



CONNECTIONS

February 2014 Volume 14 Issue 5

Newsletter of the
Structural Engineers
Association of Oregon

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Upcoming SEAO Meetings and Events:

Wednesday, February 19, 2014: SEAO Seminar

Topic: The 2012 IBC & ASCE 7-10 Code Change Structural Provisions

Speakers: SK Ghosh & Susan Dowty

Location: Embassy Suites, 9000 SW Washington Square Road, Tigard, Oregon

Time: 8 am to 4:30 pm

Contact Jane if you have any questions about late registration at jane@seao.org.

Wednesday, February 19, 2014: 50th Annual Engineers Week High School Banquet

Location: DoubleTree Hotel Portland (Lloyd Center), 1000 NE Multnomah Street, Portland, Oregon

Time: 6:30 pm to 8:30 pm

Speaker: Professor Mark Weislogel from Portland State University

Topic: When Gravity is Gone, Weird Stuff Happens: Experiments in Space

See Page 4 for additional information.

Visit the website at <http://www.signupgenius.com/go/10C0F4CA5AE2DA1FF2-20141> to register to attend the banquet.

Thursday, February 20, 2014: SEAO YMF Happy Hour

Location: Rogue Brewery, 1717 SW Park Avenue, Portland, Oregon

Time: 5:30 pm

See Page 4 for additional YMF information and events.

Thursday, February 27, 2014: SEAOSF TRADE SHOW

Location: Monarch Hotel & Conference Center, 12566 SE 93rd Avenue, Clackamas, OR

Time: Trade Show—5:00 pm to 8:00 pm ; Mini-Seminars—11:00 am to 5:00 pm

See Page 3 for Trade Show information and Page 12 for Mini-Seminar schedule.

Tuesday, March 11, 2014: SEAO YMF Winterhawk Game

Opponent: Tri-City Americans

Location: Veterans Memorial Coliseum, Portland, Oregon

Time: 7 pm to 9:30 pm

See Page 4 for additional information.

NEWSLETTER COMMITTEE CALL FOR VOLUNTEERS— TO ASSIST WITH WRITING MEETING RECAPS: David Tarries is looking for assistance with writing meeting recaps. If you are interested in helping SEAO out with this service, please contact David Tarries (david.tarries@kpff.com) or JoMarie Farrell (jomarie@equilibriumllc.com). You will earn PDH hours for writing the articles and will have the inside track on information presented at the meetings. There are approximately five to seven presentations a year. Even helping out for two or three would be greatly appreciated.

CONNECTIONS is a monthly publication of the Structural Engineers Association of Oregon, published to disseminate current news to our membership and others involved in the profession of structural engineering. The opinions expressed reflect those of the author and, except where noted, do not represent a position of SEAO.

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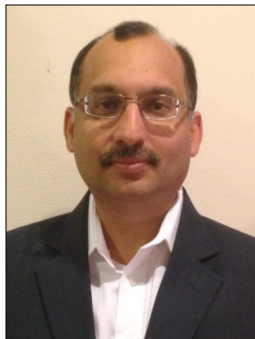
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PRESIDENT'S MESSAGE: REFLECTIONS ON CODE CHANGES

By: Amit Kumar, S.E., P.E.



After what seems to be an eternity and an incredible amount of hours of volunteer effort by SEAO Snow Load committee, we have finally gone to publication of the fourth edition of the Oregon Snow Load Manual. The new and improved manual updates

the previous edition with the latest information and incorporates the white paper that was issued updating the third edition. Details on how to order your own copy will be sent out to all members shortly.

The snow load map that accompanies the manual is available electronically at SEAO's website seao.org. This is an interactive look-up map that provides ground snow load values based on the location's latitude and longitude. This snow load map has been up on our website for a while. A word of caution about the use of this map: even though the map has the most up to date information currently available, the State of Oregon has not officially adopted the map as part of the Oregon Structural Specialty Code. SEAO and the Snow Load committee are working with the State to adopt the map using the Alternate method procedures. We hope to have resolution very shortly. Till such time please check with your local jurisdictions before using the map. We are also working with ASCE 7, Snow and Rain Load subcommittee to have the snow load map of Oregon integrated directly into ASCE 7-16. We will let you know how that effort takes shape.

Given the significant commitment, countless hours of tireless volunteer work by the Snow Load committee over the past several months updating the manual, the SEAO Board would like to recognize them by conferring the Member(s) of the Month award. The committee is comprised of Andy Stember (chair of the committee), Doug Meltzer, Tonya Halog, Dmitri Wright, Greg Munsell, Jacob Baglien, and Cameron Swearengin. Thank you for your dedication and the spirit of volunteerism that you all have demonstrated.

The timing of the publication seems just right as the State of Oregon gets set to adopt the new 2014, Oregon Structural Specialty Code, based

on 2012 IBC and ASCE 7-10. The schedule currently is for the State to adopt the new code effective April 1, 2014. To help our members navigate through the provisions of the new code, SEAO is organizing a full day seminar on February 19th at the Embassy Suites in Tigard. If you have not registered for the seminar, you still have time. Please visit SEAO's web site for further information.

Thinking about the code change prompted some reflection on my part. Why do we need a new code every three years? One of the reasons advanced is that the new codes reflect the increasing body of knowledge. Advances in technology enables advanced numerical methods used in designs and the latest research provides advances in materials engineering and behavior of structures and options for new structural systems. Natural disasters provide lessons regarding the performance of structural systems and are perhaps the greatest learning tool. Such advances should indeed be reflected in the building code. However, is the increase in knowledge of such magnitude that it requires that codes be changed every three years? We need to ask ourselves, if we do not immediately adopt a new code but wait a few more years to incorporate that accumulated knowledge, will the public be adequately protected? In most cases I would think so. If there are issues that are critical that they cannot wait, methods and mechanisms are currently in place to incorporate code changes mid-cycle, through supplements and addenda. The codes are very complex as is, with multiple reference standards contained in the main code. With such a vast network of standards, it seems almost humanly impossible to master the changes and just as one is getting comfortable with current code along comes the next code and we start all over again. In order to keep up with the codes it is becoming increasingly common to rely very heavily on computers and software without really understanding the mechanics and reasons behind their application. Are we trending towards producing engineers who are more technicians who are skilled at operating computers rather than having a deep understanding of how structures behave? This cannot be good for our profession. Complex codes and the fact that they are changed too frequently are surely at least in part to blame for this. Before we enact changes to the code, the powers that be, should be asking the question, is the proposed change

(Continued on Page 7)

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SEAO SCHOLARSHIP FOUNDATION ANNUAL TRADE SHOW AND MINI-SEMINARS THURSDAY, FEBRUARY 27, 2014

This year's show will include 9 seminars and 26 vendors and it promises to be very informative and entertaining.

This event provides a good deal of income to the scholarship fund in large part due to the continued support and participation of the vendors. Our past shows have been a great benefit to both the vendors and the foundations. To continue this success, we need our members to support the show and its participants with their attendance. You will have the opportunity to view a variety of products and discuss problems and ideas. It is an excellent chance for new SEAO members to see what materials and products are available and currently in use in the field.

The mini-seminars will run from 11:00 am until 5:00 pm, allowing vendors to go more in depth and offer more information to the members than might be available at the Trade Show alone.

Again, we will be raffling off great prizes thanks to donations from some generous firms. Tickets may be purchased at the Trade Show.

As always, donations—no matter how big or small — are very much appreciated. Remember that all proceeds will help the organization reach our scholarship goal. The Trade Show is free to all SEAO members and includes a meal and two beverages. We look forward to seeing you at this year's Trade Show!

Date: Thursday, February 27, 2014

Location: Monarch Hotel
12566 S.E. 93rd Avenue
Clackamas, OR

Times:

Mini-Seminars: 11:00 am to 5:00 pm (See schedule on page 12)

Trade Show: 5:00 pm to 8:00 pm

Dinner: Served at 6:00 pm

Cost: Complimentary dinner and beverage for SEAO members, \$25 per person for non-members

Reservations:

Please call Jane Ellsworth before noon on Monday February 24, 2012.

You only need to RSVP for the Trade Show — It is not necessary for mini-seminars.

Phone: (503) 753-3075.

Email to: Jane@seao.org

PDH Credit: SEAO recommends a maximum of 6 total hours of PDHs for the event. This includes a maximum of one hour for each seminar attended and one hour to those who register their attendance for documentation at the Trade Show. See Jane Ellsworth to sign-up specifically for that documentation.

YOUNG MEMBER FORUM ACTIVITIES

By: Phil Davis & Seth Thomas

SEAO YMF PE and SE Library: The YMF is currently compiling a library of materials for the PE and the SE exam. To make the testing process as easy as possible, the YMF is putting together a reference library of useful study materials for the PE and SE exam that members will be able to check out and borrow. In addition, the YMF will also be putting together a document helping explain the application process and providing helpful tips for taking the tests. Check the website soon for these documents. Please contact Phil Davis (Phillip.davis@kpff.com) or Seth Thomas (setht@wrkengrs.com) if you are interested in borrowing any of these materials.

Already taken the PE or SE? If anyone has already taken the PE and/or the SE and has leftover study materials they would like to donate please contact Phil Davis or Seth Thomas, and we will get the materials from you and add them to the library. Any donations are greatly appreciated.

Upcoming Events:

Thursday, February 20th – Happy Hour – Rogue Brewery, 1717 SW Park Avenue, Portland, OR at 5:30 pm. Bring a friend, coworker, or both and enjoy a beer and some food while getting to know some other young professionals in our area.

Tuesday, March 11th — YMF Winterhawks Game– The YMF will be attending a Portland Winterhawks game. We will be reserving a block of tickets so that we can all get together and have a good time watching some hockey. Let us know if you are interested in attending by sending any email to Phil or Seth at addresses listed above.

Thursday, March 14th – Come join the YMF for a working lunch meeting to discuss and plan future events in the upcoming months. Anyone interested is welcome to attend and find out more about the YMF and help plan our next activities.

Thursday, March 20th – Happy Hour – Location TBD — 5:30 pm. Bring a friend, coworker, or both and enjoy a beer and some food while getting to know some other young professionals in our area.

Friday, April 4th – YMF Tour of Cascade Steel — 2 pm. The YMF has scheduled a tour of Cascade Steel. Cascade Steel is a local steel mill in McMinnville, OR. For more information, see the YMF web page. YMF members can sign up by contacting Phil Davis at Phillip.Davis@kpff-pdx.com.

YMF Website Info: <http://www.seao.org/committees/youngmembers/>. Please visit our website for more information on YMF events and information.

ENGINEERS WEEK FEBRUARY 16–20, 2014

The annual Engineers Week High School Program is a community-supported outreach event to promote the field of engineering as a career option for local high school students. The E-week event reaches out to high school students in north-west Oregon and southwest Washington. In 2013, over 350 high school students and 50 high school teachers participated in the event.

The E-week High School Program was developed to educate high school students about engineering and the variety of engineering disciplines. The goal of the program is to engage and inspire students through field trips, exposure to the diversity of local companies which employ engineers, and one-on-one interactions with practicing engineers.

You can support this valuable educational experience by attending the 50th Annual High School Program on Wednesday, February 19, 2014, at the DoubleTree Hotel at Lloyd Center. Visit www.asceor.org/eweek for additional information. See page 1 for links to register to attend the banquet.



NEW MEMBERS

Welcome to our newest members:

Russell Drummond—Madden & Baughman Engineering

George Schirtzinger—Air Logistics Corporation

MEMBERS OF THE MONTH SEAO SNOW LOAD COMMITTEE

By: Amit Kumar, S.E., P.E.

In appreciation of the tremendous amount of hard work and countless volunteer hours the snow load committee members have committed to in producing the fourth edition of the *SNOW LOAD ANALYSIS for OREGON*, the SEAO Board of Directors would like to honor their effort by awarding the members the Member(s) of the Month award.

The snow load manual was produced in conjunction with the Oregon State University PRISM Climate Group. This book supplements the new electronic 50-year MRI Ground Snow Load Map hosted on the SEAO website. The document is currently being printed and will be available in the next few weeks. The Snow Load committee worked with the State of Oregon's Building Codes Division to get acceptance for the map as an Alternate Materials and Methods to the Oregon Structural Specialty Code.

The Snow Load committee consists of:

Andy Stember: Snow Load Committee Chair. Andy has been the President of SEAO (2003-2004) and continues to be very involved with SEAO. Apart from being the chair of the Snow Load committee, Andy is the chair of the Seminar sub-committee and part of the committee that brings you the Trade Show every year. Andy is the Principal Structural Engineer with JAS Engineering, which he owns and has been in business for seven years. He has been a PE for 27 years. Andy grew up in Portland and moved to Alaska in 1982 before returning to Portland in 1996. His favorite hobbies are skiing and playing tennis.

Doug Meltzer: Doug's involvement in the Snow Load Committee began in 2002 when he submitted a research paper entitled *Assessment of Oregon Snow Loads* fulfilling his Arctic Engineering coursework for Alaska licensure. Little did he know that an innocent editorial would lead to over 10 years and scores of man-hours of involvement with SEAO, in first updating an outdated Snow Load analysis in 2007, which had not been updated for 10 years, and then again updating it in 2013. Doug has also been involved with SEAO in the past as chair of its Technical and Code committees. Doug is currently a Principal at MSC Engineers, Inc. in Salem, Oregon. He is a licensed Structural and Civil Engineer in Oregon.

Dmitri Wright: Dmitri has been an SEAO member since 2005 and has been a member of the Snow Load committee since he joined. During that time he helped with the publication of the Snow Load Map and third edition of the Manual in 2007, the White Paper published in 2011, the on-line Snow Load Map in 2013, and most recently, the publication of the fourth edition of the Snow Load Manual. Dmitri has a Bachelor's degree in Architecture and a Master's degree in Civil Engineering from Arizona State University. He is a licensed Structural Engineer in Oregon, Washington, and Arizona. Dmitri owns and manages Cascade Engineering in Hillsboro. When not in the office, Dmitri spends summer days at local

festivals and concerts and winter days at the hockey rink cheering on his son or skiing with his sons at Mt. Hood.

Tonya Halog: As a Principal at James G. Pierson, Inc., Tonya has 24 years of experience in the design and review of structural engineering projects. She moved to Portland in 1995 from Los Angeles, leaving behind the riots, fires, and earthquakes in the aftermath of the Northridge earthquake, to be just in time for the big flood in Portland in 1996! She performed rapid visual screening for earthquake-damaged buildings after the 1994 Northridge Earthquake. She is a licensed Structural Engineer in Oregon and California and PE/SE in nine other states. Tonya is also very active with SEAO. She is currently the chair of the SEAO Scholarship committee. She has lead or has been integrally involved with SEAOSF for several years now.

Jacob Baglien: Originally from the Boise, Idaho area Jacob moved to Portland in 2002 to attend Portland State University. Jacob currently works for Cascade Engineering in Hillsboro and is currently working on obtaining his PE license. His favorite hobbies include downhill skiing, hiking around the Pacific Northwest and Rocky Mountains, playing soccer, and watching Portland Timbers games with friends.

Greg Munsell: Greg is a principal with WDY, Inc. and is a registered Structural and Civil Engineer in Oregon. Greg is the past President of SEAO (2008-2009) and has been a passionate and ardent supporter of the SEAO Scholarship Foundation.

Cameron Swearengin: Cameron works for BMGP Engineers and has been an active member of the SEAO Snow Load committee.

Congratulations to Andy, Doug, Dmitri, Tonya, Greg, Jacob, and Cameron. On behalf of SEAO, thank you for your efforts. We appreciate all of the hard work that went in to the development of this document.

Andy's favorite memory of being on the Snow Load committee: After publishing the 2007 Oregon Snow Load edition and then having the big winter storm that year, one of the committee members asked, "What's up with Government Camp?" And so began the Snow Load committee's journey on the 2013 edition



SEISMIC EVENTS

ASCE Webinars (www.asce.org)

Friday March 7, 2014, 9:00 – 10:00 AM PST. **Advanced Topics in the Seismic Design of Nonbuilding Structures and Non-structural Components to ASCE 7-10.**

AISC Night School Seminar Series (www.aisc.org)

Begins February 24, 2014, 4:00 PM – 5:30 PM PST. Fundamentals of Earthquake Engineering for Building Structures

Seismic Subcommittee Meeting

The Seismic subcommittee will be holding a meeting in the upcoming weeks. The location and date is yet to be determined. If you are interested in attending, please contact Chad Kilian at KilianC@bv.com or at 503-443-6213 for further information.

SEER COMMITTEE

The SEAO Structural Engineers Emergency Response (SEER) committee has newly reorganized and is currently working on developing SEAO's post-disaster structural engineering response plan. The purpose of the SEER committee is to organize a rapid mobilization of volunteer structural engineers from the private sector to assist local emergency management agencies in responding to disasters of such a magnitude that technical capacities of the government agencies that normally handle such events are overwhelmed. The SEER committee maintains a list of SEAO members who have completed the ATC-20 training and have volunteered to be post-disaster structural engineering inspectors and/or structural engineering resources. During the post-disaster response, the SEAO SEER committee members will coordinate with the local authority having jurisdiction and deploy SEAO's structural engineering resources and oversee the operation.

If you are interested in becoming an ATC-20 certified volunteer resource or are interested in serving on the SEER committee, please contact the SEER committee chair at emergencyresponse@seao.org.

SEISMIC QUIZ

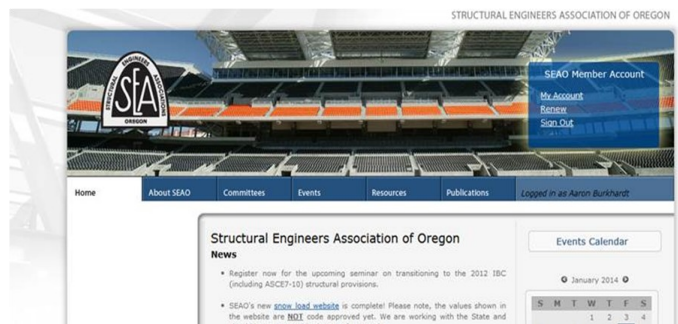
This seismic quiz has been put together by the Seismic subcommittee of SEAO. In the spirit of the forthcoming 2014 Oregon Structural Specialty Code, this month's theme is **Changes from ASCE 7-05 to ASCE 7-10**. Enjoy!

Questions:

1. What R factor applies for use when designing steel eccentrically braced frames and steel buckling-restrained braced frames per ASCE 7-10?
2. For design with ASCE 7-10, where can site-specific seismic design parameters S_s and S_1 be obtained?
3. What are the detailing requirements for intermediate steel cantilever column systems?
4. True or False? The out-of-plane anchorage force of a structural wall varies along the height of a building.
5. How is rho (ρ) calculated for out-of-plane forces on structural walls?

See Page 7 for answers.

CALL FOR PHOTOS FOR WEBSITE



SEAO is once again seeking photos to highlight great projects by our membership! We believe it is very important to highlight the great work done by all of our members. We place the photos in the masthead and they all rotate through as the pages refresh. Please send your photos to webmaster@seao.org in the following resolution, size, and format: 72dpi, 1000x220 pixels, jpg or png formats.

Thank You!
SEAO Website committee

EDUCATIONAL OPPORTUNITIES

Structural Masonry Design Seminar

The Northwest Concrete Masonry Association will be conducting a full-day seminar focusing on the design of reinforced concrete masonry construction. Both working stress and strength design methods of the new 2012 IBC and 2011 MSJC codes will be covered.

The seminar will include the explanation of new code provisions and step-by-step design examples of masonry building elements by manual and automated methods. It is aimed at practicing engineers who want to learn how to design masonry in a practical and efficient manner. It will be presented by two professional engineers at each location. The seminar will consist of 7.5 hours of continuing education. Certificates of attendance will be issued.

Seminar dates and locations include:

March 13, 2014 - Spokane, WA
March 31, 2014 - Bellevue, WA
June 9, 2014 - Portland, OR

Additional information can be obtained from the Northwest Concrete Masonry Association at 425.697.5298 or www.nwcm.org. See pages 13 and 14 for more information.

SEISMIC QUIZ ANSWERS

The following are the answers for the seismic quiz on page 6 in their respective order:

1. $R=8$ for all EBF and BRBF design in ASCE 7-10, with beam end connection requirements defined in AISC 341-10. Previously, in ASCE 7-05, the designer had the option of using either $R=8$ or $R=7$, depending on whether or not the beams were designed with moment resisting end connections.
2. An online USGS seismic hazard application has replaced the Java program used for previous code cycles. The new application is available at: <http://geohazards.usgs.gov/designmaps/us/application.php>
3. The intermediate steel cantilever column system has been removed from Table 12.2-1 in ASCE 7-10 since this system was never specifically described in AISC 341. Steel cantilever column systems in ASCE 7-10 now align with cantilever column systems in AISC 341-10.
4. True when all diaphragms are not flexible. Anchorage forces may be reduced as described in ASCE 7-10 Section 12.11.2.1.
5. $Rho (p)$ equals 1.0 per ASCE 7-10 Section 12.3.4.1. This clarifies the intent of ASCE 7-05.

PRESIDENT'S MESSAGE (CONT.)

going to lead to better, safer, and more economical designs or is the proposal going to lead to more or less the same result albeit arrived at by performing some complex set of calculations which necessitates the use of spreadsheets or other software. One such example is the wind provisions that came along with ASCE 7-05. The complexity of the design for wind rose many fold yet the design loads for all practical purposes, in most cases, were similar to what we designed using the 1997 UBC wind loads. Does using the design load of 15psf instead of 15.5psf or 14.2 psf lead to a safer building or a more economical building? What did we achieve? A false sense of security and probably employment to a few software developers, but did we produce smarter structural engineers? I don't think so.

I am not against incorporating new acquired knowledge but let's make changes in a smart way and over a reasonable period of time, when they are needed and not just for the sake of making a change, especially if it does not result in any practical improvements. If there are items critical to public safety that need to be addressed immediately, they can be addressed through code supplements or other measures but, for the most part, it would seem that they can wait for something more than the current 3-year cycle. So what might be a reasonable code cycle? Five years? Six years? Eight years?

I would like to close by inviting all our members to join me in attending the annual SEAO Trade Show at the Monarch Hotel in Clackamas on Thursday, February 27th. There are PDHs available for attending mini-seminars and the dinner is free for all members who register. We are grateful to our associates, sponsors, and vendors for contributing to the trade show. All proceeds from the show will go to the SEAO Scholarship Fund, which awards scholarships to four deserving engineering students each year. See you there.

Section 1607.6, 202 Helipads

CHANGE TYPE: Modification

CHANGE SUMMARY: The terminology and live load design requirements for helicopter landing areas (helipads) have been updated and coordinated with ASCE 7-10.

2012 CODE: 202 Definitions.

HELIPAD. A structural surface that is used for the landing, taking off, taxiing, and parking of helicopters.

1605.4 1607.6 Heliports and Helistops Helipads Heliport and helistop landing areas **Helipads** shall be designed for the following live loads, combined in accordance with Section 1605:

1. Dead load, D , plus the gross weight of the helicopter, D_h , plus snow load, S .



Helicopter helipad

~~3.1.~~ Dead load, D , plus A uniform live load, L , of: as specified below. This load shall not be reduced.

1.1 40 psf (4.79 1.92 kN/m²), where the design basis helicopter has a maximum take-off weight of 3000 pounds (13.35 kN) or less.

1.2 60 psf (2.87 kN/m²), where the design basis helicopter has a maximum take-off weight greater than 3000 pounds (13.35 kN).

2. A single concentrated load, L , of 3000 pounds (13.35 kN) applied over an area of 4.5 inches by 4.5 inches (114 mm by 114 mm) and located so as to produce the maximum load effects on the structural elements under consideration. The concentrated load is not required to act concurrently with other uniform or concentrated live loads.

~~2.3.~~ Dead load, D , plus Two single concentrated impact loads, L , approximately 8 feet (2438 mm) apart applied anywhere on the touch-down landing pad (representing each of the helicopter's two main landing gear, whether skid type or wheeled type), each having a magnitude of 0.75 times the gross maximum take-off weight of the helicopter, and located so as to produce the maximum load effects on the structural elements under consideration. Both loads acting together total 1.5 times the gross weight of the helicopter. The concentrated loads shall be applied over an area of 8 inches by 8 inches (203 mm by 203 mm) and are not required to act concurrently with other uniform or concentrated live loads.

~~Exception:~~ Landing areas designed for a design basis helicopters with a gross maximum take-off weight not exceeding of 3000 pounds (13.35 kN) in accordance with Items 1 and 2 shall be permitted to be designed using a 40 psf (1.92 kN/m²) uniform live load in Item 3, provided the landing area is shall be identified with a 3000-pound (13.35 kN) weight limitation. This 40 psf (1.92 kN/m²) uniform live load shall not be reduced. The landing area weight limitation shall be indicated by the numeral "3" (kips) located in the bottom right corner of the landing area as viewed from the primary approach path. The indication for the landing area weight limitation shall be a minimum 5 feet (1524 mm) in height.

CHANGE SIGNIFICANCE: The terms "heliport" and "helistop" have been changed to "helipad" to reflect the proper terminology used to describe helicopter landing areas. The previous provisions prescribed how to combine helicopter live loads but were unclear as to whether or not these combinations were intended to be separate or in addition to the load combinations required by Section 1605. The helipad loading requirements have been relocated from Section 1605 (load combinations) to Section 1607.6, which prescribes live loads. The actual loading criteria required to design helipads were updated and coordinated with the helicopter loads specified in ASCE 7-10 and references to the dead load, D , and snow load, S , which served no real purpose, were deleted.

This updated code provision is from the Significant Changes to the International Building Code, 2012 edition, authored by John Henry, PE, Doug Thornburg, AIA and Jay Woodward. The book is available at iccsafe.org/store. Use ID # 7024S12.



SEAO SCHOLARSHIP FOUNDATION ANNOUNCES 2013-2014 SCHOLARSHIP WINNERS

By: Tonya Halog, SEAOSF Chair

The Structural Engineers Association of Oregon is pleased to announce our scholarship recipients for the 2013-2014 academic year. The SEAO Scholarship Foundation Board dispersed a total of \$12,500 this year. \$3,000 scholarships were awarded to Bryan Kasler, Lindsey McDonald, and Austin Williams. The \$3,500 Don Kramer Memorial Scholarship was awarded to Derald Watkins. Once again, the generosity of our membership, combined with the success of the annual Trade Show continues to keep our scholarship program strong and allow this level of giving. Thank you to all our donors, the Trade Show vendors, and the SEAO membership for your support of the Foundation.

Our Don Kramer Memorial Scholarship winner, **Derald Watkins**, is pursuing a Bachelors Degree at Oregon Institute of Technology, (OIT) where he has an overall GPA of 3.87 and an engineering GPA of 3.90. Prior to enrolling at OIT, Derald owned a small construction company and worked on framing crews building large custom homes. He decided to pursue higher education in 2009 and received an Associates Degree in Business Management from Klamath Community College (KCC) before transferring to OIT. In 2011, while at KCC, he was one of only forty students statewide to receive Coca Cola Oregon State Scholar recognition. Derald is currently pursuing a position as one of the founding officers for the OIT Engineering Honor Society.



Bryan Kasler is a Senior at George Fox University pursuing a Bachelors Degree in Civil Engineering. Bryan has an overall GPA of 3.47 and an engineering GPA of 3.38. During the 2012-2013 academic year, Bryan served as the Supreme Court Chief Justice on the central student leadership committee at George Fox. He was also on a team of four students that helped the local Habitat for Humanity organization create a site design for a new development in Newberg. Bryan earned his Eagle Scout while in high school and continued to serve on the Sogus Advanced Youth Leadership Training Staff while pursuing his degree. Bryan is very interested in timber design and inspired by some of the great Oregon timber buildings.

Austin Williams is pursuing a Bachelors Degree at Oregon State University, where he has an overall GPA of 3.54 and engineering GPA of 2.96. He has a great interest in bridges and is a member of the Steel Bridge team at OSU. He spent last summer and part time through the academic year as an Engineering Intern with the Linn County Roads Department. Austin is a Student Member of ASCE, ACI, AGC, and ITE. In 2011 he also went to Haiti with a group from North Albany Community Church to build four prefabricated homes for families devastated by the 2010 earthquake.



Lindsey McDonald is a Senior at the Oregon Institute of Technology pursuing a Bachelors Degree in Civil Engineering. She has an overall GPA of 3.90 and an engineering GPA of 3.90. Lindsey has served as Secretary and Vice President of the ASCE/AGC Student Chapter, participated with the Steel Bridge and Concrete Canoe teams, and attended several leadership conferences. She interned last summer in the Roseburg district for ODOT.

Scholarship recipients will each receive a one-year student membership to SEAO as part of the award. Thank you again to all of our members and friends who have donated to the Scholarship Foundation. Also, we would like to thank the Scholarship Committee for their help in reviewing and scoring the applications: Chad Kilian (Black & Veatch), Brad Larsen (OBEC Consulting Engineers), and Dominic Webber (BergerABAM).

If you would like to contribute to the Scholarship Foundation, donations can be made online at www.seaosf.org/ or a check can be mailed to:

SEAO Scholarship Foundation
9220 SW Barbur Blvd. #119
PMB #336
Portland, OR 97219

If you would like to designate your donation specifically for the Sue Frey Scholarship or the Don Kramer Scholarship, please include a note.

EMPLOYMENT OPPORTUNITIES

STRUCTURAL ENGINEER, PORTLAND, OREGON

The City of Portland is a great place to work! The City of Portland's Bureau of Development Services is looking for a Structural Engineer. The current vacancy is in the Bureau's Engineering Plan Review Section. This work group values teamwork and is supportive of each other's success. The Structural Engineers review the structural portion of permit applications to ensure compliance with applicable codes and regulations, including the review of a full range of commercial and residential structures. This challenging work provides an opportunity to review building plans for various types of construction and interact with a diverse cross-section of individuals.

Structural Engineers are responsible for delivering excellent customer service in an equitable manner to the public, and this position requires a high degree of effective communication with professional engineers, design professionals, contractors, and building owners, as well as other review groups within the City of Portland. The current vacancy is for a full-time two-year limited term position with a possibility of being converted to a full-time permanent position. A certificate of registration as a Professional Engineer is required. Additionally, a certificate of registration as a Structural Engineer (S.E.) is preferred.

The City of Portland offers a comprehensive benefit and salary package that is competitive with other private and public sector employers. The City pays the majority of medical plan costs and fully pays dental, vision, and life insurance. Additionally, long-term disability, childcare, medical expense reimbursement account, and Deferred Compensation (IRC 457) options are available. Portland participates in Oregon's Public Employee Retirement System (PERS) and Social Security. (This summary outlines the benefit programs; actual benefits may vary depending on bargaining unit and employment status.)

The recruitment is scheduled to open on February 24, 2014 and will close at 4:30 p.m. on March 17, 2014. Details about qualifications and how to apply will be posted February 24, 2014 on the City's website located at www.PortlandOnline.com/jobs. Please join us for an optional information session: To assist you in understanding this position and the recruitment process, we will offer two Optional Information Sessions that will

provide you with details about the Structural Engineer position and about the application process. You are encouraged to attend, but attendance is not required. You are welcome to join us for one of these optional sessions:

Bureau of Development Services
1900 SW Fourth Avenue, 5th Floor, Portland, OR 97201
Tuesday, March 4, 2014 – 12:00 Noon to 1:00 PM *
Thursday, March 6, 2014 – 5:30 PM -6:30 PM*

* If you are unable to attend one of the optional information sessions in person, you have the option to participate remotely in either session. For instructions on how to participate remotely, contact Rebecca Haskell by 4:00 p.m. on February 28, 2014, at Rebecca.Haskell@PortlandOregon.gov or 503-823-5019.

Upcoming Recruitments: Combination Inspector and Inspection Supervisor. For more information, see <http://www.portlandoregon.gov/bds/43591>.

STRUCTURAL ENGINEER, PORTLAND, OREGON

Established structural engineering firm is seeking seasoned applicants with a minimum of 5 years experience in structural engineering for commercial construction. Candidate must exhibit a working knowledge in a variety of materials. Professional Engineering license preferred.

Personal qualifications:

- Excellent verbal & written communication skills.
- Positive and professional attitude.
- Self motivated problem solver who can work alone and as part of a team.

FE offers excellent employee benefits including company paid medical, dental, and vision insurance and a company matched 401k plan.

Send us a resume today at pdx@froelich-engineers.com.

Visit our website at www.froelich-engineers.com.

EMPLOYMENT OPPORTUNITIES (CONT.)

STRUCTURAL ENGINEER, VANCOUVER, WASHINGTON

Kramer Gehlen & Associates, Inc. (KGA), Vancouver, Washington, is seeking a Structural Engineer who has two to five years of related experience. A Master's degree in Civil Engineering with a structural emphasis is preferred, but candidates with a Bachelor's degree will be considered.

Responsibilities include performing engineering calculations and performing construction administration duties. The ideal candidate will have a working knowledge of codes and engineering software. Experience in the use of Revit Structures is highly desirable.

KGA is involved in a wide range of projects. We offer a flexible and family-friendly working environment, and a competitive compensation and benefits package. To apply, please email your cover letter and resume to: deb-biew@kramer-gehlen.com.

KGA is an Equal Opportunity Employer.

STRUCTURAL ENGINEER, VANCOUVER, WASHINGTON

Otak is seeking a Structural Engineer with 10 years experience to join our Transportation and Infrastructure team. PE licensure required, SE preferred. Experience required in structural engineering for building projects, including buildings of steel, concrete, masonry, and timber. Thorough knowledge of the IBC and ASCE 7 is also required. Knowledge of AASHTO bridge design codes would be an additional benefit. Candidates with Masters Degrees are strongly encouraged. Experience in AutoCAD will be necessary, and additional experience with Revit is desirable.

The position will primarily be developing and overseeing structural designs, including preparation of calculations, drawings, technical specifications, and construction cost estimates for a variety of buildings and structures, including renovation work.

Please apply at: www.otak.com/careers

Otak is an Equal Opportunity Employer

STRUCTURAL ENGINEER, PORTLAND, OREGON

KPFF Portland is looking for talented Structural Engineers interested in opportunities for growth. As a Structural Project Engineer, you will work individually and collaboratively in the design/construction process for some of the most challenging projects in the Pacific Northwest, as well as nationally and overseas. You will work closely with creative engineers, BIM/CAD technicians, architects, project managers, contractors, and client teams.

The preferred candidates will have:

- 3+ years of structural engineering experience
- PE and MS/MEng engineering degrees
- Revit Structure experience
- Strong verbal and written communication skills
- Creative, proactive, and detail-oriented individual
- Outgoing individuals who thrive when working directly with architects, contractors, and other engineers

Apply.

KPFF would like to hear from you. Please submit a cover letter and resume to our website: [CLICK HERE](#)

KPFF is an Equal Opportunity Employer.

SEAOSF TRADE SHOW MINI-SEMINAR SCHEDULE

CLACKAMAS ROOM

11:00 – 12:00

Powers Fasteners

New Concrete Anchorage Requirements in IBC 2012

The 2012 IBC brings significant changes to the design of both cast-in-place and post installed anchors in concrete. This talk will highlight the changes including design of adhesive anchors, seismic design requirements, shear design equations, and ASCE 7-10 changes for non-structural anchorage.

12:15 - 1:15 pm

Boise Cascade

The following will be covered during the presentation:

1. A PowerPoint overview – focusing on anchors (mechanical & adhesive) which are designed per Strength Design criteria, have Cracked Concrete approval, and have been qualified for Seismic conditions.
2. Powers Design Assist (PDA – version2) software introductory demonstration.

1:30 – 2:30 pm

Weyerhaeuser/Trus Joist

Trus Joist Engineered Wood Products manufactured by Weyerhaeuser – Refresher and Update

Come relearn who we are, what Trus Joist Engineered Wood products we make, and what we offer. We will also discuss some current trends in the market and solutions to those issues: rim protection in fire rated walls, FRT in Type III, CLT, mixing and matching non compatible products. Will also go through the latest Trus Joist product innovations, software updates, and new testing for large holes in structural composite lumber, up to 2/3 the beam depth!

2:45 - 3:45 pm

SidePlate

High-Performance Steel Connections – The SidePlate Approach

Attendees will learn about “conventional” moment connections and their problems that were exposed by the 1994 Northridge earthquake. Attendees will get an introduction to the SidePlate Connection Technology developed from those lessons learned. The SidePlate introduction will focus on how connection geometry and load transfer impacts overall frame performance when subjected to seismic, wind, and blast loadings. The presentation will conclude with examples showing the impact these framing selections have on the overall construction cost of the structure’s lateral system.

4:00 – 5:00 PM

Contech Services

*Strengthening with FRP over the last 20 Years
Success and Lessons Learned*

This talk will cover the development of the FRP Strengthening Industry over the last 20 years. From research projects to successful installations, what’s worked and what hasn’t. Developments in ICC Acceptance Criteria and ACI Design Guidelines will be discussed. Audience interaction/experiences welcomed!

WILLAMETTE ROOM

12:15 - 1:15 pm

USP

MiTek Builders Products; USP Structural Connectors, Hardy Frame Moment Frames and Prefabricated Shear Walls, Z4 Tie Down Systems, and MiTek Software Technology all combined in one offering.

1:30 – 2:30 pm

SCAFCO

This presentation will discuss a brief history of cold-formed steel framing, the benefits of designing with steel, as well as highlight some innovative products in the industry.

2:45 - 3:45 pm

Star Seismic

Buckling Restrained Braces and the 2014 OSSC by Star Seismic

Tim Nordstrom, SE with Star Seismic will be leading an interactive seminar that will cover cost effective strategies for implementing Buckling Restrained Brace (BRB) Frames on projects under the 2014 OSSC. Topics will include:

- Buckling Restrained Brace Frames requirements under the 2010 Seismic Provisions for Structural Steel Buildings, AISC 341-10.
- Pros and cons of different brace geometries (X, V, Chevron, Single Diagonal, etc.)
- Various connection designs and detailing ideas
- Retrofits with BRBs
- Concrete Structures with BRBs
- Wood Frames with BRBs

4:00 – 5:00 PM

RISA

Using RISA to Design a Building From Foundation to Roof

Learn how to harness the power of one model using the RISA Building System. In this webinar, we’ll use RISAFloor to build a multi-story building; RISA-3D to apply the lateral loads; and RISAFoundation to design the foundation. We’ll review the modeling techniques in all three programs as well as discuss importing and exporting into different third party programs.



Structural Masonry Design Seminar

Who Should Attend?

You should attend if you are involved in the design, construction or regulation of masonry structures. You will receive the latest information from the experts on how to use and interpret the masonry building code.

About the Seminar

This full-day seminar will focus on the new requirements and revised provisions of 2012 IBC Chapter 21 and the referenced masonry material standard TMS 402/ACI 530/ASCE 5. Both working stress and strength design of reinforced concrete masonry will be covered. Masonry building elements will be designed per the new code by manual and automated methods. The seminar material is designed to provide the engineer and code user with practical design knowledge.

Seminar Topics:

- Masonry Materials & Code Overview
- Beam and Column Design
- Anchor Bolts
- Walls Out-of-Plane
- Slender Wall Design
- Shear Wall Design
- Direct Design Method
- Crack Control
- Quality Assurance
- Constructability

And including explanation of code provisions and step-by-step design examples

Seminar Times:

Registration begins at 7:30 a.m. The seminar will be presented from 8:00 a.m. to 4:30 p.m. Morning coffee service, lunch, and afternoon break refreshments are provided.

Seminar Materials:

All participants will receive a seminar workbook, which includes a bound set of course notes and masonry technical bulletins.

Other design reference material and masonry design software will be available for purchase at special seminar prices.

Continuing Education:

Certificates of attendance listing contact hours that can be used for continuing education PDH units will be issued. The seminar will be registered with the AIA.

Instructors/Dates:

Ray Miller, S.E.	Miller Consulting Engineers, Portland, OR	March 13th Spokane, WA/June 17th Portland, OR
Jeff Mitchell, S.E.	Coffman Engineers, Spokane, WA	March 13th Spokane, WA
Ed Huston, S.E.	Smith and Huston Consulting Engineers, Seattle, WA	March 31st Bellevue, WA
Jill Shuttleworth, S.E.	Meier Architecture Engineering, Kennewick, WA	March 31st Bellevue, WA
Steve Hawk, S.E.	Coffman Engineers, Hood River, OR	June 17th Portland, OR (NEW DATE)

Sponsors:



Northwest
Concrete Masonry
Association



Structural Engineers
Association
Of Washington



Structural Engineers
Association
Of Oregon



Portland Cement
Association



Masonry Institute
of Washington



Masonry Industry
Promotion Group



Masonry Institute
of Oregon

Four Easy Ways to Enroll



Internet:

<http://www.nwcma.org/seminar>



Phone:

425.697.5298
425.828.0433



Mail to:

NWCMA
16300 Mill Creek Blvd, #208-C
Mill Creek, WA 98012



Fax:

425.697.2679

Seminar Registration

Please check seminar location and date

☐ Spokane, WA - March 13, 2014

Instructors: Ray Miller, S.E.
Jeff Mitchell, S.E.

Register by Feb. 27, 2014

☐ Bellevue, WA - March 31, 2014

Instructors: Ed Huston, S.E.
Jill Shuttleworth, S.E.

Register by March 17, 2014

☐ Portland, OR - June 17, 2014

Instructors: Ray Miller, S.E.
Steve Hawk, S.E.

Register by June 3, 2014

Fees and Sign-up

Space is limited, please register early! You may register by mail, fax, web, or phone. Registration will not be confirmed until registration fee is received. **Please complete one application per person.**

Early Registration Fee - save by registering 14 days before your seminar

\$215.00 Early Registration Fee (\$195.00 Additional participants from same office location)

Add \$35.00 to above fees for registrations received less than 14 days in advance.

☐ Check or Money Order (payable to Northwest Concrete Masonry Association)

☐ Bill Me (copy of purchase order must be provided)

☐ Credit Card (check one) ☐ Visa ☐ Mastercard ☐ Discover ☐ American Express

Card Number _____ Name on Card _____

Billing Address: _____

Exp. Date _____ CCV # (last 3 digits on back of card) _____

Masonry Design Aids

Will be distributed at seminar

☐ \$100.00 2011 MSJC Masonry Code (TMS 402/ACI 530/ASCE 5)

☐ \$90.00 Reinforced Masonry Engineering Handbook (Amrhein-2012)

☐ \$110.00 Masonry Designers Guide - 2012 Code

☐ \$45.00 Direct Design Handbook

Name: _____ Phone: _____ Fax: _____

Company: _____

Email Address: _____

Address: _____

City/State/Zip: _____

Registration Fee	\$	_____
Design Aids	\$	_____
Sales Tax	\$	_____
Add 9.6% for Design Aids in WA only.		
Total Due	\$	_____

Refund Policy

Substitutions are accepted at any time. If you notify us that you are unable to attend 7 or more business days before the seminar we will refund your registration fee. Cancellation requests received between 4-7 business days before the seminar will be subject to a \$75.00 administrative fee. No refunds will be given for cancellations received 3 business days or less prior to the seminar or for "no shows".

Confirmation

You will receive confirmation of your registration, including the date, location, and address of your seminar. Please register early. If insufficient enrollment necessitates canceling the seminar, all paid attendees will receive registration refunds.