

SPECWORK



Little Rock Chapter - Chartered November 1965

DECEMBER 2019



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President's Thinking

By Billy J. Mathis, FCSI, CDT

It is the Holidays and one thinks of the many things they need to do. Whether it is to purchase gifts for your loved ones and friends, volunteer to ring the bell of the little red kettle, or even volunteer to serve meals to those who need them, there are always things to do and think about. Many others are in your same boat to one degree or another, but if you truly look at your life, you will see that it is a series of decisions leading to actions that move to reactions and then back to decisions. In the story of "A Christmas Carol" this is shown in it's purest light. What you do now will directly affect what you experience in the future.

With that in mind, I begin to think of my life as a series of decisions and where I am today based on them. My decision to join the Air Force instead of attending College. My decision to be a Law Enforcement Officer instead of something else entirely. My career progression decisions that led me to the point when I decided to retire after 22 years service. Along the way, I decided to ask my wife to marry me, I agreed and work hard to have children, and I made decisions on where we travelled and what we saw. All of these led me to the point where I began working for my current firm in an administrative role. Without all of these coming together perfectly, I might now have found my way and could still be out there trying to define my life. All of these past experiences prepared me for my role at the Firm, my role at Home and my role within CSI. This is a long way getting to the point that without all of my past decisions coming to bear in just this fashion, then I would not be here to fulfil my roles in life.

With all of this being said, I need to thank God, my Family, my Friends and colleagues, and my CSI Family for molding me into the person I am today and moving me to be the person I will need to be to face the future. All of this is to simply say Thank You to everyone around me and who are reading this message.

I wish to close with a phrase concerning thankfulness that has impacted my life:

He is a wise man who does not grieve for the things which he has not, but rejoices for those which he has.

— EPICTETUS

"Individual commitment to a group effort--that is what makes a team work, a company work, a society work, a civilization work."

Vince Lombardi

"It takes two flints to make a fire."

Louisa May Alcott

"Teamwork is the ability to work together toward a common vision. The ability to direct individual accomplishments toward organizational objectives. It is the fuel that allows common people to attain uncommon results."

Andrew Carnegie

Word of the Day

Autodidact (aw-toh-DIE-dakt) - Part of speech: noun / Origin: Greek, late 18th century

1 A self-taught person

2 A person who learned through methods outside of formal education

Examples of Autodidact in a sentence

"He loves being homeschooled and proudly calls himself an autodidact."



Little Rock Chapter

Join the Little Rock CSI Chapter for our January Luncheon

ACOUSTICS, FLOORING AND THE BUILT ENVIRONMENT

This course provides background on how sound affects our health and wellbeing, how sound is measured and tested, and how flooring construction and flooring materials can help attenuate noise in multi-level buildings.

Knowledge you will have after completing this course:

- How noise effects health and productivity.
- What types of sound ARE and ARE NOT affected by floor coverings.
- The types of floor coverings that will reduce impact sound.
- Flooring construction options that will reduce sound.
- International Building Code for IIC and STC.

Presented by Josh Barg of Patcraft

Course Credit: 0.1 CEU/1 LU AIA/IDCEC - HSW

JANUARY 8TH, 2020
11:30 am – 1:00 pm
BALDWIN & SHELL
100 W. CAPITOL AVE.
LITTLE ROCK, AR 72201

RSVP TO carlie@jeallenco.com or bjmathis@taggarch.com

A THANKSGIVING TALE ABOUT (CONSTRUCTION) COMMUNICATION

Contributed by Liz O'Sullivan—Let's Fix Construction Blog 11/18/19



Some dear relatives-by-marriage of mine hosted us for a Thanksgiving weekend in a warm place one year.

For Thanksgiving dinner, in addition to my husband, kids, and me, they invited some friends. Twice during the day Thursday, I asked what time people were coming over. The first time, I didn't get an answer. The second time, I was told that the turkey should come out of the oven at 5:30, so we'd probably eat at 6:30, and that the guests would come over "whenever we tell them to."

I went for a run, came back to an empty house, and took a shower.

So at 5:00, I was in the kitchen slicing crudités, in strange comfy clothes, with wet hair half up on my head, and wearing no mascara. My husband was still at the beach with the children, one of the hosts was on the lanai, smoking and still wearing golf clothes, and the other was in the shower...

... and the guests walked in.

They'd been told several days earlier to arrive at 5:00 on Thanksgiving. They could tell that we weren't ready, and they appeared to be quite uncomfortable. Of the 6 adults involved in dinner, only half of us seemed to be bothered by this mixup, failure-to-communicate, lack-of-modification-of-original-instructions, whatever it was.

Surely an unusual situation, right? And those of us who were unsettled should maybe just lighten up?

Well, no. One story, two messages:

The first message: This kind of thing happens ALL THE TIME in construction communications, and in... well, let's put my personal life aside. It shouldn't be happening. Construction documents must communicate clearly.

Sometimes, the Instructions to Bidders document will list one time, date, or location for the bid opening, and another procurement document will indicate another. (Oh, well, it was a typo, no big deal, right? WRONG! These are legal documents! Seemingly tiny conflicts like this could cause a project to have to be bid all over again, or worse! Architects or Owners must check for consistency before issuing documents like this!)

Sometimes, General Notes on the drawings might indicate different window treatments than the rest of the drawings and the specifications show. (Oh, but we talked to the Construction-Manager-as-Contractor about the roller shades; he knows we don't want those horizontal blinds that the General Notes mention, so it's ok to just leave that note, right? Noooooooo! Of course it's not! It's not ok to knowingly issue documents with conflicts in them! How are the bidding subcontractors supposed to know what the design team wants? What if they only see the General Notes, and not the drawing notes where what is actually desired is called out? Architects must make sure General Notes on the drawings are relevant and correct.)

Sometimes, drawings will call out storefront, but the specs have a section for curtain wall instead. (But the bidders will figure it out, right? NO!!! Storefront and curtain wall are different things. Architects have to make the documents clear, so as not to waste the bidders' time, and their own time, during bidding, answering the inevitable question. Architects must ensure that the drawings and the specs are coordinated.)

The entity who is responsible for sending out communications needs to communicate clearly, completely, unambiguously, and in a way that the entity who is receiving the communications can understand. The communicator is responsible for getting the message across.

The dinner guests were not able to divine that, although they had been told to arrive at 5, they should actually show up an hour later, because the host got distracted by family fun at the beach, changed her mind about what time she wanted to receive guests, and failed to tell them to come later than previously indicated.

Bidders, or the constructor, will not be able to know what's in the sketches or project notebook on the architect's desk at the office, or what conversations the architect had with the owner two months ago. All that the bidders have to go by is the construction documents. These have to tell the whole story. This is not just to be nice. This is the architect's legal duty to the owner.

Yes, bidders have to look at the entire set of contract documents, but if a window treatment sub is getting a whole story by looking at just part of the documents, he'll save himself some time, and stop after reading those General Notes. In the case above, he may have gotten the wrong whole story, because of the architect's failure to communicate correctly.

The second message: If you, the architect, can't get it right for the sake of getting it right, remember the guests, er... bidders. Think about how they'll feel while trying to solve the mysteries of what you were thinking when you drew something that directly conflicted with other documents. Keep in mind that if you make them feel uncomfortable, or if you cause them to waste precious time during bidding, they will remember you for it!

The whole point of dining etiquette is not about using the right fork – it's about making sure guests are at ease. We have commonly-accepted guidelines about using the correct silverware so that we are starting on the same page, as much as possible, and so that it'll be easier for everyone to be comfortable, and have a good time.

Do this construction communication thing right: Issue clear, complete, concise, and correct construction documents, and make everyone comfortable. Bidding will go more smoothly, construction will go more smoothly, and your "guests" will be happy to be invited the next time.

This post originally appeared on Liz O'Sullivan's website as "A Holiday Tale About [Construction] Communication"

RANDOM CAPITALIZATION: A RISK OF MISINTERPRETATION

By Kevin O'Beirne, PE, FCSI, CCS, CCCA, CDT posted to CSI Website Communities

Editor's Note: CSI is pleased to publish this sixth blog from Kevin O'Beirne, PE, FCSI, CCS, CCCA, CDT. If you have an idea or opinion you would like to share with your colleagues in the construction industry, please contact CSI Content Strategist Peter Kray at pkray@csinet.org. He would love to help publish your thoughts.

Design professionals and specifiers often practice what I call “random capitalization,” in which certain words in construction documents, correspondence, and other documents are written with seemingly-random capitalization of initial letters.

An example of random capitalization is, “In accordance with the contract, the contractor shall Provide Spare Parts for Reverse-Osmosis Membrane Equipment as follows:” In this example, all the words with initial capitals should use lower-case letters, and terms that are probably defined elsewhere in the construction contract, such as “Contract” and “Contractor”, use lower-case letters when they should probably have initial capitals.

Random capitalization has strong potential to result in possibly unintended interpretations of the contract's meaning. In English class, high school and college students are often advised to write for their audience. Specifiers and design professionals should heed this because among the most important potential audiences of their writing are attorneys, sureties, judges, juries, and arbitrators, and you probably do not want them applying an interpretation different from what you intended.

Attorneys and sureties tend to interpret contract language very, very literally. Upon their arguments and the resulting decisions of judges, juries, and arbitrators return decisions that may be valued in millions of dollars, together with the design professional's and specifier's reputation and professional liability insurance premiums. It is unwise to hang all that on random capitalization.

In contract documents, initial capitals typically indicate either a proper noun or a formally defined term. Consistent use of defined terms is vital for achieving the intended interpretation of the contract documents. Widely used standard general conditions present defined terms as follows;

American Institute of Architects (AIA): AIA A201—2017, Standard General Conditions of the Contract for Construction: Consistently uses its defined terms, indicated with initial capitals. Establishes its defined terms throughout the document, sprinkled among various provisions.

Engineers Joint Contract Documents Committee (EJCC): EJCDC C-700—2018, Standard General Conditions of the Construction Contract: Consistently uses defined terms. Establishes all defined terms in Paragraph 1.01 using initial capitals, and further establishes in Paragraph 1.02 selected “terminology” that is assigned certain meaning, but without using initial capital letters.

Design-Build Institute of America (DBIA): DBIA 535—2010, Standard Form of General Conditions of Contract between Owner and Design-Builder: Includes a list of basic, defined terms in Section 1.2 with initial capitals. DBIA documents also use initial capitals for other, selected terms that are not defined in Section 1.2 of DBIA 535.

Outside of Division 00, CSI MasterFormat—2018 assigns “01 42 16 – Definitions” (which may also be included in a higher-level Section 01 42 00 – References). Where defined terms are indicated in 01 42 ### should be common among multiple parts of the construction documents.

In its “References” article in Part “1 – General”, CSI SectionFormat—2007 allocates an optional provision for “Definitions”, for indicating defined terms unique to the specific section that are not defined elsewhere in the contract documents.

Defined terms should be consistently indicated using initial capitals. For consistent interpretations, all the construction documents, related correspondence, meeting minutes, and other project documents should consistently use the contract's defined terms, indicated with initial capitals.

People preparing construction documents sometimes substitute alternative terms in lieu of the defined terms, which is also poor specifying practice. A few examples:

Using "plans" instead of the defined term "Drawings".

The terms "Subcontractor" and "Supplier" are defined in EJCDC C-700 and such terms should be used instead of alternatives such as "applicator," "installer," and "vendor," "materialman," or "supplier" (the latter without an initial capital).

Sometimes, defined terms are better than commonly used alternatives. For example, while many construction documents employ the words, "Drawings and Specifications," often the defined term "Contract Documents," is preferable because it is more-encompassing and thus, typically, more appropriate.

Thus, it is important that specifiers be familiar with the defined terms set forth in the General Conditions and, perhaps, in other construction documents. Specifications should not be written independent of the provisions of the Agreement, General Conditions, Supplementary Conditions, and Division 01 Specifications.

Except for document titles such as "Instructions to Bidders," "Agreement," "General Conditions," and others—all of which should be expressed using initial capitals—proper nouns are relatively rare in construction documents. Names of buildings, facilities, streets, and the like are proper nouns and should have initial capitals. Identification of facility assets, such as "air handling unit no. 2," "classroom 305," "east stairwell," "control room," and "decant tank no. 4" should not have initial capitals. Generic identification of materials or equipment, such as "concrete masonry units," "vinyl windows," "medium-voltage switchgear," and the like, are not proper nouns and typically should not have initial capitals.

Words that are neither formally defined in the contract documents nor proper nouns should, of course, not have initial capitals.

Another reasonably common practice is use of all-capitals for certain terms, such as "CONTRACTOR," "OWNER," and "ARCHITECT." Whereas, in the past, certain widely-used standard general conditions used all-capitals for certain terms, today all commonly-used standard general conditions use only initial capitals. Thus, using all-capitals for certain defined terms should typically be avoided unless the associated construction documents explicitly address their use, such as "The terms 'Contractor' and 'CONTRACTOR' have the same meaning."

The danger with inconsistently using capitalization and defined terms is that, while a defined term is assigned a specific meaning—for example, "Contractor" typically means, "The entity so indicated in the Agreement"—such terms without initial capitals may have an entirely different meaning. For instance, "contractor" (no initial capital) would likely be interpreted as any third-party entity performing other work at the site, rather than as "the Contractor". Judges, juries, arbitrators, and sureties tend to interpret such matters very literally under the premise that the document's writer meant each provision exactly as written. Outcomes of substantial claims and disputes have turned on such apparently-trivial matters of writing.

Random capitalization is not a big problem for most specifiers and design professionals because most projects do not wind up in a courtroom or with a surety. However, because any project—even a well-designed, clearly written, and well-administered one—can appear in a courtroom or in a surety's office despite the design professional's best intentions, it is always wise to write for one's potential audience by, among other things, properly and consistently using defined terms, and avoiding random capitalization.

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WORKFORCE DEVELOPMENT STARTS WITH THE PARENTS

Contributed by Rachel Burris, Let's Fix Construction Blog 11/25/19

In two years Gen Z is expected to make up one-fifth of the workforce. With 40% of workers estimated to retire by 2030, the construction industry knows that it needs this generation to choose construction.

Yet the estimated workforce shortages and skills gap that we're facing indicate a distinct lack of new workers joining the industry. The research project, "Restoring the Dignity of Work," points out that it takes anywhere from eight to 12 years for a craft professional to go from entry-level to fully trained. With the length of time it takes to gain experience, the industry must place an emphasis on recruitment and training.

What can the industry do to start making progress in workforce development?

Reach Parents

The first step is begin reaching parents. "Restoring the Dignity of Work" points out that parents are among the main influencers in the career-decision making process of young people. A recent survey of parents, sponsored by National Center for Construction Education & Research (NCCER), found that while 71% respondents would show some sort of support if their child chose a career of construction, 70% would be unlikely to actually advise their child to choose the industry.

To begin changing the perceptions of a career in construction, industry needs to engage in image enhancement campaigns. This includes using dignity in our own language by replacing terms such as "blue collar" with "craft professional" and "middle skilled" with "highly skilled."

Other areas of image enhancement include showing how safety is held in high regard by the industry, demonstrating the career advancement opportunities available, and showcasing the high salaries that can be earned with little-to-no debt. Build Your Future has free resources industry can use to reach parents, including fact blogs, social media graphics, success stories and more.



Partner with Education

“Restoring the Dignity of Work” recommends the industry work toward establishing and strengthening career awareness and education opportunities. Industry involvement in both secondary and postsecondary programs are completely necessary if they are to succeed.

Garrett High School’s Career Development program receives a significant portion of their funding from the community. Beyond financial support, area businesses are involved in the program by interviewing students, offering mentorships, providing employment and sitting on the advisory board.

Central Arizona College’s (CAC) craft program was losing interest with fewer than 10 students enrolled annually until they partnered with industry. Sundt Construction worked with CAC to update their program and offer five areas of study that provided relevant career pathways. The partnership is a true one — Sundt provides direct employee interaction with students, materials for the classes and instructors for two of the pathways.

Make Training a Requirement

Much like owners hold contractors to a high standard in safety performance, the same commitment needs to be given to workforce development when awarding contracts.

Southern Company has implemented a scoring metric for how involved their contractors are in workforce development. Eddie Clayton, contracting and workforce development strategies manager for Southern Company, said, “At the end of the day, we’ll only have the contractors who are most engaged on our bid list for our construction and maintenance projects.”

Smaller companies are also making training a key part of their businesses’ culture. Schaffhouser Electric Company has about 50 employees, all of which are involved in some level of training. The CEO has identified training as a way to set the company apart from competitors.

From showing parents the dignity of a construction career to ensuring education has the resources needed to train, it’s vital that industry is involved in workforce development. The perception of working in construction has become detrimental to the industry’s ability to thrive. Construction is not just digging ditches, and we need students and their parents to recognize it for what it is — a career of choice.

NOTE: This blog originally appeared as 'Three Ways to Make an Impact in Workforce Development' on the National Center for Construction Education & Research (NCCER) website. NCCER's mission is to build a safe, productive and sustainable workforce of craft professionals.

Cracking the code: Understanding the latest IBC revisions for builders hardware

Construction Specifier Online – December 10, 2019 Edition

by John Woestman

Door hardware standards play a significant role in life safety by ensuring products used in commercial and residential buildings are suitable for their intended use. These standards serve as tools for hardware manufacturers and building professionals by providing them with a mutual understanding of door hardware requirements and types of locking systems.

The *International Building Code (IBC)* and the *International Fire Code (IFC)* are model regulations stipulating performance requirements for builders hardware—such as door locks, door closers, and door exit devices (*i.e.* panic hardware)—to ensure public safety and welfare. These model building, fire, and life safety regulations incorporate by reference product-specific consensus standards specifying a baseline level of performance, durability, and safety requirements for building materials and components. States, counties, and cities, when developing or updating their building and fire codes, usually adopt one or several of the model codes in conjunction with jurisdiction-specific modifications to the model code language and requirements.

Standards—such as those for builders hardware—play an integral role in building codes by identifying minimum performance requirements for products or materials used in building construction. Like building codes, standards are developed by researching how products, materials, or structures have responded in the past to various conditions as well as weather and geological hazards. By packaging the complexity of numerous standards into a single document, building codes make it quicker and easier for officials to assess whether a building meets the necessary requirements for it to be considered “up to code.”

Setting a standard for safety

One priority of *IBC* is to make sure there are paths of egress at all times for building occupants. Doors within the path of egress, and how doors are required or permitted to function, have significant implications for safe egress. Over the years, *IBC* has evolved significantly. Some recent changes relate to the language used with reference to door hardware and emergency egress.

One organization that has served as a subject matter expert for revisions to *IBC* is the Builders Hardware Manufacturers Association (BHMA). BHMA is the only organization accredited by the American National Standards Institute (ANSI) to develop and maintain performance standards for door locks, door closers, door exit devices, and other builders hardware. BHMA has been significantly involved in *IBC* change proposals, providing language and guidance on safe egress systems as it relates to builders hardware.

Like building codes, builders hardware standards must be developed by consensus and reviewed every few years. These consensus standards are also approved by ANSI. The ANSI/BHMA A156 Standards Series currently includes 41 standards, a number that keeps growing as new and emerging technologies continue to enter the door hardware space.



Photo courtesy Bigstockphoto.com

Building code updates

Some of the most recent *IBC* language updates, particularly as they relate to door hardware, include revisions to the descriptive names of the special locking systems to better describe the required functions of each system. These revisions are a result of the desire by door hardware manufacturers, specifiers, and security integrators to more accurately describe the function of the special locking systems, and to expand where these locking systems are permitted to be installed by *IBC*. BHMA worked closely with many stakeholders to ensure the revised *IBC* language was appropriate. The requirements for each of these special locking systems was refined to be more clear and concise, and to be more consistently interpreted, applied, and enforced.

“Special locking arrangements” revised to “controlled egress doors”

When referring to *IBC*, building professionals and code officials now find “special locking arrangements” for Groups I-1 and I-2 has been changed to “controlled egress doors,” to clarify a controlled egress door is locked to prevent egress, and egress is controlled by someone else. These door locking systems are permitted only in healthcare facilities where the clinical needs of the patient require this functionality, such as newborn nurseries and some assisted living facilities.

“Delayed egress locks” revised to “delayed egress locking systems”

Changing “delayed egress locks” to “delayed egress locking systems” emphasizes there is an entire system behind the delayed egress lock, to allow for the safe egress of building occupants in the event of an emergency. Delayed egress locking systems function as the name implies—they facilitate egress but with a relatively brief delay (15 to 30 seconds). These systems are designed so that when the fire protection system activates, the delay of the delayed egress locking system is automatically eliminated, allowing the door to remain locked mechanically and electrically preventing ingress, while providing immediate and free egress.

“Access-controlled egress doors” to “sensor release of electrically locked egress doors”

The term “access-controlled egress doors” referred to electronic locking systems designed to prevent building access (ingress), while allowing egress by unlocking the door when a sensor on the egress side of the door detects movement. In other words, while the door(s) remains locked at all times, when the interior sensor detects a person approaching the door, the electrical locking system automatically unlocks the door(s) allowing immediate and free egress. However, since nearly all locking systems—electrical and mechanical—control access to a building, the older term “access-controlled egress doors” had a wide variety of interpretations and applications, and enforcement varied significantly due to ambiguity. By changing the language to “sensor release of electrically locked egress doors” the ambiguity surrounding this particular locking system will be reduced and a more uniform understanding of its applications will occur.

“Electromagnetically locked egress doors” revised to “door hardware release of electrically locked egress doors”

Originally, any reference to “electromagnetically locked egress doors” was for door locking systems in which the door-mounted hardware triggers the release of the door’s electromagnetic lock. For clarity, this language was revised to “door hardware release of electrically locked egress doors” to emphasize exactly how this type of locking system is released, and to allow electrical locks that function by means other than electromagnetically. Additionally, since electromagnetic locks are commonly used in all of the locking systems mentioned, this revision addressed a misperception that any door locking system with an electromagnetic lock would be required to comply with the requirements for electromagnetic locks.



Delayed egress locking systems may be used in schools and childcare centers to prevent abductions or delinquency.

Photo courtesy Bigstockphoto.com

Code proposals

With the 2021 *IBC* code development cycle currently in progress, BHMA continues to be actively involved in the process. In this development cycle, BHMA has proposed several revisions to the 2021 *IBC* intended to improve life safety.

ANSI/BHMA A156.24, Delayed Egress Locks

Contrary to door locking systems providing immediate egress, delayed egresslocking systems prevent a door from opening immediately when egress is attempted in a non-emergency situation. ANSI/BHMA A156.24, *Delayed Egress Locks*, covers products used in connection with conventional exit devices or locks causing doors to remain electrically locked for a predetermined length of time (usually 15 seconds) after triggering the countdown timer. In other words, delayed egress locking systems are a device, or a combination of devices, arranged to be locked in the direction of egress travel, and intended to temporarily delay the egress of occupants.

While a lock is not generally supposed to impede egress, there are specific situations where it may be necessary, as long as the application is in accordance with the relevant building or life safety code. For example, when used in healthcare facilities, delayed egress locks can alert staff to a patient attempting to leave the premises. Delayed egress locking systems may also be used in a retail setting to discourage shoplifting, or in schools and childcare centers to prevent abductions or delinquency. Delayed egress locks, in other words, operate like exit devices, yet provide the added safety and security in situations that may not be considered life-threatening.

Over the last two editions of *IBC*, delayed egress locking systems have been permitted in new occupancy groups and, in some instances, more than one delayed egress locking system is permitted in the egress path. Since *IBC* has expanded where these systems are permitted to be used, they are now employed more widely; therefore, requiring compliance to ANSI/BHMA A156.24 in the 2021 building codes can help assure these locking systems will function reliably and as they are intended time and time again.

Door hardware single motion to egress

According to *IBC* 1010.1.9.6, “Controlled egress door in Groups I-1 and I-2,” “the unlatching of any door or leaf shall not require more than one operation.”

Door hardware standards play a significant role in life safety by ensuring products used in commercial and residential buildings are suitable for their intended use.

Photo courtesy Bigstockphoto.com

Unfortunately, this language has code officials, specifiers, building owners, and security professions asking what is required of door hardware to meet the requirement for “not more than one operation” to unlatch a door, and what is permitted. To address these questions, BHMA developed ANSI/BHMA A156.41, Standard for Door Hardware Single Motion to Egress. It established requirements for hardware used on doors in the means of egress, to comply with code requirements for “not more than one operation” to unlatch a door for egress. BHMA proposed *IBC* language be revised to “the unlatching of any door or leaf for egress shall not require more than one motion in a single linear or rotational direction to release all latching and all locking devices.”



Conclusion

In today’s connected world, there is a greater emphasis □ on building science and technology than ever before. New technologies and advances in building materials—including builders hardware—are occurring each year. As a result, building codes are also evolving to ensure the safety of building occupants and the public.

Bout the Author: John Woestman is director of codes and government affairs for the Builders Hardware Manufacturers Association (BHMA). In this capacity, he provides building codes advocacy and technical service on behalf of BHMA. Woestman is a member of the International Code Council (ICC), the National Fire Prevention Association (NFPA), and ASTM International. He has represented BHMA's interests in ICC building codes development; NFPA codes and standards development; and ASTM standards development. Woestman has a mechanical engineering degree from Iowa State University and a MBA from the University of Iowa. He can be reached at JWoestman@kellencompany.com.

Decoded: Projections into the Clear Opening Height of Doors (January 2020)

For most locations, the International Building Code (IBC) requires the ceiling height along a means of egress to be a minimum of 7 feet 6 inches above the finished floor. Exceptions include egress components that are specifically addressed in other sections of the code, such as sloped ceilings, stairs, and ramps. Door height is one of the listed exceptions and is addressed in Section 1010.1.1 of the 2018 IBC.

Section 1010.1.1 – Size of Doors, establishes the clear opening height for doors at 80 inches minimum, with some exceptions that apply to door openings serving dwelling and sleeping units. The IBC Commentary clarifies that the 80-inch minimum height applies to doors in the means of egress, as well as doors that are used for egress purposes, including additional doors over and above the number of means of egress required by the code.

Protrusions into the headroom / required clear opening height are addressed in sections 1003.3.1 – Headroom, and 1010.1.1.1 – Projections into clear width (in the 2021 edition this will be changed to “projections into clear opening”). A minimum headroom of 80 inches is required above any circulation paths, including walks, corridors, aisles, and passageways, and not more than 50 percent of the ceiling area of a means of egress may be reduced in height by protruding objects. Both of the referenced sections in the IBC allow door closers and stops to reduce the headroom from 80 inches to 78 inches, stating *“Door closers and door stops shall be permitted to be 78 inches (1980 mm) minimum above the floor.”*

This means that a door closer can project down into the required clear opening height as long as there is a clear height of at least 78 inches, measured from the floor to the lowest part of the closer. But what type of “door stop” is the IBC referring to? An overhead stop? The stop on the frame?

The IBC Commentary includes a paragraph clarifying the intent of this section of the code. According to the Commentary, the allowable 2-inch projection is reasonable because door closers and door stops are normally mounted away from the center of the door opening, minimizing the potential for contact when a person moves through the opening. From this description, the IBC seems to be referring to overhead stops, which typically have an arm that would protrude into the opening height. The paragraph goes on to explain that other items mounted at the top of the door opening, such as electromagnetic locks, would require the 80-inch minimum headroom and would not be covered by the 78-inch exemption.

However, a change has been approved for the 2021 edition of the IBC, which clarifies this further and contradicts the IBC Commentary. IBC change proposal E41 modifies the previous language to state:



“Door closers, overhead door stops, power door operators, and electromagnetic door stops-locks shall be permitted to be 78 inches (1980 mm) minimum above the floor.”

This means that an electromagnetic lock – including one mounted in the center of the opening for a pair of doors, or an automatic operator that spans a large portion of the opening, will be allowed by the 2021 IBC to project into the clear opening as long as the minimum clear height is 78 inches. Another consideration with this change is that by specifically referencing overhead stops, the stop on the frame is not addressed. On a 6 foot 8 inch door, the frame stop would project approximately 5/8-inch into the required clear opening height. Although many code officials consider the 80-inch clear height to be a nominal dimension, this is not stated in the IBC.

Other Codes and Standards

The requirements of the codes and standards vary regarding protrusions into the clear opening height, and the amount of clarity provided by each publication. State or local codes may include different limitations and clarifications, so it's important to refer to the applicable requirements for the project in question.

NFPA 101 – Life Safety Code: Headroom is generally required to be at least 7 feet 6 inches, however, projections are allowed as long as a minimum of 6 feet 8 inches of headroom is provided at these projections. The code states that the measurement is taken from the finished floor and allows a tolerance of -3/4-inch. Annex A states that these projections may include devices such as lighting equipment, emergency signaling equipment, environmental controls and equipment, security devices, signs, and decorations that are typically limited in area. The NFPA 101 Handbook clarifies that the -3/4-inch tolerance is intended to recognize the clearance provided by a standard 6 foot 8 inch door frame, where the frame stop encroaches on the opening height. NFPA 101 does not currently include an exception for door closers or other hardware that would protrude below 6 feet 7 ¼ inches above the finished floor.

ADA Standards for Accessible Design: The required vertical clearance is established in paragraph 307.4 of the ADA Standards as 80 inches high, minimum. This section includes an exception which is also repeated in Section 404.2.3, which allows the clearance at door closers and door stops to be 78 inches, minimum, above the finish floor or ground. No further clarification is given in the US Access Board's Guide to the ADA Standards.

ICC A117.1 – Accessible and Usable Buildings and Facilities: The requirements of A117.1 regarding clear opening height are consistent with those of the ADA Standards, and are found in the same sections. The A117.1 Commentary underscores the importance of the 80-inch height limitations (with the 78-inch exception for door closers and door stops), stating that one of the more common injuries for people with sight impairments is striking their heads on overhanging objects. The Commentary also clarifies that the intent of the limitations on protruding objects is not only for the protection of people with vision impairments but to protect all people from unintended contact and potential injury.

With the slight variations between the next edition of the IBC and the previous editions, NFPA 101 and the accessibility standards, there could be conflicting requirements where one project is required to comply with more than one code or standard. State and local codes and standards could also affect the required clear opening height and allowable protrusions. The Authority Having Jurisdiction (AHJ) can help to determine the requirements for a particular location. A future Decoded article will address allowable protrusions into the clear opening width, so watch the upcoming issues of Door Security + Safety Magazine for additional requirements affecting the clear opening of doors.

Little Rock Chapter, CSI Annual Golf Tournament



\$15,000.00
Hole-In-One Prize

2020 ANNUAL GOLF TOURNAMENT

TOURNAMENT INFORMATION:

Location: Country Club of Arkansas
3 Country Club Cir,
Maumelle, Arkansas 72113

Date of Tournament: April 24, 2020

Final Due Date for Payment April 20, 2020

SCHEDULE

| Time | Event |
|----------|---------------------------|
| 07:00 am | Registration Opens |
| 08:00 am | "Release the Carts" Start |

Little Rock
Chapter
CSI

Contact person: **Billy J. Mathis,**
FCSI, CDT

Phone: 501-758-7443
Fax: 501-753-7309
Email: bjmathis@taggarch.com



I am interested in Playing or
providing a Sponsorship

Name _____
Address _____

Phone _____
Method of Payment
 PayPal
 Check

Sponsorships Available

| Sign up for: | Price |
|---|----------|
| <input type="checkbox"/> Golf Team Registration | \$500.00 |
| <input type="checkbox"/> Individual Player | \$150.00 |
| <input type="checkbox"/> Hole Sponsorship | \$400.00 |
| <input type="checkbox"/> Beverage Cart Sponsorship | \$400.00 |
| <input type="checkbox"/> Hole-In-One Sponsorship | \$250.00 |
| <input type="checkbox"/> Hole Sponsor / Team Registration | \$800.00 |

If you are interested in following the Little Rock Chapter, our links are as follows (*for Facebook and LinkedIn look for the CSI Little Rock Chapter*):

Website: <https://csilittlerock.org>

Facebook: www.facebook.com

LinkedIn: www.linkedin.com

If you are interested in Joining CSI or if you are just interested in keeping up with the information provided by CSI, follow this link to the Institute Website Membership Pages:

For Membership Information:

<https://www.csiresources.org/communities/membership/individual-membership>

To Join CSI:

https://higherlogicdownload.s3.amazonaws.com/CSIRESOURCES/143a718d-6df6-484a-8a79-76d79635b741/UploadedImages/PDFs/CSI_MembershipFormFY18.pdf

To See what CSI is all about:

https://higherlogicdownload.s3.amazonaws.com/CSIRESOURCES/143a718d-6df6-484a-8a79-76d79635b741/UploadedImages/CSI_ResourcesCatalogFinalLowRes.pdf

LITTLE ROCK CHAPTER INFORMATION

Chapter Officers

| | | |
|---------------------------|---|-------------------------------------|
| President: | | Billy J. Mathis, FCSI, CDT |
| President-Elect: | | Melissa Aguiar, CSI, CCS, CDT, SCIP |
| Immediate Past President: | | Open |
| Secretary: | T | Melissa Aguiar, CSI, CCS, CDT, SCIP |
| Treasurer: | | Billy J. Mathis, FCSI, CDT |
| Directors | | |
| Operations | | Rachal Belanger, CSI |
| Honors | | Melissa Aguiar, CSI, CCS, CDT, SCIP |
| Membership | | Carlie Massery, CSI |
| Education / Certification | | Open |

Chapter Info

| | |
|--|---|
| Chapter Website: | https://csilittlerock.org |
| Chapter Newsletter: | SpecWork |
| Chapter Meeting Day and Time: | 2nd Wednesday of Each Month unless otherwise specified by the Chapter President |
| Chapter Board Meeting Day and Time: | 1st Friday of each Month unless otherwise specified by Chapter President |

If you are interested in Joining CSI or if you are just interested in keeping up with the information provided by CSI, See the slides shown from the "Why CSI" presentation