question – automatic doors are not required to meet all of the same requirements as manual doors – each type has its own section of the standards.

According to ICC A117.1 – Accessible and Usable Buildings and Facilities and the ADA Standards for Accessible Design, the requirements for automatic doors include the following. These requirements also apply to gates that are part of an accessible route.

ANSI/BHMA Standards: Low-energy automatic doors and power-assist doors are required to comply with ANSI/BHMA A156.19 – Power Assist and Low Energy Power Operated Doors, while full powered automatic doors must comply with ANSI/BHMA A156.10 – Power Operated Pedestrian Doors. These standards include many requirements related to automatic doors, including actuators, safety sensors and guide rails, hold-open time, opening **force and speed, and signage.**

Public Entrances and Vestibules (ICC A117.1 only): As previously mentioned, beginning with the 2021 edition of the IBC, accessible public entrances in some buildings are required to have automatic operators. This requirement is based on the use group and occupant load of the building. ICC A117.1 includes a related requirement for full-powered or low-energy automatic doors at these entrances. Power-assist doors, which have operators to reduce the opening force but still require manual operation, are not an option where automatic doors are required at accessible public entrances. The current ADA standards do not include this requirement.

Clear Width: Automatic doors are required to provide a clear opening width of at least 32 inches, in both the power-on and power-off modes. The clear width is measured with all door leaves in the open position. This differs from the clear width requirements for manual doors, which must have at least one leaf that provides 32 inches clear.

Maneuvering Clearances: The maneuvering clearances required for manual doors are to ensure that someone using a wheelchair has the necessary space to maneuver to operate the door manually. Automatic doors are not required to have the same maneuvering clearance as manual doors, but power-assist doors do require the same maneuvering clearance, as these doors are operated manually.

The accessibility standards require automatic doors to comply with the applicable BHMA standards, A156.10 or A156.19. These standards include additional requirements beyond what is stated in the accessibility standards.

One important requirement to note is that if an automatic door is part of an accessible means of egress, the door must have the required maneuvering clearance for manual operation on the egress side. This requirement does not apply if the automatic door has standby power or battery backup, which would allow the door to be operated automatically in an emergency. If a fire door assembly is equipped with an automatic operator, the operator is required by NFPA 80 to be deactivated during a fire. For this reason, fire doors serving an accessible means of egress must have the required maneuvering clearance for manual operation on the egress side. Automatic doors (non-fire-rated) that remain open in the power-off condition, and automatic sliding doors with a break-away feature (ICC A117.1 only) are not required to comply with the maneuvering clearance requirements.

Thresholds: Whether a door is automatic or manual, the accessibility standards include the same requirements for thresholds and changes in level. Thresholds (if provided) are limited to ½-inch in height. A vertical change in level of ¼-inch is permitted, and from ¼-inch to ½-inch, the maximum slope is 1:2. If the threshold height is greater than ½-inch, the threshold is considered a ramp and will have a slope no steeper than 1:12. There is an exception in both accessibility standards for existing or altered thresholds. At these locations, a 3/4-inch maximum height is permitted, if the threshold is beveled on each side with a maximum slope of 1:2. ICC A117.1 specifies that this slope applies to the portion of the threshold height exceeding ¼-inch.

Doors or Gates in a Series: When two doors are installed in series, the accessibility standards require a minimum distance between the doors of 48 inches plus the width of any door or gate swinging into the space. For example, if a 36-inch door is swinging into a vestibule, with another 36-inch door swinging out of the vestibule, the minimum dimension of the vestibule in the direction of travel will be 84 inches, nominal (48 inches + 36 inches). The standards also require a turning space within the vestibule (the required size varies), but ICC A117.1 includes an exception for automatic doors. If both of the doors in series are automatic doors, the turning space is not mandated by this standard.

Controls: ICC A117.1 and the ADA standards require compliance with Section 309 of those publications, which states that operable parts must be able to be operated with one hand, and without tight grasping, pinching, or twisting of the wrist. This section limits operable force for controls to 5 pounds, maximum, and the section refers to the allowable reach ranges to establish the mounting height of the actuator. The standards also state that the clear floor space adjacent to the controls must be located beyond the arc of the door swing. Detailed requirements for automatic door actuators are found in the BHMA standards, and the accessibility standards require compliance with these standards, so it's important to check A156.19 or A156.10 for additional requirements.

Operable Hardware: ICC A117.1 requires the hardware for automatic doors to meet the same requirements as manual doors. For example, handles, pulls, latches, locks, and other operable parts must have a shape that is easy to grasp with one hand and that does not require tight grasping, pinching, or twisting of the wrist to operate. The 2017 edition of the standard also limits the amount of operable force for door hardware to 15 pounds of forward pushing or pulling motion, or 28 inch-pounds of rotational motion. The ADA standards do not currently include a paragraph for door and gate hardware in the automatic door section.

Break Out: For full power automatic sliding doors with a break out feature, the minimum clear width of the break out opening when operated in the emergency mode is 32 inches. ICC A117.1 includes an exception for locations where manual doors complying with the standard serve the same means of egress. In these locations, the clear width requirements for break out openings do not apply.

Revolving Doors: Both the ICC A117.1 and ADA standards state that revolving doors, gates, and turnstiles must not be part of an accessible route.

There are additional requirements found in the sections addressing manual doors that do not apply to automatic doors. For example, manual doors (with a few exceptions) are required to have a flush smooth surface on the push side, measured 10 inches up from the floor. The automatic door section does not include this requirement. The opening force and closing speed sections of the accessibility standards are not referenced in the automatic door section, although the BHMA standards and the model codes include limitations that would apply.

State and local accessibility requirements may vary, so it's important to refer to the adopted codes and standards. In addition, the applicable BHMA standards should be referenced for detailed information related to automatic doors. For additional assistance, consult with the Authority Having Jurisdiction (AHJ).

Wordless Wednesday: State Office Building

Posted by Lori Greene, July 16th, 2025

Steve Wertman of Allegion sent me today's Wordless Wednesday photo, and I don't know whether to laugh or cry. Just kidding…I'm crying. The photo was taken in a state office building.

What I Learned From CSI - Theatre or Theater??

By: Gary Bergeron, CSI, CCS, GSR Technical Chair

Original theatre marquee

One of the highlights of the 2025 Chattanooga GSR conference was the Tivoli Theatre renovation presentation and building tour led by Michael Schnoering, the architect of record for the renovation. A lesser-known trivia item is that a live playhouse theatre is spelled with an "RE" and has British “roots”, while a movie cinema theater is spelled with an "ER" and has American “roots”.

The Tivoli Theatre, known as the "Jewel of the South," opened in March 1921. It was one of the first air-conditioned buildings in the United States and was named after Tivoli, Italy. The building features prominent cream tiles and terracotta bricks throughout its structure. Like many theatres built during that era, it houses a circa 1931 Mighty Wurlitzer pipe organ, which provided live music for silent films and theatrical productions.

The theatre is designed in the Beaux Arts architectural style, similar to the Tennessee Theatre located in Knoxville. Inside, the theatre includes a rose and gold coffered ceiling, while the lobby features a white terrazzo floor accented with forest green marble and decorative medallions. Upon its opening in 1921, the Tivoli Theatre showcased the film "Forbidden Fruit" by Cecil B. DeMille, with admission prices ranging from 15 to 55 cents. The building was added to the National Historic Register in 1973.

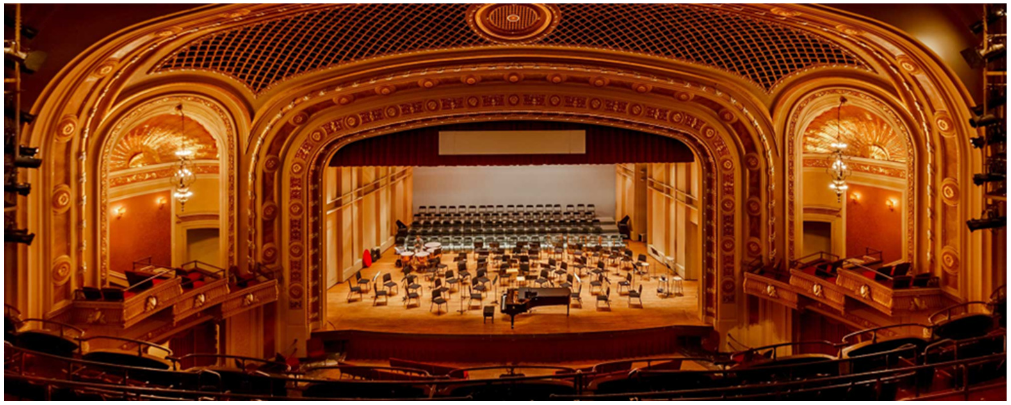
Michael Schnoering began the renovation discussion by providing some historical background on the site, which included "sand boring" maps of the building area. The structure now known as the Tivoli Theatre originally did not encompass the two adjacent buildings, which are referred to as the RH Hunt, it consisted only of the lobby, seating, and stage areas. Michael detailed the construction of the adjacent buildings, which was originally a furniture store. In 1926, five Carrier air conditioning units were installed in the theatre. Willis Carrier was the HVAC engineer who played a crucial role in making air conditioning a common feature in commercial buildings.

The theatre tour began in the lobby and continued through the auditorium, including stops at the stage, wings, and loading dock. The lobby featured several interesting architectural elements, such as two round wall recess located on each side of the lobby.

In the auditorium, also known as the "house," there were new seating samples temporarily installed for review. As someone with a background in theatre technology and mechanical design, I noticed that the chilled water and heating water piping for the HVAC units is routed through the theatre “wings”.

One common issue in many theatres is the "wind effect" caused by the stage HVAC unit blowing air on the theatrical curtains. This airflow can cause the curtains to move, resulting in unintentional shadows created by the shifting fabric in front of the stage lighting. Additionally, it is undesirable for the backdrops and cycloramas to "ripple in the wind" during a performance.

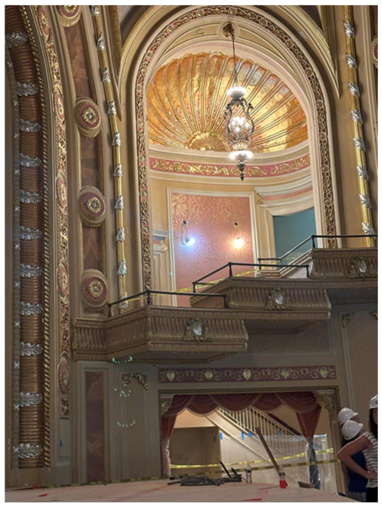
The fire sprinkler system included a proscenium opening deluge system designed to protect and separate the audience seating area from the stage. There have been several historical fires in theatres where ignition occurred on stage, causing the flames to spread into the audience and resulting in significant fatalities. For more details on catastrophic theatre fires, see the Knoxville Speck newsletter from May 2020 https://www.csiknoxville.org/storage/Speck/136/2020-05-THE-SPECK.pdf.



View of the stage and box seating from balcony

Original auditorium seating and balcony; note the control booth and movie projector room above the balcony seating along with the theatre lighting cove in the ceiling ellipse

Tour group at the marquee entrance



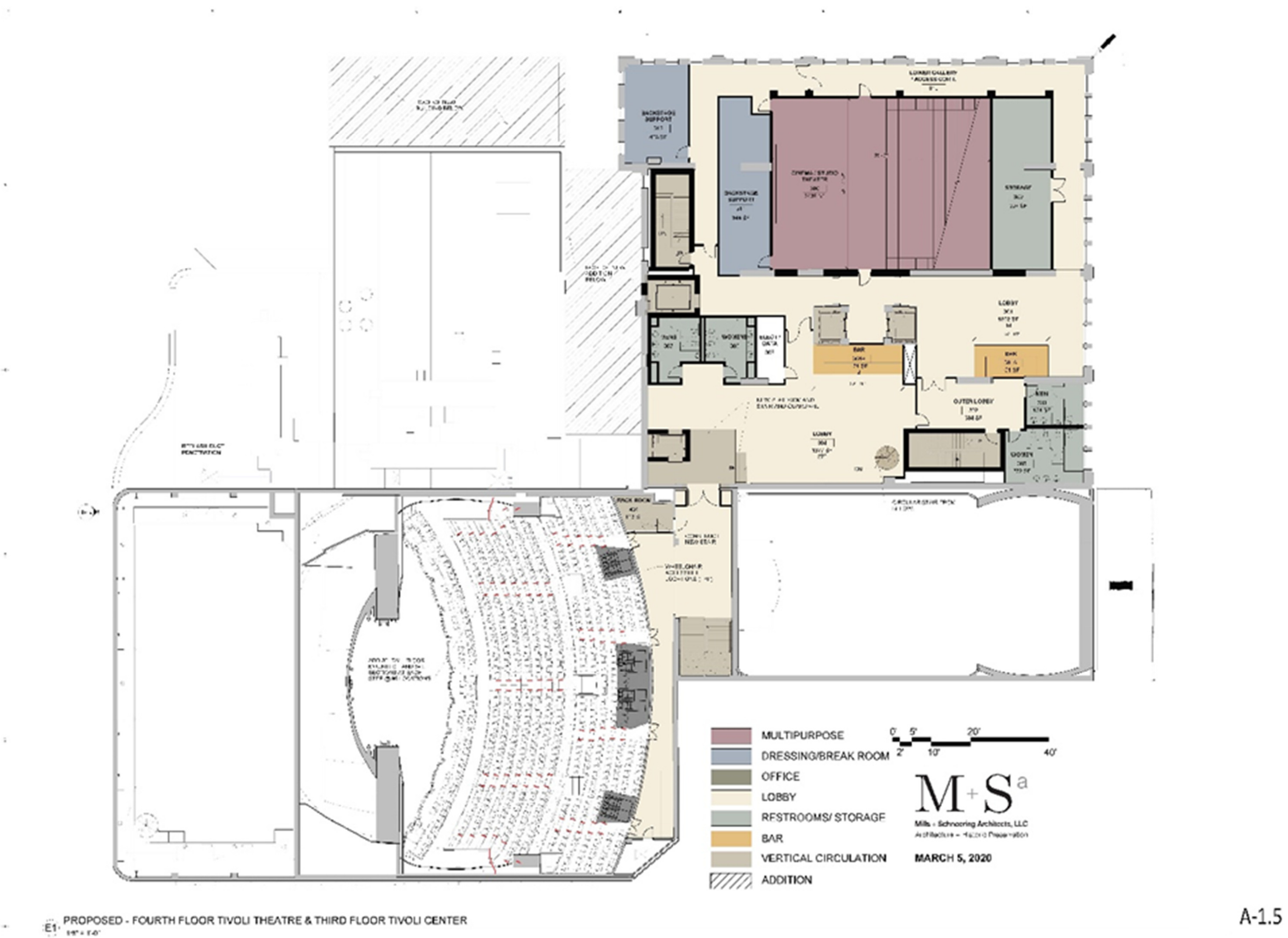
Balcony box seats at the proscenium under renovation

Lobby wall round recess feature with Collin Huse "for scale". These features on both sides of the lobby were originally slated for demolition, but the National Park Service deemed them too important to be demolished

Lobby ceiling under renovation

Some of the Knoxville chapter members in the audience space;
Note the sample seating in the background

Stage “wings” with HVAC piping in the background



Michael Schnoering architectural floor plan with auditorium and adjacent support spaces.

Decoded: Egress From Exterior Spaces

By: Lori Greene, I Dig Hardware Blog

The IBC now addresses acceptable means of securing egress doors serving exterior spaces.

Many buildings include exterior spaces such as balconies, courtyards, and roof terraces, that present conflicts between egress and security. If these areas do not have a dedicated means of egress directly to the public way, the egress route typically leads from the exterior space, through the interior of the building, and out through the building's exits. Doors that facilitate free egress from a courtyard or terrace into the building often create security problems, if someone is able to access the exterior space and enter the building.

Because past editions of the International Building Code (IBC) did not address these applications specifically, specifiers and suppliers have had two options: a) provide code-compliant means of egress through the building interior (often jeopardizing security), or b) work with the local Authority Having Jurisdiction (AHJ) to find an acceptable compromise.

In the past, code-compliant options were limited. For some occupancy classifications, delayed egress locks could provide some security, although an unauthorized person could enter the building after waiting 15 seconds (or 30 seconds when approved by the AHJ). For assembly occupancies where delayed egress locks are not typically allowed by the IBC, egress doors were limited to exit alarms as a deterrent.

Code modifications approved by the AHJ are often inconsistent. One jurisdiction could allow electrified locksets that unlock upon fire alarm activation, another code official might allow mechanical locksets if the doors are kept unlocked while the area is occupied. Some AHJs may require a two-way communication system to ensure that someone can call for help if they are inadvertently locked in the exterior space. Previously, the model codes did not offer any guidance for this application, so it was left up to each jurisdiction.

A change was incorporated into the 2021 edition of the IBC, and was carried forward into the 2024 edition without modifications. The change proposal was submitted by the Washington Association of Building Officials Technical Code Development Committee. The intent was to address the acceptable means of locking egress doors that serve exterior spaces – the balconies, courtyards, and roof terraces where the paths of egress pass through the interior of the adjacent building. While the original proposal (E53-18) was disapproved by the committee, it was later approved as modified when a maximum occupant load was added by public comment in response to the technical committee's recommendation.

To summarize the change, when a means of egress from an exterior space passes through the building, the exit access doors may be equipped with "an approved locking device" if the following criteria are met. Note that this section does not apply to egress courts, which are defined as: A court or yard which provides access to a public way for one or more exits.

- The calculated occupant load of the exterior space must be no more than 300 people, and the maximum occupant load for assembly occupancies must be posted on a permanent sign in a conspicuous location near all of the exit access doors. Other code requirements, such as the direction of door swing, required clear width, and mandates for exit signs would also apply to these doors.

- A weatherproof telephone or two-way communication system must be located adjacent to at least one exit access door on the exterior side. A change to the International Fire Code (IFC) requires this system to be inspected and tested annually. The IBC refers to additional requirements for the communication system; it must connect to the fire command center or a central control point approved by the fire department. If this location is not constantly attended, the two-way communication system must have a timed automatic telephone dial-out capability to a monitoring location or 9-1-1. Audible and visible signals are required, and instructions for use of the system to summon assistance must be posted adjacent to the communication device. The location must be identified with a posted sign, and all signage must comply with the ICC A117.1 requirements for visual characters.
- The lock must be key-operated, and readily distinguishable as locked. This requirement is similar to the section addressing key-operated locks that may be installed on the main entrance doors of buildings in some occupancy types. These double-cylinder deadbolts typically have indicators showing whether the lock is locked or unlocked. The code does not specify which side of the door must have the indicator, so the cautious approach would be to provide the indicator on both sides of the door serving an exterior space.
- A modification to the IBC section on panic hardware clarifies that the double-cylinder deadbolt allowed by this section is an acceptable alternative to panic hardware, provided that all of the requirements are met. The key-operated lock would be the only locking/latching hardware on the door, so when the door is unlocked, it would be push/pull function. Note: Some questions have come up about this, so there is a follow-up post here.
- Each exit access door must have a clear vision panel measuring not less than 5 square feet, which allows visibility of occupants using the exterior area. When a door has a vision panel (as required for this application), the accessibility standards require the bottom edge of at least one vision panel to be located not more than 43 inches above the floor. The purpose of this vision panel is to allow someone to see whether there are any occupants in the exterior space before locking the door.
- Signage must be posted on the interior side, on or adjacent to each locked required exit access door serving the exterior space, which states: THIS DOOR TO REMAIN UNLOCKED WHEN THE OUTDOOR AREA IS OCCUPIED. Letters must be at least 1 inch high on a contrasting background. Although this section specifies that it applies to each "required" exit, the IBC's egress requirements apply to required exits as well as to doors that are provided for egress purposes. It's likely that doors provided in greater quantities than required would also have to comply with the code requirements if they are intended to be used for egress.

The IBC section on doors serving exterior spaces also addresses locks securing exterior spaces serving dwelling units, sleeping units, and private offices.

The same section in the IBC allows the use of locks on the exterior side of doors for balconies, decks, or exterior spaces serving individual dwelling units or sleeping units, or private office space where the exterior area is 250 square feet or less. For these locations, the two-way communication system, indicator, vision panel, and signage are not required by the IBC.

Remember, these requirements only apply where the jurisdiction has adopted the 2021 or 2024 edition of the IBC. In other locations, the AHJ would have to be consulted for a code modification, unless the state or local code includes criteria that address the means of locking these doors. There may be some jurisdictions where state codes differ from the requirements of the model code. Be sure to check the adopted code to verify the applicable limitations for egress doors serving exterior spaces.

Building with Ghosts: A Designer's Guide to Temporal Consciousness

By: Ron Blank, Ron Blank and Associates .

In an era where sustainability demands dominate design discourse, a philosophical framework called "hauntology" offers unexpected insights for architects, engineers, and interior designers. Coined by philosopher Jacques Derrida and later developed by cultural theorist Mark Fisher, hauntology suggests that our present moment is fundamentally shaped by spectral presences—ghosts of past failures and futures that never materialized. For design professionals, this concept reveals how every project exists simultaneously across multiple timelines, carrying forward material memories while anticipating uncertain futures.

The Haunted Nature of Contemporary Practice

Consider the psychological weight that accompanies every sustainable design decision. When specifying reclaimed timber, we're not simply choosing an environmentally responsible material we're incorporating the ghost of a previous building, complete with its embedded energy, labor history, and accumulated patina. Solar panels crowning a traditional masonry building create temporal dislocations that feel simultaneously ancient and futuristic, embodying what hauntology calls "primitive futures" visions of technological advancement that circle back to pre-industrial strategies.

This temporal complexity extends beyond material choices to affect occupant psychology. Sustainable design requires what theorists call "deep time thinking"—consideration of carbon cycles, climate patterns, and building lifecycles that extend far beyond human experience. This expanded temporal consciousness can create both psychological grounding through connection to larger natural cycles and anxiety about intergenerational responsibility. Design professionals must navigate these competing psychological effects while creating spaces that feel neither overwhelming nor naive about environmental challenges.

Material Memory and Embodied Histories

Every building material carries spectral evidence of its production journey. Recycled steel remembers demolished structures; local stone connects to specific geological epochs; adobe construction embeds regional soil chemistry into building fabric. This "material memory" becomes particularly significant in sustainable practice, where embodied energy calculations make these ghostly production histories economically and environmentally visible.

Hauntology suggests that rather than trying to erase these material histories, designers can work productively with them. A renovation project using salvaged materials from the original building creates dialogue between past and present rather than simple replacement. The weathered surfaces, modified connections, and accumulated patina become design elements that connect occupants to the building's temporal complexity while reducing environmental impact.

The Spectral Presence of Future Users

Sustainable design operates under the haunting presence of future inhabitants—generations not yet born who will inherit the consequences of today's building decisions. This "intergenerational haunting" requires designers to account for speculative future users whose needs remain unknowable. Seven-generation thinking, borrowed from Indigenous traditions, introduces both ancestor spirits and descendant ghosts as active participants in the design process.

This temporal expansion creates what might be called "design for death"—buildings conceived with their eventual obsolescence and disassembly as integral aspects of their design. Contemporary architects must imagine their creations' graceful decay from the moment of conception, designing not just for immediate use but for eventual undoing. This awareness transforms every architectural decision into a negotiation between present needs and future uncertainties.

Climate Hauntings and Resilient Design

Climate change introduces new forms of architectural haunting through the specter of systemic collapse that threatens basic assumptions about weather, water, temperature, and habitability. Buildings must now be designed for climate scenarios that may exceed all projections while remaining functional for daily use. This uncertainty creates what we might call "spectral architecture"—buildings haunted by their own potential irrelevance.

Resilience planning becomes a form of architectural exorcism, attempting to ward off catastrophic futures through design interventions. Flood-resistant foundations, hurricane-rated windows, and passive cooling systems designed for extreme heat events embody this negotiation with climatic ghosts. Engineers calculating wind loads now work with probabilistic models that include unprecedented weather events, designing for futures that statistical models suggest but historical experience cannot confirm.

Community Ghosts and Social Memory

Contemporary community-engaged practices encounter spectral social structures through neighborhood histories, displacement patterns, and collective memories that influence community relationships to built environments. Gentrification creates urban hauntologies where new development attempts to erase community histories while inadvertently preserving traces of displaced populations through architectural modifications, informal social networks, and community spaces that haunt new development.

Design professionals working in such contexts must acknowledge former residents displaced through urban renewal or economic change whose absence continues to influence community dynamics. Community engagement reveals how buildings carry social memories and how architectural interventions affect established community networks in ways that extend far beyond immediate programmatic considerations.

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Productive Hauntings: Working With Rather Than Against Ghosts

Rather than attempting to exorcise these various architectural ghosts, hauntology suggests that design professionals can learn to work productively with spectral presences as generative forces. This approach transforms architectural practice from a process of erasure and replacement into one of dialogue and collaboration with the temporal layers that every site contains.

Practical applications include designing buildings that weather beautifully rather than requiring constant maintenance to preserve original appearance, creating spaces that can adapt to changing family circumstances over extended time periods, and choosing materials based on their capacity to carry forward both environmental and cultural histories. Interior designers can embrace patina, wear patterns, and accumulated modifications as design elements rather than problems to be corrected.

Toward Hauntological Practice

Hauntology offers design professionals a framework for embracing rather than denying the temporal complexity that shapes every building project. By acknowledging that buildings exist simultaneously across past, present, and future through material memory, social inheritance, and environmental anticipation, designers can create more ethically grounded and psychologically nourishing spaces.

The future of sustainable design may depend on learning to design with rather than against the ghosts that inhabit every building project—transforming practice toward approaches that heal rather than harm, remember rather than forget, and nurture the complex temporal relationships that connect human communities to their built environments across generations. In a profession often focused on creating new realities, hauntology reminds us that the most innovative approaches may come from learning to listen to the wisdom embedded in what already exists, even when that existence takes spectral forms.

Ron Blank - President of Ron Blank & Associates | Author of Built to Last: Specification Secrets From Industry Giants

Sound Advice from an Old Firestop Guy – Part 1: How STC is Determined

By Tim Mattox / Senior Manager of Systems & Testing Development
Excerpted from “The Burn” STI Newsletter

I remember my first visit to an acoustics laboratory. It was a beautiful summer day at Riverbank Acoustical Labs in Geneva, IL, and my engineering manager sent me to run a test to obtain an STC value for our putty pads. It was an exciting new adventure for a young engineer. At this point in my career, I had barely witnessed a fire test, let alone an STC test. I literally didn’t know what an STC was, and while it was easy to figure out that STC stood for Sound Transmission Class, it didn’t take me long to discover I really didn’t know the first thing about sound transmission. The one comforting fact concerning my ignorance - I was not alone.

As an engineer, I’ve learned to ask many questions to understand problems so they can be solved. For instance, how does this number generated from testing a single 16 square inch outlet box with a putty pad in a 64 square foot wall tell me anything about the performance of my product, when my product is literally applied to 0.2% of the surface area of the wall? I was left scratching my head, but hey, at the end of the 7-minute-long test, we had a number. And with that number, we were competitive. And even better still, I didn’t smell like I had been to a bonfire as I flew back home that evening.

In my opinion, it is safe to say that STC is one of the most misunderstood and, possibly, the most misapplied performance value in construction today. In firestopping, we have a similar problem with ASTM E84 testing. Many people mistake the ASTM E84 performance for a fire-resistance value. If I have been asked once, I have been asked 1000 times if fire-rated plywood can be used in place of gypsum wallboard, well you know, since it is fire-rated. And the answer is, of course, no. ASTM E84 is a flame spread test and has nothing to do with compartmentation or fire resistance. Similar to STC, ASTM E84 provides us with a single unitless number called Flame Spread Index, or FSI. FSI tells us how quickly fire spreads on a surface, not through a barrier.

Did you know there is no such thing as an STC test? It’s true. It took a lot of reading and digging into the facts of the matter to understand this. STC is a strange concept to someone like me who is used to performance measurements in incremental numbers with units that are easily understood, like hours, minutes, or degrees Fahrenheit. Instead, STC offers us a number. That’s all, just a number. No units. No clear understanding of what that number means. Just a number. To understand STC a bit better, we will break it down into the functions that are used to develop the single number rating we call STC.

Obtaining an STC value requires following a multi-step process. The first step in the process is to run an ASTM E90 test to obtain a group of data called Sound Transmission Loss (STL). This test is performed with a double chamber, and the test article is the shared barrier between the two chambers. One side of the double chamber is called the source room, and the other side is called the receiving room. These rooms are constructed so there is virtually no loss in sound energy, so the test article is isolated as the only path for sound transmission to occur. In the source room, a pink noise signal is generated and delivered at a prescribed decibel level. Because this sound originates a distance away from the test article and travels through air before impacting the test article, the impact of this sound energy is called an airborne sound. This is as opposed to impact sound, which is generated by a direct impact on the surface of the test article, such as a footstep or a chair dragging on the floor. Those sounds require a different testing program altogether. The airborne sound waves make their way to the test article, where they then permeate the test article and continue to travel through the air in the receiving room until a microphone records them.

The volume level of the sound is recorded in decibels in both the source and the receiving room at 16 different frequency levels ranging from 125 Hz to 4000 Hz. The sound transmission loss data is calculated as the difference in decibels from the source side to the receiving side and this number is plotted on a chart at each frequency. A typical Sound Transmission Loss chart is shown in Figure 1.

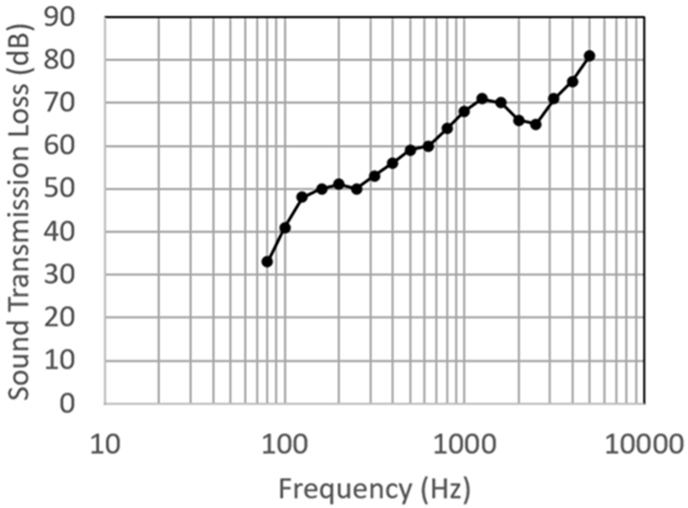


Figure 1 - Sound Transmission Loss Data

The first thing you will notice is that the horizontal axis grows in multiples of 10 Hz, and the vertical axis grows in increments of 10 decibels. This is because frequency measured in Hz grows logarithmically, compared to amplitude measured in decibels which grows incrementally. This is because the range of frequencies tested covers 5 octaves, and a single octave covers a range of doubled frequency. For example, the first octave tested is 125 Hz to 250 Hz. Each successive octave grows by doubling, so the next 4 octaves go from 250 Hz to 500 Hz, then to 1000 Hz, then to 2000 Hz, and ending at 4000 Hz. Because the frequency across successive octaves doubles every time, they grow at a much faster rate than the decibel level, so you have to use a logarithmic chart to show the relationship.

Once this STL data is charted, ASTM E413 Standard Classification for Rating Sound Insulation is applied as the next step of the process to determine the STC value. ASTM E413 includes a standard contour called the Contour for Calculation of Single-Number Ratings and this contour is applied to the Sound Transmission Loss data. The contour curve is always the same curve, no matter where it appears vertically on the chart. It moves as a unit until it meets the curve fitting requirements of ASTM E413 and is then plotted as shown in Table 2 below:

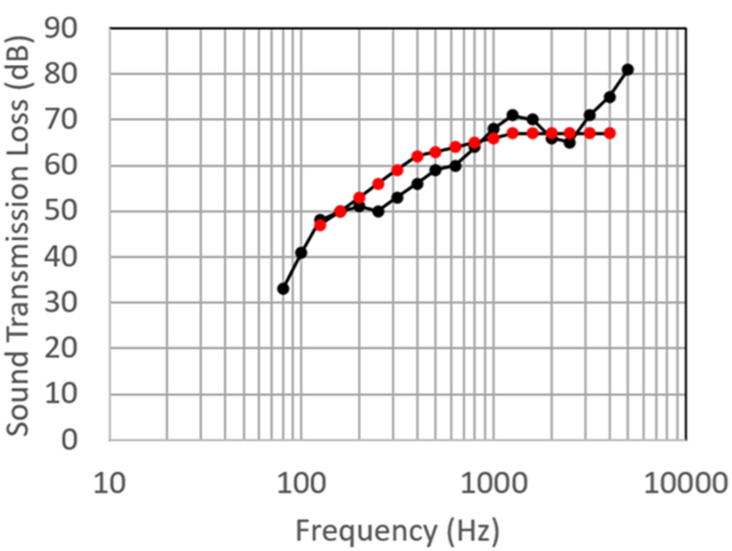
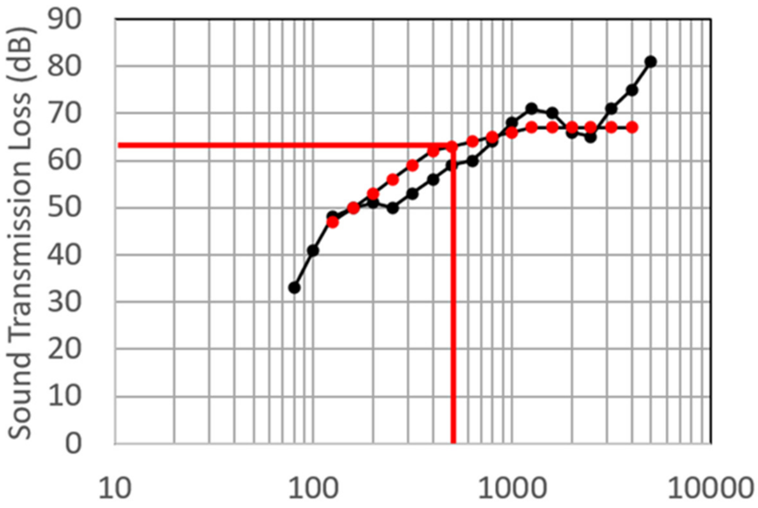


Figure 2 - Contour Curve Applied (Red Dots)

As already stated, the contour line from ASTM E413 is moved into position until it meets the curve-fitting criteria. The curve fitting criteria are defined in terms of a measurement called “deficiencies,” and a deficiency is simply the difference in decibels at each frequency from the contour curve and any STL data that lies below the contour curve. STL data above the curve do not count as deficiencies. For example, at the 250 Hz frequency mark in Figure 2 above, the STL data curve falls 6 dB below the contour, which counts as 6 deficiencies. At 1250 Hz, the STL value is about 3 dB above the contour curve and this counts as zero deficiencies. For the curve to be positioned correctly, it must meet two criteria. First, the total count of all deficiencies must not exceed 32 dB. Second, the maximum number of deficiencies at any frequency must not exceed 8dB. Once these criteria are met, the curve is positioned in its final location, and the STC can then be determined as shown in Figure 3 below:



Once the contour is settled, meeting the fitting criteria, the STC is determined by identifying the Sound Transmission Loss level on the contour curve at 500 Hz. If you look at Figure 3, it shows a vertical line drawn in red at 500 Hz. Where it crosses the contour curve, you then draw a horizontal line to the left axis. In the case of this test, the STC value is determined to be 63.

Now that we understand how STC is determined, we have a better understanding of what STC is. But I would argue that we are scratching the surface, and now we know enough to be dangerous. Some may be inclined to believe that STC correlates to the reduction of sound levels across a barrier, or in other words, if you have a wall with a tested STC value of 63, an 80 dB sound on one side would register as a 17 dB sound on the other side. Here is the problem with that. While an STC value does give you an idea of sound transmission loss expectations across a range of frequencies, because it is isolated to a single number rating, it is now independent of the frequency. If you look again at Figure 1 and see the entire STL data curve, you will notice at the lower frequencies there is less sound transmission loss than at higher frequencies. The STL at 125 Hz is about 49 dB, and on the other end of the spectrum, at 4000 Hz, the STL is about 75 dB. You can look at the STC number as sort of an average STL, but if the source of the 80 dB signal is 125 Hz, your 63 STC wall will filter out the sound and register about 31 dB on the opposite side. Whereas, if the 80 dB source signal is 4000 Hz, you can expect to hear a sound level of 5 dB at 4000 Hz on the other side. But in general, since noise is not typically singled out as an individual frequency, you can expect the effect would register to a person somewhere around 17 dB on average. That is still very impressive because, with a noise level equivalent to a vacuum cleaner on one side, the sound that makes it through to the other side would register somewhere between the volume level of a ticking watch to the sound of leaves rustling or a whisper.

This article will be continued in the next edition…

Wordless Wednesday: Quick! What’s the combo?!

Posted by Lori Greene, July 23rd, 2025

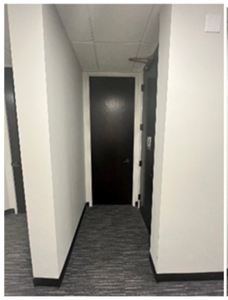
I received today’s Wordless Wednesday photo from Tom Reinhardt, an AHJ. You might have to zoom in a little to see the problem in its entirety. This looks like “special knowledge and effort to me!

Recessed Door Revisited

Posted by Lori Greene, July 23rd, 2025

The other day (Refer to the July Edition of this Newsletter) I posted some photos I took in an office building on a recent training trip, and asked if anyone could identify the code issue – or maybe I was just seeing things?

These are the photos I shared on Tuesday:



The short answer is…these doors do not have the maneuvering clearance required by the current accessibility standards. It would be very difficult (or impossible!) for someone using a wheelchair to open these doors manually. So I did a little digging to see what the historic editions of ICC A117.1 required.

The 1961 edition does not address maneuvering clearances – the entire standard was only 12 pages long! The 1986 edition does have a section on maneuvering clearances, but does not cover recessed doors specifically. In the 1992 edition, a paragraph was added stating: ***Doors in alcoves shall comply with 4.13.6.1, 4.13.6.2, and 4.13.6.7 clearances for front approach***. These sections include maneuvering clearance requirements similar to what is included in the standard today.

The text of this requirement was revised in the 1998 edition:

404.2.4.4 Recessed Doors. Where the plane of the doorway is recessed more than 8 inches (200 mm) from the plane of the wall, clearances for front approach shall be provided.

The 2017 edition reads:

404.2.3.5 Recessed doors and gates. Where any obstruction within 18 inches (455 mm) of the latch side of a doorway projects more than 8 inches (205 mm) beyond the face of the door or gate, measured perpendicular to the face of the door or gate, maneuvering clearances for a forward approach shall be provided.

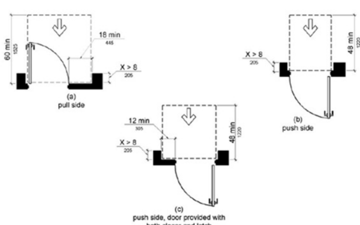


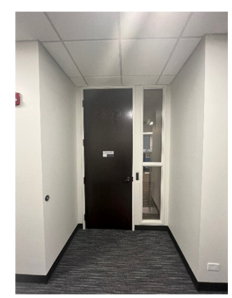
Figure 404.2.4.3
Maneuvering Clearances at Recessed Doors and Gates

The ADA Standards for Accessible Design include very similar language, and this graphic to illustrate the required maneuvering clearance for recessed doors. As these doors have both closers and latches, outswinging doors would have to comply with "a" and inswinging with "c".

Note: The maneuvering clearance requirements of ICC A117.1 and the ADA standards differ slightly.

Clearly, this requirement has been around for a loooong time, and is included in both ICC A117.1 and the ADA standards. I did a little more digging, and from what I could find online, the building was built in 1981 – predating the maneuvering clearance requirements (and the ADA itself!). With that said, it seems like a fit-out/renovation would trigger compliance with the current requirements.

Maybe that's why one of the doors looks like this, with the required 18 inches on the latch side of the opening. What do you think?



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