On the Job Site — Auburn University Stadium

On the Job Site
pages 12 & 13

In Memoriam – Gary Lawson
page 15

More About BIM
pages 16-17

Change Orders For Steel Detailing
pages 20-22
You Are Invited... TO THE 48TH ANNUAL NISD CONFERENCE IN Orlando, Florida APRIL 15-16, 2016

INSIDE THIS ISSUE

From the Editor .................................................. 3
From the President ................................................. 4
Training, Safety, Leadership – Training Spotlight ................. 4
SDS/2 User’s Group Conference 2015 ............................... 5 & 19
IDC - New Online Testing ........................................ 6 & 11
What Does Membership Mean To You? ............................ 7
Individual Detailer Certification Application ......................... 8
New Members ........................................................ 9
QPP New & Renewals ............................................... 9
NISD Publications Order Form .................................... 10
IDC Program Graduates .......................................... 11
On the Job Site: Auburn University Stadium ......................... 12-13
NISD Membership Application ................................... 14
In Memoriam – Gary Lawson ...................................... 15
Publications from NISD ............................................. 15
Jack Metcalfe Retires From Business ............................... 16
More About BIM ..................................................... 16-17
Re-organization of Board of Directors .............................. 17
Calendar .................................................................. 18
Change Orders For Steel Detailing .................................. 20-22

Special Announcements
48th Annual NISD Conference ...................................... Inside Front Cover
NISD’s Website & Discussion Board ............................... Inside Back Cover

The “Connection” is the official publication of the National Institute of Steel Detailing, Inc., 2600 Kitty Hawk Rd., Suite 117, Livermore, CA 94551. Editor, John Linn

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In the previous issue of the Connection we had an article about Jack Metcalfe’s annual trip to Haiti and all the good works he does for those in need over there. Well it just happens that this issue again has an article about Jack but this one is not about his missionary work, it’s about his retirement from the detailing business that he has been working at for the past 46 years.

I know it seems like Jack is getting too much press but he has been in NISD longer than anyone else in history so he really does deserve it and I am proud to talk about it.

Our president, Joel Hicks submitted a great job site article for this issue that is very interesting and I know you detailers out there will enjoy it very much.

Once again I have to say something to you about how ridiculous it is that I have to plead with you guys and gals in NISD to submit one of your projects to have featured in an upcoming issue. O.K. you win, I will plead, I will grovel, I will beg. Please! Pretty please! Send me a steel project that you are proud to show all the detailing world. Readers will know that you and your people have done a great job, and they can read all about it.

Once again our marketing chair Kerri Olsen has submitted several articles promoting NISD detailers and NISD programs. Thank you Kerri!
Season’s Greetings!

It is hard to believe the year is almost over, and what a whirlwind year it has been for the NISD. We have made some tough decisions, made some drastic changes to our organizational structure, revamped old programs, invented new ones and generally attempted to stir things up and move in new and exciting directions.

Earlier this year you voted to amend our Constitution and By Laws to facilitate our new directorship base from local chapters to members-at-large. In this issue of the Connection you will read about our new directorship structure. I urge all of our members to think about who you want to represent you on the Board of Directors. If you want to be involved in leading the NISD and speaking for detailers, get involved. Volunteer. We need your service.

I am also happy to report that we have completed the revamp of our IDC Testing program. The structural and miscellaneous tests are completed and in place. The new computerized system of testing has already been successfully used. The new re-certification test is in place. Thanks go to the hard work and dedication of Fred and Mike Tinker and all the board members and other members who contributed.

During the time since the annual meeting the NISD QP Program has been re-written and is in draft form. The change that was discussed allowing for review of the submitted documents is in place along with a working committee. The new committee now is comprised of 3 people from the industry and two members of NISD. Britt Fletcher of Steel Construction Industries is VP of Operations for Steel Construction Services, a certified fabricator. Carl Williams, PE; is chief engineer for Bosworth Steel, a certified erector. Chris Moor is Vice President, North American Operations at Steel Projects Corp; A FICEP Group company and formerly AISC. Rounding out the group are myself and QPP Committee Chairman, David Merrifield. Two new companies have already been certified using the new procedure and we are planning a webinar this next year to discuss this process and educate the detailing, engineering and steel construction industries to the need and requirements for quality in detailing.

Another exciting development that we want to share with you affects not just detailers, but the entire construction world. BIMxP, working in conjunction with the NISD, has introduced a new and exciting concept that started on a napkin at last year’s annual meeting. This program designed to teach the basics of BIM protocol and understand the concepts laid out in BIMxP has met with nothing but excitement and calls for us to team with the software groups, design, and construction companies in promoting the certification. Please check out Kerri Olsen’s article about this new certification that has been getting positive reviews. We are looking forward to consolidating these gains next year in new membership and new levels of recognition for detailers.

I want to thank all of the board members and others who have worked so hard on all these changes and invite you to join them.

Best wishes for a Happy New Year!

Training, Safety, Leadership – Training Spotlight
AISC and IMPACT Introduce Steel Detailer Training Series

Originally developed by AISC and the National Institute of Steel Detailing, the AISC Detailer Training Series is being made available as a free web-based service thanks to funding from IMPACT.

The DTS program provides an introduction and overview of the roles and responsibilities of the steel detailer. This program consists of 10 Modules – most with multiple parts. Each of these parts consists of a series of videos, followed by a quiz pertaining to the concepts covered in that section. Click on a module listing on the DTS page to begin. At the end of the (entire) course is a final exam. A certificate of completion is earned upon passing this exam. Each exam can be repeated until a passing score is achieved.
SDS/2 User’s Group Conference 2015

by Kerri Olsen

September 16 thru the 18th, 2015 were the event dates for the annual SDS/2 UGC held in beautiful downtown Lincoln, Nebraska. Fred Tinker and Kerri Olsen were in attendance to promote awareness for the NISD membership and steel detailer certification.

Visits to the booth were lively as the curious sought membership information, detailing instruction and certification information. Stopping by just to say hello were many current NISD members. We saw many people who were here last year and it was fun to catch up with these repeat visitors.

Our table was filled with literature to hand out and we went through much of it. We did have the benefit of a monitor connected to a laptop to show off the NISD website, which was often used to view the membership map.

Design Data provided daily refreshments and lunches. Thursday night there was a dinner and show for all attendees. This year’s after dinner show was spectacular – we had ‘Late Night with Design Data’, held at the Rococo Theatre. This was a live talk show hosted by Doug Evans, complete with a band, a karaoke battle, egg Russian roulette, kid interviews, a lip sync battle and the ‘Top Ten Reasons’ why the latest release is not ready. Funny stuff and masterfully crafted, it was very entertaining!

The biggest bonus about these meetings is the time between classes and presentations. The opportunity to meet new people of like minds is paramount, and I cannot stress enough the importance of networking. Attending group conferences provides an opportunity with meeting steel detailing trade-oriented people which we would otherwise not have come across. We spent our time discussing problems and exploring possible solutions from a perspective other than our own. This ability to make connections with others, which would otherwise not happen, is priceless, and should be a focus of activity for us when not in meetings.

Interestingly enough, one thing I came away with was the realization that steel detailing is now being welcomed into the envelope of the engineers. I spoke to several detailing firms who now source most of their work with engineers. The steel detailer picks up the completion of the model, and then continues on to provide a completed set of shop detail drawings and erection placement plans. Engineers favor the process as the work they do is minimized and approval process interruptions are eliminated. The reduction in construction schedule realized by the owner is a big selling point as well.

Continued on page 19
IDC – New Online Testing

The new online Individual Detailer Certification testing options hosted by the American Design Drafting Association (ADDR) were announced in the last edition of the Connection, and we are happy to report positive feedback for the new tests. Fred Tinker has sent us a few screen shots of the Individual Detailer Certification Test for us to review and include in this issue of the Connection.

The screen shot above is of the test entry window. To begin, users simply click on the ‘Begin’ button to the left of the test they want to take.

The next two screen shots show some test questions. The left is a multiple choice question and the right is a true/false question.
What Does Membership Mean To You?

by Kerri Olsen

Traveling to far off places for conferences like I have been doing for the last several years has opened my eyes to many things. One thing I have learned for certain is, while geographically different, people are all the same the world around. We all share the same hopes and dreams, fears and problems we think to be unique to our situation. The only variable appears to be our own perspective on things and how we decide to manage our condition as we navigate our way through life.

I am now thinking in this way after having been exposed to so many conversations and opinions at the SDS/2 User’s Group meeting in Nebraska. During a conversation at the booth a man had made the statement that we were promoting the NISD ‘because we were being paid to’. This comment was met with a detailed explanation from both me and my partner of what the NISD is all about. It did however expose a mindset that I have seen among certain NISD members and it begs for discussion and correction here.

The NISD is an all-volunteer organization. With the exception of one paid person who manages the office in Livermore, California, everything else is accomplished by volunteered time. We, as members, support the office expenses, the one person staff, the publications and promotions as well as the testing and certifications. Most of our income is from member dues and for that we are very grateful.

Since the organization was born in 1969 it has been a self-supporting and self-promoting entity. When you think of the accomplishments made by both member and non-member volunteers, together with the obstacles we have overcome for all involved, it is nothing short of amazing. And we are still going strong!

The NISD is the only organization dedicated exclusively to steel detailing as an individual profession. As such, everything about the NISD is there because WE as a group have made it what it is today. I can tell you that those who think the NISD is diminishing or dying are simply verbalizing what the NISD is to them, and that their idea of the current condition of the NISD in no way reflects anything that is true for the rest of us who understand differently.

Our situations are what we make of them. This is true for our memberships as well. If what you have and what you believe regarding the NISD is not alive and well and thriving, then I can tell you it is because what you see is only your own perspective.

What is actually happening in our world today is that the NISD is being sought out as a resource for quality steel detailers. Engineers and steel fabricators are looking for trustworthy candidates. They visit the NISD website and make contacts. I personally have been contacted by email and phone from fabricator and engineer friends alike who are requesting references, and I give recommendations for certified steel detailers according to the region they are in.

Our problem with this now is that we have a shortage of two things – active certified members, and an offload networking system, which helps support one another when the need is there. We are painfully short of both and, consequently, we are sending our potential customers elsewhere for lack of service availability.

For those of you who attend the annual meetings, we look forward to seeing you again! Please encourage others you know to do the same. Members or not, we need to create and support some alliances to help us grow and change with the industry.

Advancements in steel detailing technology are promoting changes to the way we do our drawings. We need to help each other to adapt and move forward. The future of steel detailing is a bright one! We need to be front and center during all of this change to help it continue to progress in a favorable direction. Your membership matters, as does your continued support and promotion of NISD.
Classification:
- Senior Detailer – Class I: Minimum 10 years experience including checking
- Detailer – Class II: Minimum 5 years experience

Category:
- Structural/Miscellaneous
- Bridge

Submit:
- Experience history, and
- Either a letter of recommendation from a steel fabricator, a Certified Class I detailer, or a NISD National Director.

When your application is processed, you will receive a sample test and a list of publications to study for the test.

IDC Test Fee Schedule
At time of application + 10 days prior to test + proctor fee (if applicable)
- NISD N. American Members - $100.00 + $200.00
- Non-Members in N. America - $200.00 + $300.00
- Overseas Members - $150.00 + $200.00
- Non-Members Overseas - $250.00 + $300.00

Personal Information:
First Name: ____________________________ Last Name: ____________________________
NISD Member: yes ☐ no ☐ Last 4 digits of SS# or SIN#: ____________________________
Home Address: ________________________________________________________________
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Indicate which address [no P.O. Box] is best to receive IDC materials: ☐ Home ☐ Employer

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Raju Jagtap

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### Regular, Associate & Overseas new members receive 1 copy free of the following manuals & CD

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### Detailing Guide for Erector’s Safety & Efficiency [Second Edition] Contact SEAA at 336-294-8880 or [www.seaa.net](http://www.seaa.net)


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Name on card:________________________ Signature:________________________ Daytime phone:__________

For Information: Tel: (925) 294-9626 Fax: (925) 294-9621 E-mail: nisd@sbcglobal.net
IDC – New Online Testing (Continued from page 6)

The on-screen timer, calculator, and page numbering helps the test taker in his/her process. The user may navigate between pages easily. When necessary, a question may be skipped for later return. The question isn’t closed until the ‘Save Answer’ button is clicked.

In the past, the IDC test was a printed test sent by mail to the test candidate’s selected proctor. The test taker marked his/her answers using a #2 pencil and when completed, the test was then mailed back to the NISD office for review. The process was time consuming, cumbersome, and costly to maintain. There were five variations to the test, and not much has changed with the test since startup.

With the new system, the test is different for each test candidate. The results are sent to the NISD office and the test candidate is notified by email in a very short period of time. The testing software is compatible with any browser, and the testing process is simpler, easily modified, and less expensive to maintain than the hard copy style.

Already the testing candidates are lining up!

Congratulations!
This regular feature recognizes detailers who have recently taken and passed the IDC test. The listing is by discipline and class.

Structural/Miscellaneous Senior Detailer – Class I

Todd Brush  
Axis Steel Detailing, Inc  
Orem, UT

Patrick Graves  
Axis Steel Detailing, Inc.  
Orem, UT

Rishi Pal Singh  
Real Technology LLC  
Houston, TX

Detailer – Class II

David Plagge  
Axis Steel Detailing, Inc.  
Orem, UT

Alan Precece  
Axis Steel Detailing, Inc.  
Houston, TX

Michael Schoen  
Axis Steel Detailing, Inc.  
Orem, UT

Individual Detailer Certification Program

Industry professionals are in search of talented detailers who have the knowledge and capability to produce quality shop drawings within the framework of various codes, specifications and contract documents.

NISD created the Individual Detailer Certification Program in response to the steel industry’s need to measure the skill level of individuals performing steel detailing services.

This is not a test of memory but a test of ability. The exam’s emphasis is based on a candidate’s knowledge of the various techniques, codes, and specifications involved in detailing.
The massive new scoreboard (it’s actually a video board), at Auburn University’s Jordan-Hare Stadium, is the largest in all of football. It measures 57 feet high by 190 feet wide (a football field is only 300 feet long) and is supported by some 700 tons of structural steel.

Of that 700 tons, a whopping 284 tons or 41% is in the connection material which is made up mostly of gusset plates for the many diagonal braces. This figure points out how the structure was designed to a low deflection criteria as it needed to be as vibration-free as possible for the giant video system on board.

The steel detailer for the project was Techflow, Inc. NISD President Joel Hicks was heavily involved in management of this project. Joel explained that the video board had to be completed and operational by the start of football season and it gave them only eight months to get it all completed, start to finish. Techflow was contracted by the structural engineer LBVD, Inc., who had been retained by Auburn University, and the general contractor, Brasfield & Gorrie to design the video structure.

In order to meet the tight schedule, they determined that the most efficient system would be to use the detailer as a consultant to work with LBVD to help refine the design of connections. They could also get a jump start on the detail drawings, which greatly sped up the schedule. In the end the erection drawings became the design documents of record. The engineer and detailer working together side by side proved to be a great time saver on the schedule.

Techflow began working from LBVD’s design model and some conceptual drawings. There were many challenges and changes along the way. The original concept of seven main levels and some added structure at the top for speakers, evolved into eight main levels with speaker box levels, and camera platforms above, and even a flag pole added at the top.

The general contractor and design/detailing team worked up a bid package for a potential steel fabricator. Together with erector LPR Construction, they worked out the sequencing and developed a plan for erection. Techflow made up as many shop frames as possible to speed erection time, which had to be done working two shifts a day to complete the job on time.

With co-operation between all of the design and construction teams the 13.9 million dollar video board was up and running in time for the Auburn Tigers’ first game of the season.

Congratulations on a great team effort by all.

... the video board had to be completed and operational by the start of football season and it gave them only eight months to get it all completed, start to finish.

Project Statistics (Structural & Miscellaneous):
- Tonnage: 700 tons
- 57 ft high x 190 ft wide
- Completion Time: 8 months
National Institute of Steel Detailing
Membership Application
The annual membership cycle runs from June 1st through May 31st

☐ Regular Membership is open to any company that conducts its office in the Americas for, and is regularly engaged in, the business of steel detailing. Such office shall have been conducted for a minimum period of one year. A member in this category may be chapter affiliated or a member-at-large, and has all privileges and benefits of membership including voting and holding office.

**Fee Schedule:**
- $290 for companies with a gross annual income of less than $250,000 [June-September]
- Prorated dues when joining October-February $200
- March to May 31 of the following year (15 months) $290
- $450 for companies with a gross annual income greater than $250,000 [June-September]
- Prorated dues when joining October-February $305
- March to May 31 of the following year (15 months) $450

☐ Associate Membership is open to any company, national or regional trade or professional association interested in enhancing the detailing profession or the activities of the NISD, whose primary business is not in structural steel detailing. This category includes all privileges and benefits of membership except those of voting and holding office.

**Fee Schedule:**
- Annual membership fee is $360 [June-September]
- Prorated dues when joining October-February $245
- March to May 31 of the following year (15 months) $360

☐ Individual Associate Membership is open to a person employed as a steel detailer or other person interested in the future of the steel detailing industry but who does not fall in the category of Regular or Associate membership. This category has limited privileges and benefits of membership, which precludes them from voting and holding office.

**Fee Schedule:**
- Annual membership fee is $65
- Annual dues of $65 are renewable on June 1st

☐ Overseas Membership is open to any company that conducts a regular office for, and is regularly engaged in, the business of steel detailing outside the Americas. Such office shall have been conducted for a minimum period of one year. Members in this category may vote (no proxy votes), but they may not hold national office.

**Fee Schedule:**
- Annual membership fee is $450 [June-September]
- Prorated dues when joining October-February $305
- March to May 31 of the following year (15 months) $450

☐ Member Emeritus Membership is open to any individual who was a former regular member of the NISD and has retired from the competitive field, but wishes to remain active in the NISD. Members in this category may not hold office.

**Fee Schedule:**
- Annual membership fee is $100
- Annual dues of $100 are renewable on June 1st

The undersigned hereby applies for membership in the National Institute of Steel Detailing, Inc.

Name __________________________________________ Title __________________________

Company Name __________________________________________________________________________

Address ________________________________________________________________________________

City ________________________________ State/Province ______________________ Zip/Postal Code____________

Country _______________________________________

Telephone ________________________ _______________  Fax _______________________________________

E-mail __________________________________________  Web site ________________________________

**Payment in US Dollars**

Membership Fee: US$__________

Postage/handling, add: $40 for Canada $__________

Central & South America $__________

$45 for International $__________

TOTAL ENCLOSED US$__________

**Method of Payment**

☐ Check, payable to: NISD, Inc.

2600 Kitty Hawk Rd., Suite 117

Livermore, CA 94551-9699

☐ MasterCard  ☐ Visa

Number:________________________ Expiration Date:____________

Signature:________________________

To receive a free subscription to Modern Steel Construction magazine (U.S. only) go to: www.modernsteel.com/subscriptions
In Memoriam – Gary Lawson

The steel detailing industry lost one of their own last spring. Gary Lawson, lost his long and valiant battle with cancer on April 15, 2015.

He started his detailing career in 1975, with PM Drafting in Salt Lake City, Utah. After a couple of years there, he left to serve his country in the Army for 4 years, and was honorably discharged.

Gary moved to California in 1981, and returned to the steel detailing industry, working for John Linn Associates, Inc., where he quickly moved up the ranks from detailing to checking, and then to managing projects, all the while entertaining his fellow employees with his very quick wit and good humor.

After 28 years, he wanted a new challenge, and along with 2 friends, started a business: Fine Line Steel Detailing.

Their company joined NISD and the Pacific Chapter. Gary attended all of the chapter meetings and was a strong supporter of NISD. Gary was well known, and well liked by just about everyone in the field, all around the Bay Area and beyond.

He will be greatly missed by all who were lucky enough to call him their friend.

Publications from NISD...
These reference guides are now available. Order them online at www.nisd.org
Jack Metcalfe Retires From Business

by John Linn

I’ll bet there are not many steel detailers out there who can say they recall the time back in 1969 when our founding fathers held the inaugural meeting that marks the beginning of the National Institute of Steel Detailing. However, I do know one person who was there at that founders’ meeting in Detroit and he is obviously the last of the founders who is still active in NISD today.

Jack Metcalfe was just a very young man at the time of the inaugural meeting and most likely was the youngest in attendance. His father, John, was the representative from Pennsylvania and he had brought his son, Jack, along with him. Consequently it has been our good fortune that he got young Jack involved because for the past 46 years Jack Metcalfe has been an influential voice in determining policy and giving guidance to our board of directors. Ever since I joined the board in mid-1980, Jack has been directly involved in any and all issues that have come before the board.

Jack has served as the Pittsburgh Chapter Director for a lot longer than I have even known him. In addition, he has also served two terms as NISD president and one term in the office of vice president.

I have been fortunate to work with Jack in updating the Quality Procedures Program. He and I would go a day or two early to board meetings or we would travel to Arizona, which was about halfway between Pennsylvania and California. We worked many, many days together on the project. My respect for Jack grew even greater during that time, as I saw first-hand the sacrifice and dedication he gives to NISD, and has done so for a very long time.

Jack is older now, but he is still young at heart, and sound in body and mind. He will continue acting as our liaison to the Steel Erectors Association of America (SEAA), but, rightfully so, he will be scaling back a little in his involvement on the NISD board of directors.

We wish him and his dear wife, Pam, a happy and healthy retirement. They certainly have earned it!

More About BIM— Certificate of Detailing in Building Information Modeling (CD-BIM)

by Kerri Olsen

Ready for the general public in January of 2016, the BIM Modeling certification program is currently available to the public as a pilot program simply by accessing the website for CD-BIM.com. This program grew out of a brainstorming session at last year’s NISD Annual Meeting.

This Free Video Curriculum accessed through the BIM website provides start up education to modelers and detailers. The intended audience is potential BIM candidates who are presently modeling in BIM, or students considering a career in detailing and BIM in the construction industry. Since it was developed in association with the NISD, an added benefit of the level 2 structural steel Certification is NISD individual membership for a year.

I spoke with CD-BIM Founder and BIMxD owner Will Ikerd during an online meeting we shared with NISD Board Member Dave Merrifield while Will was waiting for his flight out to visit a jobsite. Clearly a very busy man, I was grateful for the time for this interview. For those of you who do not know Will, he is the principal owner and structural engineer of Ikerd Consulting, LLC, in Fort Worth, Texas. Will’s company serves building owners, designers and contractors with BIM modeling for virtual design and construction. David Merrifield and NISD President Joel Hicks have been working with Ikerd’s company BIMxD to develop the curriculum.

Continued on page 17
NISD Members Approve Re-organization of Board of Directors

by John Linn

Voting Results
Votes in favor (62)
Votes not in favor (6)
Abstains (1)

What will change?
All regular (voting) members will be under one membership classification, which is “Member-at-Large.”

*The board of directors will be composed of three officers as before but there will be seven directors who will be nominated by committee to serve maximum four-year terms.*

*Regional chapters will continue to exist if a chapter chooses to do so.*
*However, that chapter will no longer have a voting director on the board.*

When will the change take place?
The change-over to the new board of directors will take place sometime after the next NISD Annual Meeting in April and before the October board meeting. All of the current officers have one more year in office after the next Annual Meeting. During that year they will fill out the seven new directorships and transition into operating under the amended constitutional guidelines.

More About BIM (Continued from page 16)

The pilot program offering online BIM modeling classes designed for the novice to the professional is timely, as the technology push grows for the steel detailer to finish the model from the permit stage to finished shop detail drawings. Standardizing this process is essential for all BIM modeling participants. NISD is helping to lead the way in offering education and certification in BIM.

Zero experience is required for the novice level, and it provides enough knowledge to the BIM process to meet construction requirements. At the CD-BIM website, hit the ‘BIM Execution Plan’ where BIM Execution is explained in detail. The Level of Development, or LOD, is application and execution specific. Following these guidelines is essential to a successful BIM project.

Many of us have had to deal with clients, customers or even trade partners who are clueless about the BIM process? The intent of the CD-BIM website is to offer the required basic information to effectively work in BIM.

CD-BIM was launched live at the BIM Forum in Orlando, Florida in October. This BIM Forum meeting is a two day event, and rather than being designer specific, the intent is to discuss BIM Modeling for all disciplines. Key issues being addressed are the specifications for the Level of Development or LOD, models coming in at the wrong origin, and file naming conventions and formats.
Standardizing these shared elements is key to productive modeling use and execution. This was followed by more presentations at AutoDesk University (Nov. 30-Dec) where there were 3 major presentations and 5 working group sessions given by Will and David. Concepts for webinars were, and are being discussed as joint presentations with the Structural Engineering Institute in the coming year. For more information, visit the CD-BIM.com website.
These events are great ways to stay current on trends, and network with others. Join us for any of these events in 2016.

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<tr>
<th>Date</th>
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<th>Details</th>
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<tr>
<td>January 14, 2016</td>
<td>Autodesk Webcasts – Connected Fabrication Webcast Series: Detailing Standards and CD-BIM</td>
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<td>April 3-5, 2016</td>
<td>Steel Plus Network Annual Meeting</td>
<td>– Miami, FL</td>
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<td>April 13-15, 2016</td>
<td>NASCC: The Steel Conference</td>
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<td>April 15-16, 2016</td>
<td>NISD 48th Annual Conference</td>
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<td>April 27-29, 2016</td>
<td>44th Annual SEAA National Convention</td>
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<td>National Steel Day</td>
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<td>September 27-30, 2016</td>
<td>CISC Annual General Meeting</td>
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We also learned that larger corporations (Weyerhaeuser, 3M) who do their own engineering for construction are now hiring their own in-house steel detailers. We had a potential client approach us regarding membership and certification who was heading up a new steel detailing department to work with engineering. This way the owner no longer needs to deal with delays in their construction schedule while the steel detailer finishes the drawings under the envelope of the steel fabricator. They have discovered that when they do their own steel detailing, the work is completed more efficiently and in a time frame, which is workable with their construction needs.

It is amazing how important something becomes to someone when they think it was their own idea... We have only been talking about this for the last, oh, fifteen years and now we are seeing it happen. With the help of technological advancements, the industry is finally moving in the direction of sensibility and efficiency.

It’s a beautiful thing.
CHANGE ORDERS FOR STEEL DETAILING: ASSETS OR LIABILITIES?

by Greg Brawley

Here are some buzz-words for you... Change Orders, Extra Work, Design Deficiencies, Pay-When-Paid, Pay-If-Paid, Indemnification Clauses, Not for Construction... etc. Do you want more? By the second line of this article half of the readers, (if they are steel detailers), have already lapsed into seizures... while the remaining half have steam coming out of their ears... mumbling "Don’t get me started!!!"… Or just mumbling. Nothing quite stirs the enmity of our beloved industry for our place in the construction industry’s food-chain, like talking about contractual issues. Since we first emerged as a moonlighting industry sometime after WWII, we have lamented the passing of the days when a figure on a matchbook cover or cocktail napkin...coupled with the client’s word of honor, was sufficient to insure that we could simply do our work and count on a fair and equitable resolution to a detailing contract.

To paraphrase one client’s comment: The steel detailer resolves 100% of the fabricator’s problems for less than 10% of their (steel subcontractor’s) contract value. While the reader may notice a bit of hyperbola in the percentages, the underlying reality is that the value of our services is disproportionate to the actual compensation.

BIG FISH AND LITTLE FISH:

One of the overarching aspects of our client relations is our efforts to sustain repeat business with our client base. It seems there is always someone prepared to offer competitive services boasting better, faster, cheaper performance.

So, at least strategically, the detailer’s contracting demands are influenced by the lure of future business. The field of play is littered with the bodies of detailing firms that have been deemed too difficult to deal with or contractual heartaches by our clients. The fact that there is always another detailing alternative that is waiting in line to enter the revolving door to the steel subcontractor’s business, undermines our ability to make balanced contract terms and represents a path of least resistance to the steel subcontractor.

Some additional obvious facts and anecdotal industry evidence is worth referencing at the onset, with respect to steel detailing proposals, contracts and risk management:

• Specifically in the steel detailing aspect of the construction industry, we have been in the unenviable position of doing business with clients whose gross revenues arguably range anywhere from 10 to 50 times, and greater than that of even the most successful steel detailing firms.

• Because of construction bonding and hard product investment required of our client base, the disparity in capitalization between us and our clients is even greater.

• It is also arguable, that without exception, we are presently, one-down in every important contractual issue that protects our commercial interests. This disadvantageous position starts at the beginning of every project. A simple test of this statement can be made by the answers to the following:

» How often are the terms of our proposal accepted in a signed agreement, even in terms modified by negotiation?

» How often do we receive a signed purchase order from the client that embraces terms of our proposals?

» How often are we expected to accept Pay-When-Paid or worse yet Pay-If-Paid terms of agreement?

» How often do you see Indemnification Clauses in Purchase Orders or Letters of Agreement? (I.e. indemnifying or holding harmless the client for events arising from services provided)

» How often are the terms of payment in your proposal for steel detailing, actually met in practice?

» How often does your client welcome your efforts to protect your contractual rights by means of prevailing Construction Liens or other available legal instruments? Question: Is a client, or potential client, who would deny you the fundamental protection of Liens laws and legal recourse, a friendly or a hostile?

Although we may devise any number of clever workarounds in our attempts to balance these contractual disadvantages, the fact remains that our contracts rely more on goodwill and good intentions than on sound legal agreements. This does NOT make fertile ground for sizeable financial risks to be undertaken on trust and goodwill. The unvarnished truth is that big fish eat little fish. And as the stakes increase, it is clear that firms engaged in the business of steel detailing are swimming with much bigger fish! Ultimately, the primary test is whether or not the client is proactive in forming win-win contractual terms. It requires a certain amount of restraint on the part of our clients, to be able to recognize the inherent benefits of alliance rather than domination.

SOME FACTS OF LIFE IN THE DETAILER’S WORLD OF CHANGE ORDERS AND DESIGN DEFICIENCIES:

As the construction industry grapples with the slow and painful migration from 2-D hard copy design documents to BIM management practices and more non-traditional contract delivery systems, the issues surrounding design deficiencies and Extra Work, (read Change Orders) become even more critical.

The steel detailer can routinely expect that some or all of the following circumstances may exist on any commercial project:

• Currently, 2-D design documents only contain about 70% of the design information required when the detailer is expected to begin generating 100% complete, checked and zero defect shop drawings for fabrication.

Continued on page 21
CHANGE ORDERS FOR STEEL DETAILING: ASSETS OR LIABILITIES?  Continued from page 20

- With this level of incomplete design input, it is not unusual for up to 40% of the completed detailing contract value to be attributable to Extra Work.

- Even though our past experience informs us that there will be Extra Work, there is no reasonable means through which we can quantify and capture this Extra Work until it actually appears in the progressive development of project information. The argument that we should anticipate these factors in our proposals just doesn’t make sense in a competitive bid climate.

- The Extra Work is NOT always about added material or easily identifiable impact on the steel subcontract.

- Significant elements of claims for Extra Work for steel detailing, are detailing only changes.

- The following quotation from the Preface of the AISC Code of Standard Practice for Steel Buildings and Bridges (AISC-303) establishes what all parties on a structural steel project may expect from the contract documents:

  “This Code provides a useful framework for a common understanding of the acceptable standards when contracting for structural steel. As such, it is useful for owners, architects, engineers, general contractors, construction manager, fabricators, steel detailers, erectors and other that are associated with construction in structural steel. Unless specific provisions to the contrary are contained in the contract documents, the existing trade practices that are contained herein are considered to be standard custom and usage of the industry and are thereby incorporated into the relationships between the parties to a contract.” (emphasis added).

Furthermore, while "Section 3. Design Drawings and Specifications" of this document is precise in citing the standards required of the structural design drawings, and the role they have in the forming of contract agreements, in practice, these structures are widely ignored. The undermining of this authority has relegated the Code to that of a paper tiger, leaving the parties that rely on its implementation, unprotected.

Change Orders for Extra Work, as linked to design deficiencies, have historically been a chronic struggle in the steel detailing industry as the overall completeness and correctness of the design documents has declined. If we look at the onerous contract language and principles represented in some of the above points, implementation of this language is clearly aimed at addressing the very real risks for which the steel subcontractor might be held legally liable by the steel detailer for Extra Work resulting from design deficiencies.

WHAT IS AND IS NOT A VIABLE DETAILING CHANGE ORDER?

So, in light of the current circumstances cited above, just because we submit a bill for Extra Work, does not mean that we can anticipate payment! In practical terms, what makes a detailing change order viable?

In the most simplified terms, Change Orders for detailing Extra Work, are most viable ONLY when the client can pass along the costs to the General Contractor!

For ease of discussion, let us suffice it to say that many of the subjects of detailing change orders that arise during detailing are the results of design deficiencies:

- Incomplete or conflicting design drawings
- Errors in drafting of the design drawings and/or specification
- Errors of omission by the EOR or Architect. (i.e. Items for which no design guidance has been provided)

All of these factors affect the efficient performance of our contracts. However, since the advent of lump sum design contracts, the design professionals are loathe to acknowledge these deficiencies because the owner is lurking in the background prepared to downstream the expenses to their door for settlement. Furthermore, the detailer’s lack of a direct contract with the design team means that any compensation for Extra Work resulting from these deficiencies has to be processed through the project’s contract chain. So, in practical terms, while a significant percentage of our claims for Extra Work may have a basis in entitleme, what becomes more meaningful to the detailing firm’s long term survival is the viability rather than the entitlement. That is, of course, unless a detailing firm has the will and resources to expend endless effort in claims dispute resolution, arbitration and/or litigation!

CHANGE ORDERS: ASSETS OR LIABILITIES?

In light of the above assertions, it appears wiser and more strategically beneficial to look at this challenge as a business problem rather than a legal problem. Our viewpoint makes a difference! It’s not just accountancy! Construction claims specialists would ask us to divide our evaluation of Extra Work into two categories:

- **Hard Claims:** Claims for Extra Work of this type would be based on charging for detailing services that are directly related to changes in material, labor and conditions of contract performance by our clients that are substantiated contract changes, for which they will be compensated by the General Contractor or Owner.
CHANGE ORDERS FOR STEEL DETAILING: ASSETS OR LIABILITIES? (Continued from page 21)

• Soft Claims: These might also be considered Detailing Only Changes. Some examples of these types of changes might be: Drafting revisions, without significant material additions i.e. relocation of members, coordination of dimensions for other trades, incorporation of extensive approval comments or revisions, etc. It could also be said that these types of Extra Work could be defined as the impacts caused by the ways in which the design documents DO NOT conform to Section 3 of the Code as stated above.

Hard Claims are more distinct in that they are easily quantifiable. The keys to the viability of changes of these types of Extra Work claims are document, document, and document! Because they affect the total scope of the project, not just the detailer’s scope and they are often acknowledged as a clear contract scope change, they represent a true asset to our balance sheet. Nonetheless, they may still be the subject of payment delays, onerous contract terms and disputes in valuation.

Soft Claims, on the other hand, have a different life. Soft Claims ARE NOT, a commercial opportunity. A real commercial opportunity would present a balanced opportunity to increase revenue (and thereby profitability), under terms and conditions that would assure payment. In reality, Extra Work due to design deficiencies actually REDUCES rather than IMPROVES our financial and production efficiency. They undermine productivity, schedule performance, and quality in ways that we can only struggle to regain during the course of a given project. The effort and attention that are diverted from our productivity to pursue these more complex soft issues only increases the negative impact of these issues on our efficiency.

CONSIDERATIONS FOR DEVELOPING AN EFFECTIVE STRATEGY FOR EXTRA WORK?

There is no one-size-fits-all answer. Our individual business style and our relationships with our clients are going to dictate if there are the means to, if not resolve, at least reduce the impact of these elements of Extra Work that erode not only our profitability, but threaten our very survival as the status quo continues to decline. However, here are a few suggestions that may point to developing a strategy within your own business climate.

• Engage your client on these issues in advance of a project start-up. Set the table for negotiations on what our expertise tells us is coming. Many client’s purchase orders and detailing agreements address the issues of compensation for Extra Work. Engage the client on the distinctions between Hard and Soft Claims.

• Lien laws were created to protect you and there are inexpensive lien services available to make sure they are properly filed. Understand that they do not fix everything. They can often be “bonded around” if the GC finds it necessary. However, it is an action that can be undertaken in your favor.

• Early preview and written analysis of design drawing deficiencies and discussion of these issues with the client can identify the traps and pitfalls and provide early warning for project management.

• Consider in your strategy, that the technical shortfall of the design and contract documents is a primary force in the Risk Management Assessment of a project, i.e. knowing that certain missing or incomplete interfaces and design deficiencies exist in the design documents, what is the risk that we are going to be drawn into a dispute or Extra Work element that constitutes a Soft Claim?

• Segregate your Change Order requests into two categories: Hard Claims and Soft Claims. Understanding that when the two base issues are muddled together, a readily collectible element of a potentially solid Change Order request, can get lost in the contractual debate and finger-pointing.

• Focus productive energy on clear and thorough substantiation and documentation of Hard Claims, as this helps your client support their position, which in turn, improves the likelihood that you will be paid.

• De-emphasize the legal and emphasize the business aspects of your pursuit of Extra Work compensation for Soft Claims. Recognize that no matter how clear your entitlement for compensation may appear, your claim for Extra Work may NOT be readily converted to cash flow!

• Seeking an Equitable Adjustment to our agreed base price, may be a more useful tool in dealing with extensive Soft Claims. Keep in mind that the Client has a much more overarching contract with many avenues of recovery. By lumping together the Soft Claims or disputable obligations of the client, we avoid the unpleasant alternatives and still manage to recover some of the impact costs.

With these thoughts in mind, consider why we pursue Change Order Requests. The objective should be to seek compensation for the myriad ways our execution plan was undermined by the unanticipated events during performance of our contract. However, we must pick our battles! There is no merit in pursuing a change event that we know from our experience is unlikely to be paid in the first place. Focus on maximizing the events that meet the criteria as assets and develop a strategy for identifying and mitigating the liabilities.

AUTHOR’S NOTE: The commentary and observations of this article are born out of almost 30 years of steel detailing and fabrication industry and do not necessarily reflect or represent the opinions of anyone other than the author.
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