



STRUCTURAL ENGINEERS OF NEW HAMPSHIRE

Granite Columns



President's Letter



Wow, what a winter. Just when you think it is over the temperature drops again and it snows. It appears that (knock on wood) spring is finally here and the construction season (and golf season) is underway. I have noticed that even some of the (many) frost heaves have started to recede. I suppose the long winter makes us appreciate the spring even more.

A silver lining to the long winter and atrocious roads may be the passage of the gas tax (road toll) increase. Although only 4.2 cents (and not the 18 cents previously proposed) it is still a much needed revenue source for our deteriorating infrastructure. The extremely poor road conditions from this winter may open some eyes to the need for this funding. Thanks to those who have contacted their representatives and/or otherwise tried to educate the public on this matter.

I would like to thank my fellow Board members and the various committee members for the continued donation of their time and service to the membership. Everyone's efforts are appreciated and the organization could not continue without these volunteers. I would encourage everyone to consider volunteering their time on a committee and/or the Board. I would also like to again thank Deb Coon for her continued superb work keeping everything organized and moving forward.

After two years of service I will be stepping down as SENH President to allow others to fill the position. I will remain on the Board of Directors through my designated term. It has been a pleasure to serve as President and help guide the direction of the organization and look for better ways to serve the membership. The Board of Directors will gather at our annual summer retreat to discuss the Board reorganization. Board of Director Position updates will be publicized in our September Newsletter.

Thanks for a great year and I hope everyone has a great summer!

If you have any questions or comments please feel free to contact me at (603) 225-2978 or President@senh.org.

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Special Points of Interest/Reminders:

- *The next meeting is May 20th. See inside for details.*

SENH Members Presenting at the 2014 International Bridge Conference

The International Bridge Conference® (IBC) is the pre-eminent arena for the bridge industry in North America, Europe and Asia. Sponsored by the *Engineers' Society of Western Pennsylvania*, the IBC annually attracts over 1,500 bridge owners and engineers, senior policy makers, government officials, bridge designers, construction executives, and suppliers from throughout the United States and abroad. The 2014 IBC will be held in Pittsburgh, PA, June 8-12.

We are pleased to announce that the following papers and presentations by SENH members have been accepted for this conference:

PRESERVING A LONG TRUSS WITH ARCHES

Sean James, PE, Vice President, Hoyle, Tanner & Associates, Inc., Manchester, NH
Josif Bicja, PE, Project Manager, Hoyle, Tanner & Associates, Inc.' Manchester, NH

PRESERVING A UNIQUE SEVEN SPAN COVERED BRIDGE

Sean James, PE, Vice President, Hoyle, Tanner & Associates, Inc., Manchester, NH
Josif Bicja, PE, Project Manager, Hoyle, Tanner & Associates, Inc.' Manchester, NH

BRIDGE SLIDE SOLVES CHALLENGING SITE CONDITIONS IN MAINE

Thomas Kendrick, P.E., Director of Bridge Engineering, McFarland Johnson, Inc., Concord, NH
David Kull, P.E., Project Engineer, McFarland Johnson, Inc., Concord, NH

SIBLEY POND BRIDGE

G. Keith Donington, P.E., Senior Supervising Structural Engineer, Parsons Brinckerhoff, Inc., Manchester, NH

SENH MAY MEETING ANNOUNCEMENT

- NEXT MEETING:** Tuesday, May 20, 2014
- PRESENTATION:** **NH Supreme Court's June 2013 decision in *Kimball Union Academy v. Genovesi***, Jonathan Eck, Devine, Millimet & Branch Attorneys at Law, Manchester, NH
- SPEAKER:** **Jonathan M. Eck** is a member of the litigation department at Devine, Millimet & Branch, P.A. in Manchester. His practice focuses on representing businesses, individuals, and municipalities in litigation over a broad range of matters including contract disputes, premises liability, probate matters, and legal malpractice lawsuits. Jonathan also currently is the Vice President of the Manchester Bar Association. Jonathan received his law degree from Vermont Law School and is a graduate of Colby College in Waterville, Maine.
- PLACE:** The Derryfield Restaurant
625 Mammoth Road
Manchester, NH 03101
- DIRECTIONS:** **FROM THE NORTH:**

Take I-93 South to exit 8 (Wellington Road). At the end of the exit, take a right. At the first set of lights, take a left onto Mammoth Road. Derryfield Restaurant is located a few hundred yards on the left.

FROM THE SOUTH:
Take I-93 North to exit 8 (Wellington Road). At the end of the exit, take a right. At the second set of lights, take a left onto Mammoth Road. Derryfield Restaurant is located a few hundred yards on the left.
- AGENDA:** 5:30 pm-6:30 pm Registration/Social Hour
6:30 pm-7:30 pm Dinner
7:30 pm-8:00 pm Business Meeting
8:00 pm-9:00 pm Presentation
- DINNER:** Buffet with choice of Grilled Salmon or Chicken Marsala.
- COST:** SENH Member: \$50.00 Non-Member: \$55.00 Full Time Student: \$15.00 - 'no-shows' will be billed at full amount.
- RSVP:** by Friday, May 16, 2014. There will be a \$5.00 late fee for anyone wishing to RSVP past this date.

Please send check payable to "Structural Engineers of New Hampshire" with list of attendees to:

Hoyle, Tanner & Associates, Inc.
Attn. Deb Coon
150 Dow Street
Manchester, NH 03101
dcoon@hoyletanner.com
- NOTE:** 2.0 PDHs have been assigned for attendance to this program. Attendees are responsible for ensuring their check-in on the attendance list upon arrival at the meeting. Some members will be **golfing** before the meeting. To join in, please email Rebekah Gaudreau at gaudreaurj@pbworld.com no later than May 16th to be included on emails regarding any **golf plans**.

March Meeting Attendance List & Meeting Minutes

Various Presentations by UNH Students
University of New Hampshire (2.0 PDH's)
March 18, 2014

Name	Organization	Name	Organization
Matthew Allen, P.E.	JSN Associates, Inc.	Absubacar Konate	University of New Hampshire
Rachel Beaudry	University of New Hampshire	David M. Kull, P.E.	McFarland Johnson, Inc.
Lily Beyer	Summit Engineering, PLLC	Stephen Langevin, P.E.	Greenman-Pedersen, Inc.
Josif Bicja, P.E.	Hoyle, Tanner & Assoc., Inc.	Paul J. Lefbvre, E.I.T.	Michie Corporation
Sean F. Brown	Parsons Brinkerhoff	Douglas Locker	University of New Hampshire
Robert S. Busby, P.E.	Kalwall Corporation	Josh Lund, P.E., SECB	McFarland Johnson, Inc.
Zachary Chabot	University of New Hampshire	Ewen I. MacKinnon	University of New Hampshire
Robert Champagne, P.E., LEED	Summit Engineering, PLLC	Kenneth G. Marshall, P.E.	Foley Buhl Roberts & Associates, Inc.
Alice Chao, E.I.T.	Hoyle, Tanner & Assoc., Inc.	Patrick Massicotte	HTE Northeast, Inc.
Gregory Clauson	Hoyle, Tanner & Assoc., Inc.	Eric Ohanian, E.I.T.	Dubois & King, Inc.
Nathaniel Colp	University of New Hampshire	Linda McNair- Perry, P.E., SECB	Hoyle, Tanner & Assoc., Inc.
Normand G. Cote, P.E., SECB	NGC Structural, LLC	Richard A. Rouleau, P.E.	UNH Facilities
Steven F. Delia, E.I.T.	McFarland Johnson, Inc.	Adam M. Stockin, P.E.	Parsons Brinckerhoff
Jacob Doerfler	University of New Hampshire	Priscilla Tengdin	University of New Hampshire
Robert H. Durfee, P.E., SECB	Dubois & King, Inc.	Carter Terry	University of New Hampshire
Rebekah Gaudreau, P.E.	Parsons Brinckerhoff	Jeffrey L. Tirey, P.E., SECB	Tirey & Associates, P.C.
Scott Hartford, P.E.	Kalwall Corporation	Samuel I. White	McFarland Johnson, Inc.
Justin Keefe	University of New Hampshire	Dan White	University of New Hampshire
Tom Kilrain, P.E.	Department of Navy	Ross Wood, P.E.	CHA Companies

Business Portion of the Meeting

1. SENH President Josh Lund opened the membership meeting.
 - He gave a brief budget update stating that the finances are in good standing.
 - He stated that this is our annual meeting at UNH and the format is different than in the past. Project presentation will be presented by SENH members.
 - He turned the meeting over to PDC chairman Josif Bicja to introduce the technical presentations of the evening.
2. Josif Bicja mentioned that **The UNH Civil and Environmental Engineering Alumni Conference will be held on May 1, 2014 at the University of New Hampshire.** He invited everyone to attend this Conference. Presentations will be held in the Memorial Union Building and parking will be available in C-Lot. There were meeting flyers that were made available to all attendees.

Presentations

Engineers Without Borders

In January four students and their adviser Dr. Tom Ballestero traveled to the village of Lukodi, Uganda to finish the implementation of a clean water project, which involved well head protection and well disinfection. On the trip they also assessed for a new project within the same district. They met and evaluated six schools in the sub-county with projects ranging from latrines to an auditorium. Their decision, based on a number of factors to satisfy the national organization as well as their group, was to construct of a two family, teacher's quarters and a latrine at St. Martin's Primary School in Lukome, Uganda.

Students Without Borders

Students Without Borders presented their recent project in Peru. The project consisted of a water distribution and filtration system that involves laying new pipelines and implementing two slow sand filters to clean the water. This May a travel team intends to lay the pipeline with the help of an local NGO, GlobalAware, and implement pilot slow sand filters for collecting data for the full scale models .

Presentations *Continued from Page 4*

UNH Steel Bridge Competition 2014

This competition is meant to simulate the design and construction of a bridge in the professional world by creating a one-tenth-scale bridge that integrates the aspects of design, fabrication and construction. The bridge is designed and fabricated during the academic year, then brought to a regional competition to be judged. The bridge is judged on aesthetics and overall construction costs; which is based on the number of builders, deflection, weight and time of construction. The bridge team showed to attendees some bridge members that are currently being fabricated. The regional competition will be held at UMass Lowell. Good luck to the team!

UNH Concrete Canoe Competition 2014

The team's goal is to build an efficient canoe capable of winning in both the regional and national competitions. The maximum length of the canoe is restricted to 22 feet. The maximum width of the canoe is restricted to 36 inches. The team is currently working on the concrete mix design and several concrete cylinders are scheduled to be broken soon. The team initially looked at coloring the concrete, but due to budgetary limitations it was not pursued any further. The 2014 National Concrete Canoe Competition will be held June 19-21, 2014 at the University of Pittsburgh at Johnstown, Johnstown, PA. Good luck to the team!

Evans Road Bridge Rehabilitation Project, Wentworth, NH by Eric Ohanian, Bridge Engineer, DuBois & King, Inc.

The project involved the rehabilitation of a NHDOT "red-listed" one-lane bridge on a dead-end road. The presentation highlighted the duties, responsibilities, and perspective of a recent UNH graduate who worked on the project. The role of an entry-level engineer was discussed to inform soon-to-be graduates the level of involvement a junior engineer can have on a design team assessing and designing a bridge rehabilitation. The presentation reviewed the evaluation of alternatives that led to the final design which involved: rehabilitation of one concrete abutment, replacement of an old stone abutment with new cast-in-place concrete, and replacement of the steel stringers and timber deck superstructure with precast/prestressed concrete voided slabs and a concrete overlay. A temporary bridge was constructed to maintain one lane of alternating traffic at all times.

Whittier Bridge Replacement Project by Rebekah Gaudreau, P.E., Structural Engineer, Parsons Brinckerhoff

Several bridge types were investigated for the new eight-lane river crossing including signature bridges such as: extradosed, cable stayed, steel tied arches; as well as girder type bridges such as segmental concrete, single steel box, multi-steel boxes and plate girders. Twin network arch spans were ultimately chosen and carried through approximately 50% design before the project was turned over to the Massachusetts Department of Transportation. A 3D multimodal seismic analysis of the entire structure from abutment to abutment was completed as part of the preliminary design. Additionally, a cable loss analysis with cable loss scenarios involving the loss of 2 cables at a time was performed for the network arch. The presentation focused on understanding the behavior of the network arch, and preliminary analysis and design for seismic and cable loss events.

Bridge Slide Solves Challenging Site Conditions in Maine by David Kull, P.E., McFarland Johnson, Inc.

This Accelerated Bridge Construction (ABC) project involved the complete replacement of a functionally obsolete, single span steel truss bridge. After evaluating several conventional replacement options, lateral bridge slide technologies were selected, which allowed the bridge replacement to be completed within a 30-day roadway closure period. This project was complicated by the presence of extensive underground and overhead utilities, nearby residential properties, an active railroad track, and an adjacent historic arch bridge that could not be impacted. This project was the first lateral bridge slide developed by the MaineDOT.

Anyone interested in helping UNH students with their projects, steel bridge and concrete canoe competitions please contact Josif Bicja, P.E., PDC Chairman at jbicja@hoyletanner.com.

2.0 PDH's were earned by attendees for the technical presentations.

Respectfully submitted by Josif Bicja, P.E., PDC Chairman

APRIL, 2014

Built, Not Bought

VOLUME # ISSUE #



Newly built bridge for the 2014 Regional Competition

2014 STEEL BRIDGE TEAM

Seniors

Rachel Beaudry - Captain
 Devon Christen
 Paige Dickie
 Chris Dowd
 Justin Pennell
 Kevin Tisdale

Underclassmen

Lindsey Adams	Melinda Kline
David Agan	Bobby Langlands
Angela Beaulieu	David Latham
Celia Belletete	Trent Lofaro
Cameron Bellisle	Ian MacKinnon
Patrick Bogle	Joshua Mele
Benjamin Brock	Adam Murphy
Sean Chamberlin	Jessica Paskoski
Matthew Coleman	Lindsey Rago
Nathaniel Colp	Priscilla Tengdin
Tristen Corey	Ryan VanderHeijden
Russell Fink	Kimberly Vigneau
Connor Golden	Courtney Waterman
Tanner Kent	

The University of New Hampshire Steel Bridge Team is excited to compete in this year's North Eastern Regional Competition at UMass - Lowell from April 25-27. The team spent all last semester using Visual Analysis to design a bridge to fit the guidelines set by the national committee (rules can be accessed here: <http://www.aisc.org/WorkArea/showcontent.aspx?id=21576>). This year's seniors worked hard to incorporate every member of the team in the design process. All members were encouraged to design their own bridge. Senior's mentored underclassmen and taught them how Visual Analysis works, so the underclassmen can design future bridges!

Like teams in the past, this years steel bridge team is welding their own bridge. Many teams from around the country send their designs out to be professionally fabricated. It is a point of pride that the UNH Steel Bridge Team fabricates their own bridge. Underclassmen are taught how to use bandsaws, chop saws, grinders and the best way to file down an edge for welding. They are introduced to shop safety and welding, along with many other important aspects of working with steel.

The UNH Steel Bridge Team is always accepting donations! We work hard to minimize the cost of being part of a team, and part of that includes raising our own funds. If you would like to donate to the UNH Steel Bridge Team please contact Rachel Beaudry by email at red54@wildcats.unh.edu. If a company or person donates over \$150 or more their company logo or name will be featured on the back of the team t-shirts!



Last years team after competing at the make up competition at Norwich University.

UNH STEEL BRIDGE TEAM

33 Academic Way
 Durham, NH 03824
 (603) 724-7812 cell

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Employment Opportunities

STRUCTURAL ENGINEER

Hoyle, Tanner has an exciting career opportunity for a structural engineer with 8 to 12 years of project management experience in structural building design. Our team in Portsmouth provides services to architects, builders, and municipalities for projects which include commercial, municipal, educational, recreational, industrial, and medical facilities throughout the Northeast, Florida, and USVI. The ideal candidate will have the ability to manage projects independently with strong Revit and AutoCAD skills preferred. BSCE and PE required.

Hoyle, Tanner & Associates, Inc. is an employee owned, mid-size national consulting engineering firm with offices in the Northeast, Florida and the Virgin Islands. Our multi-disciplined work setting offers opportunities to take ownership of your career. The Portsmouth, NH office offers a great work environment in a lovely New England seacoast community.

Hoyle, Tanner & Associates, Inc.

To join our growing team please send resume and cover letter citing career code WRD10214 to: [sfournier@hoyletanner.com](mailto:sfourmier@hoyletanner.com). Hoyle, Tanner & Associates, Inc., 100 International Drive, Suite 360, Portsmouth, NH 03801, or e-mail Visit www.hoyletanner.com for more for more information & opportunities AN EQUAL OPPORTUNITY EMPLOYER

Senior Structural Engineer (Buildings)

Engineering Ventures, PC is currently seeking a Senior Structural Building Engineer to join our Structural Group in our Burlington, VT office. The ideal candidate for this position will have 10-20 years of experience in a professional environment and will be joining a diverse practicing, team oriented environment. This person will interact with clients and contractors. Strong technical skills combined with clear and concise written and verbal communication are important. Schedule flexibility to assist others and perform assignments as workloads dictate and require. The ideal candidate would possess excellent project management and communication skills along with an established record of time management.

Job Responsibilities:

- Design and supervise the development of structural construction documents for buildings structures using integrated analysis software with CAD and BIM based tools for varying project delivery protocols. Conduct construction administration phase work.
- Manage the project team and information, as well as financial and billing terms.
- Business development work with new and existing client contacts. Prepares and submits proposals

Job Requirements:

- Bachelor's Degree in Structural / Civil Engineering from an ABET accredited program
- 10 years of experience in structural design, analysis, inspections, specification writing, construction observation, and project management of building projects.
- PE or SE licensure, including Vermont or ability to become registered in Vermont.
- Strong written and verbal communication skills
- Design experience with new and renovation projects involving includes steel, concrete, timber, and masonry structures as well as specialized analysis and existing condition assessments.

Looking at future in Vermont? See more at www.engineeringventures.com Email your interest to Trish Densham at trishd@engineeringventures.com.



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

WWW.SENH.ORG



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