You Are Invited...

TO THE

49TH ANNUAL NISD CONFERENCE

IN

San Antonio, Texas

MARCH 24-25, 2017

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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

NISD is not responsible for any statement made or opinion expressed herein. All material is for informational purposes only and is not intended for use without independent, substantiating investigation on the part of potential users. Permission is granted to cite or quote from articles herein provided customary acknowledgement of the source is made.
I first joined NISD in the late 1970s. Initially, I was reluctant to join, but the Pacific Chapter Director at the time, Mike Barskey, was very persistent and I finally agreed to attend a chapter meeting. That meeting was all it took to get me hooked on NISD and it is still a big part of my life today. After joining the chapter, I soon realized that my local competitors were not my adversaries but actually were some pretty nice guys who had the same business concerns that I did and who would work together with me to help solve some of our common problems and even work together on detailing jobs whenever help was needed.

Later on, when I became the Pacific Chapter Director, I met some very impressive board members who I soon realized were working to improve our industry with great vision that extended across, not just the USA, but across the entire world. I was excited and inspired by these people to get involved and do my part to advance our industry worldwide.

I have now been a member of the NISD board for over 27 years and I take great satisfaction in the accomplishments we have made during that time. Also, there has been a great deal of satisfaction for me on a personal level due to the many life-long friendships I have made in both the Pacific Chapter and as a board member. I truly treasure these many friendships that have been occasioned by my participation with NISD.

Of course, as we all have had the sad experience of losing someone dear to us, this has also been my experience with the passing, over the years, of so many close friends in NISD. For me personally, none have been harder to bear than the passing of my dear, dear friend Robert Beauchamp. In this issue of the Connection, I have written an article about when we first met and the great friendship we enjoyed for many years. I hope you enjoy it.

My heart-felt thanks go out to another dear friend, Kerri Olsen, who has again contributed some great articles for this Connection issue. Kerri was our Person of the Year in 2016 and she continues doing a great job as NISD Marketing Chair.

This Connection is a bit longer than usual because there has been a lot of activity within NISD over the past months regarding BIM certification and job-sharing technologies. Hopefully you will find these articles helpful in keeping up to date with some of these latest developments in our industry.

As always, I am in need of your help to contribute a job site article that we can print in the Connection. Please contact me if you think you might have done a project that you could share with fellow NISD members and also get some free advertising in the process.
Hello Everyone,

Happy Holiday! As I write this message we are in Thanksgiving week here in the States. We have much to be thankful for and I personally am very thankful for having been blessed in so many ways. Here in the United States we have enjoyed tremendous freedoms and great abundance when compared to the rest of the world. If we are honest with ourselves, we probably all are blessed beyond anything we deserve. Now that we are an international organization, I think those blessings have been extended to many others. While our industry has experienced many ups and downs, we all enjoy a pretty good quality of life overall and need to take time to reflect on our gifts and pass them on to others when we have an opportunity.

We are going to be swearing in a new President in a few months, and while he may or may not have been your candidate, we all can hope (and pray) that the economy in general and the steel industry specifically will improve as we move into the new administration. Last week I had the opportunity to attend the Autodesk University and FabTech conferences in Las Vegas. I heard panel discussions in both conferences about the economic outlook for the coming year. In general everyone was cautiously optimistic. We have already seen some optimism in the stock market as a whole and energy stocks have increased based on the feeling that the economic environment for energy will improve and see growth. There is also optimism in the area of infrastructure spending here in the US since both candidates actually made many promises to spend money and promote growth in these areas. There were projections that interest rates will climb due to a recovering economy promoting a stronger dollar. By the way, I am far from an economist, but I am only passing along news from “experts” that I have heard. These experts also predict banking reforms and environmental and regulatory changes that will benefit manufacturing and construction.

I also had an opportunity to see a lot of new technology and software development goals for next year. The emphasis is on more and more collaboration and a paperless environment in the office, shop and field. As we move forward into the future of steel detailing it is important that we all stay on top of the latest software, tools, practices and innovations. I would again urge you to educate yourself and your employees as much as possible and stay on top of the latest developments in order to be competitive. Our programs for IDC, QPP and CD-BIM are a great way to set yourself apart from the pack. You can get more information on these programs here in this publication or from our website.

In closing, I would be remiss not to mention the passing of one of my personal heroes and a stalwart representative of detailing, Robert Beauchamp, past president, treasurer and many other positions, passed away recently. Robert was one of the first people to welcome me into the NISD and to the Board of Directors. He was very gracious and instrumental in my involvement and I remember him often, always with a smile. His wit and charm often belied his wisdom, which was considerable. We will sorely miss our friend.
The Elephant in the Room

by Kerri Olsen

At the last NISD annual meeting I was asked again to be one of the speakers. My topic was the importance of educating our industry partners regarding the NISD IDC and QPP programs. I held back much of what I really wanted to discuss and had a very hard time with my presentation as I was trying to softly walk around the elephant in the room. I find myself doing that a lot lately. I have finally decided that holding back is a bad idea. Talking about the ‘elephant’ is exactly what I need to do.

The elephant I refer to is this: We do not have enough steel detailers in the United States to support the amount of work we have right now. Our steel fabricator partners are intrigued by the ¼-off sale for steel detailing they are getting from our India-based brethren. Further enticed by the quantity of workers these firms have, many of whom might be degreed engineers acting as steel detailers, the steel fabricators hire them without hesitation.

The shop detail drawings the steel fabricators are presented with appear to be adequate, though the jobs are difficult to manage. Many steel fabricators do not know why they are having this problem. Yet they continue to execute their work in this fashion because of the price, and figure the ‘savings’ make up for the issues they experience. They do not understand the source of their problem, so they do not try to stop it, until the problem is bad enough that they finally decide their answer is to use US-based steel detailers, and then they call us.

The designers, contractors and erectors have also become frustrated with the trickle down of steel detailing problems from the steel fabricator. The response from the AISC is to include more language regarding steel detailing on the steel fabricator’s behalf in the AISC Code of Standard Practice, falling short of a call for NISD IDC Certified detailers. What I see as the root cause of the problems that our industry partners are having is that the steel detailer the steel fabricator is hiring is not following a drawing presentation practice and business practice that follows the NISD Industry Standard. Further, the project manager for the steel detailer lacks the skillset to recognize the root of the problem and act accordingly. Anyway, their hands are tied because the top directive is to go for the cheapest price.

The project manager for the steel detailer does not recognize the incorrect shop detail drawing presentation, fails to use the RFI process, allows for mark-ups on approval drawing submittals, and fails to deflect and sift through the information dump pushed on to them by their customer by way of internet-based file sharing.

All of these improper project management behaviors, which seriously prohibit the production for timely, adequate and correct shop detail drawings, are, for some steel fabricators, considered normal process for project management. It is normal behavior for the uneducated steel fabricator who continues to maintain this destructive cycle. Meanwhile, the steel fabricator’s project manager fails to learn a project supportive management style, continuing to blame the steel detailer for their own lack of knowledge and experience.

Correct shop and erection drawing presentation leads to right reading and the correct use of the drawings. Incorrect presentation leads to incorrect interpretation. Properly edited drawings have specific indicators which promote right reading of the details and are vital to those who are using these drawings, which is everyone on the construction team and sometimes beyond.

When presented incorrectly, the drawing interpretation is left to the reader’s own interpretation for lack of a standard. Incorrect presentation leads to incorrect interpretation.

These assumptions lead to errors in steel fabrication and steel erection, even when the shop detail drawings were correct in dimension. The only people who truly understand this difference are the seasoned veterans and the mentored steel detailers who understand that detailing steel is more than knowing how to use a computer program.

We need to help each other with educating our industry partners to these facts about steel shop detail drawings and the steel detailers that make them. We can do this by talking, writing, attending meetings and seminars, or by talking to our customers in more detail about what they are buying when they order shop detail drawings. We do this in our proposals, our discussions regarding our proposals – lots of different ways, but we need to hear from you to help you when you need it.

Continued on page 21
A Big Thank You for the Person of the Year Award!

by Kerri Olsen

I wanted to put a personal note in the Connection so that I could thank everyone for the Person of the Year award given to me last year. It is such a huge honor! My first thought was, ‘why me?’ as I had never won anything before that was not associated with a county fair or city parade. In my opinion, my contribution pales by comparison to what others have done and are currently doing on behalf of the NISD. My assumption was that maybe they ran out of candidates – as I notice usually it is active NISD participants who receive this award, a group which is not very large right now. Not as large as it could be, of this I am sure.

Save for one employee, all work performed for the NISD is volunteer labor. Our President, Joel Hicks heads up our meetings and events, Alden Prier our Vice President secures and organizes our events, our Secretary/Treasurer Glenn Ihde keeps track of the treasury, John Linn is our Controller, Michael Pelliccio heads up our Membership Committee, Fred Tinker heads up the IDC, Dave Merrifield the QPP program, and then there are all the chapter directors who organize and manage meetings and events in their own areas. Everyone who has a role in the NISD has a real job too. This means that all the work they do on behalf of the NISD is time carved out of their personal time.

Volunteer time is about making the time to do something to the benefit of others. In saying this, it appears that we are talking about something which is outside ourselves, but it is really all about us, because in the giving we receive benefits which are unreachable otherwise and are difficult to put into words. But of course, you know I am going to try here.

Our work and our time feed into our own knowledge and experience. The knowledge and experience we gain is not something which is taught in schools or universities. For most of us, the only opportunity we have to pass on this knowledge and experience to others is by one-on-one discussions. This translation is specific to our own experience. The trick here is we must make ourselves available to have these discussions with others. This sharing of knowledge and experience is precisely what makes the NISD meetings so very important. It is the NISD annual meetings that are our opportunity to share with each other, outside of our work, without other sales distractions or interventions. It is all about us.

So, thanks again for the recognition for what little I am able to do to support the NISD. I truly do appreciate being recognized, and this recognition makes me try harder to do more. I would like to encourage others to write something to promote their companies and what they do, through this publication called the Connection, attend the annual meetings, and connect with your chapter members, anything to let us know what you have been up to!

These events are great ways to stay current on trends, and network with others. Join us for any of these events in 2017.

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<td>April 27-29, 2017</td>
<td>45th Annual SEAA National Convention</td>
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Behind Every Principle There is a Promise - Part 2

by Kerri Olsen

National Institute of Steel Detailing Industry Standard - Part 2

With the last installment, we reviewed Chapter 1 – Introduction and Commentary and Chapter 2 – Overview of the Steel Detailing Industry. These two chapters discuss the history and development of the work of the steel detailer and the founding of the NISD. We continue here with Chapter 3 – Practice and Principles of Agreements to Provide Steel Detailing Services, which is a discussion on how we steel detailers ‘set the stage’ for our work with our clients.

Chapter 3 – Practice and Principles of Agreements to Provide Steel Detailing Services

This chapter is a discussion on the Proposal for Steel Detailing and how this document should specifically describe a complete list of services for our clients. Proposals not only explain the list of services; they also provide information for how the client may support the steel detailer to provide their best service.

Payment agreements, proposed schedule, defining the required activity and schedule impact regarding changes and extras – a simple position statement regarding each is advice to the client for what they may expect of the steel detailer regarding execution of the work. It also lets the client know what the steel detailer expects of them and their behavior for each. Without which, the client’s behavior will be per their agreement with their customer, a process which is likely not conducive to getting the work completed accurately or timely, and may not carry any assurances with timely payment.

Written documentation should always be provided between the steel detailer and their clients. Oral agreements are best avoided. Chapter 3 further describes the suggested essential elements of the proposal for Steel Detailing, and is an excellent guide for documentation provisions.

When complications arise, it is the written documentation that provides the basis for entitlement to compensation. Anything less negates clarity, and therefore the steel detailer denies themselves the right to remedy. This right to remedy is the very time and compensation required to adequately perform our services as steel detailers. Not providing written documentation for all transactions between our clients and ourselves has the same effect as shooting ourselves in the foot. But it goes beyond that, for as we deny ourselves we deny our clients that level of accuracy and clarity that they then may take to their customer. Essentially it is the difference between you running your job or the job running you.

Steel detailers are service providers to the steel fabricator with whom they are contracted, and are in no way responsible for the terms and conditions affecting their client’s customer unless they elect to adopt that participation. We know and understand the requirements of our work regarding compliance with the contract documents, and this is not to be confused with the contractual agreements beyond the scope of work between our client and their customer.

Herein lies the difference between the steel detailer’s Benchmark services and Elective services. If the steel detailer elects to include their clients’ agreements and requirements for payment and project services as part of their scope of work it should be specifically written in their proposals to their clients.

With the omission of a written agreement, assumptions for compliance on behalf of the steel detailer may be made by the client without discussion. The subcontracted steel detailer is often not provided information regarding the purchase order agreement or contract between their client and their customer. Without benefit of a written proposal, the steel detailer enters an agreement with their client without knowing what they are committing to, and are likely surprised by the client’s position when issues arise.

Continued on page 19
National Institute of Steel Detailing
Application for Individual Detailer Certification

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)

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**For Information:** Tel: (925) 294-9626 Fax: (925) 294-9621 E-mail: nisd@sbcglobal.net
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

Jeanne Belaro
Isometric Diagonal Scheme, Inc.
Quezon City, Philippines

Maynard Conde
Isometric Diagonal Scheme, Inc.
Quezon City, Philippines

Prasad Dali
Delta Structural Steel Services Group
Idaho Falls, ID

Mary Jane Pabustan
Isometric Diagonal Scheme, Inc.
Quezon City, Philippines

Redentor Simbulan
Isometric Diagonal Scheme, Inc.
Quezon City, Philippines

Randy Solidum
Isometric Diagonal Scheme, Inc.
Quezon City, Philippines

Christopher Stangoni
Delta Structural Steel Services Group
Idaho Falls, ID

Steven Harris
Abingdon, VA

Detailer – Class II

Ralph Carlo Tinio
Isometric Diagonal Scheme, Inc.
Quezon City, Philippines

Corby Tolentino
Isometric Diagonal Scheme, Inc.
Quezon City, Philippines

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.
NISD President Attends Meetings

by Joel Hicks

Recently I had the opportunity to attend the Aviva World Summit in New Orleans. As you may or may not be aware, Aviva is a software solution provider for engineering design, detailing and information management primarily to the plant, power and marine industries. While there I learned that they were pioneers in CAD and 3-D design. The company grew out of a government funded research center on computer-aided design in Cambridge, UK in the ‘60s.

Today they are primarily known for their PDMS (Plant Design Management System) which is an integrated software for 3-D plant process design. Their detailing software is Bocad and they have, in recent years, begun marketing it in the US as a stand-alone detailing software. The World Summit had hundreds of people from more than 30 countries in attendance. The event was divided into two tracks, one for Plant Design and one for Building and Infrastructure. The sessions that I attended were on Building and Infrastructure. There were some very educational and informative sessions, especially showing the cutting edge of design and construction trends and software. There were sessions on BIM, with leading experts from the UK and the US. I was not aware that beginning this past October, all projects in the UK are government mandated to be BIM. We can see where this is likely headed as we see more and more BIM requirements here. Thus the NISD work on BIM certification seems to be very timely. There were also sessions on laser scanning and how it can work with 3-D software, and on early detailer and fabricator involvement in design and completion of projects.

The AU University event was held in Las Vegas at the Sands Convention Center this year. Dave Merrifield and I were asked to sit on a panel discussion for a best practice session on global detailing. We were joined by David Weaver of Mold-Tek and Michael Gustavson of Autodesk. This was my first time attending AU University and it was quite eye opening to realize the size of this event. There were around 10,000 people in attendance. Autodesk has so many different types of software and there were designers, engineers, architects, detailers and contractors there. There did not seem to be many fabricators; only those who send their detailers or managers seemed to be there. There were a lot of very informative sessions with a lot of emphasis on the future use of technology in industry. If you use any Autodesk products or want to learn more about their solutions, including of course, Advance Steel detailing software, it is definitely worthwhile.

Since I was already in Las Vegas for AU University, I also spent a day at Fabtech which ran during the latter part of the same week in Las Vegas at the Las Vegas Convention Center. I thought AU University was a big event; Fabtech is attended by over 30,000 people and has acres of booths showing all the latest manufacturing equipment for all types of manufacturing, (not just steel). Attendance at Fabtech for the show floor and the main addresses is free. I heard an industry panel discussion presented by leaders in manufacturing and accounting and political lobbying as it relates to manufacturing. This was a very interesting and informative panel, which offered some hope for the economy and manufacturing jobs as we move into the new presidential administration. Overall the mood was positive and cautiously optimistic. Let’s all hope that things will continue as they have begun and we can all look forward to better economic times for detailing and industry as a whole for our nation.

... The World Summit had hundreds of people from more than 30 countries in attendance.
My Friend Robert Beauchamp

by John Linn

My recollection of first meeting Robert Beauchamp takes place at an NISD Annual Meeting wherein we were holding a board of directors meeting. It was back when membership in NISD was only open to firms in the USA. Robert was a new member, even though he was a Canadian detailer, because he had opened a detailing office in the state of Vermont ostensibly so he could join NISD as a U.S. detailer.

There was a controversial item under discussion during the board meeting and Robert asked if he could be allowed to express his views on it. He was given the OK to speak and when he finished, one of the directors loudly spoke up and said “we don’t want no foreigners coming in here and telling us what to do.” It was all quite embarrassing but Robert handled it very well. I recall how impressed I was by his courage to speak up and his diplomacy in handling the rebuke he received. After the meeting, we spent some time together and that began a friendship which we could never have dreamed would, in time, become one of the greatest friendships of our lives.

Some years later, we were at another board meeting and Gunther Baresel was acting as nomination chair and I had been nominated for NISD president. There was some fairly heated disagreement about a vice president nomination and so Gunther asked me to step out into the hall to have a private discussion to try settling the vice president issue. When we got out in the hall, he asked me if I would agree to have Robert Beauchamp as the vice president. I immediately said “yes, absolutely I would.” Looking back on it all now, I know it was meant to be. Robert’s and my four years together in office were by far my most memorable years in NISD. The two of us formed a strong bond. We worked hard for our institute and like everything in life we had some good times and some bad, but our relationship grew stronger through it all.

Several years after our terms of office were over, Robert would travel to California to escape the cold winters in Montreal and we would celebrate the New Year holiday together. He often brought his daughter, Natasha along with him and a close relationship developed between her and my son Chris. They are now married and live in Pleasanton, California. So now Robert’s daughter has become my daughter-in-law. We are pleased and blessed to have her as a part of our family.

Robert was taken from us way too soon, but though he was here only a short time he lived life to the fullest. He has had a great impact on me as well as the many others who knew him well. I cherish my many memories of Robert that are never to be forgotten.
Hello, Operator? 3 Training Programs to Keep Steel Detailers Connected

by Angus W. Stocking, L.S.

Remember the telephone game? You get a bunch of people in a line, the first person whispers a phrase or sentence into the ear of the next, and it goes on like that until the information is passed down to the last person. Often, by the end, it’s hilariously nonsensical.

But to steel detailers at the end of a construction-project line, it’s not so funny. “It can definitely be like playing a game of telephone,” says David Merrifield, a thought leader at the National Institute of Steel Detailing (NISD) and vice president of operations at SteelFab in McKinney, Texas. “Everyone is connected, but communication between any two team members might be through several layers of management and require ‘translation’ of different standards and ways of working—and actual different languages. Disconnection and miscommunication are real dangers.”

Merrifield is referring to the large global teams and many layers of oversight that are now routine in the world of steel detailing. “Increasingly, cost-effectiveness is requiring, and technology is enabling, the design of complex construction projects by global teams,” he says. “This can present major inefficiencies and challenges for the industry as nonstandard practices and training—along with country-specific mandates and labor shortages—amplify disconnected workflows.”

Working productively with globally distributed teams is now a routine challenge for design firms working on major infrastructure and construction assets. In steel detailing and fabrication in particular, in-house detailers have nearly disappeared at steel-fabrication firms. “In today’s world, the detailing community is international, there is a lot of outsourcing, and fabrication companies are end users of detailing work done by other firms,” Merrifield says.

So instead of in-house detailing, fabricators usually have managers who oversee detailing by hiring and issuing POs to third-party vendors. Most of these detailing companies are offshore, mainly in India and the Philippines. English usually serves as a common language, but due to time zones and language difficulties, it’s easy to miscommunicate nuances. Developing trust between partners and communicating effectively are major challenges.

To complicate matters further, fabrication firms often don’t work directly with overseas detailers; they communicate through intermediary firms that understand the specific workflows and languages of the offshore-detailing firms. “A lot of these relationships are mediated by a small number of detailing project managers onshore,” Merrifield says. “You could call them ‘fixers’: They’re the ones who actually smooth the way with the offshore detailers. So more often than not, no one at the fabrication firm is speaking directly with the people doing the detail work.”

Though it sounds like a communication nightmare—multiple layers of management, multiple firms, different cultures and languages, different work certification standards—this system is effective . . . most of the time. “It can be rewarding or disappointing,” Merrifield concedes. “A lot of it comes down to trust.”

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Best Practices Working with Global Detailing Teams

by David Merrifield

Panel discussion with David Merrifield, Joel Hicks and David Weaver on Monday, November 14, 2016 at the Autodesk University Fabricator Forum.

As steel fabricators continue to use dispersed global steel detailing teams to deliver 3D models that drive production, the industry is evolving in how these teams coordinate and build relationships to better collaboration on their projects. This presentation was a panel discussion between steel detailing company, steel fabricator, and structural engineer who discuss the benefits, challenges and future trends.

During the panel discussion, which included a longer than normal Q&A, Joel and I were able to present the NISD programs for quality in detailing. We were able to describe the IDC programs both level I and II and their relevance to good detailing practice. Based on a query from the floor, we were able to present the NISD QP Program, describing the need for a written Quality Procedure Manual and the commitment a detailing organization needs in order to compete in the global market. I posed the question to the audience “what would you say is the one biggest failure in detailing today?” Most answered that they believed drawing errors was the major problem. With the modeling programs we use today, drawing errors are not the problem most fabricators are facing. While there is still some of that, the main issue is communication and an understanding of work flow and terminology used in each shop.

When speaking of communication, I’m not talking about language but how information is disseminated in the detailing organization. I’ve found that as a manager, I am sometimes as much as six times removed from the person doing the work and it doesn’t matter if the detailing company is across town or overseas. An organization purchasing detailing, needs to see your Quality Procedure Manual to understand how you manage detailing coordination and how project information is delivered to the last person in the chain. I reminded the audience of the camp fire story of people sitting around a camp fire. You whisper an instruction to the person on your right and after that communication reaches your left ear, it has no relation to your first conversation. This problem seems to occur whether written or verbal.

The last program we were able to present was our newest endeavor CD-BIM and how this program is starting to move at a rapid pace of adoption by the construction industry. Here again this program is stressing the need for global understanding in virtual construction to maintain a standard presentation, and unifies communication goals and requirements for an AEC construction project.

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.
As a long-time steel detailing company in Northern California, John Linn Associates, Inc. has detailed many unusual steel projects. Their close proximity to San Francisco and Silicon Valley presents them with many opportunities to do jobs with unique and creative architectural design.

JLA recently completed a highly imaginative and creative stair system located at a social media internet company. Stairs 3, 4 & 5 are unusual because they are totally enclosed by two layers of 16-gauge perforated plate panels which are separated to house lights that shine from inside the paneled walls, floors and ceilings. Due to the hundreds of complex panels, JLA could not have met their delivery date without the help of their friends at Trusquin, Inc. and Datadraft Systems in Montreal, Canada.

The perforated panels are bent in on all sides in order to connect to steel plate ribs. The inside panel layer is bent differently from the outside panel layer to allow the lights to be serviced from whichever side is more accessible.

The floor and ceiling panels are faceted to follow geometrically shaped surfaces as designed by the architect. There are 650 different panels at stair #3 and 315 different panels at stairs #4 & #5. At stair #3 plan view, the stair below the landing and the stair above are set at angles so as to cross over one another. This creates a triangular opening in the upper stair frame which is guarded by a three-dimensional clear glass casting and a handrail that guards anyone from running into the glass. How’s that for creativity?
(See inside view picture).
... There are 650 different panels at stair #3 and 315 different panels at stairs #4 & #5.
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:
$45 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
Behind Every Principle There is a Promise - Part 2

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Chapter 3 provides clarity regarding Benchmark Services and Elective Services. Benchmark Services are the core services to provide shop detail drawings, without which shop drawings may not be produced. Elective Services are additional services required to meet the specific needs of an individual client.

The steel detailer’s proposal provides clear definition of the Benchmark and Elective Services for the client’s benefit, thus preventing confusion and the assumption that elective services are job requirements.

**Benchmark Services** — minimum level services required to prepare shop drawings

- Detailed proposal providing a list of items to be detailed, compensation and proposed schedule
  - a) It is the responsibility of the client to provide all relevant, complete and up-to-date contract documents to enable the steel detailer to provide an accurate quote.

- Checked erection drawings, including anchor bolt plans and setting details

- Check shop detail drawings with the bill of material

- Field bolt summary

- Provides for services only in the extent of ‘known and/or completed’ design document information, making no accommodation for design document ambiguities

- All information furnished after detail drawings have been prepared shall be incorporated when the information is made available, the time and expense for which is treated as extra work.

- A mutually agreed upon detailing schedule

- One set of hard copy drawings and electronic files

- Review and incorporate legitimate approved comments and/or corrections

- Provides for one pre-detailing conference at the client’s or steel detailing firm’s office

**Elective Services** — Services which are not a routine part of every job

- Providing blueprints or reproducibles

- Providing overnight shipping or messenger delivery of drawings

- Preparation of mill order lists and/or advance bill of material incorporation of material traceability systems

- Preparation of data sheets or other services related to numerically controlled equipment including – Model, CIS/2 exports, CNC information, Kiss/BIF files and gather sheets

- Incorporation of extensive client in-house drafting and presentation standards

- Preparation of field bolt drawings in lieu of a field bolt list

- Participation in conferences or job site meetings

- Coordination with design documents other than structural design and vendor drawings from other trades

- Where not in violation of legal statute, prepare design calculations for approval and acceptance of responsibility by the engineer of record

- Retrofit field work drawings

Providing a Scope of Service which separates between Benchmark and Elective categories allows the steel detailer to better describe the scope of work. Including contractual and essential elements of the Proposal for Steel Detailing further defines the behavior with executing the work.

The information in Chapter 3 of the NISD Standard Practice is essential to all steel detailers as the proposal is the guide by which we perform our work. The steel detailer’s proposal provides the framework to do their job to the best of their ability, describes within the commitment to excellence, the partnership with the client and the extended construction team.

Without a written proposal, the steel detailer places themselves in unknown territory.
Hello, Operator? 3 Training Programs to Keep Steel Detailers Connected

Continued from Page 14

The NISD believes that one good way to develop more trust between fabrication and detailing partners is to develop standards and certification programs that are widely accepted around the world.

“We’re trying to level out the playing field,” Merrifield explains. “If standards and certifications can help all the stakeholders to trust each other’s skills, knowledge, and workflows, that goes a long way toward improving communication and project quality. We think this is a vital piece of training for the next generation of technicians working in this new global construction space.”

To that end, here are three certification programs created and offered by NISD to build trust and better communication.

1. **BIM Certification.** The newest of the certification programs, launched in October 2015, is the *Certificate of Development in BIM (CD-BIM)*. “We’d like to establish a single standard for BIM-based workflows that aligns with existing apprenticeship programs,” Merrifield says. “There are already general contractors in the United States who are considering this certification as part of new contracts.”

CD-BIM was developed with industry stakeholders such as Autodesk and is, according to the NISD site, “an assessment-based certificate credential that establishes the knowledge and understanding of BIM concepts and detailing practices that are important for all BIM teams to know.”

2. **Detailer Certification.** The *Individual Detailer Certification (IDC)* was developed to assess the skill level of individual steel detailers. It’s a rigorous program based on proctored exams, intended only for detailers with a minimum of five years’ experience and focusing on two disciplines—Bridge and Structural/Miscellaneous.

“It’s our way to verify that detailers around the world really do have the critical skills and knowledge base needed to work with fabricators,” Merrifield says. “And it’s going over well: Companies in the Philippines seem to be especially enthusiastic about getting their detailers certified.”

3. **Company Certification.** The *Quality Procedures Program (QPP)* addresses steel-detailing companies, not individual detailers. According to the NISD site, it certifies “that recognized quality procedures are established [in a firm] so the end result will be quality detailing services available to the steel-construction industry.”
Hello, Operator? 3 Training Programs to Keep Steel Detailers Connected

The certification process is very thorough, including triennial recertification and review of quality-procedure manuals and documents by the QPP panel (consisting of fabricators, erectors, and other steel-industry professionals). The NISD lists several major firms that have obtained certification, and the program promises to be an important link in the chains of trust supporting global fabrication and detailing.

“For the industry to continue moving forward with offshore detailing and global teams,” Merrifield says, “programs like ours, and good common standards, are really the best way we have to ensure that the next generation can work together effectively.”

This article originally appeared on Autodesk’s Redshift, a site dedicated to inspiring designers, engineers, builders, and makers.

Circuit of the Americas Grandstand in Austin, Texas, completed in 2012. Courtesy SteelFab Texas.

The Elephant in the Room

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I had an email from a steel detailing firm soliciting work that tried to argue the need for NISD member detailers, and even certified steel detailers as their crew of steel detailers were all steel engineers, and had a large work history. He said ‘I understand your love for the NISD, but we are more than qualified.’

I did not bother to answer this email.

It is not my love for the NISD that motivates my hiring and recommendations of IDC Certified detailers to steel fabricators. It is my love for managing a job which has no errors in the shop or field drawings. It is my love for a job which goes smoothly from beginning to end. It is my love for not having to back track and fix and replace fabricated steel items. It is my love for a good night’s sleep for lack of worry and concern for job issues to happen I know not from where. It is my love for the confidence I have in the people I hire to do this very complicated and intense work called steel detailing.

That is what I love. At the time I wasn’t up to explaining this to a guy a world away, trying to sell me his most excellent work for half price and have them understand half off is not worth the cost. He would not understand the concept as he does not understand the application. It is tough enough to get my local industry partners to understand these things and I usually have to train them myself. Often I feel like I am the only one making that effort on the local level, because I do not know what other steel detailers are doing to support their own work as they do not come to the meetings to discuss these issues!
What is Industry Lift?

by Kerri Olsen

Industry Lift is a philanthropic endeavor designed to facilitate and promote trade specific partnerships.

The purpose of Industry lift is to provide visibility, accessibility, educational resources, and a link to industry trade professionals for those who seek career goal achievement.

But Industry Lift is more than that.

Industry Lift is a movement to promote dreams, inspiring trade professionals to use their own career knowledge and experience to support the careers of the next generation to be happy and prosperous.

With the desire to give something back, Industry Lift was started by Bill Issler, founder and CEO of FabSuite, LLC. Bill’s interest with how things work, how to make them work better and promote happiness, in my opinion, is the root cause for the birth and development of Industry Lift.

While Industry Lift may be applied to any industry, Bill decided to start with the steel supply chain. Bill was first introduced to the steel industry by his uncle, Gunther Baresel. Gunther had owned his own steel detailing business and was a past NISD president. Bill had worked for Gunther as a steel detailer. As the computer age developed, so did Bill’s interest in computer programs, which led to the purchase of steel management software and development of FabSuite, steel management software for steel fabricators.

Bill’s ideas regarding Industry Lift round tables are to create awareness and spark interest in the concept of making our work lives better and happier. The hope then is to see Industry Lift continue to develop as others bring in their industry dreams and ideas. The purpose is to allow people to dare to dream, to shine the light on how they might make those dreams become real. The prospect of making dreams become reality creates a very positive and uplifting attitude for the round table participants, which they then carry to their industry partners.

There has been a huge amount of excitement with those involved. The interest and participation of steel industry members is growing.

Industry Lift was first introduced at a round table meeting that took place in Villa Silvia, Varese, Italy, hosted and facilitated by Alberto Boin in September of 2016. Alberto is the founder of WeStudios, a company that puts an individual in the driver’s seat as a movie producer.

Invited to attend this premier event were steel industry partners representing the following: mill producers, steel warehouses, equipment suppliers, steel fabricators, steel erectors, steel detailers, architects, engineers, and contractors. Put in groups, the attendees were invited to write down their thoughts for how to make the steel industry work better, and how to help make those involved with the industry happier and thus more productive people. Ideas included how to promote and attract the next generation of workers and career seekers.

... a philanthropic endeavor designed to facilitate and promote trade specific partnerships.

The plan for Alberto and Bill is to schedule four more round tables in the US and in Europe, the first of which will take place in February and then possibly the next at the NASCC in San Antonio, Texas in March, and then the SEAA National Convention at Myrtle Beach, Florida in April.

Facilitate visibility

Part of the purpose for Industry Lift is to create visibility for industry career opportunities – businesses and workers who support the steel supply chain are vast and far reaching, though many are unaware of just how broad the industry is. Those seeking advice and information for career opportunities could use Industry Lift as a resource.

A PowerPoint presentation created by David Merrifield, VP of Operations for SteelFab in McKinney, Texas, also QPP Chair for the NISD, describes this supply chain path and his dream for a focus on early industry education at the high school level. David’s ideas include ways to create high school feeder programs, which would introduce students to the steel trade and help them to move towards those career goals.

In David’s presentation, the steel fabrication industry is inclusive of raw material operations, scrap operations, steel production, service centers, suppliers for joist, deck and grating, steel modeling and detailing, fabrication equipment, shop operations, maintenance, quality control, painting, galvanizing, field erection,
Remembering Robert Beauchamp – And the Impact on My Career

by Kerri Olsen

I have always thought fondly of Robert Beauchamp, though when I first met him, I did not recognize what a significant figure he would be to my career. Losing Robert has a far-reaching impact on the steel detailing industry, which affects me both professionally and personally. While I was not very close with Robert, on a professional level I respected him greatly and had a high regard for his work and support in the industry and very much appreciated his presence in my world.

To help you understand my appreciation for a man who was a country away and with whom my only interaction occurred at the NISD general meetings I must tell you the backstory of how I came to know Robert.

In the late 1990s, I was awarded the steel detailing on a project that had extensive framing and dimensional issues. Certain that this project would require many RFIs, when the steel fabricator called to award this project to my company, I immediately stopped all other work to write a letter to the steel fabricator regarding all the missing information needing to be addressed prior to my start of steel detailing.

There were missing elevations, dimensions, missing connection details and member sizes. Knowing that the steel framing was not the only trade affected by the missing elevations and dimensions, I was hoping these questions may have already been asked by the general contractor, thus reducing the quantity of RFIs from us. I knew if I could get these questions answered immediately, we would then be able to save time and detail the job correctly prior to approval submittal. Further, we would save time in the production schedule for RFI transfer, and by not having to re-detail the job when it came back from approval.

Prior to sending the letter, I had a discussion with the steel fabricator’s project manager, and it was decided to address the letter directly to the general contractor, and then cc the steel fabricator. The steel fabricator, understanding the time-saving benefits of this action, was highly in favor and encouraged me to proceed.

The letter was very detailed, and the questions were very specific. The first paragraph stated that the questions contained within needed to be answered prior to the start of detailing the steel, as the missing information prevented the ability to submit accurate steel details. I submitted the letter and checked in often with the steel fabricator regarding status.

About a month after the letter was submitted, I received a phone call from the steel fabricator, prompted by the general contractor, looking for the approval drawing submittals, and accusing me of trying to stall the job. I explained the situation in detail, reminded them that I had not yet seen any answers to the questions from my letter, and re-sent the letter to the general contractor. Instead of working to get the questions answered, a meeting was called with the promise that answers to all of my questions would be provided at this meeting.

Present at this meeting were the architect and engineer, the general contractor, the steel fabricator and myself. I again explained how vital the requested information outlined in the letter was to the start of the steel detailing as the ‘trickle down’ effect of the answers would impact all subsequent framing members attached to and near the locations of the questions. I further explained that, though the intended advantage for expediting the project was now lost, the need for answers was just as vital to the success of the project and even more urgent.

The architect and engineer discovered that the missing dimensions required calculations that were not derivative of the contract drawings. In fact, all questions asked in the letter could not be resolved at the meeting. The meeting ended with the promise to get back to me ‘soon’, and I was directed to proceed with steel detail drawings accordingly. I left the meeting with no new workable information and more than 30 days lost in the project schedule.

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Remembering Robert Beauchamp

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Against my better judgement, I agreed to proceed with the steel shop detail and erection drawings, and to submit them for approval as soon as I possibly could.

I soon learned I should have refused to proceed. The moment I agreed to continue I took ownership of the lost time. Had I not continued, the scheduling time loss would have remained the fault of the general contractor and the designers. The motivating factor was my concern for lack of cash flow. I had turned down work to make room for this job. I felt I had no other choice.

I submitted the steel shop detail and erection drawings with RFIs and drawing markups. I was called into yet another meeting as the drawings I was forced to submit were incomplete and incorrect. I argued that I had given them what they asked for, reminded them of my initial letter, which were now unanswered RFIs. Eight weeks into the project, I had worked around the clock to give my client what they wanted only to have the drawings rejected by the designers and the general contractors. Further, the steel fabricator who no longer supported me, wanted to contract the job to another detailer. I relinquished the job with gratitude.

The steel fabricator had failed me. As subcontracted steel detailers, we can only support our customers as well as they support us. The steel fabricator supports the steel detailer by providing the steel detailer with a complete, correct set of contract documents and specifications, maintaining timely RFI and approval drawing returns, and always pushing to get what is needed to facilitate accurate steel detail drawings. I had received no such support, financially or otherwise. This steel fabricator, sincere at the beginning, decided to use me as a scapegoat. It was the only way they could save face for not pushing the general contractor for answers to the questions on my letter and the subsequent RFIs.

But the story does not end here.

The newly hired detailer called me looking for answers to the very same questions I had asked in my letter as they were unable to get adequate responses from the designers and the general contractor. I explained my story in detail to him. When I was finished, I wished him better luck than I had.

Over a year later I was served with a subpoena, as I was being sued for providing bad detail drawings that had caused extended project scheduling delays on this same project.

I called the attorney who had sent me the subpoena. I explained my story in detail. The attorney asked that I send him a copy of the first letter I had written. Shortly after the attorney reviewed the letter their response stated that, due to the new evidence exposed by this letter, they no longer had a case against me. He further explained that subpoena was now void and that I would no longer be pursued in this case. I was overjoyed. I felt vindicated.

Two years from the time the steel fabricator who had asked me to remove myself from the project so he could hire a steel detailer who would get the job done, he called me to apologize. I accepted.

I found out shortly thereafter that the steel fabricator and the general contractor had both gone broke and closed down their companies.

I will always remember my time trying to work on this job as the worst nightmare in my professional career. The realization that I had brought some of this grief upon myself by agreeing to do what I knew was wrong did take some time for me to understand. When it finally hit me that I was an active participant in my own destruction, I wrote about it, but what I wrote transformed into something else.

That was when I wrote my first article ‘Bringing the Steel Detailer into the Design Process.’ It appeared in the Seattle Daily Journal of Commerce, Construction and Equipment Issue in March 2003. It was this article that got the attention of Robert Beauchamp in Montreal, Quebec, Canada. The one that made Robert call John Linn, then president of the NISD. This article, and because of Robert’s notice of it, changed my life.

The phone call I received from John Linn was an invitation to speak about my article with the National Institute of Steel Detailing members at their annual meeting in Montreal. Further, I was asked to speak again at their next meeting in Las Vegas.

I was unaware of the NISD despite my years in the fabrication industry and even having worked in steel detailing. I learned much about the NISD and became

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BIMForum Activities

by David Merrifield

Since its beginnings in 2010, the NISD has been deeply involved in the creation and continued improvement of the LOD (Level of Development) Specification. This specification was first issued in 2013, and in 2015, NISD was the first endorser of the spec. and its logo appeared on the cover. That same year Masonry BIM also became an endorser just before publishing. This year others have added their names and it continues to build acceptance. Later in the fall of 2016, AISC joined the organization.

During this last year we have continued to present webinars on the monthly schedule promoting CD-BIM and laying the ground work for the advance Level II, which will be a trade-specific certification entitled “Steel Construction.” This course work is aimed at presenting to new detailing modelers, and, most important to other trades that coordinate with steel construction, the aspects they need to know when interfacing with steel members. An example would be steel tolerances. A model does not address tolerances and often causes other trades to not address such items as camber, erection and ASTM rolling tolerances. This is just one of the many issues we hope to teach our fellow trade modelers.

At the present, several trade organizations have already started their certification Level II programs such as MEP, precast, and masonry. Each of these programs will be online free content with an exam at the end, which will have a modest fee for certification.

The joist industry and deck industry have agreed to be part of our part II. We were able to present these programs at the Fall BIMForum in Atlanta on October 18, 2016. These programs are the only modeling curriculum that uses the BIMForm LOD Specification in its coursework.

In early October I met with the AGC (Associated General Contractors) Education committee. They had expressed some concern that we were treading on their BIM training programs. Their program is CM-BIM and focuses on BIM managers. This program requires on-site class work, usually at an AGC local chapter boot camp, and takes several days and close to three thousand dollars to complete. CD-BIM is for the individual modelers and BIM managers. We agreed to include a description of their program in CD-BIM and expressed that the natural progression to CM would be for a trade modeler desiring to become a BIM manager.

What is Industry Lift?

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crane and rigging, and finally, transportation. This view of the steel supply chain, inclusive of all trades, describes how far reaching the steel trade is. All of the individuals who work in each capacity of the steel supply chain have specific industry knowledge, much of which is only available by on-the-job experience. A high school feeder program would provide trade specific education for the students and help them to become a resource for industry employers. Career path opportunities that do not require a four year degree would be provided, with the focus here designed to help prevent kids from dropping out of school.

Facilitate accessibility

The Industry Lift website would provide links to industry partners which would help those looking for job opportunities and career resources. Education resources provided through Industry Lift would provide a direction for career paths. As an example, those seeking information for continuing education for computer-aided detailing programs would find industry specific links to college level classes or two year programs for steel detailing like those offered at the North Central Technical College in Wisconsin, or the opportunity for continued education and certification through the link to the National Institute of Steel Detailing. The possibilities are endless for such links to opportunities.

Mentorships with industry professionals

Connections through Industry Lift would provide access to Industry professionals wanting to mentor others. Please visit the website for Industry Lift at www.industrylift.org. There are videos and updates for past events. This website will be updated as Industry Lift grows! Keep an eye out for the next Industry Lift Round Table opportunity in which you may participate. Giving back is not a new idea, but being able to give back your own trade knowledge to individuals who seek it, can be truly fulfilling. All you have to do is show up and be available!
SDS/2 Users Group Meeting - 2016

by Kerri Olsen

Conversations were lively as I attended the SDS/2 users group meeting October 12th thru the 14th in beautiful downtown Lincoln, Nebraska. This is my third visit to the SDS/2 Users Group Meeting, and I do notice a marked increase in interest and enthusiasm regarding the NISD. It is always wonderful to meet new people, to learn about the work they do, and to hear about their own thoughts and activities regarding membership and certification. As always, there are the friends and familiar faces from previous years that make the trip extra special.

Events where we can meet other NISD members are few. It is a grand opportunity to be able to come to know fellow steel detailers who I would not otherwise meet. I make it a personal priority to attend events like the SDS/2 Users Group Meeting and the NISD Annual meeting as I feel it to be a career necessity. I always learn things I never thought I might, and never would have, had I opted to not attend.

Active members sometimes serve on committees – our own president Joel Hicks is now serving on the board for the AISC Code of Standard Practice. Dave Merrifield, the Southwest Chapter Director, is also active with the steel fabricators’ association in his region. These are just two that I know about. I don’t get to hear what the rest of our members are doing out there as there is no other incoming information available. An email or phone call from individual members or chapter directors to the NISD office is welcomed, as these bits of information, when allowed, may be included in the Connection. Even a fully drafted article about member involvement on a project would be greatly appreciated!

Looking over the last Connection, I noticed that new membership has doubled and certifications have tripled over this past year. There is increased participation by our overseas industry partners. This increase in NISD membership and certification is to be celebrated! Involvement breeds enthusiasm – it is wonderful to know we have more seasoned detailers ready to take on the available work!

My hope is that I do get to meet the new members and our newly certified steel detailers – as well as our existing ones - at our annual meeting. I always wonder about what the steel detailing life is like for those in different areas and in trades other than my own. At the annual meetings, there is the Friday night meet and greet, the Saturday presentations for attendees, and the President’s Banquet on Saturday, all designed to help us to enjoy our time with our brethren. When the interest is there, a day of golf might be offered, which allows for more time to connect. This type of networking gives us hope for the future, as we take this opportunity to meet others of like minds, and with whom we may strike up a partnership. These contacts may be able to help us when we are overloaded, or maybe offload some work our way when others are too busy. Opportunities which may not otherwise be available allow us to better support our customers.

My contact with steel fabricators through my work always invites conversations regarding steel detailers. For referrals, I first pull from my list of certified steel detailers I have personally worked with, and then I can provide references local to the fabricator I am talking to. It is much easier for me to make referrals of those steel detailers I have met and worked with personally, as I am then more familiar with their thoughts on business practice and fabricator support. I always direct them to the Membership Map at the NISD website. These contacts are essential.

When a steel fabricator asks for steel detailing references, it is usually on the heels of having heard the steel fabricator’s stories of woe regarding the nightmarish project conditions they believe were caused by bad steel detailing. As the story unfolds, the root cause of their problem becomes apparent – at least to me, and in general terms I am usually able to provide for them some insight with what they as project managers could or might have done to support a more successful outcome. Using a certified steel detailer tops the list of options. After having explained some possible workable solutions, I will then offer a few references, matchmaking the steel fabricator with a steel detailer best suited to meet their needs. I am always pleased to later find out about the success of these matchmaking efforts, both from the detailer and the fabricator.

As this year ends, I look to the next year with hope for the future. My own hopes and dreams for the continued success of industry partners is founded on the continued growth and success of the NISD and our members. Even the smallest of promotional efforts towards NISD education and involvement is far reaching and affects all of us in a positive way, offering unquantifiable possibilities. My attendance at the SDS/2 Users Group meeting is my contribution, and I look forward to it. I also look forward to meeting you at the next NISD Annual meeting in San Antonio in March!
a member. I support and promote the Individual Steel Detailer certifications and Quality Procedures Program provided by the NISD.

What I have come to understand is this: The principles presented in the NISD Industry Standard serve not only to protect and support the steel detailer who follows them, but also protect and support the entire project team. Steel Detailers who execute the NISD Industry Standard procedures and processes help keep team players from making decisions that ultimately lead to disaster.

The NISD Industry Standard is a compilation of the knowledge and experience of NISD members; the adaptation of the standard by industry partners is what saves us from ourselves. It rights the wrongs in any job, and helps us all towards success. Following the guidelines of the NISD Industry Standard will lead to a positive outcome, both for us and for our clients.

The NISD Industry Standard allows for early detection of issues, missing information and conflicts. This early detection then maintains the responsibility of the source. All that is needed is to follow that process and procedures written in the standard, as many of us fail to do. Our own clients often do not support our need to use some of the elements within the standard, and we comply with their wishes instead of choosing to do what we know is right.

We must learn to stand our ground using the process and procedures outlined in the NISD Industry Standard. We fail ourselves and our industry partners when we do not strive to maintain the level of excellence offered by implementing the NISD Industry Standard.

We fail our client by not helping to protect them against themselves. The NISD Industry Standard promotes accountability through the process and procedures for us as steel detailers. The behaviors we adapt also force accountability with every trade partner intertwined to our work. This extended behavior of always striving for the highest level of excellence, it could be said, is the main reason for having an Industry Standard.

The general contractor was at fault for not taking immediate action when I presented the letter. The steel fabricator was at fault for not pushing the general contractor into immediate action. The general contractor and the steel fabricator both hid behind the fact that the steel detailer was unable to produce accurate and timely drawings from incomplete design drawings. While the truth prevailed eventually, everyone suffered during the entire course of that job, and blamed me the whole time.

My anger and frustration manifested itself into a call for change. This call for change had gotten the attention of one NISD member who understood, and acted to promote these ideals as they were one and the same with most NISD members and many other steel detailers in the world.

It was Robert Beauchamp who gave my words credibility. Robert Beauchamp had given me the opportunity to join with a group of people with like minds and hearts. This association expanded my knowledge and understanding of the industry in ways I was unable to do alone.

I was humbled by what I had learned regarding my association with the NISD. I began to see the bigger picture and I now understood how the process and procedures worked to support not just the steel detailer, but the entire industry as the correct process for managing a project. What I came to know was this: Success with a project is the result of process and procedures implementation as outlined in the NISD Industry Standard.

I now realize that Robert not only helped to promote my ideas and my writing, he helped me to learn all the rest. I am so very grateful to have known him. I am deeply saddened that he is gone.

I did get the opportunity to tell Robert what he had done for me and thanked him during a dinner we had while attending the NISD annual meeting in Nashville. Robert was totally unaware of what he had done for me and my career, and I am now very glad for having had the opportunity to explain how important he was in my life and how he had changed me and my career for the better. I can still hear his voice, and feel his presence, and I hope to never lose my connection to him. He provided hope and direction when I was foundering and feeling lost and alone in my career. The connection with the NISD that he introduced to me changed my course and changed my life, and for that I am forever grateful. Thank you, Robert.
Model Sharing with Multiple Detailing Offices

by Craig Unthank – Revision Zero

Recently John Linn requested that we submit one of our projects to feature in this newsletter. After discussing with John, I felt it may be beneficial for the NISD members to understand some of the recent advances in technologies that we’ve been using to collaborate with other organizations, including other detailers, fabricators, engineers or even all of these organizations at the same time on the same project.

Another reason I thought this would be beneficial for the NISD members is that due to globalization steel detailing has more or less become a commodity. With mounting pressure from offshore companies with their lower staff costs, lower overheads, etc., many North American detailers are finding it more and more difficult to compete. The technologies I discuss below could be used to:

1. Collaborate with other detailers to increase your resources to chase larger projects
2. Collaborate with offshore detailers to lower your total overall project cost. Depending on the location of the offshore detailer this may allow work on the project to continue effectively 24hrs/day

We’re a Tekna only office, so whilst some of the discussion below will be Tekna specific, the majority of it relates to sharing any type of model/data/file across different offices.

In the past, trying to collaborate with another organization or even across different offices within the same organization, was at best difficult and at worst impossible. Some of the difficulties encountered when collaborating across sites/offices included:

- Knowing when a new version has been created
- Having multiple copies of the same file
- Having multiple ‘standard’ libraries
- Poor performance/Latency accessing files across a WAN (Wide Area Network)
- Having different folder structures
- Maintaining security of the files and server access rights

The impact of these issues on projects has the potential to be significant. Some of these issues include:

- Significant downtime waiting for files to transfer between offices
- Having to merge multiple versions of models
- Offices using different ‘standard’ libraries
- Having to redo work as a result of losing data due to corrupted files or overwriting of newer versions of files with older versions

- Significant time required to manage the process, i.e. ensuring that everyone is using the correct version

Up until 18 months ago we’d used email, FTP transfer and cloud storage, i.e. Dropbox to try and collaborate with other companies. I use the word ‘try’ as, although we were able to collaborate with other companies, it was a very laborious process and as noted above there were potentially significant issues involved.

The process we’d used in the past, was to set up the project in one office and then send the entire project including all of the standard database libraries and the folder structure to the remote office. The remote office would then work on a particular phase and when completed they would then export that phase and send it to us to import into the consolidated model. Although this procedure worked there were potentially significant issues with this process such as:

- The remote office never had a full ‘consolidated’ model
- Only one office could edit the drawings, thus reducing the potential time savings compared to fully utilizing all of the resources available between the different offices
- If a standard library was updated, e.g. a special bolt type added, care was needed to ensure that all of the offices were updated with the revised database

Over the past 12 to 18 months we’ve been using two technologies that allow us to work on the same model concurrently. The two technologies that we’ve been using in our office are:

1. Tekna Model Sharing (www.tekna.com/modelsharing)
2. A Global File Locking System provided by Panzura (www.panzura.com), which essentially mimics the local Windows File Locking System

We’ve been using Panzura for about 18 months and Tekna Model Sharing for about 9 months.

The rest of the article will discuss how we’ve used each of these technologies and give our thoughts on the pros and cons of each Tekna Model Sharing, as can be guessed by its name, allows for sharing of a Tekna model between different offices/sites. This is a relatively new service that was first made available in Tekna Version 21.

To start Tekna Model Sharing, a user will share their model, which will upload the model to a cloud service provided by Tekna. The model can then be shared by inviting other users. When a user joins the shared model, it’s downloaded so that the invited user has a local version of the model. The model is then able to be worked on locally, even
Model Sharing with Multiple Detailing Offices

without an internet connection. To synchronize any changes to the
model the user must “write out” the changes. If the cloud model has
changed since their last synchronization, the changes will be read in
first before any of the local changes are written out. The synchroniza-
tion is relatively fast as only the changes are uploaded/downloaded.

![Diagram of Tekla Model Sharing Structure](image)

We’ve used Tekla Model Sharing on a number of projects now and
have found a few issues with Tekla Model Sharing as follows:

- Although the licence is transferable, there’s up to a 3-hour delay
  in the licence being released and then available to another user.
  Effectively that’s up to a half day of down time for the licence
- We’ve had an instance where the service crashed, which re-
  sulted in one of the local models becoming disconnected from
  the cloud model. This resulted in having to redo all of the work
  as there’s no way to reconnect a model to the shared service.
  On this occasion we were lucky in that we only had two users
  in the shared model and it only disconnected one of the users
- The model can only be used in single user mode, meaning that
  if you have multiple people in the same office then they still
  have to write and read their changes to the cloud model
- As per its name the service only works for Tekla, meaning that
  your project drawings, RFIs, etc., will still have to be trans-
  ferred/synchronized by another service
- We’ve found a little bit of latency/delay when
  opening drawings
- Although I haven’t verified this, if you were to have a large
  number of users on a single model, then the combined write/

read times would become an issue due to latency over what is
effectively a WAN.

So you may be thinking there are some potential show stoppers. So
here’s why we’re still continuing to use it:

- It’s the most cost effective solution that we’ve found to date that
  allows for multiple offices to work on the same model
- All of the model changes are color-coded, meaning it’s easy to
  see what others have changed in the model
- To use the service you need to be a registered user with Tekla, 
  meaning that all of the unlicensed users/pirates out there won’t
  be able to use the service. What I’m unsure of is whether a 
  firm that may have, say a Project Viewer licence, and thus be a 
  registered user company but have 50+ full pirated licence (yes, 
  they exist) might be able to use the service. Hopefully Tekla
  performs a licence check whenever someone connects to the
  model
- We own a number of the Tekla Model Sharing licences and as a
  service to our clients, we share our licences with them. This has
  resulted in us securing projects that we may not have been able
  to secure previously
- Effectively the service acts as a multiuser model, even though
  everyone uses the model in single user mode. The only issue
  is the potential lag/latency in synchronizing the model, though
  this is kept to a minimum, as only the changes to the model are
  synchronized

The other technology we’ve been using over the past 18 months is a
Global File Locking solution by Panzura (www.panzura.com). As
mentioned above this essentially mimics the file sharing/file locking
capabilities of Windows Server resulting in a WAN but at LAN (Local
Area Network) speeds.

Using this solution since July 2015, we’ve been working on a series
of projects with another steel detailer, together with a structural
engineer, to deliver 6 projects totalling approximately 50,000t of steel
with only 5 detailers in our office for the majority of the time.

Panzura has allowed all 3 officers to work on the same model
to deliver not only the shop fabrication drawings but also the
engineering drawings as well.

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These projects have demonstrated to me how efficiently projects can be delivered when you have both the engineer and detailer working on the same model. To deliver the projects the engineer has been stick-modelling the buildings. They’ve then sent through sketches of the connections, which are then modelled in either of the detailing offices. Once the building is connected, the engineer has then used the model to produce their engineering drawings at the same time we’re completing the detail drawings.

Panzura has allowed us to work on these projects effectively 24hrs/day as our office is based in Manila and both the engineer and other detailer are based in the eastern time zone in North America.

Another benefit of Panzura is that it creates regular snapshots of the files without having a file replication server in your office. This means that at any time you can roll back to an earlier copy of the model.

The downside to Panzura is the high initial cost; in this case the cost of the 3-node setup was approximately $100,000 and also required a high-speed internet connection. We had to upgrade our connection to 10Mbps up/down. The high cost of the setup is partially offset as replication servers are no longer required in any of the offices. Together with the historical snapshot and due to the model being stored in the cloud and replicated across multiple locations by the cloud service provider, this could also replace your data backup.

If considered as part of a multi-office network infrastructure that provides centralized data storage and data protection/backup, then $100,000 may not sound so expensive, especially since a server for a single office could cost $15,000 to $30,000. If you have a replica server, then double those costs, throw in some additional costs for data backup, etc., and the cost for the 3 offices would easily exceed $100,000.

So which one is the best solution? My answer - both. Depending on the project and the relationship you have with your client, either is a great solution.

Tekla Model Sharing wins for its low cost, ease of set up, requiring no technical skills, and its portability, i.e. if you wanted you could put the model on your laptop and head off to the beach for a few days and then synchronize it when you get back. It will also still function on a slow internet connection.

Despite its high initial cost, I believe that the Panzura solution offers a more robust long-term solution to working across multiple offices. It also allows all of the project files to be synchronized, not just the Tekla model. If you use SDS/2 or even AutoCAD this is the only solution that I’ve seen that is currently feasible for central file storage across a number of offices with minimal latency issues.

Hopefully you’ve found this article interesting and that it’s given you a few ideas. If you’d like to find out a little more detail about how the above technologies have allowed us to collaborate with other detailers and fabricators, feel free to reach out to me.

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