

Newsletter of the Structural Engineers Association of Oregon

## SEAO

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# Linked in

SEAO has a LinkedIn account and can be followed at <u>SEAO</u> <u>LinkedIn Page</u>.

# CONNECTIONS

February 2024 Volume 23 Issue 5

### Upcoming SEAO Meetings and Events:

#### **Tuesday, February 13, 2024:** SEAO Chapter Lunch Meeting (Awards Postponed) Topic: Port of Portland Terminal Core Renovation (TCORE) Speaker: Seth Thomas, PE, SE, KPFF Consulting Engineers Location: Old Spaghetti Factory, 715 S Bancroft Street, Portland, OR Time: 11:30 am Check-in/Lunch; Noon-1 pm Program See Page 3 for additional information and links to register.

#### Tuesday, February 22, 2024: Engineers Week High School Program Luncheon—60th Anniversary

Topic: Current Projects & Lessons Learned Speaker: Dr. Joseph Bull, Dean of the Maseeh College of Engineering at PSU Location: DoubleTree by Hilton Hotel Portland, 1000 NE Multnomah Street, Portland, OR Time: 11:45 am—1:30 pm Cost: \$80 per person Signup: <u>https://www.oregonengineersweek.org/sponsorship</u> See Pages 5, and 12-14 for additional information.

## Tuesday, March 12, 2024: SEAO Chapter Lunch Meeting (SAVE THE DATE)

Topic: Hyatt Regency Hotel Walkway Collapse Speaker: Marc Sokol, MS, PE, SE; Location: TBD

#### **Tuesday, March 26—Thursday March 28, 2024: International Mass Timber Conference** Location: Oregon Convention Center, Portland, OR See Page 5 for additional information.

Tuesday, April 9, 2024: SEAO Trivia Night (SAVE THE DATE)

Tuesday, May 14, 2024: SEAO Tradeshow and Seminars (SAVE THE DATE)

## ADVERTISING SPACE AVAILABLE

SEAO is pleased to provide full page advertising to members for \$500 and to nonmembers for \$600. That is the price to run the ad the entire year from September to August. If you'd like to advertise, please contact Jane at jane@seao.org. 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.

Send membership inquiries to:

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# BOARD OF DIRECTORS 2023/2024

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#### PRESIDENT'S FEBRUARY MESSAGE By: Jared Lewis, PE, SE

#### SEAO Members:



This is my first message in 2024 so, happy New Year from the SEAO Board of Directors!

We had a great turnout, and the content was superb, for our first lunch meeting of 2024 on January 9 when we learned about the new Hayward Field at the University of Oregon and a peak into the expansion at OSU's Reser Stadium. Thank you to all who attended and making it another sellout event! On **February 13, 2024**, Seth Thomas will present the Port of Portland's Terminal Core Expansion project over lunch. Registration is open on the SEAO website. I hope to see many of you there and *Invigorated* for the topic and

new year!

I am excited for what 2024 has in store for SEAO.

- Engineer's Week is just around the corner! Our Young Members Forum (YMF) Advocacy Committee will be supporting a booth during the event and is looking for volunteers to showcase how structural engineers get to regularly use both hemispheres of their brains (ok I added that part, but it is a great event that emphasizes an engineer's role in our world for high school students interested in the application of applied sciences). YMF is looking for 5 to 7 volunteers for their booth. If you're interested in volunteering, please email <u>ymf.seao@gmail.com</u>. The event occurs on February 22, 2024 from 8:00 am to 2:30 pm at the DoubleTree by Hilton Hotel Portland near the Lloyd Center.
- The 2024 Mass Timber Conference occurs **March 26 March 28**. It will be the largest conference yet taking over the Convention Center. This event is not only about mass timber as a building material but also about timber policy, modular building concepts, sustainable building practices, and creative ways projects can be funded. Add it to your calendar if you can and register here: <a href="https://masstimberconference.com/register">https://masstimberconference.com/register</a>.
- Back by popular demand is the SEAO Trivia Night! Please save the date for April 9, 2024!
- The SEOAC Convention and the Northwest Convention are combining forces next September and offers an opportunity for *Engagement on the Planning Committee* and at the event with our fellow structural engineering peers both in the Pacific Northwest and California. Please contact Seth Thomas (<u>seth.thomas@kpff.com</u>) if you're interested in *Engaging* with the Planning Committee. The joint convention will be held at the Convention Center **September 4-7**, 2024.

Finally, it is time to look ahead for what's possible for 2024. We have a fantastic organization represented by our members at all levels nationally. The structural engineering prowess of our membership is exhibited at all scales and structural typologies. Our members regularly contribute to code advancements, are deeply involved in new technologies like mass timber, are advancing our burgeoning DEI committee and have many reasons to celebrate our memberships' contributions. We would like to honor those contributions through the SEAO Awards Program. We had limited submittals for the Awards Program ahead of the holidays. The board has decided to adjust the awards program to allow members more opportunity to submit their projects. To address feedback we have received, we will be rolling out the Awards Program in two phases. The first phase deadline will occur in April and will only require a project name and imagery. The final submission will occur in June. We're hoping for multiple submittals at all levels of the project criteria. Please direct questions or comments to Brynn Adkins (<u>badkins@tmrippey.com</u>) and JoMarie Farrell (jomarie@equilibriumllc.com).

Thank you all in advance for supporting SEAO in any way you are able. SEAO is only strengthened through your continued efforts and involvement!

Thank you, Jared Lewis, 2023/2024 SEAO President

#### **SEAO COMMITTEES**

CODE ADVISORY COMMITTEE Seismic Jonathan Knudtsen

jknudtsen@wje.com Wind

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Vintage Building Jennifer Eggers jennifer.eggers@holmesstructures.com

Special Inspections *Eric Watson* eric@miller-se.com

Mass Timber Eric McDonnell eric.mcdonnell@holmesstructures.com

Sustainability *Jo Ann Offill* joffill@mcknze.com

STRUCTURAL ENGINEERS EMERGENCY RESPONSE (SEER) David Tarries David.tarries@portlandoregon.gov

PROGRAM COMMITTEE Awards Brynn Adkins

badkins@tmrippey.com Golf Tournament

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ADVOCACY COMMITTEE Website Seth Thomas seth.thomas@kpff.com

Engineers Week *Michelle Juarez* michelle@miller-se.com

Young Member Forum *Eric Esqueda & Emma Olds* YMF.seao@gmail.com

SE3 Annabel Shephard shep.annabel@gmail.com

CONTINUING EDUCATION <u>COMMITTEE</u> Seminars *Andy Stember* andy@jasenginc.com

MEMBERSHIP COMMITTEE Newsletter JoMarie Farrell jomarie@equilibriumllc.com

Roster *Jane Ellsworth* jane@seao.org

**DELEGATES** 

NCSEA & WCSEA/NWC David Linton dlinton@mcknze.com

Seth Thomas (Alternate) seth.thomas@kpff.com

## FEBRUARY CHAPTER MEETING TUESDAY, FEBRUARY 13, 2024, 11:30 AM-1:00 PM

Topic: Port of Portland Terminal Core Renovation (TCORE)

**Description:** This presentation will be on the ongoing Port of Portland Terminal Core Renovation (TCORE) which started in 2020 and is slated for completion in 2026. The TCORE project at the Port of Portland carries a lofty goal of building a new resilient terminal that is designed to not only survive a M9 event on the Cascadia Subduction Zone, but be back in operation after a major Cascadia Event. In addition to the new resilient terminal, portions of the work go to improving the seismic performance of the existing terminal by reducing existing foundation loading and seismic mass, replacing diaphragm components, and reinforcing connections. The new expanded terminal will contain the ticket lobby, security screening, baggage handling and baggage claim, mezzanine offices and conference rooms, and a pre-security concessions area. This presentation will dig into some of the technical aspects of designing a resilient facility including the significant concrete work to upgrade the original 1956 terminal, the new wood roof structure and the extensive foundations that support it.

**Speaker:** Seth Thomas, P.E., S.E., works at KPFF Consulting Engineers and is a licensed structural engineer. Seth has been involved in code development his entire career and was a part of the team that developed the first tsunami provisions as part of ASCE 7-16. Seth served as a member of the tsunami, flood, seismic, and main committees for the ASCE 7-22. Seth has been involved in multiple tsunami and performance-based



seismic design projects including OSU Gladys Valley Marine Studies Building (first tsunami vertical evacuation projects in Oregon), Ocosta Middle School (first tsunami evacuation project in Washington), the Portland International Airport PDXNext Project, Multnomah County Central Courthouse (MCCCH), and the VA Portland Hospital Seismic Retrofit.

**Location:** The Old Spaghetti Factory, 715 S Bancroft Street, Portland, OR Parking information: Free Parking Lot with Validation Provided During Meeting

Time: 11:30—Check-in Noon—Lunch & Program Cost: \$35 Prepaid Members \$45 Prepaid Non-Member \$20 — Students

**Reservations:** Pre-registration is required for all. **You can register and pay online** at <u>https://www.seao.org/events/feb2024/port-portland-terminal-core-renovation</u> -tcore before end of day, Friday, February 9. You can also register with Jane Ells-worth via phone at (503)753-3075 or via Email: <u>jane@seao.org</u>. Note: No-shows will be billed.

**PDH Credit:** 1 PDH has been recommended for this program. **Questions:** Contact Jane Ellsworth at <u>jane@seao.org</u>

## 2023 SEAO EXCELLENCE IN STRUCTURAL ENGINEERING AWARDS-POSTPONED

The SEAO Awards Committee received too few entries to hold the awards banquet in February. SEAO is in the process of regrouping to allow more time to enter member projects on the SEAO website. Projects must have been completed in 2021, 2022, or 2023. **Submission deadlines will include a two-step process.** The first step is to submit your project's name and a few photos. That deadline will be April 30, 2024. The second step is to complete your entries, filling in all text boxes on the web site. That deadline will be June 30, 2024. Members may also fully submit their entries anytime between now and June 30, 2024, but at a minimum by April 30, they are to submit their project title and a couple of photos.

Award categories include:

- New Buildings Under \$10M
- New Buildings \$10M to \$40M
- New Buildings Over \$40M
- Renovation/Retrofit
- Special Use Structures

The awards banquet will be held on **Tuesday, November 12, 2024**. Visit <u>https://www.seao.org/committees/advocacy/awards-committee</u> to see the Awards Committee web page and to begin your submission(s). Don't forget to login to access the web-site to start your submission. For ease on the submission process, you can start, stop, and save your work as you create your submission. Eligibility requirements include:

- 1. Project must have completed construction during the calendar years of 2021, 2022, or 2023.
- 2. At least one member of the design team, research team, or a principal of the firm responsible for entry must be a member of SEAO.
- 3. Entries may be of any size, type, and location.
- 4. Projects may be submitted into one category only. SEAO reserves the right to reassign the category, should it meet the criteria for more than one category.
- 5. Each company may submit up to two projects per category (10 projects total).

We especially encourage small firms to submit their projects. Remember to submit as much technical information as possible. The judges are looking for your engineering challenges and creative structural ideas. We want to see what you have been working on! Start thinking about a project or projects you want to submit for consideration or visit the link above to begin your submission(s).

## ASK A QUESTION, GET AN ANSWER

Do you have a code question you would like to ask the Wind Committee or Snow Committee?

SEAO is pleased to provide a simple way for Q&A's with technical committees. Email questions to jane@seao.org, and SEAO will direct your question to the appropriate committee chair for a response.

Questions and their answers will be made anonymous and available to the membership on the website <u>www.seao.org</u>. Committees include: Seismic, Wind, Snow, Code, Vintage Building, and Special Inspections.

#### ANNUAL DUES REMINDER

Annual dues for SEAO membership were due by October 31, 2022. The SEAO website is open for paying dues. Visit: <u>https://www.seao.org/</u> to login and pay your dues. Please contact Jane at jane@seao.org if you'd like to pay an alternate way. Renewal rates are as follows:

- Member (licensed PE in Oregon): \$125
- Affiliate Member (unlicensed): \$110
- Student Member (full-time student in Civil or Structural Engineering): \$20
- Retired Members/Affiliates, or Professors: \$25
- Life Members: Free

## 2024 SEAOC CONVENTION & SEANW CONFERENCE SEPTEMBER 4–7, 2024

### HYATT REGENCY AT THE OREGON CONVENTION CENTER, PORTLAND, OREGON

SEAOC and the 2024 SEAOC Convention Committee are happy to announce that SEAOC's signature annual event this year will be September 4—7, at the Hyatt Regency at the Oregon Convention Center in Portland—our first-ever convention in this beautiful and dynamic city. This year's Convention Committee from SEAONC, our Northern California association, is working in partnership with the structural engineering associations of the Pacific Northwest, and this year's 2024 SEA Northwest Conference will be part of this year's convention. The Technical Program will include concurrent technical sessions, an opening plenary presentation by Dr. Erica Fischer from Oregon State University, and a special closing plenary session featuring a panel of distinguished members of the SEAOC College of Fellows.

Exhibitor Booths – Available now! Contact <u>SEAOC2024@seaoc.org</u> to reserve your spot! Sponsorship Opportunities – Available now! Contact <u>SEAOC2024@seaoc.org</u> for available opportunities.

Key Dates:

- Call for Program Abstracts: 1/16/2024; Notification of Selection: On or Before 4/30/2024
- Pathways Program Applications Open: 3/4/2024; Notification by 5/6/2024
- Event Website and Registration Launch: 5/6/2024
- Early Bird Registration through: 5/24/2024
- Hotel Rooms Available to Book: 5/6/2024

## **OREGON E-WEEK**

If you've been looking to get involved in outreach, now is your chance!

On February 22, Oregon E-Week occurs at the Double-Tree by Hilton Hotel in Portland, Oregon. This event is a day-long event that helps high-school-age students learn about engineering. It includes morning sessions with panel discussions, a career-fair- style exhibit hall, and field trips for the students.

Volunteers can help staff a table during the exhibit hall (9:30 am - 11:45 am) and/or participate in a complimentary banquet lunch (11:45 am - 1:30 pm) with a group of high school students. Please reach out to the YMF chairs at <u>ymf.seao@gmail.com</u> if you're interested in volunteering.

See pages 12 through 14 for flyers with more information.

### MASS TIMBER CONFERENCE March 26-28, 2024

The International Mass Timber Conference is the largest gathering of mass timber experts in the world, covering the entire industry supply chain.

Explore cross-laminated timber (CLT), nail-laminated timber, glulam, mass plywood panels, dowel-laminated timber, and laminated veneer lumber; and the opportunities and obstacles in global design, construction, development, manufacturing, and more.

Visit: <u>https://masstimberconference.com/</u> to find out more information on the conference and to register. Note that hotels are filling fast. Make sure to book via the mass timber conference website to obtain the best rates at the closest hotels.

## **NEW MEMBER**

Welcome to our newest Member:

Samantha Bucich, Equilibrium Engineers, LLC

## WELCOME TO SEAO!

## SEAO LIFE MEMBERS

A Life Member is a member who, in the opinion of the Board, has by virtue of reputation, outstanding professional accomplishments, and long and devoted professional life, brought distinction, eminence, and esteem to their profession and to SEAO. To be a life member a person must have been a member of SEAO for a minimum of 20 years and shall be at least 60 years of age.

Eric J. Hayford\* Thomas J. McClellan\* Rowland S. Rose\* Sully A. Ross Harry J. Woebler Robert M. Bonney\* James G. Pierson\* Robert R. Adams Arthur M. James\* Samuel M. Holmes\* Evan Kennedy\* Eldon E. Breedlove\* Irving E. Olsen\* Dick E. Ebeling\* Harry Mejdell Ove Carstensen\* Jerry Estoup Patrick B. Kelly\* Jim Lundervold \*

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Grant Davis Tom Fowler **Robert Kirkpatrick** Robert Morrison, Sr. Otto Vanwalstijn **Robert Walker** Art Johnson\* Joe Gehlen Ron Kernan Len Krombein Michael Hagerty Bruce Holliday **Brad Moyes** Paul Kluvers Greg Shea Wade Younie Andy Stember

\* denotes deceased

### SEAO PAST PRESIDENTS

1949-1950	Jerome A. McDevitt
1950-1951	R. Evan Kennedy
1951-1952	Rowland Rose
1952-1953	Lewis R. Ellingwood
1953-1954	Robert M. Bonney
1954-1955	Sully A. Ross
1955-1956	Francis E. Honey
1956-1957	James G. Pierson
1957-1958	Charles H. Woodworth
1958-1959	Arthur M. James
1959-1960	James D. Caufield
1960-1961	Lloyd A. Pajunen
1961-1962	Robert Adams
1962-1963	Cy Burgstahler
1963-1964	Donald R. Kramer
1964-1965	Irving E. Olsen
1965-1966	Elden E. Breedlove
1966-1967	Ove Carstensen
1967-1968	Neil McGee
1968-1969	Charles Pease
1969-1970	David A. Ross
1970-1971	Del McConnell
1972-1973	Samuel M. Holmes
1973-1974	Harry H. Mejdell
1974-1975	Ed Armstrong

1975-1976	Richard B. Cason
1976-1977	Alfred H. Van Domelen
1977-1978	David R. Beadling
1978-1979	Robert B. Kirkpatrick
1979-1980	Robert A. Walker
1980-1981	Jerry W. Estoup
1981-1982	Otto H. Van Walstijn
1982-1983	Patrick B. Kelly
1983-1984	George Laszlo
1984-1985	Robert L. Morrison
1985-1986	Franz N. Rad
1986-1987	Richard R. Imper
1987-1988	Jim E. Lundervold
1988-1989	Roger W. McGarrigle
1989-1990	Raymond T. Miller
1990-1991	Joseph C. Gehlen
1991-1992	Grant L. Davis
1992-1993	Patrick Hynes
1993-1994	David R. Littler
1994-1995	David A. Bugni
1995-1996	Gregory F. Shea
1996-1997	Wade Younie
1997-1998	Sue M. Frey
1998-1999	Jed Sampson
1999-2000	Paul E. Kluvers

2000-2001 Tom Fowler 2001-2002 Mike Hagerty 2002-2003 Brad Moyes 2003-2004 Andy Stember 2004-2005 Len Krombein 2005-2006 Ron Kernan 2006-2007 Chris Thompson 2007-2008 Ron Vandehey 2008-2009 Greg Munsell 2009-2010 Jennifer Carlson 2010-2011 Trent Nagele 2011-2012 Ed Quesenberry 2012-2013 Aaron Burkhardt 2013-2014 Amit Kumar 2014-2015 Jennifer Eggers 2015-2016 Gary Lewis 2016-2017 Kevin McCormick 2017-2018 Seth Thomas 2018-2019 Norm Faris 2019-2020 Steve Trautwein 2020-2021 Dusty Andrews 2021-2022 Peder Golberg 2022-2023 Jared Lewis

#### ALF THOMAS HJORT OBITUARY JANUARY 30, 1936–NOVEMBER 18, 2023



Alf Thomas Hjort was born January 30, 1936, in New Rochelle, New York, and passed away from complications of lymphoma on November 18, 2023, at the age of 87. His parents were Alf Hjort, Jr. and Frances Josephine (Anderson) Hjort. He was predeceased by his younger sister, Susan Antoinette Nicol. In 1946, the family moved to Portland, Oregon where they bought a home in NW Portland. He attended Chap-

man Elementary and then Lincoln High School where he was a member of the track and field team. In 1954, he began his studies at Oregon State College (now University). After two years of academic indifference, he took a break to spend a year working for the highway department. This turned out to be a fateful year for Tom, as it was during this year that he met his future wife, Judy, on New Year's Eve 1956, when his sister Susan invited her over to play monopoly. Liking what he saw, the next day he asked her to a movie (Baby Doll) and by March 1957 they were engaged. They married on September 14, 1957, and moved to Corvallis after honeymooning at Crater Lake National Park. He returned to college, earning straight A's the last two years.

After graduating in 1959 with a degree in Civil and Structural Engineering, Tom began his career with the Portland Dock Commission. After a few years of honing and demonstrating his skills, he followed his boss to Swan Wooster, a Canadian engineering company, where he pursued a long and distinguished professional career in civil and structural engineering. He steadily moved up the ladder from engineer to marine manager, to Vice President and Office Manager, and eventually to President of US Operations. The marina at Newport was designed while under his leadership. He continued to work for several more years after Swan Wooster was acquired by URS Consultants and then entered into retirement. A few months later, the Port of Portland approached him about a Project Manager position, which he accepted. Thus, he began a 15 -year second career at the Port, working on the "other side" with consulting engineers of various projects on Port property, one of which was a ground run-up enclosure for testing jet engines. Many of his work colleagues became friends over the course of his career and he continued to see them regularly.

He held a deep appreciation for music, in particular Beethoven, Mozart, and Mahler (a recent discovery), listening to his favorites on his car stereo at high volumes that could surprise unguarded passengers when the car was started. He owned the definitive recording of Beethoven's Violin Concerto in D major performed by David Oistrakh. His playing of classical records at home had a profound and lasting impact on the musical tastes and pursuits of his children.

Another of his pastimes was fitness. His children remember seeing him doing pushups as a young man. He jogged several times a

week over several decades, and when running was no longer possible, walked religiously, taking the trail up and over Mt. Williams near his home nearly every day. He lifted weights and earlier in life played handball regularly and golfed periodically. He rode a bike for recreation and exercise.

Reading was a serious passion. He delighted in reading history and science books, many of them on relativity and quantum mechanics, making him conversant in those disciplines. He would even dig out his old college textbooks for a re-reading and would work on physics problems for his own personal enjoyment.

He loved nature. Many were the camping and vacation trips enjoyed by his family, through which he instilled in all of them a love of the outdoors. Every year after school was out, his children could count on week-long vacations at coastal beaches in areas like Waldport and Bandon. Camping trips to Fort Stevens, Cape Lookout, the Breitenbush River and the nearby national parks were treasured by all. This being before the ubiquity of towing packages, he would again exhibit his propensity for DIY by wiring the car for the camping trailer himself. Other summer destinations including Sunriver and later Black Butte Ranch became scenes of family fun on bike trails, tennis courts, and on horseback. Golfing, fishing, and hiking are also part of his legacy. He was particularly adept at teaching how to tie an egg hook to a fishing line.

He actively contributed to the community, volunteering his time and practical expertise as a member of the Trails Committee of the Tualatin Hills Park and Recreation District and more recently as part of the Friends of Cooper Mountain Nature Park. Their efforts at park expansion are expected to bear fruit in the near future.

Like many of the men of his generation, he was committed to hard work and providing for his family. He was steadfast in his beliefs and unwaveringly loyal to his friends and family. His whole life he was engaged with the world and kept up with new developments, technologies, and information: He was the first in the family to own a personal computer.

Tom is survived by his wife Judy, sons Chris and Mark (Melinda), daughters Becky Gray (Steven) and Wendy Hernandez. Grandchildren include Alex (Robin), Larissa (Trevor), Elizabeth (Matt), Monica (Chris) and Jeremy. Great grandchildren include Everett, Clara, and Jed. He also was very close to his niece (Diana) and his nephew and his family (Paul, April, Savannah, and Brady).

Donations in his memory may be made to the Tualatin Hills Park Foundation for benefit of Cooper Mountain Nature Park. Their website is www.thpf.org. A Memorial gathering was held on December 11, 2023, at Pegg, Paxson and Springer Funeral Chapel at 4675 SW Watson Avenue in Beaverton, Oregon

## CITY OF PORTLAND ISSUES CODE GUIDES RELATED TO SEISMIC UPGRADE OF UNREINFORCED MASONRY (URM) BUILDINGS BY: AMIT KUMAR, PE, SE

City of Portland issues Code Guides to assist customers with guidance on the application of building code and outline optional alternatives where strict application of the building code is either not possible or is not practical. In keeping with this practice, the City of Portland has developed a new code guide and updated an existing Code guide to aid Design Professionals in the design of seismic retrofit of Unreinforced Masonry Budlings.

The new Code Guide *Seismic Retrofit of Unreinforced Masonry (URM) Buildings with New Lateral System - ASCE 41 provides an* alternate method to demonstrate deformation compatibility between existing URM walls and the new lateral elements in Unreinforced Masonry Buildings that are being seismically upgraded using ASCE-41.

When retrofitting an existing URM building, City of Portland, Title 24.85 requires the use of the ASCE-41 standard. The ASCE 41 structural design standard of practice requires complex analysis and demonstration of compatibility between new lateral elements and existing masonry components during the seismic upgrade of a URM building. The level of complexity required to demonstrate this compatibility between new lateral elements and existing masonry components could be burdensome and not proportionate to the level of analysis required on most projects and in many cases impractical. Moreover, uncertainties in accurately modelling the properties of these archaic URM components often lead to analysis with low level of confidence and questionable results. Therefore, in lieu of demonstration of compatibility between the URM components and new vertical elements of the Seismic Force Resisting System, it is acceptable for a design professional to follow the requirements of the Alternate Method outlined in code guide "Seismic Retrofit of Unreinforced Masonry (URM) Buildings with New Lateral System - ASCE 41" provided the structures are within the scope limitations of this document.

This document can be found on the City of Portland's webpage using the following link: <u>https://www.portland.gov/bds/documents/pcc-title-24-chapter-</u>2485-alternate-method-demonstrate-deformationcompatibility.

The second document is an update to an existing code

guide Use of Adhesive Anchors in Existing Unreinforced Masonry Buildings which can be accessed from the City's website using the following link : <u>https://www.portland.gov/bds/documents/ossc-chapter-16-use-adhesive-anchors-existing-unreinforced-masonry-urm-buildings</u>.

The updated code guide provides much needed updates. The original code guide was from 2003 and based on 1998 Uniform Building Code(UBC). The updates reflect the requirements in current codes (more specifically ASCE 41-*Seismic Evaluation and Retrofit of Existing Buildings*) and are aligned with current practice. Some of the major changes include:

- 1) A condition assessment of the existing masonry is required in accordance with provisions in ASCE 41.
- 2) Installation of anchors: Requires tension anchors to be installed at 22.5 degrees to match requirements in ICC reports for installations of similar anchors.
- 3) Anchors may now be installed with embedment within 2" of the outside face as opposed to 1" required in ICC reports. This is in response to concerns from practicing engineers that installation so close to outside face could result in blowouts.
- 4) Required number of tests: The number of tests were modified to align with requirements in ASCE 41 for "Usual testing".
- 5) Anchor Design Strength determination: Additional methods to determine the capacity of anchors have been provided to align with current practice of designing anchors using ASCE 41 forces or LRFD design.

Please note that these code guides are only applicable to projects that fall under the jurisdiction of the City of Portland and are not applicable in other jurisdictions.

City of Portland would like to extend our appreciation to the members of the structural engineering community and members of the City of Portland's Structural Engineering Advisory Committee who volunteered their time in the development and updates of these Code guides.

If you have questions, please email <u>amit.kumar@portlandoregon.gov</u>.

#### February 22, 2024, 10 am Pacific Time (Fee for Webinar) General Overview and Steel Design

Speaker: Tom Heausler, P.E., S.E., Past-Chair of the NCSEA Seismic Code Advisory Committee

This presentation will highlight the differences in a Seismic Design Category (SDC) C structural design compared to a structure designed to SDC D. Parameters that are unique to SDC C, and that are often relaxed, include: Seismic Force-Resisting System (SFRS), Response Modification Coefficient *R*, Overstrength  $\Omega_o$ , Seismic detailing requirements of AISC 341, ACI 318, masonry and wood, Irregularities, Accidental Torsion, Orthogonal effects (100%-30%), Analysis Procedure, Redundancy, Load Combinations, Collectors and more. Calculations for an example steel-framed building structure will be explained in detail with specific attention to the unique provisions, or lack thereof, for Seismic Category C. Note that this webinar is part of the Seismic Design Series and is not included in the NCSEA Webinar subscription. (1.5 PDH)

#### February 27, 2024, 10 am Pacific Time (Fee for Webinar) Seismic Design of Diaphragms—Latest Updates

Speaker: Kelly Cobeen, S.E., Principal, Wiss Janney Elstner Associates

Designers using the 2022 Edition of the ASCE/SEI standard Minimum Design Loads and Associated Criteria for Buildings and Other Structures (ASCE/SEI 7-22) will notice significant updates to seismic design of diaphragms and their chords and collectors: a new diaphragm design methodology added, an existing methodology expanded, significant changes affecting bare steel deck diaphragms, and more. To use ASCE 7-22 provisions, the designer will need to choose between three diaphragm seismic design methods and to incorporate other design updates. These updates are based on research and code development efforts that go back years, with contributions from research and guideline development teams and the NEHRP Provisions and ASCE 7 update participants. This presentation will provide a quick refresher the basics of diaphragm seismic design, will overview the three available diaphragm design methods, and will use examples to highlight details of the two newer diaphragm seismic design methodologies. (1.5 PDH)

#### March 7, 2024, 10 am Pacific Time (Fee for Webinar) Concrete Slender Wall Design and Its Out-of-Plane Anchorage

Speaker: John Lawson, S.E., Professor Architectural Engineering, Cal Poly, San Luis Obispo

The design of slender concrete walls out-of-plane, also known as tilt -up construction, is based on a combination of theoretical and experimental evidence; however, the concepts behind the provisions in ACI 318 are often misunderstood and sometimes improperly applied. This presentation will explain the basis of many of the provisions with some seismic design examples. Additionally, the importance of out-of-plane wall anchorage will be highlighted with a summary of the anchorage design and load flow modeling. (1.5 PDH)

#### March 12, 2024, 10 am Pacific Time (Fee for Webinar) The Circular Economy in Construction—An Introduction to the Topic

## and the Boulder Community Hospital Case Study

Speakers: Dan Bergsagel, Sustainability Lead, Schlaich Bergermann and Andy Paddock, P.E., KL&A Engineers and Builders

Dan Bergsagel from sbp will introduce the principles of a Circular Economy in the construction industry. He will touch on how structural engineers can maximize the reuse of material in their work through designing for deconstruction, working with clients to deconstruct their projects to salvage material, and designing with reused materials in mind for new construction. Andy Paddock from KL&A will present a detailed steel reuse case study of the Boulder Community Hospital and associated local projects, including lessons learnt and important considerations for the future of structural steel reuse. (1.25 PDH)

#### March 14, 2024, 10 am Pacific Time (Fee for Webinar)

Design and Detailing of Steel Reinforced Concrete Buildings in SDC C

Speaker: David Fanella, P.E., S.E., Senior Director of Engineering, Concrete Reinforcing Steel Institute

This presentation provides a summary of the design and detailing requirements for steel reinforced concrete buildings in accordance with ACI 318-19. Presented are the ACI 318 requirements along with the structural systems commonly used in SDC C, design aids, and recommendations and guidelines on how to size and detail the structural members for constructability. (1.5 PDH)

#### March 21, 2024, 10 am Pacific Time (Fee for Webinar) Designing Hospitals for Seismic Design Category C

Speaker: Brent Bandy, P.E., S.E., Senior Principal, Walter P Moore Special seismic detailing is routine for West Coast engineers, but for many engineers in the rest of the country, we spend our time designing structures in Seismic Design Category A and B. However, in some areas and conditions, the high Risk Category of buildings such as hospitals tip the structure into Seismic Design Category C. What does this mean for code requirements, special detailing, extra design time, material quantities, coordination with other design team members? (1.5 PDH)

There are also recorded webinars that can be purchased for professional development hours (PDHs) online at <a href="https://www.pathlms.com/ncsea/events#on-demand-events-content">https://www.pathlms.com/ncsea/events#on-demand-events-content</a>

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# Save The Date:

# National Engineers Week High School Program <u>Thursday, February 22, 2024</u>

Event location is the DoubleTree by Hilton Hotel / 1000 NE Multnomah Street, Portland, OR 97232.

#### Tentative Event Schedule:

9:30am – 11:30am	Student / teacher sign-in
9:30am – 11:45am	Exhibit Hall / Career Expo open for all attendees
9:30am – 11:45am	Morning Seminars open for all attendees
11:45am – 1:30pm	Banquet Lunch: Local engineers join students for lunch & keynote presentation by <b>Dr. Joseph Bull</b> , Dean of the Maseeh College of Engineering and Computer Science
1:45pm – 4:30pm	Field trips

## Sponsorship is open now.

# Student registration opens in early January 2024.

Registration + sponsorship links (and more information) will be available at

Oregon E-Week (oregonengineersweek.org)

For more information contact jkelly@dowl.com.



Celebrating 60 years of growing new engineers in Oregon & Washington

# **60<sup>th</sup> Annual E-Week High School Program**

You are an essential part of the 60th Annual Engineers Week High School Program.

Date: Thursday, February 22, 2024

Location: Lloyd Center DoubleTree by Hilton Hotel - 1000 NE Multnomah St.

To participate at E-week, do one of the following:

- 1) Go to <u>http://www.oregonengineersweek.org/sponsorship/</u> for online registration.
- 2) Send in the following form and a sponsor check (see details on next page).

We will contact you with additional day of the event information.

## **Engineers Week Sponsorship Levels**

		Sponsor Included on E-week Web and Social Media	Title Sponsor on all Event Publications*	Official Sponsor of Morning Program	Number of Sponsored Students	# Banquet Dinner Tickets for Your Organization
Platinum	\$2,000	~	~	~	20	15
Gold	\$1,000	~	~		10	10
Silver	\$500	~			5	5
Individual	\$80				1	1

\*Title sponsors will be included on all event publications if program support is committed by December 31, 2024.

2024 E-week Sponsor Registration
Organization Name:
Contact Name:
Email Address:
Phone Number:
Sponsor level - check one:
Platinum \$2,000 Gold \$1,000 Silver \$500 Individual \$80 x # of attendees I cannot attend, but I would like to sponsor a student - \$40
Send this form and a sponsor check payable to " <u>ASCE Oregon Engineers Week</u> " by January 31, 2024 to:
Jason Kelly c/o DOWL 5 Centerpointe Drive, Suite 350 Lake Oswego, OR 97035
We will confirm receipt of your registration and send more day of event details. Please email jkelly@dowl.com with any questions.
The Engineers Week High School Program is a tax-deductible program affiliated with the American Society of Civil Engineers, a 501c3 non-profit organization.