



Granite Columns



President's Letter



Merry Christmas, Happy Holidays!

We are gearing up for year two of the Structural Engineering Excellence Awards. Year one was a great success with great competition. The winning projects were excellent representations of what NH structural engineers can do. I'm interested to see what you have all been working on.

As I announced at the last meeting, NHDOT is hosting a free training opportunity put on by the FHWA Resource Center. Introduction to Element Level Bridge Inspection will be held on January 30th and the morning of the 31st. At this time, registration is not yet open and I don't have any further details, but certainly save the date!

In other news, the Qualifications Based Selection (QBS) Coalition is now defunct. This group sought to educate owners regarding the benefits and requirements for utilizing QBS and, in theory, stepped in when the QBS process was not being utilized as required. SENH had sponsored this group in the past, but recognized that the majority of SENH members who worked on State and Federal projects where QBS is required were also members of ACEC-NH. ACEC-NH has pledged to assist with QBS enforcement in the coalitions absence. Additionally, web content regarding the QBS process now lives on the ACEC-NH website.

Back in the August President's Letter, I introduced the Board's effort to create a strategic plan for SENH. To prepare for developing the plan, I attended two Communication Webinars hosted by NCSEA, and made available to Member Organization leadership. I believe this is good forum to share some information and ideas that I found relevant to SENH.

Lunch & Learns

NCSEA conducted a nationwide survey and found the respondents enjoyed "lunch & learns" provided by their local Member Organization. As far as I know, this has not yet been something that SENH has provided, however NCSEA offers assistance to pull this off. The Board is looking into this further as an added benefit to SENH members to earn low cost PDHs.

Online Forum

Survey respondents also expressed their desire to have an online forum, where their local members could have a place to openly discuss industry issues. This was briefly discussed at our last Board meeting, but did not garner support due to SENH's relatively small size and the likely effort to moderate the forum. However, if an SENH member is passionate about this opportunity, please step forward and this can be revisited as another additional benefit.

Dues

SENH annual dues are currently \$55, which is the fifth lowest of the 44 NCSEA Member Organizations. The range is \$40 to \$300 with a mean of \$120 and median of \$100.

The SENH Board decided to increase dues this year to \$65, which is anticipated to raise approximately \$1,200 in additional revenue. A couple years ago, the Board decided to increase our support of UNH students by offering two \$1,000 scholarships, based on that decision, we are now experiencing these expenditures. I hope that all within in the membership will find the extra \$10 a year beneficial to reaching the goals SENH sets in the coming years.

Wishing you a Happy and Healthy New Year! If you have any comments, concerns or would like to get involved, please feel free to contact me at president@senh.org or you can call (603) 356-6936.

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Special Points of Interest/ Reminders:

- *The next meeting is January 18th! See inside for details.*
- *Check inside for information on the annual Excellence In Structural Engineering Award submissions*
- *DUES RENEWALS are due January 31! See Page 8 for the Renewal Form*

SENH Committee Updates

Excellence in Structural Engineering Awards Committee Submitted by Robert Durfee, P.E., SECB

This committee has continued to develop and revised/update the protocol and procedures for the second (2018) annual SENH **Excellence in Structural Engineering Awards Program**. This program identifies and recognizes outstanding structural engineering projects specifically designed by our Members and/or constructed in our State.

The Committee has issued the **Call for Entries**, which is included in this newsletter. Deadline for project submissions is March 1, 2018. Award winners will be announced during the Awards Ceremony to be held during the May 2018 meeting.

Detailed information on the Awards Program, entry requirements, etc. is posted on the SENH website. Go to Members/ Excellence Structural Eng.

New for 2018! A Small Firm Project Award Category (Firm of 10 Employees or Less) has been added to this year's program to encourage the many small firms that make a significant portion of our membership, to enter your projects. See details on the SENH website.

Enter one or more projects in the awards Program and be recognized for your outstanding Structural Engineering Achievements!!!!

SENH January Meeting Announcement

NEXT MEETING: Thursday, January 18, 2018

PRESENTATION #1: **NHDOT Bridge Program Update**, by *Robert Landry, PE – Find out what has been going on at NHDOT and what is on the horizon.*

SPEAKER: Robert Landry, PE – NHDOT Bureau of Bridge Design Administrator

PRESENTATION #2: **WYNN Casino, Everett, MA:
A 3.6M Sq. Ft. Casino & 22-Story Hotel Design Project**



One of the largest privately funded construction projects in New England is also one of the fastest to be constructed. The Wynn Casino represents a complex design with many challenging aspects in the below grade garage, the post-tensioned Hotel and the long span convention center. The project will have up to 4,000 construction workers on it at a time.

SENH January Meeting Announcement

Continued from Page 2

SPEAKER: *Adam McCarthy, PE* - Principal, McNamara • Salvia

Mr. McCarthy a member of McNamara • Salvia team for over 20 years, possesses a detailed approach to structural design and project management. Adam is well-rounded in all aspects of complex structural systems, as well as respected throughout the industry for his experience and strong collaborative skills. In his spare time, he shares his expertise as a structural advisor to architectural thesis candidates at the Boston Architectural College.

Brent Shannon, PE - Sr. Project Manager, McNamara • Salvia

Brent has over 10 years of structural engineering experience primarily serving office, hospitality, and high-rise residential clients as well as mission-critical clients for complex office building conversions into high density data centers. He has delivered creative, simple, and cost effective structural solutions for challenges ranging from new structures constructed over and adjacent to dense urban infrastructure to navigating the International Existing Building Code to prevent cost prohibitive and unnecessary upgrades to retrofitted buildings.

PLACE: Grappone Conference Center

70 Constitution Ave. Concord, NH 03301

DIRECTIONS: Take I-93 to Exit 15W onto I-393 West. In ¼ mile, turn right onto Commercial St. Turn right to stay on Commercial St. Constitution Ave. and the Grappone Conference Center is 250 yards ahead on the right.

AGENDA: 5:30 pm – 6:30 pm Registration/Social Hour

6:30 pm – 7:15 pm Dinner

7:15 pm – 7:30 pm Business Meeting

7:30 pm – 8:45 pm Presentations

DINNER: Buffet with choice of Apricot Glazed Chicken, Petite Sirloin Strip and Country Style Pork Rib.

COST: SENH Member: \$60.00 Non-Member: \$65.00 Full Time Student: \$15.00 - 'no-shows' will be billed at full amount.

RSVP: by Thursday, January 11, 2018. There will be a \$5.00 late fee for anyone wishing to RSVP past this date.

Pay on line using PayPal at <http://www.senh.org/meeting-calendar> or send check payable to "Structural Engineers of New Hampshire" with list of attendees to:

TFMoran, Inc.

Attn. Cassi Beroney

48 Constitution Drive

Bedford, NH 03110

cberoney@tfmoran.com

November Attendance List & Meeting Minutes

Mass Timber Design: Engineering the Next Generation of Wood Design
The Puritan Backroom—Pappas Room, Manchester, NH (2.0 PDH's)
November 30, 2017

Name	Organization	Name	Organization
Alex Azodi, P.E.	Omega Structural Engineers, PLLC	Linda Perry-McNair, P.E.	Hoyle Tanner & Associates, Inc.
Brian Ki	Team Engineering	Matt Mullen	TFMoran Inc.
Daniel Martel, P.E.	Team Engineering	Michael Sievert, P.E. SECB, LEED	MJS Engineering, PC
Domenic Capulli, P.E.	Summit Engineering Inc.	Natalia Kulchitcky	TFMoran Inc.
Ed Weingartner, P.E.	Hoyle Tanner & Associates, Inc.	Paul Sbacchi, P.E.	TFMoran Inc.
Eric Caron		Robert Busby, P.E.	Kalwall Inc.
James Geary, P.E.	Structural Systems, Inc.	Robert Champagne, P.E.	Summit Engineering, PLLC
Jay Brown, P.E.	Structural Systems, Inc.	Robert Durfee, P.E.	Dubois & King
Jeffrey Karam, P.E.	Evergreen Structural Engineering, PLLC	Robert Vida, P.E.	TFMoran Inc.
Jeffrey S. Trexler, P.E.	Trexler Engineering	Roger Gayer, P.E.	
Jill Semprini, P.E.	Hoyle Tanner & Associates, Inc.	Roger Thibodeau, P.E., SECB	Twin State Engineering
Jon Nadeau	TFMoran Inc.	Ross Wood, P.E.	Hoyle Tanner & Associates, Inc.
Joseph, P.E.	Hoyle Tanner & Associates, Inc.	Sean Brown	Klienfelder
Josh Reilly, P.E.	Structural Systems, Inc.	Sean James, P.E.	Hoyle Tanner & Associates, Inc.
Josif Bicja, P.E.	Hoyle Tanner & Associates, Inc.	Steve Hodgdon, P.E.	Hoyle Tanner & Associates, Inc.
Katelyn Welch, E.I.T.	Hoyle Tanner & Associates, Inc.	Thomas Kilrain, P.E.	
Kayla Hampe, E.I.T.	Hoyle Tanner & Associates, Inc.	Tim Foy, P.E.	Summit Engineering, PLLC
Kenneth Marshall, P.E.	Foley Buhl Roberts & Associates	Tom Lamb, P.E.	TFMoran Inc.
Lily Beyer, P.E.	Summit Engineering, PLLC	Zachary Zavalianos	Dubois & King

Business Portion of the Meeting

The business portion of the meeting was conducted by Chris Fournier

- The younger member group has an upcoming social event at Strange Brew in Manchester in December
 - The younger Member group will have a panel discussion with UNH students in January
 - The younger member group welcomes more volunteers to join the group
 - The deadline for the Structural engineering scholarship opportunity has been extended to January 5th. Younger members are encouraged to apply for the scholarship to attend the SEI summit
 - SENH membership renewal forms will be in the next newsletter
 - There will be a Federal Highway to seminar January 30, 31 – details hopefully will follow in the next newsletter
 - The next meeting is scheduled for January 18. The presentation topics will be a NHDOT Bridge Update and a presentation of the Winn Casino in Everett, MA
 - Josif Bicja introduced the speaker Mark Rivard, P.E. of Woodworks.
-

Presentations

Mass Timber Design

Mass timber buildings are comprised of both solid and laminated timber members and laminated floor members, comprised of multiple dimensional lumber pieces, put together to make one building framing system. Examples include:

- T3, Minneapolis, MN – glulam post & beam framing combined with nail laminated timber decking.
 - Framework, Portland, OR – post & beam framing with diagonal decking
 - UMass Amherst Design Building, Amherst, MA -Post & Beam framing with two-way Cross Laminated Timber (CLT) floors
 - Brock Commons, Tallwood House, Vancouver, B.C. –Two-way CLT floor framing and timber column
 - Horizon Pavilion, Chicago, Il - Doubled CLT decking use for two-way span
 - Virtuoso Vancouver, BC-Zone framed CLT Mass Timber with standard light framed wood construction
 - Candlewood Suites Huntsville, AL-CLT framed wall and floor framing.
-

November Attendance List & Meeting Minutes

Mass Timber Design: Engineering the Next Generation of Wood Design

Continued from page 4

Mass Timber design should consider homogeneity, manufacturing capabilities and vibration (usually governs). Mass timber building materials include, standard decking, Nail laminated timber decking, Cross Laminated Timber (CLT) decking, timber beams and columns, glulam beams and columns and structural composite lumber beams and columns.

Mass Timber has been successfully designed in conjunction with the following lateral load resisting systems:

- Shear wall
- Moment frames
- Concrete shear wall
- Steel braced frame
- Other innovative system
- CLT shear pane
- Timber bracing system
- CLT panes with post tensioning strands

Most mass timber elements are in the building code including:

- Glue laminated Timber (Glulam)
- Nail Laminated Timber (referred to as mechanically laminated timber in code)
- Cross Laminated Timber (2016 International Building Code and later)
- Tongue and Groove timber decking
- Structural Composite Lumber
- Timber composite decking with concrete (not in code)

Glulam members are comprised of built up sections of many glued laminations. Glulam can be specified by layup or design values. V4 layup designation is common for simple spans as the top laminations are of lower grade. V8 layup designations are common for continuous spans as the top laminations have a higher wood grade. The engineered wood association (APA) provides design tables for beams while the American Institute of Timber Construction (AITC) has tables for column design aid. Visual grades include Industrial, Architectural and Premium; glues and strengths are the same for each grade. Glulams can be cambered (typically 1 to 1 1/2" dead load deflection). Additional camber, arches, trusses and beams used in the weak axis for decking are possible with glulam.

Nail Laminated Timber (NLT) is referenced in IBC section 2304.9.3 as mechanically laminated timber. Nail laminated timber should have gaps between members for wood shrinkage or expansion. The design for vertical loads is similar to designing a 2 by wood member spaced at 1 1/2" on center. Layup patterns for nail laminated timber includes simple span, two span and controlled random butt joints (not common). NLT is available in fluted deck configurations with combined 2 by sizes to create the profile; this has better acoustical performance. NLT vibration design should include common deflection criteria and vibration performance design for serviceability.

Cross Laminated (CLT) is comprised of 2 by wood members placed flatwise and layered in alternating directions with glue on the wide face. Sheet sizes are up to 10ft x 40ft and 3 or 5 layered laminations are available. Manufacturers are located in Montana, Oregon, Quebec Ca, and British Columbia Ca. Panels are manufactured to PRG 320 standard which is referenced in the current NDS. Panels generally have 12ft (3ply) to 16ft (5ply) spans. Most commonly, CLT is used for floors and roofs. CLT is also used for walls.

CLT design should consider the panels have a strong and weak axis. Rolling shear of the panels and creep should also be considered. Many manufacturers have design references for vibration. Additional information on CLT can be found in a 2016 Structure Magazine article and the CLT Manual available at www.rethinkwood.com

Mass Timber and heavy timber perform well in fire. Deflection and vibration are not considered in fire design calculations, only strength. 5ply CLT is needed for a 1-hour fire rating. The NDS and AWC Tech report 10 have provisions for fire. Fire design is based upon LRFD design. Glulam and CLT layup should be considered with fire design. Bearing is also a consideration in fire design. Many manufacturers provide test reports for fire rating.

CLT has been blast tested by 3 manufacturers.

2018 SENH Excellence in Structural Engineering Awards Call for Entries!

Structural Engineers of New Hampshire (SENH) announces the Call for Entries for the 2018 SENH Excellence in Structural Engineering Awards Program. The purpose of the program is to recognize creative achievement and innovation in structural engineering by SENH Members.

ELIGIBILITY

Entry must be submitted by a licensed Professional Engineer (P.E.) and Member of SENH whose practice or activity is primarily in the field of structural engineering. Projects must have majority of the structural design performed by SENH Members (50%). Project entry must have been completed, constructed and achieved substantial completion by December 31, 2015 or later.

The submittals will be judged based on the quality of the structural “design” portion of the project. Within the context of this awards program, “design” refers to the overall concept of any structure or structural system within a project. New projects, renovation and rehabilitation projects are eligible. Projects may be located anywhere in the world, with judging preference to projects constructed in New Hampshire.

CATEGORIES OF AWARDS

Awards will be presented in three project categories:

- Buildings: Commercial, industrial, institutional, public, or residential building
- Bridge and Transportation Structures: Vehicle, Railroad, or Pedestrian Bridge. Other transportation Structures
- Special Structures: Towers, dams, parking garages, marine structures, signs, specialty structures, unique structures
- A Small firm Project Award may also be presented for an eligible project at the discretion of the Jury.

One entry in each category will be chosen to receive the SENH Excellence in Structural Engineering Award. Non-winning projects from last year’s program may be re-submitted (one time resubmittal only), if all eligibility requirements are met.

JURY OF AWARDS

The selection of award recipients will be made by a distinguished Jury of Awards. There will be a minimum of three jurors. All jurors shall be structural engineers licensed as P.E.’s and Members of SENH. Jurors will have no connection or conflict of interest to projects submitted.

SUBMISSION OF ENTRIES

Visit the SENH website (<http://www.senh.org/excellence>) for program information, entry form, entry requirements, project eligibility requirements, and other criteria.

DEADLINE FOR ENTRIES

All entries must be either emailed (limit file size to 20 MB), or mailed to the SENH office by 6:00 p.m. EST on Thursday, March 1, 2018 to:

Email: admin@senh.org

Mail: SENH

PO Box 226

Manchester, NH 03105-0226

PRESENTATION OF AWARDS

The awards winners will be announced and the awards will be presented at a ceremony during the SENH May, 2018 meeting. A Design Firm representative must be present at the ceremony in order to win and accept the award, be featured in the next issue of the SENH newsletter and be posted on the website.

Our Sponsors

 DuBois & King CONSULTING ENGINEERS <i>Since 1962</i>	Bridges Civil/Site Dams Water/Sewer Airports Facilities
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 Hoyle, Tanner & Associates, Inc.		www.hoyletanner.com
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Employment Opportunities

STRUCTURAL ENGINEER

Why just vacation in the White Mountains when you can live and work here? While many think of the White Mountains as the perfect vacation destination, you could make this beautiful area your home. HEB Engineers is currently seeking a highly motivated professional to join our award-winning team as a full-time Engineer in the structural engineering field. Named 'Coolest Small Company for Young Professionals' in 2011, HEB offers employee-ownership and fulfilling work opportunities in our growing firm. With offices in North Conway, NH and Bridgton, ME, HEB offers civil and structural engineering, and surveying services to a diverse clientele.

Experience: 5 – 8 years of structural engineering experience.

Education: BSCE with structural concentration required; MSCE preferred.

Licensure: PE required; NH and/or ME PE preferred or ability to obtain within 3 months.

Software: Proficiency with Microsoft Office; advanced knowledge of AutoCAD required; MicroStation experience is a plus.

Requirements:

Ability to manage multiple projects simultaneously; direct the work of multi-discipline teams; and interact effectively with team members, clients, and the public.

Perform complex design calculations and coordinate the completion of reports, plans, estimates, and specifications for civil and/or structural projects.

Experience with steel, reinforced concrete, timber and prestressed concrete design and construction engineering required.

Previous experience with NHDOT and/or MEDOT is preferred.

Active participation in professional organization(s) is preferred.

Please send letter of interest and resume to: Jaimie Gagne, HEB Engineers, PO Box 440, North Conway, NH 03860 or via email to jjagne@hebengineers.com. For more information about HEB, visit www.hebengineers.com.



SENH 2018 Dues Renewal Notice



Member of

Renewal dues are as follows:

Member: \$ 65.00 Associate Member: \$65.00 Student Member: \$0.00 Retired Member: \$20.00

Please make check payable to SENH, and send with completed form to:

SENH
P.O. Box 226
Manchester, NH 03105-0226

BY January 31, 2018

**If sending one check for more than one person, please fill out a renewal form for each person.*

PLEASE FILL OUT COMPLETELY, THIS FORM IS USED FOR CONFIRMING AND UPDATING LISTS!

Please check one:

Member Associate Member Student Member Retired Member

NAME _____ FIRM _____

ADDRESS _____

PHONE _____ FAX _____ **E-MAIL _____

P.E. YES NO WHICH STATE(S) _____

If you are under 35 years of age, are you interested in participating in the Young Members Group? YES NO

Does the information provided represent a change in registration data from the previous year? YES NO

Do you wish to be listed on the website to accept calls from the public? YES NO

If yes - check all categories that apply : Bridges Buildings Residential Buildings Commercial

Do you hold any additional certifications such as SECB LEED Other _____

Do you wish for SENH to share your e-mail address with NCSEA to receive their announcements? YES NO

Do you wish to have your member information (except e-mail) included on the SENH Website? YES NO

Do you wish to have your name in the Member Directory on the SENH Website? YES NO

Voluntary SENH scholarship contribution: \$10 _____ \$20 _____ \$50 _____ OTHER \$ _____

Check # _____ Check Amount \$ _____

If you wish to have your "Linked In" profile shown on the SENH Website with your member directory listing, please provide the link here:

****Our newsletters are delivered via e-mail. In order to receive your newsletter via US Postal Service you must check the box below.**



Please send my newsletter via regular mail.



Structural Engineers of New Hampshire

P.O. Box 226
Manchester, NH 03105-0226

www.senh.org



Member of

Corporate Advertising

Introduction:

SENH accepts corporate advertisement for posting on its website and for inclusion in five (5) newsletters delivered electronically to its members. The postings will include a hyperlink to the firms website if desired.

Advertisement Format:

All advertisements shall be in the form a 1.3" x 2.3" business card and shall be submitted electronically in a .jpg or .pdf format.

Advertisement Fee:

An annual fee of \$100 is required for structural engineering related firms who employ at least one (1) Member or Associate Member of SENH. An annual fee of \$150 is required for structural engineering related firms who do not employ a Member or Associate Member of SENH. An annual fee of \$300 is required for non-structural engineering related advertisements. Advertisement Fees are for the Period of January 1st to December 31st. Advertisements received outside of the annual renewal cycle will be assessed a fee of \$10/month, \$15/month and \$30/month respectively.

For purposes of SENH advertisements structural engineering related firms shall include the following:

- Structural Engineering Design Companies
- Architectural / HVAC Design Companies
- Survey Companies
- Geotechnical Engineering Companies
- Manufacturers whose products are utilized in building or bridge construction
- Architectural Historians / Archaeologists
- Companies providing professional services to structural engineering companies (Accountants, Lawyers, etc.)
- Software companies providing structural analysis, CADD, estimating or scheduling software
- Other companies approved at the discretion of the SENH Board of Directors

The SENH Board of Directors reserves the right to limit the type of advertising accepted for use.



Structural Engineers of New Hampshire

P.O. Box 226
Manchester, NH 03105-0226

www.senh.org



Member of

Corporate Advertising Form

CONTACT INFORMATION:

Company Name: _____

Company Address: _____

Phone & Fax Numbers: _____

Website Address: _____

Contact Name: _____

Contact Phone Number: _____

Contact E-mail Address: _____

BUSINESS DESCRIPTION:

Company employs at least one (1) SENH Member or Associate Member.

Company does not employ at least one (1) SENH Member or Associate Member.

If second box is checked, please provide a brief description of business and how it relates to structural engineering:

ADVERTISING FEE:

\$100 – Structural Engineering Related Company employing at least one (1) SENH Member or Associate Member.

\$150 – Structural Engineering Related Company that does not employ at least one (1) SENH Member or Associate Member.

\$300 – All other companies.

SUBMIT COMPLETED APPLICATION WITH FEE TO:

Structural Engineers of New Hampshire
P.O. Box 226
Manchester, NH 03105-0226

SUBMIT ELECTRONIC ADVERTISEMENT

TO: admin@senh.org

Please Note: Electronic files may be submitted prior to applications and fees however the advertisement will not be posted until SENH has received the application and application fee.



**P.O. BOX 226
MANCHESTER, NH 03105-0226**

WWW.SENH.ORG



Member of

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