



CSI Houston Chapter
The Construction Specifications Institute

August 2013

**August 26th
meeting:**

PLACE: H.E.S.S. Building
5430 Westheimer Road

TIME:

5:30 P.M. (Registration and
mixer)

6:00 P.M. (Evening Meal and
Meeting)

COST:

Gratis to CSI members;
\$35.00 to non members at
the door.

RESERVATIONS: Go to:
<http://www.csihouston.org>

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CSI Houston Website:
<http://www.csihouston.org>

**August CSI Houston Chapter Program
"School Security"**

The August CSI Houston Chapter meeting program will be a panel discussion on "School Security" by the following panelists:

Mr. Michael Macha
Protective Security Advisor at US Department of Homeland Security
Houston TX

Ms. Jody Henry
Education Architect at Kirksey Architecture
Houston TX

Mr. Nick Heath
Education Specialist K-12 for ASSA ABLOY DSS
Houston TX

These panelists will take part in a discussion issues involving school security. These individuals represent the view of this challenging subject from the point-of-view as a policy maker, as a designer of schools, and as a product specialist.

**September CSI Houston Chapter
Program**

The September Houston Chapter meeting program will be announced at a later date.

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August 2013 President's Message

by Robert P. Byrne, CSI
President, CSI Houston Chapter



Our July meeting panel discussion brought us up to date on BIM. The program also reminded us of the lingering questions created by this system and where the design industry may be headed: who has ownership of the drawings and how are the specifications integrated into BIM? I came away from the meeting with my

own questions. First, are we counting only on software to see things three dimensionally and answer the questions that the designer used to consider in his mind and, second, does it ultimately limit future designers' abilities and originality since our youth of the industry is trained on this software to answer real world constructability due to their lack of experience? I say consider the marketing behind the software and proceed with caution.

The Chapter's budget has been carefully reviewed and the board approved it at the July 22nd Board Meeting.

The Golf Tournament's committee is well on their way planning another enjoyable October golf tournament. This is our Chapter's main fund raising event and everyone should save the day and plan to support our efforts. It is always a great time to show off our Chapter and the members that support it.

Hope business is going your way.

2013 Brian Harrington Golf Classic

By Joey Penna, CSI, CDT, LEED AP



Save the Date: The 2013 CSI Brian Harrington Golf Classic will be held Monday, October 21, 2013.

Golf Course: Falcon Point Golf Club, Katy, TX

Entry Forms & Sponsorship Forms: Go to the CSI Houston Chapter website at <http://www.csihouston.org>. Forms will be available shortly for you to attend and support the CSI Houston Golf Classic.

We hope to see you there!



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CSI SC Region Fall Planning Meeting

by **Holly A. Jordan, CSI, CCS, LEED AP BD+C, SCIP, President CSI South Central Region**

The Region Board and the Fort Worth chapter have set the date and schedule for the Fall Region Conference.

Mark your calendar for a week-end of strategic planning and CSI insight from Thursday evening, September 12th through Saturday September 14th, 2013.

Location: Holiday Inn DFW Airport South, 14320 Centre Station Dr, Fort Worth, TX 76155

Who Should Attend: It is recommended that Chapter Presidents, President-Elects, and Treasurers attend in addition Region Officers and Region Committee Chairpersons. All SCR Chapter members are encouraged and welcome to attend and share thoughts for the 2013-14 year region goals.

Lodging: Rooms are available at the Holiday Inn DFW Airport South for Thursday, September 12th and Friday September 13th at a rate of \$85 + 15% occ. tax until 8/29; use code "CSI" when making reservations 817-399-1800 or online at www.hidfwairport.com.

Schedule:

Thursday, Sept. 12th, 6:30pm; Region Chapter Presidents dinner with SCR President Holly Jordan (meal not included in registration). This dinner is for Chapter Presidents or designated representative only.

Friday, Sept. 13th, 8:00-10:00am: Welcome and Introductions

Friday, 10:00-10:15: Morning Break with Snacks

Friday, 10:15-12:00: Region Planning Session

Friday, Noon-1:00pm: Region lunch with Keynote Speaker. All region members welcome

Friday, 1:00-5:00pm: Strategic Planning Session - All region members welcome

Friday, 2:30-2:45: Afternoon Break with Snacks

Friday, 6:00-10:30pm: Hospitality Suite open (no RSVP necessary - come and go as you like, enjoy a snack and drink)

Friday, 6:15pm (7:05pm game starts): Outing- Texas Rangers/Oakland Athletics & Post-Game; Fireworks Show (not included in registration) - Additional Cost \$25; RSVP required to Russell Long (russl@jeld-wen.com) by August 29th

Saturday, Sept 14th, 8:00-8:30am: Breakfast

Saturday, 8:30-12:00/1:00pm: Region Board Meeting - All region members welcome.

Thursday and Friday night meals are not included in registration, dinner is on your own.

Visit www.fwcsi.org and click on "Special Events" for Online Reservations. Registration Fee \$110 (Includes lunch Saturday, snacks, and breakfast Sunday)

Please pay registration fees in advance online or mail check postmarked by 8/30/13 to:

Renate' Woods, PE, CSI

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FEATURE YOUR PRODUCTS WITH A TABLE TOP DISPLAY

At each monthly meeting, the Chapter encourages Industry Members to provide a table top display of their products and services for the inspection and education of those attending the meeting.

The table top display is also encouraged to be presented during the social hour and after the program for any questions by attendees.

The presentation fee for this time is \$200 for members and \$250 for non-members, or free with a Golf Sponsor-

WHERE IS YOUR BUSINESS ADVERTISEMENT?

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Contact Don Smith at (713) 688-0092 or don.smith315@sbdglobal.net for more information.

CSI Houston Chapter Board Meeting Minutes

Location: HESS Building

5430 Westheimer Rd., Houston, TX

May 20, 2013

CSI BOARD MEETING MINUTES

Houston Chapter CSI

Location: CRISP Houston – 2220 Bevis – Houston, TX

June 11, 2013

Present: Amy Peevey, Betsy Finch, Bill Fairbanks, Chuck Vojtech, Don Smith, Don Ude, Don Vernon, Dorothy Gumm Denison, Doug Frank, Holly Jordan, J. Peter Jordan, Neil Byrne, Robert Byrne

President Holly Jordan called the meeting to order at 11:45 a.m.

The May 2013 Board Meeting Minutes were approved.

REPORTS

Member Services:

Programs: J. Peter Jordan

J. Peter reported that a program committee meeting is needed, the speaker for the June meeting had been arranged and the information about the speaker had been sent to Don to post in the SPEC.tectonics.

Membership: Sindee Gillespie

Holly reported that she is continuing to work on membership, and that Sindee would like to allow new members a one time discount for a table top display. Bill Fairbanks "moved to allow new members a one time discount for a table top display at a cost of \$100.00 during a regular meeting, excluding the January and June meetings." The motion was seconded and approved.

Awards: Amy Salmeron

Holly presented to the board and committee chair members appreciation certificates and thank you gifts.

Personal/Professional Development: Doug Frank/Di Ann Reid

No report.

Finance/Administration: Neil Byrne

Treasurer's Report: Chuck Vojtech

Chuck distributed the current treasurer's report to the board and committee chair members.

Table Top Display: Amy Peevey

Amy reported that Parex has paid for a table top display for the July meeting.

Publications and Public Services: Don Smith

Golf Tournament: Tom Atwell/Sindee Gillespie Holly reported for Sindee that the contract with the golf club has not been signed yet and a Constant Contact blast

was sent to members. Chuck discussed expenses for the golf tournament that are paid prior to the year the tournament falls in. Chuck "moved that expenses for the golf tournament are paid in the current term/fiscal year, except the deposit for the golf club." The motion was seconded and approved.

SPEC.tectonics: Don Smith

Don reported that he would post the newsletter in the next few days.

Electronic Communications: Logan Vits

Holly reported the website has been updated.

Public Relations: Don Vernon

Don reported he is working on improving the relationship between CSI and AIA.

Professional Development: Logan Vits

Continuing Education:

No report.

Academic Affairs:

No report.

Certification: Tim Wilson

No report.

Technical Committee:

No report.

New/Additional Business

Holly reported she received a call from a teacher with Klein ISD regarding their construction program and students being eligible to take the CDT exam. It was reported that high school students are eligible to take the CDT exam.

Meeting adjourned at 12:50 p.m.

***Betsy Finch, CSI
Chapter Secretary***

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Geotechnical Reports as a Contract Document

By Donald F. Smith, Jr., CSI CCS RA LEED AP

I keep getting questions on use of geotechnical reports as a Contract Document.

The reason geotechnical reports and availability of geotechnical information are listed as information available to bidders is that it contains limited facts, multiple opinions, and multiple recommendations that are not the actual structural or paving designs for the Project. The geotechnical report is usually commissioned by the Owner as site information, similar to a site survey. The design team is not in a position to sign and seal these document and assume the errors and omissions risks that may occur in them.

That it is that the geotechnical investigation is:

1. Not prepared by the project architect, nor is the Geotechnical Engineer the Architect's consultant.
2. The geotechnical report is usually commissioned by the Owner for the limited purpose of providing information and design options to the structural and civil engineers for foundation, paving and other earthwork design options and choose project structural and civil design schemes.
3. The information given in the geotechnical report is limited to specific locations, boring depths, and is time sensitive and may quickly become obsolete.
4. Geotechnical reports normally contain opinions and recommendations to the structural and civil engineers that are not designs, but are a discussion of options, costs and anticipated consequences.

The only actual factual information is contained in the report is the testing methodology and the boring logs.

Until the engineers actually select a design option, which by the way does not have to include one of the options presented, and include it in the signed and sealed structural drawings and civil drawings, it is not part of the Contract Documents.

To list the geotechnical report as a Contract Document is to state that the information and opinions contained in it are correct, even though they may not be used in the actual project as the basis of designs for the project.

Similarly, it is also unwise to use the geotechnical report as a specification. Notes such as "Prepare subgrade soils in accordance with the Contract Documents," clearly shows a lack of understanding that all or some of the recommendations in the geotechnical report may be correct for all or even some of the project requirements and that the design decisions as to exactly what is required is delegated to whomever is reading the note!

Geotechnical Engineers usually want to inspect the subgrade soils at the bottom of each footing or excavation because even they are not sure as to the uniformity of the natural subgrade soils across the project site. They need confirmation of their own recommendations to be sure of success. The need to make sure that their material recommendations and procedures are being followed.

"If you don't know where you're going, you might wind up someplace else."

Yogi Berra

... Just my opinion,

Donald F. Smith, Jr., CSI, CCS, RA,
LEED™ AP

“Absolute Zero”

By Sheldon Wolfe, RA, FCSI CCS CCCA, CSC

And then there are dimensions...

In the last article, "Absolute nonsense", I wrote about the great number of words available to express fine distinctions of meaning, and how, properly used, they can be quite precise. In daily use, however, words often are used incorrectly, and most would agree that many disagreements are based on different interpretations of what we say.

In contrast, we usually think of numbers as being exact. After all, it's easy to look at a set of drawings and determine the exact number of doors, or windows, or any other object. Dimensions, however, *cannot* be precise, even though they are stated as if they were.

Anyone who has done construction of any type, from building a house down to replacing a deck board, knows that dimensions are not absolute. A tape measure may have marks denoting thirty-seconds of an inch, but it seems the length you're measuring never falls exactly on one of the marks. If you look closely, you'll see the marks themselves have width, so where does the exact measurement occur? In the center of the mark, or on one side? You'll also notice that tape measures that do show thirty-seconds of an inch show them only in the first few inches. After that, the old expression "close enough" seems to rule.

It is possible to specify an exact dimension, but in practice, it's impossible to meet that specification. All things are manufactured to nominal dimensions, and all measurements are nominal. In most cases, today's tolerances are good enough that we don't need to worry about them. One problem arises when the individual tolerances of several things are added together. For example, if two panels are required to align within a sixteenth of an inch, the difference between adjacent panels won't be noticeable. Using only that tolerance, however, could result in the first and last of sixteen panels being an inch out of line. That's why we often see a series of tolerances, e.g., 1/4 inch in 10 feet, 3/8 inch in 20 feet, and 1/2 inch in 40 feet.

It's frustrating when manufacturers' specifications don't indicate tolerances. If an aluminum extrusion is shown as 1/8 inch thick, what does that mean? Is it 1/8 inch minimum, or 1/8 inch plus or minus? If the latter, how much is the plus or minus? If the manufacturer refers to a dimension as nominal, does that mean it's within the limits established by a standard, or does it mean the dimension will be whatever it happens to be? Many times, tolerances are established by industry standards. That's great, but you have to know that what the standards are, and you have to know that the manufacturer complies with them.

Conversions and divergence

It looks like metrication won't happen soon in the US, if ever. Until then, we sometimes are required to state two dimensions, one in United States customary units, the other in metric. Conversion factors make it relatively easy to change from one system to the other, but stating both if only one will be used introduces another opportunity for error.

Stating numbers in both systems makes no sense at all when talking about rounded numbers. Does the statement, "The 10,000 square meter (107,639.1 square feet) building..." really mean the building was exactly 10,000 square meters? It's possible, but I doubt it. When using rounded numbers, units of both systems should be rounded. In this example, the area in square feet should be rounded to 107,000, or even 100,000.

One of the problems with customary units is their origin. The foot was based on - surprise! - the length of a human foot; the inch on the width of a thumb; a yard on the distance from nose to end of a thumb; the mile on 1,000 (mille) paces of two steps. Even if everyone had identical body measurements, those units of measure didn't work as a system, so the numbers were fudged over time until a foot had twelve inches, a yard had three feet, a mile had 5,280 feet, and so on. There was no reference standard until about 1845, when the British government created a bronze yardstick, marked in feet and inches. Of course, even then it was known that the master *continued on page 10:*

continued from page 9:

yardstick would vary in length with the temperature, but it was, as we say, close enough.

Meanwhile, about 1795, the French created the metric system. Instead of being based on body parts, it originally was defined as 1/10,000,000 of the distance from the North Pole to the equator along a specific meridian. Although more rational than other systems of measurement, it had its own problems, not the least of which was that it was just a bit difficult to measure. In addition, the earth is not a perfect sphere. Regardless, a physical standard meter stick was, for most purposes, close enough (sound familiar?).

As scientists began measuring ever larger and ever smaller objects, the metric system was found wanting. The current definition of a meter was stated in 1983 as "the length of the path travelled by light in vacuum during a time interval of 1/299,792,458 of a second." Which leads to the question, "How long is a second?" The answer, defined in 1967, is "the duration of 9,192,631,770 periods of the radiation corresponding to the transition between the two hyperfine levels of the ground state of the cesium 133 atom."

The two points of this little side trip are that what passes as absolute measurement is, for all practical purposes, impractical, and that for building construction, "close enough" is a useful term.

In defense of measurements based on fractions rather than decimals, it is easier to find a quarter, an eighth, or a sixteenth of a given length than it is to find a tenth; simply keep dividing in half until you get where you're going! Measuring a tenth or hundredth of that same length requires an estimation that by nature is imprecise.

If dimensions aren't precise, what good are they?

Drawing dimensions always have been an expression of an ideal, stated as if they were exact, ignoring the reality of measurement, fabrication, and tolerances; they remain so today,

despite the continuing improvements in theoretical precision.

Software modeling now makes it possible to produce very accurate measurements that are at once impressive and meaningless. Fortunately, software has the ability to round off numbers, so drawing dimensions appear in practical terms, such as 30-1/4, rather than 30.24837906 inches.

No matter how precise the model or calculation, printing often introduces distortion, sometimes greater in one direction than another. Further distortions can be introduced by expansion or contraction of the paper due to humidity and, to a lesser extent, temperature. Together, these problems necessitate the "do not scale" warning found on most drawings. In practice, scaling is accurate enough for most measurements, because waste factors, often ten percent, are more significant than errors resulting from scaling.

Much of construction does not require extreme precision. Partition framing and thickness, opening locations, curves, and other elements can be off quite a bit before an error becomes significant. Smart design incorporates tolerances to minimize the problem; anyone who has had to tear out a wall because the width of a corridor was a quarter of an inch less than required by ADA won't dimension exactly to ADA requirements again!

Isn't it odd that words have precise meanings, while numbers are approximations?

© 2013, Sheldon Wolfe, RA, FCSI, CCS, CCCA, CSC

[Leave your comments at http://swconstructivethoughts.blogspot.com/](http://swconstructivethoughts.blogspot.com/) and <http://swspecificthoughts.blogspot.com/>.

Editors Note: While the bulk of the article is correct, the use of a graphical scale can still be useful when dealing with photographically or electronically represented drawings of the original that may be printed out of scale at other than the original size.

“Strictly SMITH-ly”

BIM, Specifications and the Specification Writer

By Donald F. Smith, Jr., CSI CCS RA LEED AP

I was thinking about last month's building information modeling update. The program by a group of panelists discussed how far BIM and CAD have come, their contributions to the design and construction process, and implied a few issue areas are yet to be resolved.

There is no question that CAD software has allowed great progress in computer assisted design when quantity calculations, dimensioning complex curved surfaces and angled planes, automatic dimensioning, and area calculation are concerned.

The change from hand drafting on paper to computer aided drafting has created a change in the focus of the thinking of the CAD operator.

The draftsman had to create a picture of plan, section or detail in his or her mind prior to the start of the drafting session. This picture could also have been created by the senior draftsman for the junior draftsman to create and add detail. In any case, someone had to create the sketch or cartoon of the details to be created. This senior person usually had the ability to think in three dimensions. Thinking in three dimensions I believe has become a lost art. This ability enables one to mentally turn a corner or change planes and follow each layer of material in the building assembly to avoid gaps and omissions.

The other problem that BIM seems to suffer from is trying to be the solution to too many things. BIM not only shows the size, quantity, arrangement, relationship of materials in a particular part of the construction, but also can contain information contained in each materials attributes covering product information and performance of materials in the assembly. What is much harder for BIM is Section Part 1 and Part 3 requirements. Even Part 2 can be problematic when you consider anything other than the product used as the basis of the design shown. Even though a half a dozen products may be functionally the same, not all can be used in a particular

design interchangeably without some alteration of the design shown.

The decisions that go into placing an alternative material into a completed design, might involve more time than the original decision process just because of changes in details of related work.

I think that the process of evaluating change in a BIM material is harder at the Drawing detail level than in a specification, because of consideration of material relationships to adjacent materials in a detail. Choice of different materials complicates the decision process.

Design has evolved into a more complex depiction of the art and science of architecture. Today's architecture can involve more complex enclosures for today's buildings because CAD and BIM have evolved to allow it to be possible to do so.

"If you don't know where you're going, you might wind up someplace else."

Yogi Berra

... Just my opinion,

Donald F. Smith, Jr., CSI, CCS, RA, LEED™ AP

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www.csihouston.org

Visit CSI Houston
 on the Web

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Aug 2013 Through Sept 2013

Sun	Mon	Tue	Wed	Thu	Fri	Sat
<i>July 28</i>	29	30	31	<i>Aug 1</i>	2	3
4	5	6	7	8	9	10
14	12	13	14	15	16	17
18	19 Planning Mtg 2:30 pm, 9434 Katy Fwy, Ste 170	20	21	22	23	24
25	26 CSI Houston Board / Chapter Meeting—HESS	27	28	29	30	31
<i>Sept 1</i>	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16 Planning Mtg 2:30 pm, 9434 Katy Fwy, Ste 170	17	18	19	20	21
22/29	23 /30 CSI Hou- ston Board / Chap- ter Meeting—	24	25	26	27	28