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With the recent surge in construction activity following the “Great Recession,” our industry finds itself again looking for more skilled tradespersons to help build our future. One of the key factors that helped us all to get through the “Great Recession” was that Organized Labor stood with us, foregoing some potential raises and working with management to maximize our ability to be flexible in meeting the desires and needs of our customers.

In my humble opinion, these past few years Organized Labor has not looked on management as an adversary but rather as a customer. This shift in our long-standing relationship bodes well for our future as an Industry. Here in the Northwest, we are fortunate to have some of the most progressive and forward thinking leadership in all of Organized Labor. There is a recognition that most of our signatory contractors are signatory, not because of force or requirements, but because we have chosen to do so. We respect those men and women that make up our workforce and want them to know that they will be treated fairly and have a safe and bright future for themselves and their families. In our Industry, a great many owners and managers came out of the field. We know what our workers face on a daily basis. In the Seattle market, we also have the only Joint Labor-Management Committee that includes all of our Unions. There are areas where the various unions that may have disagreements with each other, yet they are coming together to find solutions for the betterment of our Industry. This is significant and should be copied across the nation.

It was recently in the news that the “Millennial” generation now is the largest group in our workforce. Ours is an industry that has, in large part, been developed and designed around the priorities and work ethic of the Baby Boomer generation. In order to survive and thrive into the future, we must restructure our industry to better fit the priorities and lifestyles of the Gen Xers, Gen Yers, and the Millennials. Hint: they will outlast the Baby Boomers for sure. In ten years, this industry, much like this Bureau, will look much different than it does today. That is a reality we must all not just face, but embrace.

We have a substantial need to recruit new members to our workforce to build a better future for all of us. We will be competing with all sorts of new industries for the limited pool of new talent. We have the ability to offer to prospective crafts persons career paths, the ability to earn a family wage early in their career, and a benefit package that they can count on. There will likely continue to be changes in how we offer these benefits. Adaptation usually requires outside-the-box thinking, and we need to be open to new ideas. The fringes offered and work rules established will need to account for the priorities and lifestyles of the Gen Xers, Gen Yers, and the Millennials if we expect to be successful in recruiting them.

As with most recessions, the contractors in our industry who are signatory to union contracts seem to have come out of this one with a smaller percentage of the market share. That means we must work together to market the value we bring to our customers. In some cases, it means we need to regain the training edge that Organized Labor has historically been known for. We may have to raise our level of professionalism both in the office and in the field, especially in the public view. High quality work and professionalism create added value for our customers. There will always be a market for high quality work done by professionals. If it wasn’t so, we would all be driving Dodge Neons or Geo Metros.

It also means we need to help expose those who would exploit their labor forces and/or cheat the system by avoiding paying for such items as a fair wage, safety equipment, Worker’s Comp, Social Security, Unemployment Insurance, and other taxes as well as those not providing medical benefits for their workers or their families.

Your Bureau is committed to marketing our industry and will work with all appropriate groups to do so. We are facing a future that we have the power to make into what we want it to be. It will require that management and Organized Labor continue to work together to build a brighter future for all involved in our Industry.

After the Gulf War, there has been a movement to openly and publicly thank members of the military and veterans for their service to our country. Perhaps we should take some time to thank those we work with, young, old, and in between, for helping to keep our industry strong into the future. Let them know that they are appreciated team members.

May you and our entire industry have a blessed and profitable 2016.

Neil O’Connor

President’s Letter

Labor Management Cooperation is the Key to our Success
It’s an exciting time to be at Steeler. We’ve come a long way from our start over 41 years ago, but we never rest on our history. We’re thinking about tomorrow while the others catch-up with yesterday.

Steeler is the source for quality interior & exterior steel framing, interior finishing & gypsum products, drywall tools & accessories and premium fasteners. Call for a quote today!

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[Logos of various associations]
“To do more for the world than the world does for you, that is success.”

—Henry Ford

For many of us, this quote reminds us of how we would like to shape our lives and businesses. A New Year is here and, with it, the chance to reflect on the past and also plan for the future. If you haven’t already, it’s time to make your New Year’s resolutions. It’s the perfect time to set new personal and business goals. A few goals the NWCB is working on in 2016 are:

- Providing the best technical support to our members and the industry. One specific enhancement that you will see immediately is that the NWCB’s technical documents are much easier to access. You will no longer need to log in to view the documents. Just go to our web site, www.nwcb.org and they are available for your use.

- Expand our members’ market share through outreach programs. By informing architects, general contractors and building owners on how the NWCB members bring essential value to their projects, we will help to grow the market for our members.

- Continue to maximize the value we provide our members through technical support, education, industry promotion and business networking opportunities.

When developing your 2016 goals, I hope you will include participation in the NWCB. One of the key elements to the success of the NWCB is the participation of the members. It is this continued support from our members that will keep us at the leading edge of our industry. Please continue to attend chapter meetings, social events, seminars and the convention. In addition, consider getting involved with a committee or volunteer to assist at an event. The growth, health and continued success of the NWCB greatly depends on the efforts of our members.

Our industry, once again, showed its support in 2015 for disadvantaged youth through many donations to our annual Toys for Tots toy drive. We donated over 1,500 toys between the Seattle and Portland NWCB offices, which made a lot of kids very happy during the holidays. The wall and ceiling industry continues to be one of the largest U.S. Marine Corps Reserves Toys for Tots contributors in the northwest. Thank you for your continued support of this fantastic cause.

If you haven’t already, register as soon as possible for the 2016 Northwest Wall and Ceiling Industries Convention and Trade Show. This year’s convention will be at the Lowes Coronado Bay Resort in San Diego, California. Along with being in a fantastic location, the convention will provide Project of the Year Awards, a large trade show, informative speakers, many educational seminars, fun social events, golf and much more. In addition, there is always time to meet new people in the industry and catch up with your old friends.

Please be sure to share with me any industry news such as new hires, job changes, new products or any other information that is relevant to our industry. Or if you have ideas that are for the good of the industry or issues that are on your mind, please give me a call at 206.524.4243 or email me at mark@nwcb.org.

Now, I invite you to sit back and enjoy the Higher Standard magazine.
Weld-Crete®—The pale blue bonding agent with over half a century of superior performance in the field.

Simply brush, roll or spray Weld-Crete® onto concrete or any structurally sound surface. Then come back hours, days or a week later and finish with new concrete, stucco, tile, terrazzo, other cement mixes or portland cement plaster.

Plus, Weld-Crete®'s low VOC content significantly reduces airborne pollutants that affect health and the environment.

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Bonded Concrete Topping
Existing Concrete
Weld-Crete®
CASTING VERTICAL CONCRETE
Weld-Crete®
New Concrete
Existing Concrete

We Wake Up
the Roosters

Our #1 Priority - Delivering Excellent Customer Service
We get the right products into your hands quickly and safely!

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People & Companies

Parex USA, Inc. is pleased to announce new distribution in Alaska, Portland and Western Washington.

Alaska Wall Supply located in Anchorage is now a distributor of Parex USA, Inc.’s Parex EIFS, Stucco, Coatings, Variance and WeatherTech WRB products for the Alaska market. They will tint Parex and Variance finishes to your specifications, color match and have them delivered or ready for pick-up. For more information, contact Roy Hansen at 907.232.4710 or e-mail roy@akwall.com.

Green Depot is now distributing Variance Specialty Finishes and is located in the Seattle and Portland markets. They have a strong inventory of products that continues to grow. They can tint Variance finishes to your specifications and have them ready for pick up. For more information, e-mail them at variance@greendepot.com or call their locations to speak with their knowledgeable professionals. In Seattle call 206.315.1974; in Portland, call 503.222.3881.

Inline Distributing Company located in Kent is now a distributor of Parex USA, Inc.’s Parex EIFS, Stucco, Coatings and WeatherTech WRB products for the Western Washington market. Inline offers a full line of stucco accessories, delivery service and will tint Parex finishes to your specifications. For more information, contact Jack Madiros, outside sales, at 818.262.3336 or e-mail jackmadiros@inlineco.com; or Josh Broome, branch manager at 425.207.0822 or e-mail jbroome@inlineco.com.

Parex USA, Inc. has also announced Joe McClaran as the new regional manager for the Pacific Northwest, including Alaska, Northern Idaho, Montana, Oregon and Washington. Joe will manage the EIFS, stucco, air and weather barriers and Variance finishes business for the Pacific Northwest in addition to the Central Region. Joe can be contacted by phone at 210.867.6991, or by e-mail at joe.mcclaran@parexusa.com.

Larry Shipley, Regional Sales Manager for Dryvit Systems Inc. is pleased to announce two new hires.

John Higgins has joined the Dryvit Sales Department as a Regional Manager. John has extensive experience in the EIFS industry, including management and sales to architects, owners, general contractors and applicators, plus providing sales training. Based in in Huntington Beach, California, he will cover Hawaii, California, Utah and Nevada. You can reach John at 714.944.0625 or john.higgins@dryvit.com.

Josh Rupe has joined the Dryvit Sales Department as a Technical Sales Associate. Josh’s experience includes Journeyman Plasterer and Superintendent at Western Partitions. His experience there included installations of EIFS, stucco, air and moisture barriers and other wall claddings. Josh’s territory is Washington and Oregon. You can reach him at 253.678.8191 or josh.rupe@dryvit.com.

Dryvit has selected an additional distributor, Western Materials Inc., which is the source for Dryvit products in Eastern Washington and Oregon.

Ralph Schultz, CEO, and John Park, COO, are the new owners of Fred Shearer & Sons, Inc., Portland’s longest operating wall and ceiling contractor.

In 1912, Fred Shearer finished work on the 5th Avenue Suites as the Superintendent of Tresholm Plastering. In 1916, he took over ownership of the company and established Fred Shearer & Sons. Since then four generations of the Shearer family have owned and operated the company while creating a reputation of providing excellent craftsmanship and expertise in the industry. Jeff Shearer, who led the company since 1992, has retired. He was a longtime NWCB board member and active participant in the industry. To learn more, visit http://www.fredshearer.com.
Strong-Point® Self-Drilling Screws
Hex Washer Head, Pan Head, Oval Head, Flat Head, Wafer Head, Bugle Head, Pancake Head, Modified Truss, Flat Truss, Trim Head

Did You Know...
Flex-C Trac
is available in 2 1/2", 3 5/8", 4", 6", 8" and 10" and all in 20, 18 and 16 Gauge

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Invest in the Future

My favorite phrase for the last few months has been “invest in the future.”

I have the privilege of seeing the industry at just a bit of an arm’s length, and leaders from inside and outside of our group are a little more open with me than they might be with their competitors, clients, vendors, etc. Lately, I am hearing real-time stories I haven’t heard in a years. I am hearing about pending retirements. I hear about projects given back to the GC because the sub has too many better jobs to do. I hear about a draw down in bidding efforts. I hear about headhunting for talent. I hear about overtime and stress about getting someone with good enough talent to get the job done.

These are great problems to have but they still require solutions. I would never encourage anyone to take a bad job. I wouldn’t tell you to just go get jobs regardless of your ability to perform them. But I would tell you that this is not the time to slow down on marketing out of performance anxiety. Invest in the future—keep your marketing efforts up and train the right people to do the job.

Would you like a practical and specific suggestion? Hire and train apprentices NOW. In Oregon, our workforce is nearly booked out for 2016. Many of the journey persons we lost in the recession are coming back and the unions are all working hard to recruit journey-level talent, but the truth is that there are not enough talented hands or managers in the industry as a whole today.

This is not about getting just anyone to the job. This is about investing in the training of the future of your company. This is a necessity for everyone from journey person to owner to commit to training their future replacement. No-one likes the idea of being replaced, but we all have to take the long view. If we don’t commit to training our future replacements, there will be no-one to work the hours needed to pay the pensions, to bid the work or to buy the company. So, I am encouraging everyone to start now by hiring apprentices today, committing resources to training them properly and making efforts to keep them in the industry.

Why am I preaching to the choir? It is because we average 9-percent apprentice utilization in our group. Less than one in ten members of our crews are apprentices. With retirements and the increases in work, we need to, at least, double the number of apprentices we are training. We need to be at 25 percent in the field crews, at a minimum, for the duration of the next few years. And I would suggest that companies need to consider a similar program for their project management teams.

Keep in mind, the classroom or training center only does the book work and lab time. That is about 5 percent of an apprentice’s educational time. You need a plan, an effort and a commitment in the field and office to provide a proper education for a bigger number of apprentices. You need to commit today because it is time to invest in the future.
In Memoriam: Bill Shearer

It is with sadness we share that Bill Shearer, long-time leader for the plastering industry and the 3rd generation of owners at Fred Shearer and Sons, has passed. Father of Jeff Shearer, Bill was a central figure in the plastering community for many years. Our condolences go out to the entire Shearer family and extended family of Fred Shearer and Sons. The Oregon wall and ceiling promotion fund will be making a contribution in Bill’s name to the Shriner’s Children Hospital. Please see the following, which was published in the Oregonian:

Shearer, William R. 90 Nov. 22, 1925 Dec. 04, 2015 - Bill was born in Portland and attended Rose City Park grade school and Grant High School where he played first base on the city championship baseball team. After graduation in 1943, he enlisted in the U.S. Army Air Corps and served as an air cadet and drill instructor. Upon discharge, he attended the University of Oregon for two years before enrolling in the plasterers’ apprenticeship program. In 1952, he married Gerry Bostrom, a union that lasted 63 years. Bill was a plasterer by trade and worked as a tradesman for Fred Shearer & Sons where he rose to the position of president. During this time, Fred Shearer & Sons helped construct the Lloyd Center, Memorial Coliseum, Hilton Hotel, Standard Insurance Building, Providence Hospital and the remodel of Montgomery Park to name a few. He was a member of Friendship Lodge and Al Kader Shrine. Bill played Santa Claus for Shriners Children’s Hospital, family and friends for many years. He enjoyed cooking, building wooden model ships, Maui and family. He is survived by his wife, Gerry; daughter, Su Stoll (Michael); son, Jeff Shearer (Angie); four grandchildren; and four great-grand-children. He was interred Dec. 9, 2015, at a private family service in Riverview Cemetery. Remembrances may be made to Shriners Children’s Hospital…” (Published in The Oregonian from Dec. 9 to Dec. 13, 2015)

E-mail
Most NWCB communications are sent by e-mail. The best way to ensure that you are not missing any important communications from us is to add our ‘from address’ to your trusted/safe sender list or address book.
Design Your Marketing to Get Results

Sheryl Roush

Are you making serious mistakes in your marketing material: over-emphasizing yourself, your company, or your products, at the expense of losing current and potential clients?

More than ever, our “buyers” view marketing (printed, social or online) from a perspective of “What’s In It for Me?” (WIIFM). To answer that age-old question, we need to ensure our promotions keep a customer-centric viewpoint throughout the piece, post, blog or presentation.

Did You Know . . . ?

• In printed materials, within the first 1-7 seconds, readers are deciding whether to read, recycle, or delete it.
• On websites (and opening mailed envelopes), you have less than 2.5 seconds to prove “relevance” to the reader—then create a sense of urgency to respond.
• You do these responses too, opening your mail or browsing online.

Your clients have more media vying for their attention than ever before. For you to get their attention—you need to “interrupt” their plans for the moment, and make your material/message the most compelling thing at that time.

According to David Ogilvie, in his book, Conessions of An Advertising Man, there are three distinct “stages” of communicating with your readers: Relevance, Confirmation and Action. And these must be presented in this order for your printed, online, or verbal message to be successful.
1) Relevance

In this critical stage, your readers are browsing, looking for signs that the material is relevant to them, either right now, or possibly in the near future. They’re asking, “WIIFM?” “How will this benefit me—or someone I know?” If relevance is not established within those first 7 seconds, the piece is tossed, email deleted, web tab closed.

*TIP:* Use catchy headlines, photos (before-and-after) and captions to create interest. This is not the best place for your logo, yet.

2) Confirmation

Readers are now looking to “confirm” that yes—it’s “relevant” to them—and will browse further. You may have up to 90 seconds to help them confirm they made the right decision to continue reading, or again, your piece may be tossed.

*TIP:* Capture attention in this stage by using “valuable” short body text, teasers, bullet pointed text showing benefits of using your company/product/service, numbers, more details, etc. This is also an ideal stage to offer testimonials from thrilled clients (with photos if possible).

3) Action

In this final stage—after readers recognize the relevance—and have confirmed it for themselves, now they need clear instructions, on the next course of action… or a “Call to Action.”

*TIP:* Answer this question for them: “What should I do next?” Be specific. Who should they call? What should they do? How can they buy? Provide a link for more information, your logo, with phone number, webpage, etc.

These three stages must be in this order for your marketing to be effective. So what does that look like?

---

How to Get Started? Place for Impact!

Begin with the end in mind. What is the ideal result/response you want from your piece?

In your marketing piece, design bottom-up, or backward. Follow these simple design steps to get the impact you want from marketing. Think of a piece of paper (like for a flyer) folded in half, then half-over again, making four quadrants, to help you visualize these placement suggestions.

**Step 1:** Concentrate on the action you want readers to take. Research shows that your “call to action” should be positioned in the bottom right-hand section of the page. Your logo is best placed here, with any/all contact information.

**Step 2:** Now, decide how you will grab attention and establish relevance in the upper left-hand quadrant of that page, which is where we look first at any document. What needs to be there graphically to “interrupt” readers, and capture their interest? Not your logo, but a photo (before-and-after remodel) or visual would be ideal.

**Step 3:** Design the upper, right-hand corner of the page with short body copy, bullet points driving benefits. Give a strong, clear answer to the reader’s question “What’s in it for me?” across the very top—in a dynamic headline. The majority of your readers, according to the American Library Association, accounts for 70-80 percent of North American readers, who are skimmers and quick decision makers.

**Step 4:** This last part is the payoff for the avid readers (10-15 percent of the population). They read everything! Provide more in-depth copy for those who want to know more details and specifics in the lower left quadrant of the page.

---

—Sheryl Roush is the President/CEO of Sparkle Presentations, Inc., based in San Diego. This 35+ year veteran of marketing has presented over 3,500 programs in 13 countries of the topics of communication and public speaking. She is a 17-time published author, an 8-time business owner (since age 16), and is one of only 67 Accredited Speakers in 135 countries of 4.4 million members as honored by Toastmasters International.

Sheryl will be presenting a seminar on April 30 at the NWCB Conference on tailoring information into sales and marketing using public speaking and networking to connect with anyone more confidently. For more information, visit SherylRoush.com, SparklePresentations.com, SpeakAndMarketLikeAPro.com.
It is now easier than ever to access the NWCB technical documents online. You no longer need to log in to gain access. Simply point your browser to www.nwcb.org/technical-library, and you will be able to view all of our documents categorized in nine different sections:

1. Codes
2. Steel framing
3. Gypsum wallboard
4. Suspended ceilings
5. Fire blocking
6. Exterior systems
7. Interior plaster
8. Flashing and lathing
9. Design data

Our site is mobile friendly and accessing the technical documents is easy whether you are on a personal computer or a mobile device.

We are always evaluating our technical library and issuing new documents. If you have an idea for a technical document that would be useful for the industry, please contact us at info@nwcb.org.
RAINSCREEN
WATERWAY - Rainscreen & Ventilation Mats

10 THINGS TO KNOW

Stuc-O-Flex International, Inc
1-800-305-1045 | www.stucoflex.com

Google/YouTube
Rainscreen 10 Things to Know
The 2016 Northwest Wall and Ceiling Industries Annual Convention will be held April 28-30 at the Loews Coronado Bay Resort in San Diego, California.

The goal of this event is to help the attendees focus on elevating their businesses to a new level of efficiency and profitability. This year’s speaker lineup has been chosen to provide the delegates with battle-proven business tools and strategies as well as the latest trends and technical information in the wall and ceiling industry. All attendees will be able to take home tools and ideas and networking contacts that can be employed immediately to improve their business operations and bottom line.

A key element of the convention is a trade show displaying and demonstrating the latest tools, systems, equipment and services to the wall and ceiling industry. It is a one-stop source for information to those who want to stay abreast of the latest products to help enhance their businesses. To the exhibitors, it is precious chance for face-to-face time with existing and new customers in a relaxed environment. Best Booth 2016 Award will be given to the most creative and interesting booth.

In addition to the trade show, the convention offers educational sessions providing the latest must-know information and ample

Convenient online registration is available for both convention delegates and exhibit space. If you prefer to have brochure and forms, please download them at:

www.nwcb.org/2016-convention
opportunities to connect with industry peers and partners at meetings or, more informally, at fun social events. The 2016 Outstanding Project of the Year Awards will be announced at the opening ceremonies as we celebrate the contributions of our industry.

See the latest products, systems and tools.

Build your network of industry contracts in a fun and relaxed setting.

Enjoy golf and social events.

Experience a fantastic destination resort.

Learn from powerful seminars:

- Keynote: The Five Attributes of Highly Profitable Companies—Learn The Secret Formula For Long Term Success
- What Business Leaders Want Most—A high Performance Profit Producing Culture
- Liable or Not—Construction Defects Can Affect Everyone
- Achieving a High-Performance Air-Barrier System
- Labor-Management Collaborative Business Presentation & Discussion
- Seven Strategies for Effectively Connecting with Anyone—Communicate, Network and Present with Confidence
- Outpacing Technology, Trends and Rising Expectations in the Trade
- Fire-Test Results Every Drywall Contractor Needs to Have
This year’s keynote speaker is **Bob Prosen**, a visionary leader with a pragmatic grip on the reality of what it takes to deliver extraordinary bottom-line results. After 25 years as a successful corporate executive, Bob now shares the inside information that enabled him to lead top global companies to unprecedented profitability through **The Prosen Center for Business Advancement**. His speaking, workshop and problem-solving engagements take him around the world and into companies that are committed to achieving extraordinary operating results.

In addition, the educational lineup includes six industry-specific seminars on management and technical topics that you should not miss.
Reserve you room now at the Loews Coronado Bay Resort. Our room rate is $229, and it is valid three days before and after our event. The resort charge has been waived for our group. The cutoff date for group reservations is Friday, April 1, 2016, or earlier, if the block fills up. Rooms may not be available after that date, or they may be available at a higher rate.

**ROOM CUTOFF: APRIL 1, 2016**
(OR EARLIER IF ROOM BLOCK SELLS OUT)

Loews Coronado Bay Resort
4000 Coronado Bay Road
San Diego, CA 92118

**ONLINE RESERVATIONS:**
resweb.passkey.com/go/NorthwestWallCeiling

**PHONE RESERVATIONS:**
Call 800.235.6397 for your room reservation and mention you are with the Northwest Wall and Ceiling Bureau event.

**BEWARE OF CONVENTION HOUSING PIRACY**

Room pirating is a practice carried out by third-party companies that act as travel agencies, wholesalers, or destination management companies to solicit attendees—sometimes very aggressively—for room reservations for other organization’s meetings. They use various tactics such as offering a supposedly better rate, saying that the room block is full, and representing themselves as being affiliated with the convention organizer by illegally using the organization’s name, logo and materials. Please be vigilant if approached by any company or service other than NWCB.

Unfortunately, no conference is immune to type of fraud. Please note that the Northwest Wall and Ceiling Bureau is the only organization that will be contacting you regarding our convention and trade show. Do not be misled by companies that solicit you over the phone and misrepresent themselves as our official housing provider. If you are contacted by one of these pirate companies, please get as much information as possible on the party approaching you and pass it along to the NWCB immediately.
Designing and Building with Knowledge, Part II:
How Technology is Enhancing Traditional Process

Kale Wisnia, AIA, NCARB

(Editors Note: Part I of this article ran in the Summer/Fall 2015 issue of the Higher Standard. It can be downloaded at www.nwcb.org/newsletters.html)

Modeling Framing
There are many different options available to model wood and metal framing. While a web search can provide a multitude of BIM options and even include technology specific to framing, my experience has shown me three primary commercially available software options for automated or semi-automated framing modeling platforms that are compatible with industry trends and are specifically suitable for providing the framing within BIM Coordination environments I’ve discussed thus far. They are Structsoft Solutions, Coins, and Tekla. All three allow for automated framing, customization, exporting for coordination, 3D components with as little or more detail as desired and the ability to assign structural values and scheduling values in order to do calculations, take offs and material lists. They also provide, in different ways, the ability to generate shop drawings for prefabrication, color prioritization and are helpful for determining critical components, block outs for framed openings and punched studs.

Structsoft is a plug-in to Revit, and, with some preparation, it provides the added convenience of using a model already provided by an architect to convert the design intended walls to constructible framing. Coins is a plug-in to AutoCAD and provides the same kind of convenience within a CAD environment. Tekla is a standalone software, originally developed for structural steel, formwork and concrete, which now includes the options for highly detailed and engineered light-gauge metal framing. Tekla has the ability to import CAD and Revit files to trace over or convert to metal framing. Because Tekla is not an Autodesk-native software, it does not, to my knowledge, allow for a direct “Glue” link, but models can be converted and uploaded into Glue manually rather than automatically. Some of the major metal stud manufacturers have invested in resources to provide data-rich Revit Families to Structsoft. When modeling with Structsoft in Revit, a modeler may choose the specific manufacturer that then carries the manufacturing specifications and data schedulable within native Revit environment for output. Careful and upfront calibration of the software and families allows for very accurate take off and material ordering.

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All three companies have training courses, and ever since my introduction to this niche industry in 2008, I’ve seen all three advance almost to the point that anyone with some confidence on a computer could become a dangerous framing modeler with three to six months of focused training. Again, knowledge of constructability, materials, and experience in the field could make a dangerous modeler into an efficient and valuable asset of any wall and ceiling team. The agreements and liabilities associated with modeling for coordination must be considered, and when a wall and ceiling contractor enters into such an agreement, the expectations and purpose of level of detail should be stated clearly within the contract.

Part of that knowledge is knowing what to model and for what purpose and when to apply massing versus detail. The GC will often include a description of prerequisite Level of Detail (LOD), which will be required for coordination in an RFP. This should not be confused with Climate Model Development or Level of Development. These other terms refer to similar methods of describing drawing, modeling or costing accuracy. LOD for the purposes of this article is referring to the amount of information “and” percentage of completion provided in the model (See caption below for a link describing LOD in great depth).

The industry standard is LOD 000-500, in increments of 100, sometimes starting at “100” (“000”, “100”, “200”, “300”, “400”, “500”). The three-digit number could allow a user to utilize all 500 stages of drawing or modeling development to breakdown detail, specifications and cost provided in sequence. Each number 0-500 could represent the stages of the LOD of the project, project component or data inserted into a project component throughout the life of project development. For the moment, most BIM teams and standards are written to use just the five or six milestone levels of triple digit numbers, and often the midpoint, or increment of “50,” is used as well. “000” may represent written information and 2D information layout. “250” might be the same object at 50 percent completion and a 3D object about the correct anticipated size. “500” would then be a three dimensional, as-built object with manufacturer number and specifications and possible fabrication schedulable data. The development in between zero and five hundred depends largely on the scope of work, the necessity of coordination and the needs defined by the output requirement or end user. For example, the contract may state that the client wants an as-built model for facility maintenance or other use. With that in mind, as of late 2014, only 25 percent of owners are reported as having a set of guidelines at all, and again, of the General Contractors that have guidelines, less than 50 percent report them as advanced (by McGraw Hill). Of the 20 plus large projects (.5-2 million square foot) that I have had the fortune of being a part of and the many more that I have reviewed the RFP, the specifics regarding any one scope of work and its modeled LOD, let alone metal framing, were vague at best. An experienced framer in the field is going to understand quickly that critical studs (jams, kings and ends) should be modeled at a higher LOD than the spaced or field framing at 24 inches or 16 inches O.C. As a rule of thumb, unless a carpenter is doing prefabrication, framing LOD will not exceed 300-400 (3D actual object size location with some fabrication details), and most of the field framing, while looking convincing, need not exceed LOD 200 (3D place holder). Modeling clearance spaces and massing for fire resistance or “no-fly” zones at 100 (3D building mass and data) is

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also very common. All three LOD often exist in the model, sometimes at different stages, during the coordination process. Even if an as-built is requested, rarely will the construction documents exceed that LOD for the specific element unless prefabrication is the goal.

So when it comes to the contract exhibits or addenda, the level of detail must be made clear. For example, offset kickers are 200 place holders, king studs are 350 and no fly zone head-of-wall fire assembly with stuff-and-spray are massing 100. It is critical to stipulate what will be provided, and, if asked, the reasons why.

What I pointed out in my presentation at the NWCB April 2015 Convention in Palm Springs was if you create your own LOD standards, and for that matter, a set of framing for coordination guidelines, you will be ahead of the competition. If a majority of wall and ceiling contractors don’t even provide BIM as a standard, imagine the surprise of a GC when you show up to an RFQ/RFP interview with your own guidelines available to share upon award. Some guidelines, like LOD for framing or standard stud sizes are a giveaway. There is no proprietary necessity for not simply posting that information on a company website. My advice, which I shared with NWCB members in April was to let clients and the public know some standard SSMA clearance requirements and sizes. There are no secrets there, but it is valuable information that most people don’t know so make it, and other non-proprietary information like it, visible.

The other source to draw from when developing standards and maintaining an internal list of company guidelines for framing, coordination and issues in the field is the foreman. A few minutes during the morning stretch and flex or in the middle of a framing job walk with the foreman to discuss and list issues and resolutions regarding safety and installation constraints on the project will result in a long list of common challenges and how they could have been avoided. If that information is re-written as a set of guidelines for

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See http://practicalbim.blogspot.com/2013/03/what-is-this-thing-called-lod.html for a more in depth description of these terms.
coordination modeling and implemented at the beginning of a project, it has the potential to eliminate contention once construction commences. On a few critical projects I was able to work on, just such a list was created and issued as an exhibit of the contract proposal. It was then translated by the GC and integrated in the general conditions of the project guidelines. Doing this strengthened the bond between sub-contractor and GC as well as clarified reasons for priority walls (enclosure inspection driven) and interference walls (constructability driven) sequencing with other trades on the project. Once a client and partnering trades have invested this kind of trust in someone, the cost to reinvest often outweighs the seemingly reduced cost proposal of an outside bid for the same work. Many GCs often state that once a project goes to bid, if the current cost estimate provided stays within a given percentage of the lowest reasonable bid provided the contract will be awarded to the already present team member. Other trade partners on the project will often support this notion and rally around the team they have grown to support.

Depending on the project guidelines or guidelines set by a wall and ceiling contractor, different levels of information can be provided at different times for different reasons. At the early stages of a project design, an architect may have the rooms within an area of the building nearly completed with utility spaces and chases roughly placed. The mechanical engineer may have risers and main branches located in corridors or above perimeter rooms. Most often, a GC will avoid having a wall and ceiling contractor review the layout at this time, but experience has shown that, even at this early stage in review, the knowledge of an experienced contractor can help avoid costly construction or redesign later on. Mechanical chases adjacent to electrical closets can limit the path that a large duct or conduit rack can travel unobstructed by rated walls. With a simple massing or Revit model in its early stages, a modeler can generate different LOD framing to visualize and guide the path of a large duct away from critical support studs that, if obstructed, would require elaborate framing and, if rated, costly methods of horizontal and vertical fire-rated enclosures.

Generation of only king, jamb and end studs within a model . . . critical studs.

Generation of all framing including the critical studs. Color coding shown to visualize priority walls for enclosure.

Rated wall intersection at column with low height furring enclosure.

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The cost reducing options continue as the overall project LOD increases and the “I” of BIM is developed to a point where material intersections, program continuity, typical details and repetitive conditions are revealed. Proactively participating, concurrently with the design process, can result in value for the project team. By providing feedback to the architect regarding program layout efficiencies and consistency in details the cost contingencies set aside for in-field resolution can be mitigated if the details placed in the construction documents are the details conceived from and approved by experienced foreman. The close working relationship between the BIM engineer, foreman and field crew, along with coordination with other trades during pre-construction review, can provide opportunities to plan for complex conditions that would otherwise cause delays during construction. The goal is therefore to negotiate a fee that mitigates what might be typically recuperated via the RFI and CO process to build outside of what is reasonably provided for in the construction drawings. The critical negotiation is the estimated known cost to review BIM at approximately $0.25-$0.50 per square foot versus reserving an unknown premium cost for delays and correspondence time during construction.

Prefabrication, Kitting and Hybrid Framing

All too often, the drawings are released with notes indicating layout with typical dimensions; however, with close review, there usually are more exceptions than expected due to variations in placement of typical items relative to overlaying structure, department, finish materials and utilities above ceiling. Participating in the design as early as possible can assure the best value is built into the intended units of prefabrication. As previously indicated in the article in the Summer/Fall issue, the graph by Construction Users Roundtable (CURT) illustrates the ideal impact versus cost threshold—simply put, the further the design is developed, the more costly it is to change it. Additionally, the more exact duplicates without custom alterations can be identified, the more potential cost savings can be provided. And, finally, what is largely assumed by the industry as direct trade cost saving is, in most cases, more precisely overall project savings with no cost change to the trade or even a slight increase in direct trade cost.

The general contractor, owner and architect often suggest that, with prefabrication, the trade contractor will save on material, production and installation without considering the added cost factors of upfront

BIM of soffit and utilities in a complex overlay with coordinated framing for duct and piping penetrations and soffit kickers.

Flying a 14-floor section of exterior framing at one panel every 15 minutes.
coordination, offsite storage, assembly-line cost, delivery cost and pre-construction-related field-personnel overhead cost. While quantities of 50 or more may begin to mitigate these added factors not usually bearing on the project, the true cost savings is in overall project overhead spread out over all team members on the project. An example I was fortunate to witness showed that the upfront costs to prefabricate and install exterior framing as a substrate for a metal panel windscreen project added $1.5 million to a project cost shared by the GC and exterior trades involved. It, in turn, saved six months of project schedule, reducing the overhead and speeding up the project, saving the owner and GC $3.5-$4 million in overhead spread out across all trades and anticipated early occupancy savings.

BIM can go beyond unitized pieces and provide preplanned custom walls or pieces of walls, columns and soffits. Some companies are utilizing the coordination process to pre-coordinate and order pieces that make up the final wall. While this still requires the careful review by experienced field personnel and the negotiation of custom-cut studs with companies like SCAFCO, CEMCO or ClarkDietrich, it can provide an accuracy that allows for in-field labor and progress analysis. It is the foreman that ultimately can foresee the many options of outsourcing or in-house prefabrication of wall components. The variety of components that are available range from in-wall boxes and column enclosures by Panel Max to pre-engineered and fabricated, plastic-wrapped bathroom pods from Eggrock and above-ceiling utility racks that include the top portion of the rated corridor walls to be hung simultaneously. Many projects are already taking advantage of products like Pro-X and HDS to prefabricate standard extended headers at the ceiling line so that the above-ceiling can be framed early on and still allow large lengths of utility assemblies to navigate around an open floor plate unobstructed by the room and corridor walls that will be framed to ceiling once overhead has been completed. This may incur remobilization and added material and labor, but, if this known cost is negotiated with the GC in return for proving an increased installation time by avoiding overlapping trades on the floor and the subsequent constructability congestion, it adds value to the bottom line.

—Kale Wisnia, AIA, NCARB, is owner and principal of CRKW Studio Inc. Kale holds a BARCH from the California College of the Arts in San Francisco. He has 25 years of experience in the construction and design industry. His primary focus of building type for the past 10 years has been California OSHPD hospitals and one hospital in Ohio. He was accepted as a volunteer committee member on the HSBS, Detail Committee for the creation of OSHPD OPD from 2009 to 2013. www.crkw.com
Some students studied possibly for weeks and others maybe the night before. Regardless, when you got the results back, all you cared about was the grade at the top of the paper. The grade on that test was proof that you knew the material. This proof of knowledge is even more important for us as professionals in the wall and ceiling industry.

Just when we thought that testing was behind us—especially in the construction field—we keep hearing the famous words, “Show me a fire test.” In our world, those five words can stop anyone in their tracks. Think back over the last few years. How many times have you heard it? Gap in your gypsum panels? Replace the board or “Show me a fire test.” Trade damage on your walls? Replace the board or “Show me a fire test.”

The good news is, we have taken the test for you.
The Wall & Ceiling Conference (WCC) secured funding to run a one-hour fire test with several “typical” field conditions implemented into an approved one-hour fire rated wall assembly.

The test was completed March 11, 2015, in Elmendorf, Texas, at Intertek Laboratories. WCC’s intent was to determine how the rating of an approved one-hour fire-rated wall assembly might be impacted by the following “typical” field conditions.

- Nominal 1/8-inch vertical gypsum board gap
- Missed fastener
- Trade damage (size 1-1/2”x1/2” chip)

Testing was conducted in accordance to ASTM E119-14, Standard Methods for Fire Tests of Building Construction and Materials. Framing consisted of 3-5/8 inch deep, 25EQ (25 GA equivalent) steel studs spaced 24-inch o.c. between 25EQ top and bottom track. One layer of 4 feet by 10 feet by 5/8 inch, ASTM C1396 (type X equivalent) gypsum board was used. It was secured using 1-1/4-inch self-drilling drywall screws spaced 8-inch o.c. around the perimeter and 12-inch o.c. in the field. Exposed seams were covered with joint tape and the fasteners received two layers of joint compound. The field conditions were applied to both sides of the wall assembly to accommodate a symmetrical test condition.

The field conditions received thermocouples in accordance to ASTM E119-14 and were monitored for temperature rise every 30 seconds for the entirety of the 60-minute test. The ambient temperature at the commencement of the test was 56°F/57°F, with ASTM E119-14 allowing the maximum temperature rise of any single thermocouple to not exceed 325°F above starting ambient temperature. This gave us a pass/fail temperature of 381°F/382°F at each location.

Isn’t it so much better when someone takes the test for you? Class dismissed.

—Mike Nonn is Technical Advisor for the Wall and Ceiling Bureau in Pleasanton, California.

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<td>381</td>
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<tr>
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<td>305</td>
<td>381</td>
</tr>
</tbody>
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There was no evidence of reduced fire resistance due to any of the simulated “typical” field conditions in the assembly as tested.

Learn more about this topic at the seminar titled “Fire-Test Results Every Drywall Contractor Needs to Have” on Saturday, April 30, at this year’s convention in San Diego.
Complying with and understanding all of the code requirements for the installation of suspended acoustical ceilings in Seismic Zones 3 & 4 can be challenging. Even more challenging can be explaining the correctness of your installations to an architect or code official.

To understand the requirements, we would begin by looking to the Code. The IBC does not address the specific installation methods for suspended acoustical ceilings but rather references ASCE 7. ASCE 7, in turn, provides the standards to be followed and, if not specifically addressed within ASCE 7, it then refers you to CISCA Zones 3 & 4, ASTM C-635 and C-636 and ASTM E580. ASTM C-635 addresses the manufacture, performance and testing for suspended acoustical ceilings, and ASTM C-636 addresses the actual installation, but it does not address installations specific to seismic areas. ASTM E-580 does exactly that. If you are looking for one document that addresses most of the questions you typically receive from the architect or code official, ASTM E-580 is it.

There has been and still continues to be some confusion regarding the 144-square-foot rule, and the 1000-square-foot rule, in whether a ceiling system is required to have seismic bracing. In that respect, the information in ASTM E-580 is perfectly clear.

ASTM E-580 Section 1.4, states, “Ceilings less than or equal to 144 square feet and surrounded by walls connected to the structure above are exempt from the requirements of this practice.” What this means is that the installation of ceilings of 144 square feet or less must comply only with the installation standards in ASTM C-636 and do not have to comply with any seismic restrictions.

ASTM E-580 Section 1.6, “Ceiling areas of 1,000 square feet or less shall be exempt from the lateral force bracing requirements of 5.2.8.” What this means is that for ceilings 1,000 square feet or less you are not required to install the lateral bracing wires or seismic posts, but you must still use 2-inch wall molding. Only the “lateral-force bracing requirements,” outlined in Section 5.2.8 Lateral Force Bracing, are exempt.

ASTM E-580 is also very clear about the seismic requirements for suspended drywall ceilings. “Ceilings constructed of gypsum board which is screw- or nail-attached to suspended members that support a ceiling on one level extending from wall to wall shall be exempt from the lateral force bracing requirements of 5.2.8.” Again, ASTM E-580 is very clear and leaves no room for misinterpretation or misunderstanding.
If there is one minor caveat, it is with the wall angle. ASTM E-580 does not address the manufacturer’s seismic clips that allow the use of less than 2-inch wall molding, but then again, it shouldn’t. If you choose to use wall molding less than 2 inches, you must provide the specific Manufacturer’s ICC report.

How many times have you been asked whether or not your fasteners attaching the wall molding are adequate? ASTM-580 makes that perfectly clear also. “Unless perimeter members (read “wall moldings”) are a structural part of the approved system and meet the structural load carrying requirements, wall angles or channels shall be considered as aesthetic closers and shall have no structural value assessed to them or their method of attachment to the walls.” Could not be clearer, could it?

So far, many of those questions you are repeatedly asked, have been answered in ASTM E-580. One of the other questions that comes up often is the seismic separation joint. When do you have to have them, and can a soffit act as a ceiling break, or does it have to be a full-height wall? ASCE 7 addresses this but only mentions full-height partitions or others methods if “structural analysis” has been performed. ASTM E-580 Section 5.2.9, states that “All continuous ceiling areas exceeding 2,500 square feet shall have a seismic separation joint, bulkhead braced to the structure or full-height partitions that break the ceiling into areas of no more than 2,500 square feet………..”

The last item I want to cover is the floating cloud ceiling. The bracing or seismic requirements for these systems seem to come up as often as the systems are installed. Do they need to have seismic or lateral bracing?

ASTM E-580, Section 1.8 states: “Free-floating ceilings (those not attached directly to any structural walls) supported by chains or cables for the structure are not required to satisfy the seismic-force requirements provided they meet the following requirements:

1.8.1 The design load for such items shall equal 1.4 times the vertical operating weight.

1.8.2 Seismic interaction effects shall be considered in accordance with 5.7.

1.8.3 The connection to the structure shall allow a 360-degree range of motion in the horizontal plane.”

5.7.1 States: “The functional and physical interrelationship of architectural components (ceilings), their supports, and their effect on each other shall be considered so that the failure of an essential or non-essential ceiling, mechanical or electrical component shall not cause the failure of an essential ceiling, mechanical or electrical component. This shall be the responsibility of the design professional.”

What this all means is that the design professional must determine whether the cloud and its relationship to other components may result in damage to essential elements during a seismic event. For example, if there is a 10-foot square cloud in the middle of a large room, and it is suspended 2 feet down from the structure, and there are no other elements within, it should not require any seismic bracing. During an event, this cloud could swing, but its range of motion would be limited by the length of the support cable or chains. USG/Donn has a very good detail showing this type of condition and explains it in this way: “When a specialty ceiling is free-floating, then the length of the shortest support shall not be greater than the lateral clearance around the ceiling, such that the system will not come into contact with another building element through the pendulum action of the system in a seismic event.” (See USG Seismic Technical Guide, Specialty and Decorative Ceilings)

Even though it is the architect’s responsibility to evaluate the system and determine if and what type of bracing may be required, the specifications or instructions to bidder may attempt to shift this responsibility by including the phrase, “Contractor to provide all necessary engineering for the installations of their systems.”

If the architect asks for your opinion on how to brace a free-floating cloud, Armstrong Ceiling Systems provides a tested bracing method for clouds in their literature, “FORMATIONS Acoustical Accent Clouds” with Axiom trim. Basically, the bracing consists of a rigid member (1/2” EMT conduit) with two additional members attached to the base of the EMT and extending to the underside of the structure at 45-degree angles near the corners and parallel to the sides of the cloud. Armstrong also recommends that “Restraint/bracing systems should be approved by the project design team and reviewed with the local building department.”

ASTM E580 does a great job of assembling, in a single document, the information you need to install suspended ceilings in seismic areas and complementing all of the various reference documents used to establish the code. —Terry Kastner is technical consultant for Northwest Wall and Ceiling Bureau.
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**CALENDAR**

**NWCB NORTHWEST CHAPTER**

Thursday, June 16
Annual Golf Tournament
Redmond Ridge

For more information on the events of the NWCB Northwest Chapter, please visit www.nwcb.org or call 206.524.4243.

**NWCB OREGON CHAPTER**

Thursday, May 26
Golf Tournament
Langdon Farms
Aurora, Oregon

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**JOB OPENINGS**

**Estimator/Project Manager**

Joseph J. Jefferson & Son, Inc. a specialty plastering company that has been in business since 1924, is currently looking to expand its estimating department. We are seeking a full time Estimator/Project Manager to be a team member of this well established company. We are looking for someone with experience in the Stucco, EIFS and interior plastering industry and who has 2-5 years estimating and project management experience. You must be able to handle deadlines, many projects and many changes. Interpret blueprints quickly and accurately. Have good computer skills in MS Office and BXWA. Qualified applicants may apply by sending resume and salary requirements to info@jjjefferson.com or by mail to 1326 N. Northlake Way, Seattle, WA 98103.

**Architectural Consultant**

Northwest Wall and Ceiling Bureau (NWCB) is seeking to hire an Architectural Consultant. The NWCB is a nonprofit trade association for the wall and ceiling industry, serving a wide-ranging membership of contractors, manufacturers, dealers, labor organizations and other professionals in the industry. NWCB also provides assistance to design and construction community on the proper use of the products and systems offered by our industry, including stucco, EIFS, gypsum wallboard, interior plaster, suspended ceilings, steel framing and spray-on fireproofing.

**Job Description:**

• Provide contractor members technical support
• Give informational presentations to architects, general contractors, wall and ceiling contractors, owners, and building officials
• Promote the use of quality products and systems
• Assist architects and designers with specifications and detailing
• Assist local code officials with issues affecting the wall and ceiling industry
• Answer technical questions related to the wall and ceiling industry
• Make field and site inspections as required for members
• Update existing and create technical documents
• Write articles for industry publications in order to increase the quality of construction and assist the industry
• Be a professional representative of the wall and ceiling industry

**Compensation:**

Salary, 401k, vacation and health insurance.

**Qualifications:**

A strong knowledge of commercial building construction, specifically the wall and ceiling industry. Solid writing, public speaking and communication skills are important. Experience working with contractors, architects, manufacturers, distributors and inspectors is a plus.

**Location:**

NWCB Seattle Office. Some travel is required. NWCB is an equal opportunity employer and all qualified candidates are encouraged to apply. Please send a cover letter and resume to mark@nwcb.org. All applications and communication will be confidential. For more information about NWCB please visit us at: www.nwcb.org
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