

December/January | 2022-2023



## Winter 2022 Equilibrium

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## Southwest January Meeting Preview: Milgard Hall Tour and Presentation

### Details

**Date:** Thursday, January 5, 2023

**Time:**

5:00PM - 5:45PM: Site Tour

6:00PM - 6:30PM: Dinner and Socializing

6:30PM - 7:30PM: Presentations

**Tour Location:**

University of Washington Tacoma, Milgard Hall

1950 C Street Tacoma, WA 98402

**Dinner and Presentation Location:**

La Quinta Inn & Suites Banquet Room

1425 E 27th St Tacoma, WA 98421

**Cost** (Includes Dinner):

- SEAW Members: \$35



- CSI Members: \$35
- Retired or Students: \$20
- Non-Members: \$40

### **Tour**

We will walk through the newly constructed mass timber Milgard Hall STEM and business building and hear from two structural engineers for the project, Jessica Westermeyer, and Jacob McCann. We will be guests of the University of Washington - Tacoma.

### **Presentations:**

After the site walk, we will reconvene at the Banquet Room of the La Quinta Inn for dinner, socializing, and two presentations. One presentation will focus on the structural and coordination elements of the Milgard Hall project. The other will focus on IBC 2021 code changes related to Mass Timber.

### **Presenters**

Jessica Westermeyer, SE, KPFF - Will present on the Milgard Hall project.

Tanner Reijm, PE, PCS Structural Solutions - Will present on IBC 2021 changes related to Mass Timber.

[Register to Attend](#)

## Seattle January Meeting Preview: Firm & Student Showcase

### **Details**

**Date:** Wednesday, January 25, 2023

**Time:** 5:00PM - 9:00PM

**Location:** UW Waterfront Activities Center  
3710 Montlake Blvd NE Seattle, WA 98195

#### **Registration Fees:**

- Members, Non Members & Guests: \$20
- Students: Free
- Table Sponsorship: \$25 (Fee may be split with another company)

### **Agenda**

5:30PM - 6:30PM: Registration/Networking

6:30PM - 7:30PM: Dinner

7:15PM - 7:30PM: Welcome/Announcements

7:30PM - 9:00PM: Student Showcase

### **Annual Student/ Young Member Group Sponsored Meeting**

Seattle Chapter Younger Member Forum featuring a Firms Showcase and Student Project Showcase. The meeting will take place at the UW Waterfront Activities Center.

Our meeting will kick off with the popular Firms Showcase networking event from 5:30 pm to 6:30 pm. The showcase is an opportunity to introduce attendees to a variety of structural design firms in the Seattle area, their work on various types of projects, and answer questions from students on what it's like to work for a Seattle area structural design firm.

### **Student Project Showcase**

After dinner, the evening's main program will feature presentations from students at Seattle University and the University of Washington. This will be an exciting opportunity to learn about the student projects and academic research going on in our professional community.

### **Table Availability**

Due to space limitations we must limit the showcase to 10 tables, which will be reserved on a first-come-first-served basis. **Secure your spot as soon as possible by [registering online!](#)** Tables are available for a sponsorship fee of \$250 (Tables may be split between two smaller firms under one registration. Just note the name of the second firm with your full table registration). Your sponsorship fee will enable students to attend free of charge. We are working with the students at SU and UW as well as the Younger Member Forum, and should have a good turnout for this event. When you register you will be sent instructions on the types of materials you will be allowed to have.

## Winter Chapter Check-In

After every SEAW State Board of Trustees meeting, each SEAW Chapter will share its status report with Equilibrium. Here is what the chapters have been up to for the last few months:

### **Seattle, by Linda Ji**

As we approach the end of the year, the Seattle chapter is reflecting on our successful season of virtual dinner meetings. By moving away from the previous dinner meeting format, we have been able to offer our members educational and interesting talks at no additional cost. Our board meetings are also all virtual, lowering the barrier to participation for members wanting to contribute. Our current board is a diverse group geographically, demographically, and from companies large and small.

Our attendance has grown from a median of 30 to over 130 at each meeting. Even more important is being able to accommodate all interested attendees, increasing both engagement with SEAW and value to our members. The change to online presentations has allowed us to have speakers from outside the area, such as earlier this year when we heard about the design of the SoFi stadium in California from engineers involved in the design. This talk drew almost 150 attendees. Our most impressive attendance so far has been the presentation by Dr. Lehman on her investigation into the Champlain Towers Collapse which had just shy of 400 registered attendees. Imagine trying to fit all those people into a regular hotel meeting room!

Our approach allows us to focus our resources on the fewer in-person events each year, such as the joint meeting with ASCE earlier this spring at the iconic Museum of Flight.

We hope everyone looks forward to more great programming to come in 2023, both virtual and in-person. Our next event will be the annual January Student Presentation and Firm Showcase. Our members have also been hard at work to organize a memorable return of the NW Conference. Mark September 14-15 in your calendar and reach out if you would like to present.



*The virtual dinner meeting format allowed more than 150 people to log in and hear from the engineer design team of SoFi Stadium in California.*

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### **South Central, by President Matt Leslie**

My loyal readers will remember that our last update found our intrepid group wandering the greater Sunnyside metropolitan area in search of a new meeting venue, as our first attempt had fallen flat on its face. We had been meeting for on the third Thursday for time immemorial, but we decided that we would rather change the time than the venue, so our November meeting found our group comfortably sequestered in the upper room of Snipes Mountain Restaurant and Taphouse. Ahhhhhhhh... familiarity. I ordered the Brew Pub Dip with mushrooms and onions and washed it down with a nice cool hazy IPA.

Our dinner meeting speaker was none other than Teresa Krell, one of our chapter's young members. She had been nominated for, and received, the SEFW YMG scholarship to attend the NCSEA Summit in Chicago. She presented on her time there, what she learned, and dropped some alpha on some of her key takeaways. Teresa did a great job. Thank you to Teresa for the presentation and to SEFW for making her attendance possible.

Being back in our cozy upper room was great, Teresa's presentation was great, and the Brew Pub Dip and hazy IPA were delicious, but the highlight of the evening for me – and probably everybody in our carpool – was seeing John Tate again. We hadn't seen John since everything shut down for COVID, and he most definitely is somebody you need to see way more frequently than that. If you don't know John, you should, or at least somebody like John. Aside from his many contributions to SEAW, which are legion (he is the most recent recipient of the SEAW Lifetime Service Award, I believe), John is just an all-around great guy. He's packed a lot of living into his few years, has amazing recall, and spins a yarn with the best of them. He likes to cuss and spit and isn't even a little bit politically correct, but under the gruff exterior lies a heart of gold. If you ever have the opportunity, he's a fellow that's worth getting to know. If you don't have the opportunity, find your own John Tate and get acquainted. You won't regret it.



*More than 40 people from the Spokane SEAW Chapter attended a tour of the Mercer Mass Timber Plant.*

### **Spokane, by President Matt Hoit**

The Spokane Chapter had a great Fall Meeting season with presentations on the current seismic design science in the NW and project critical geotechnical collaboration. We were also able to bring 40+ people for a tour of the Spokane Mercer Mass Timber Plant. Every meeting has had a great turnout, with our local structural community enjoying a technical topic in a social setting. Diverse and interesting winter/spring meetings are already lined up with great topics, a local project showcase, and a May vendor social. If you are an engineer in the Spokane area looking for a solid organization of peers, send us an email at SEAWSpokane@gmail.com and get connected! Our next meeting is scheduled for Tuesday, January 17th.

Our open Spokane Chapter Director position has been filled by Brent Olson with Integrus Architecture. We are still seeking a new Vice President (SE required) that serve for the Fall '22-Spring '23 SEAW season. Serving on the SEAW Spokane board is a great way to give back to the profession and connect with good people.

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### **Southwest, by President Jared Plank**

We had a fun site visit in October to the future Muckleshoot Resort with a great turnout. We just sent out our announcement for our next chapter meeting teaming up with CSI Mt Rainier on January 5th. We will be doing a site visit to UW Tacoma's Milgard Hall (a completed mass timber project) with KPFF Consulting Engineers leading the tour and giving a short presentation. All are welcome to attend.

Additionally, we are looking for some members to fill a few vacant seats on our board next year. Please reach out to a member of the board if you are interested in joining.

We hope to continue to get back into the groove of things starting the new year by having in-person events. We look forward to seeing you! Whether you are new, have come out recently, or it's been some time, we would love to see you! See below for upcoming events for the Southwest Chapter:

- Next Chapter Meeting: Jan 5th @ 5pm at UW Tacoma Milgard Hall; information will be sent by email
- March Chapter Meeting – APA Facilities
- May Combined meeting with AIA SWW

Please put our events on the calendar and plan to attend. We know everyone is busy, but taking time out to attend these gathering is definitely worth it! See you soon!



*The Southwest Chapter was able to tour the Muckleshoot Casino expansion project last month.*

## **NCSEA Summit Recaps**

Several members of the Structural Engineers Association of Washington were able to attend the NCSEA Summit in Chicago in November. The Seattle YMG always sponsors its current president to attend, and in addition this year SEFW sponsored one younger member from each Chapter to attend as well. Please enjoy the following reports from the attendees:

### **Seattle YMG, by Evan Jordan**

This last November, I had the privilege of attending the NCSEA summit in Chicago on behalf of the SEAW Seattle YMG chapter. The annual summit provides excellent opportunities for both professional networking and for technical content.

The summit provided lots of opportunities to network as a younger member. There is a YMG-focused happy hour on the first day, and throughout the conference there are opportunities to meet people during breaks, in sessions, at lunch, and in the exhibition hall. I met engineers from all over the country, including New York, New Mexico, DC, Illinois, Missouri, California, Florida, Texas, Washington, and Nebraska. Everyone was excited to attend and meet with others in the industry and I had many great conversations

that carried this dynamic energy.

The conference catered many technical events. These seminars included seismic updates for ASCE7-22, hybrid steel frames with wood floors, retrofit of existing concrete structures using FRP, resiliency in structural engineering, the design of Allegiant stadium in Las Vegas, changes in the 2024 IEBC, the SE exam's CBT transition, and others. In addition to technical topics, NCSEA held seminars on social issues within the profession. Diversity, Equity, and Inclusion (DEI) panels were featured regarding working across generational differences in the workplace as well as seminars on SE3 and racial pathways within the structural engineering profession.

The experience for a younger member to attend the conference cannot be overstated. Exposure to a large variety of trending technical topics and people from all over the country is magnified through the striking lens of Chicago's towering examples of successful structural engineering.

The NCSEA offers a YMG scholarship application which will be released at some point in the coming year. Earning the scholarship grants you registration fees and a \$1,000 travel stipend. If you have the opportunity to go through your company or through the scholarship, I would highly recommend it! For more information on general summit information, visit <https://www.ncseasummit.com/>.

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### **Seattle, by Anandharam Mourougassamy**

This year, I had the pleasure of attending the NCSEA Annual Summit held in Chicago. As a first-time attendee, I was excited to participate in a national conference and learn from practitioners across the country. Networking and sharing knowledge with YMG counterparts from New York, Washington DC, Missouri, and many other states was a highly valuable and enriching experience.

The four-day summit covered wide-ranging topics including engineering case studies, business management practices, code developments, and more. I'd like to highlight three of my favorite seminars and present a flavor of the conference.

Emily Guglielmo and Seth Thomas from the ASCE 7 Seismic Subcommittee presented the big changes coming to the ASCE 7-22 Seismic Provisions and provided background behind many of the changes coming ahead. The switch to Multi-Period Response Spectrum will take us one step closer to the source of truth and is an overall advancement for the industry. As a young engineer, I found it delightful to see industry pioneers charting us to newer but necessary frontiers!

Rafael Sabelli and Brandt Saxey presented the topic "An Adaptation of The Uniform Force Method" to design gusset plates. They presented in detail the method that uses the lower bound theorem to design gusset plates. It was a great learning experience to learn the method first-hand from the authors. I would highly recommend their paper published with the same title in the AISC Engineering Journal for anyone looking to learn about the method.

Last, but not least, I enjoyed all the presentations on the topic of Diversity, Equity, and Inclusion at the conference. It was warming to see this important topic being discussed at an industry level and how best we can improve as an industry. We are a huge industry with people coming from diverse backgrounds and everyone's pathways and hindrances to success are different. The conversations helped increase my awareness and nudged me to actively work towards removing these hindrances for my colleagues.

I can't think of a better venue for a structural engineering summit than Chicago. With its beautiful architecture supported by elegant and innovative engineering, the Windy City is a true tribute to structural engineering and the many feats of our profession. I am thankful to the SEFW board for awarding me this scholarship and providing me the opportunity to get inspired!



*Anand enjoyed experiencing Chicago during the NCSEA Summit, including having a Malört and checking out the iconic Wrigley Building from 1920s across the river from his rooftop.*

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### **South Central, by Teresa Krell**

Thanks to the generous donation from SEFW, I was able to attend the NCSEA Summit this year for the first time. I had heard stories from colleagues of the great networking events and learning opportunities afforded there, and I am happy to report that those stories held true for my own experience as well.

During the summit, I learned a great deal from the classes I attended and my conversations with other attendees. Subjects ranged from code updates and their implications, to where our field is headed, to the challenges our profession is facing.

It would take far more than a couple of short paragraphs to report on the many classes I attended, all of which were worthwhile. Highlights for me included the Business of Structural Engineering Bootcamp, each of the ASCE 7-22 update classes, and the Leading Women in the Built World General Session (which had the unfortunate time slot of being the last class on Friday and attendance was therefore lacking).

The greatest value of the summit for me was in hearing from industry leaders and connecting with other structural engineers. At the “Business of Structural Engineering Bootcamp,” the class was divided into two teams for a trivia game – team “AHHH!” might not have won, but we sure had a good time. During the week I was also able to reconnect with some friends and colleagues of mine from outside of Washington, one of whom is helping with the efforts to move SE3 (the engagement and equity committee) forward.

To encourage attendee engagement with vendors, gamification of the event was introduced. Using our phones, we would scan QR codes at vendor booths to earn points and be entered in a raffle (I won some HSS Design Manuals from the Steel Tube Institute!). Points were also awarded in the app for completing class surveys and downloading class materials. I had a great time going around to each vendor booth, and while I didn’t have enough time to talk to each one, I was able to speak to many of them and gather some resources to take back to my office, including some product catalogs and even a practice NCEES PE Structural Exam. Several products were applicable for current or future projects I am working on (Blind Bolt and Lindapter were particularly interesting for field solutions) and will be valuable to share with the rest of the design team.

All in all, the week was an excellent one, and I am grateful to have gone. I hope to attend again in the future, and I would encourage other young engineers to do so as well. Thank you again to SEFW for this incredible week.



*Emily Sackmann captures her reflection in the Chicago “Bean” on an outing to prominent architectural sites while visiting for the NCSEA Summit.*

#### **Spokane by Emily Sackmann**

I am honored to have attended the 2022 NCSEA Summit in Chicago November 1st through 4th on behalf of our SEAW Spokane chapter with support from SEFW. For those of you that have not been to Chicago, Chicago is home to many landmark architectural buildings, and it was inspiring to see our work as structural engineers on full display in the city skyline.

The Summit format included a keynote speaker in the morning followed by a series of educational breakout presentations, networking opportunities, and a large exhibit hall full of structural-specific vendors.

With climate change’s influence on daily life increasing, I focused my time on the sessions that addressed reducing the carbon footprint and increasing the resiliency of structures. I walked away from the conference with a greater understanding of ASCE/SEI’s SE2050, an initiative that asks structural engineers to target net zero embodied carbon in structural systems by 2050. We should also be looking out for further codification of resiliency measures in the upcoming years to protect structures from worsening climate events.

The conference also addressed some workplace culture topics, and I attended panels on Diversity/Equity/Inclusion (DEI), working across generational differences, and women’s role in the AEC industry past and present. The insight gained on the opportunities we face in developing the next generation of our workforce was extremely valuable. Focusing efforts on DEI allows us to tap into the largest network of people who are willing to pursue the education and have the tenacity required to build a structural engineering career. Additionally, in trying to recruit young engineers, we will be facing a generation that is incredibly technology savvy but may have missed, due to the pandemic, some of the deep understanding of structures that comes from in-person learning and working together. Mentorship and sponsorship of employees will help build and maintain a strong structural engineering workforce in years to come.

Some other fun highlights included meeting another structural engineer from Coffman’s Denver office and a trip to The Art Institute of Chicago. I appreciate the opportunity to share and I am available for questions about the Summit.

### Southwest by Tanner Reijm

I am grateful for the opportunity afforded to me by SEFW to attend this year's NCSEA Summit in Chicago. I attended a selection of interesting presentations from engineers and architects that practice in different parts of the country.

Architect Adrian Smith presented some of his work including the Burj Khalifa. Adrian also included a fascinating look at his conceptual projects that push the envelope —and imagination — for what is possible in design. It was particularly interesting to hear how advances in structural engineering and materials technology allow him to design taller and unique structures and maximize the capabilities of steel and concrete.

I enjoyed the variety of engineering perspectives and topics. These included how different details were designed and drafted throughout the country. Through these presentations, I saw how the standard of practice for what the engineer designs versus what the steel detailer and fabricator design varies from one side of the country to the other. Some presentations related directly to my work as an engineer and others focused on the quality assurance of the building required when the connections and other components are designed by another engineer. Other topics of note included building envelopes (and our responsibility as a profession to detail around thermal envelopes), code changes to the upcoming snow, seismic, and wind in ASCE 7-22, updates to the AISC steel design specifications, and common misconceptions about the computer modeling “black box” and how to avoid common mistakes.

Lastly, I attended several presentations on the challenges of Diversity, Equity, and Inclusion (DEI) in our industry. A study performed by California SE3 particularly caught my attention: the study addressed diversity among structural engineering college students, young engineering professionals, and engineering professionals who have practiced for over ten years. Their work demonstrated the trend for negative retention among woman and minorities in our industry. In addition, the study showed the multi-faceted nature of the DEI challenges and how many issues have an impact. For example, college students struggle with various external factors that affect their ability to continue their structural engineering studies.

It was exciting to play tourist in Chicago and experience the city. I walked throughout the park on the east side of the city and visited one of the top levels of what was previously known as the John Hancock Center. Nucor Steel was also generous to provide tickets to the night river cruise where I learned about the history of Chicago and the different skyscrapers along the North Branch Chicago River. I am always impressed with the role our industry has in how a community grows—it's a responsibility I'm honored to have, and I enjoyed hearing from the amazing group of presenters at this year's NCSEA. Thank you.



*Tanner takes a selfie at the top of the John Hancock Building in Chicago.*

## Acknowledgements from NCSEA Robert Cornforth Award Recipient

By Chun Lau

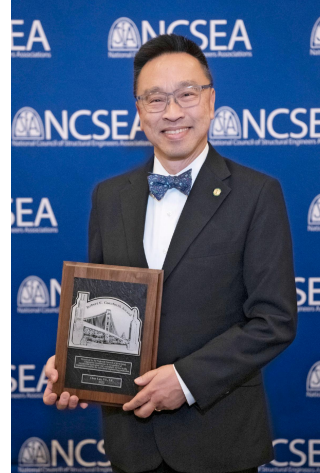
I am humbled and honored to receive the 2022 NCSEA Robert Cornforth Award. I would like to thank SEAW State President Daniel Sumerfield and Past President Darrell Staaleson for the nomination.

I started attending SEAW Seattle Chapter meetings soon after I relocated from Boston to Seattle in 1991 with the goal of getting up to speed in the structural design using the uniform building code since my design experience back east was based on the BOCA code. Yes, my engineering career in Seattle started with the 1988 Uniform Building Code. At first, I went to the SEAW meetings without

knowing anyone and soon I became acquainted with engineers from various companies in the Seattle area. I attended seminars, technical presentations, and refresher courses, sponsored by SEAW, to develop my engineering skills and preparing for the infamous 16 hours Western States Structural Exam. After becoming registered as Structural Engineer in Washington, my former boss Bob Anderson retired from the SEAW refresher course and encouraged me to take over the lateral force section of the course, so I did for 5 years. That began my journey with SEAW as I stepped into different roles with the organization. Eventually, I became the Seattle Chapter and State President in 2017.

Participation in SEAW has been a wonderful experience for me. It provides an incredible opportunity to meet and work with bright and wonderful engineers in Seattle, and across the state of Washington. So many other SEAW members do so much for our engineering communities, both locally and nationally. It has been a privilege for me to serve alongside with them and I especially valued the friendship that we developed.

Thank you SEAW.



*SEAW member Chun Lau received the 2022 NCSEA Robert Cornforth Award at the NCSEA Summit in November.*

## M9 Project Incorporates Data, Models Earthquakes, In Effort to Enhance Safety

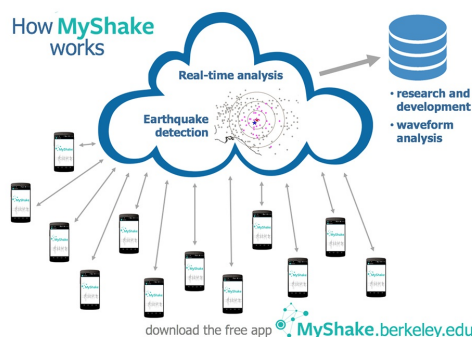
By Evan Jordan

The SEAW Seattle presentation for November featured Bill Steele, director of the Educational Outreach and Communications Program for the Pacific Northwest Seismic Network (PNSN) at the University of Washington since 1993.

Bill began the presentation by providing an overview seismic hazard on the west coast and Seattle and provided an overview of the M9 project. A subduction zone is present along the entire west coast and extending beyond into Canada along the Ring of Fire. The specific seismic hazard, however, of Seattle was not well understood due to lack of historical earthquake records despite there being a large fault zone present near the city. The M9 Project was created to address these hazards, quantify their impact and to educate communities on how to plan for resiliency against these hazards to prevent as much damage and loss of life as possible.



*Both the ShakeAlert system and MyShake app are tools for research and information on earthquakes in the western United States.*



The M9 project sought to determine the seismic hazard for the Seattle area. A Magnitude 9.0 event (M9, the namesake for the program) would require a megathrust event where this entire length of fault ruptures at once, taking several minutes to rupture along its length, with many aftershocks greater than Magnitude 7.0. The hazard associated with this is incredibly substantial, and results in tsunamis that in tandem with the shaking affect buildings and infrastructure, liquefaction of native soils, and also potentially cause landslides. In addition, Seattle has a unique basin condition only present in a handful of cities around the world. The basin underneath Seattle is particularly unique; bedrock is 7 km deep through

sedimentary and glacial deposits. Basins have been discovered recently to allow the reverberation of seismic waves and contribute to substantially higher shaking at mid-range periods (2-3 seconds) than for a typical site.

The M9 Project also sought to incorporate historical data. The team studied historical layers of deposits that would have been settled by a tsunami, apparent landslide debris, and "ghost forests" buried under layers of tidal mud. These approximate dates were cross-referenced against historical accounts from



other parts of the Pacific, notably Japan.

Seismic events were simulated to quantify and model the seismic hazard. Seismic simulation was 3-dimensional and ran along the entire west coast to capture the variation in speed and amplitude of earthquake waves through multiple material types of the Earth's crust. They determined that the most likely event is also the most dangerous: a rupture of the subduction zone running from south to north is amplified heavily within the Seattle basin. The best case for Seattle is a rupture beginning near the Olympic Peninsula and rupturing South. While both events have a Magnitude 9.0 associated with them, there are substantially different results for Seattle's seismic hazard, which speaks to the effect that the basin effect has on ground motions and structural response.

Additional results of the study determined that current ASCE7 ground acceleration maps were in fact underestimating the amplitude of the motions in structures with periods primarily in the 2 to 3-second range. The study also estimated that fewer landslides than expected were likely to occur. Liquefaction in Seattle during the M9.0 will be substantial, covering SODO, Harbor Island, the Seattle waterfront, and most of the Duwamish riverbanks. Structurally, most single-family homes will likely be okay, however non-structural damage is possible. Taller or more flexible buildings will see a more predominant effect from the M9.0, however. Substantial damage to infrastructure is also likely, including utilities and port structures that would aid in the arrival of ships and aid.

The risk of disaster in the region prompted the necessity for a tool that would be accessible to the general public that would inform individuals that an earthquake was about to occur and what to do. The result was the ShakeAlert system, developed by the USGS in tandem with the University of Washington, which will send warnings to your phone similar to AMBER alerts when substantial earthquakes are detected.

In addition to issuing direct warnings to the public, ShakeAlert is also integrated with public utility systems. ShakeAlert automatically informs different sectors of infrastructure to an impending hazard, and is able to slow/stop trains, traffic, aircraft, and other settings that are vulnerable to earthquake impairment. Water, gas, and electrical distribution systems can be shut off or rerouted with the closing of pipes, the stoppage of pumps and machinery, and other processes.

ShakeAlert is already implemented in Washington on these different levels, with such examples as Sammamish Utility relying on it for their pumping stations and Stanwood Camano School District relying on it to inform families. In addition, the app MyShake, provides a similar service and includes additional inputs for users to input damage for Mercalli Intensity measurements and even records the amount of shaking using your device.

The M9.0 Project can only be successful if we take seriously the impact a catastrophic event will have on our communities. As structural engineers, the stewards of the built environment, the M9 project provides us with a unique and direct source of information we can reference to improve the philosophy and design of our communities.

The structural engineer's job is to be proactive in safeguarding public safety, and the M9 project and its implementation in educating the community falls entirely within our mission. The ShakeAlert system provides the final piece of the puzzle, where a reactive system can directly inform the public of impending danger and further reduce the hazard from earthquakes and tsunamis.

To learn more about ShakeAlert, [click here](#). To learn more about the MyShake app, [click here](#).

## "Focus on the Footprint" Another Successful SEFW Forum

By Angela Gottula Twining

The Structural Engineers Foundation of Washington (SEFW) successfully presented another excellent Fall Forum on November 30 at Town Hall Seattle, despite snow coming down all around the Seattle area! The show must go on!

"Focus on the Footprint: Making Strides in Building Sustainably" was emceed by Shana Kelley, member of the SEFW Board of Directors for four years. The first speaker was Kate Simonen from the University of Washington Department of Architecture and the Carbon Leadership Forum (CLF). Kate brought a mega-phone as a prop and said there would be five parts to the night: a story, a lecture, a discussion, Q&A, and a call to action.

Licensed as both an architect and a structural engineer, Kate first



*Kate Simonen leads a panel discussion with (L-R) Katie Ross, Stacy Smedley, Kjell Anderson, and Chris*

shared a story of her time as a young architect working on a project and considering how she might change the concrete mix to yield a lower carbon footprint. After staying late for a few nights at the office and consulting the concrete supplier (and not really asking permission from anyone else), she made the change to the design spec. Afterwards, to satisfy her curiosity, she crunched some numbers and discovered that she had saved an equivalent amount of carbon to what would be generated in her commuting for the rest of her entire life. That seemed pretty significant.

In her lecture, she focused on her work with CLF and some of its efforts and available data. The CLF promotes strategies for professionals to optimize projects (reuse materials, reduce floor areas, renovate, etc.), optimize systems (design for efficiency, choose low-carbon materials), and optimize procurement (select the lowest-carbon version, support clean manufacturing, etc.). She discussed the CLF's efforts to track policy, from state governments to organizations like LEED and private developers. In summary, at CLF they follow a mantra, "Propelled by collective action, informed by data, and motivated by policy, we can harness innovation to build a better planet and rise to the challenge of the climate crisis."

Kate next invited up what she calls the "LCA rockstars," for a panel discussion: Katie Ross, head of sustainability at Microsoft; Stacy Smedley, formerly of Skanska and now Executive Director of Building Transparency; Kjell Anderson, Principal and Director of Sustainable Design at LMN Architects; and Chris Jeseritz, Project Manager at PCS Structural Solutions and a leader with the SE 2050 commitment program.

The group first talked a bit about what is being done within organizations, such as efforts for operational carbon emissions. Katie shared that even though Microsoft has been carbon neutral since 2012, they determined it wasn't enough and they are actively working to do more, especially in regards to embodied carbon emissions. When planning the East Campus Modernization project, they were presented with plans for 15% carbon reductions and 30% carbon reductions, which both were at no cost add to the bottom line. It was a no brainer to go with the 30% reductions!

Stacy shared that if we could cut carbon emissions by just 18% each year, that would equal 1 trillion trees – and this is something we can definitely do.

In terms of professionals in the industry who are working toward these goals, Stacy called it a "hockey stick moment," where 5-7 years ago she could count on two hands the people who were involved in policy making and the activism, but now the number is dramatically increasing. Many people are joining in the efforts, and right now it is no longer the "HOW" phase but the "DO" phase.

Kjell commented that at LMN, every project has a life cycle assessment, early energy modeling, embodied carbon modeling (using Tally and EC3), and procurement level considerations. This is all done in house, so employees are trained and understand the ins and outs of what is being evaluated. Kate called this a "standard of care," where active decarbonization strategy is part of the scope for design projects. Kjell responded that the AIA Code of Ethics committee just added verbiage outlining that architects are required to make environmental considerations as part of ethical practice.

Katie reiterated that coordination is important – structural engineers need to fully understand EC3, Tally, etc. Owners are looking to hire really smart people, set a cap for carbon emissions, and make sure everyone is on board in understanding the implications. Kjell responded, "there's nothing so contagious as an example." Once it has been done – a fossil fuel-free kitchen or a heat pump commercial building, for example – it can be shown to the world or even adopted as policy. Those shiny examples are important. Chris agreed – this is how structural engineers highlight pros and cons and lessons learned, and ultimately elevate design.

The group took several audience questions, addressing things like

“cradle to gate” and “cradle to grave,” the “global north vs. the global south,” and a fun conversation on if the industry should switch to materials that could be a catch-all sustainability solution, like mass timber. The short answer is a resounding, No! There will always be the need for glass, steel, or concrete, and there is no silver bullet. We need all hands and all materials on deck in terms of transparency, sourcing, accountability, etc., to make a difference.

Kate closed the event by issuing the challenge to everyone to reflect on how comfortable they would be being a climate champion, in whichever way works for them. She read a quote from the authors of the Paris Climate Agreement: “This is the decade in which contrary to every thing humanity has experienced before, we have everything in our power. We have the capital, the technology, the policies, and we have the scientific knowledge that we have to half our emissions by 2030 – but only if we choose this decade. Our parents did not have this choice because they did not have the capital, technology, and understanding, and for our children it will be too late. So this is the decade and we are the generation.”

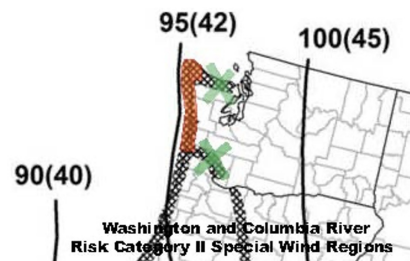
Thank you to Kate, Katie, Stacy, Kjell, and Chris, and everyone who organized and attended the event, and especially to the sponsors and donors who contribute to SEFW’s mission to make events like this possible. SEFW is looking forward to an exciting 2023 and continuing to further the structural engineering profession.

## Earthquake Engineering Committee Releases White Paper #1-2022

By Scott Douglas, WEC

The Wind Engineering Committee submits the following report for the Winter Equilibrium:

- **Washington/Columbia Special Wind Regions (SWR) Study** – The SEAW WEC has authored an SEAW White Paper that supports the recommendations in CPP’s Special Wind Region Study for Washington State and Columbia River, dated August 1, 2022. The White Paper has been submitted to the SEAW State Board for approval. The State Board set up an ad hoc group to review the White Paper and will recommend edits or approve the White Paper at the Board of Trustees meeting February 3, 2023. Once the State Board approves the White Paper, SEAW’s recommendations for the special wind regions in Washington State will then be submitted for adoption by the Washington State Building Code Council, and eventually for inclusion in ASCE 7 and the IBC. The White Paper draft has also been posted on the bottom of the “Resources” page on the WABO website: <https://www.wabo.org/resources>.
- **City of Bellevue Kzt Map** – The next effort of the SEAW WEC will focus on generating a Kzt Wind Load Map replicating the format of the existing City of Seattle Wind Load Factor map for the City of Bellevue’s consideration. If adopted, the map will facilitate a rapid determination of Kzt and shoreline exposure factors in the City of Bellevue.
- **Update to the 2004 SEAW commentary on wind code provisions (ATC 60)** The NCSEA CAC Wind Engineering Subcommittee is proceeding with this update effort. An outline is being developed for the new commentary in order not to duplicate commentary in ASCE 7 or other publications.
- **Participation** - All SEAW members, whatever their experience, are encouraged to participate at in WEC meetings. Please contact the WEC chair, Scott Douglas [sdouglascott@gmail.com](mailto:sdouglascott@gmail.com), to join the SEAW WEC and receive additional information and announcements on Committee activities and actions.
- **Next Meeting** – Friday January 27, 2023, from 12-1 PM. Meeting will be virtual via the following Zoom link:
  - [Zoom Link](#)
  - Meeting ID: 860 9340 3937
  - Passcode: 900233



# SWR White Paper to be Presented February 2023

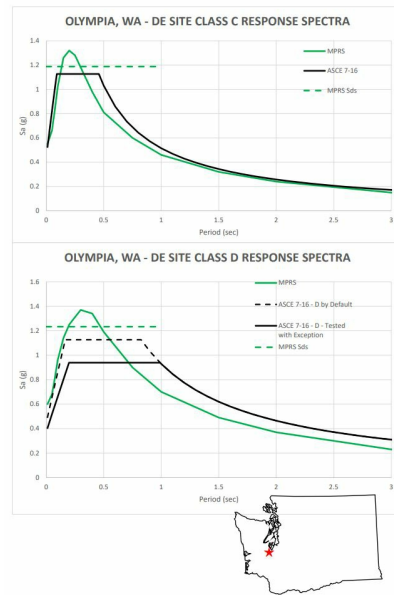
By Scott Neuman, EEC

The SEAW Earthquake Engineering Committee has authored a white paper that contains discussion, examples, and maps demonstrating the use and usefulness of the multi-period response spectrum method. "Voluntary Use of Multi-Period Response Spectra for Determination of Seismic Hazard" can be found on the SEAW web site.

A Washington State Building Code amendment that allows the use of the multi-period response spectrum procedure within the current building code was passed earlier this year.

The multi-period response spectrum method is brought forward into the current building code by the building code amendment and will be the standard procedure for calculating seismic forces in the ASCE 7-22 code. Use of the multi-period response spectrum method can reduce seismic design forces on buildings, particularly on sites east of the Cascade Mountains, as well as on sites where the soil type can be reclassified to a newly introduced intermediate Site Class that is denser than the Site Class determined using ASCE 7-16 procedures. Use of the multi-period response spectrum method may also have design benefits where a site-specific analysis is performed.

White paper can be found [here](#).



*Sampling of information presented in the Earthquake Engineering Committee's new White Paper.*

## Calendar



**January 5, 2023**

Southwest Chapter's January Meeting  
*Joint Meeting with SEAW and CSI -  
Milgard Hall Tour & Presentation*

5:00PM - 7:30PM  
University of Washington Tacoma

[Register to Attend](#)



**January 25, 2023**

January Seattle Chapter Meeting  
*Annual Student/Young Member  
Group Sponsored Meeting*

5:30PM - 9:00PM  
UW Waterfront Activities Center

[Register to Attend](#)

**Welcome SEAW New Members!**

Trevor Lafontaine  
Parker Spotts  
Daniel O'Brien  
Joseph Gilroy  
Daniel Woodman  
Eusonh Lim  
Jordon Deluce  
Matt Wyman  
Rommel Castro  
Aubrey Collier  
Jeffrey Liu



## Employment Postings

Are you currently seeking employment as a structural engineer, senior manager, or a senior engineer technician? Check out our job board for [current employment opportunities](#).

### Structural Staff Engineer/ Project Engineer

Swenson Say Faget has immediate openings in our Seattle, Tacoma, and Central Washington offices for talented Structural Engineers. All experience levels are encouraged to apply. Responsibilities include being smart, having common sense, playing well with others, and tackling challenges like a dog with a bone.



We approach project design with open minds and technical chops to find solutions to some real head-scratchers. Our loyal clients provide staff at all levels opportunities to directly collaborate with architects, owners, contractors, developers, artists, and public and private entities on projects of all types and sizes. Our culture is informal. Besides being flexible, hardworking, and technically savvy, did we mention we're also really nice people and like to have a ton of fun?

We've been in business for 27 years and remain committed to being a place where people want to spend their time and energy. Pay is dependent on experience and benefits are great. Check us out at [www.ssfengineers.com](http://www.ssfengineers.com). If you like what you see, we'd love to hear from you. Submit your resume to [info@ssfengineers.com](mailto:info@ssfengineers.com).

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### Structural Engineer



MLA Engineering's 24-year history of serving public and private industries has elevated MLA to an exceptional firm that is highly regarded in the Pacific Northwest and the USA.

The diversity of project types and relaxed professional culture makes this a unique opportunity for an engineer who loves to learn, collaborate, and seeks rewarding work. A candidate with a solid foundation in engineering principals and is skilled in using state-of-the-art software, designing with all major construction materials, and communicating effectively on a project team will be an excellent fit.

Our Seattle staff enjoys designing diverse projects that require critical thinking and creativity. MLA is known for engineering public infrastructure, aquarium and zoo facilities, and community buildings. We combine the opportunity of engineering unique and exciting projects with work flexibility, a cooperative culture, and value that employees feel in a small business atmosphere.

#### Qualifications Required:

- Bachelor of Science Degree (Masters of Science preferred)
- Strong technical and analytical skills
- Intuitive and practical
- Using REVIT as a design coordination tool
- Excels in a team environment

MLA is an equal opportunity employer. Our comprehensive benefits package includes a competitive salary, 401K matching contribution (up to 4%), medical, dental, vision insurance, and HRA account.

Website: [www.mlaengineering.com](http://www.mlaengineering.com)

Please send your résumé and cover letter to [info@mlaengineering.com](mailto:info@mlaengineering.com)

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We're Hiring!

Email: [jobs@ckcps.com](mailto:jobs@ckcps.com)

Website: [www.ckcps.com/careers](http://www.ckcps.com/careers)



### Mid-Level Structural Engineer and Senior Project Manager



Seattle Structural is a downtown Seattle firm looking for qualified professionals to join our talented team practicing across several different industries. Seattle Structural offers an excellent opportunity to work on a variety of public and private institutional, healthcare, educational, and commercial projects. Specialty areas include waterfront, large display systems, and construction support. We offer a competitive salary and a relaxed, collaborative work environment. Benefits include medical, transit reimbursement, and retirement matching. Seattle Structural is a firm that makes it easy to become personally invested in the achievements of your company.

Seattle Structural is an Equal Opportunity Employer.

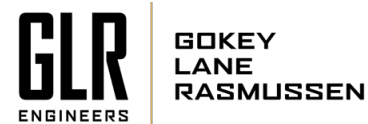
We are filling two positions. Candidates must meet the following requirements:

- **Mid-level Engineer:** 5+ years' experience.
- **Senior Project Manager:** 10+ years' experience.
- BS or MS in Structural, Civil/Structural, or Architectural Engineering.
- Experience in steel and concrete buildings, aluminum structures, lateral analysis, deep foundations, and marine projects are desired.
- Working knowledge of CAD and Revit preferred.
- Strong emphasis on client service.
- Excellent communication skills.
- Strong technical skills.

Please address inquiries to:

Lisa Wipplinger  
Seattle Structural PS Inc.  
3131 Elliott Avenue Suite 600A  
Seattle, WA 98121  
[LWipplinger@SeattleStructural.com](mailto:LWipplinger@SeattleStructural.com)

### Structural Engineer



GLR Engineers is seeking applicants for a structural engineer position in our Spokane, WA office. The applicant shall have a minimum of 8 years of relevant experience in the field of structural consulting design.

Desired experience shall consist of working with multiple types of building materials, project types and the ability to contribute on multiple projects and deadlines. The selected applicant will be expected to produce structural calculations required for permit submittals, work with GLR's in-house drafting department to produce construction drawings, coordinate with architectural clients and other design team members, and succeed in operating in a team environment. Knowledge of Revit modeling is a plus. Applicant must be self-motivated with a strong drive to learn and expand their knowledge base.

GLR Engineers is a structural engineering firm with offices in downtown Boise, ID and Spokane, WA. We work on a variety of project types across the country and offer a diverse range of design experience on a week to week basis. Work will be shared between both office locations, web-based communication skills are a must. We offer a competitive salary, excellent benefits, and flexible work hours.

Please send your cover letter and resume for review and consideration to [jacob@glrengineers.com](mailto:jacob@glrengineers.com).

### Structural Senior Design Engineer (5-10 years)



Rutherford + Chekene (R+C) is one of the foremost engineering practices in California providing structural and geotechnical engineering. Established in 1960, we are committed to hands-on involvement with our clients and to maintaining a friendly and welcoming in-office atmosphere. Our new building portfolio includes significant collaborations with internationally acclaimed architects on a

variety of building types. We pride ourselves in our ability to provide creative and practical solutions that support great architectural visions. Our services also include seismic evaluations and retrofits of existing buildings. We have many new and exciting projects in the institutional and commercial sectors, both in the U.S. and abroad.

R+C offers a competitive salary and benefits package: medical, dental and vision insurance, paid personal time off, 401(k), in-house professional development, and continuing education allowance. R+C is an equal opportunity employer.

**Desired Qualifications:**

- A master's degree in structural engineering.
- 5-10 years of experience working in the building structural engineering field.
- California PE license required; SE license preferred.
- Experience designing building structures in concrete and steel.
- Experience with assessment and retrofit of existing buildings (ASCE 41 and CEBC) preferred.
- Experience collaborating with contractors and architects.
- Experience with project management (budget and schedule).
- Experience managing junior staff.
- Experience with RAM, ETABS, and SAP2000.
- Experience with Revit Structure.
- Experience with Perform 3D preferred.
- Strong analytical, detailing, communication and interpersonal skills and ability to develop and maintain good relationships with industry peers. We are looking for employees who enjoy engaging with architects and other clients.
- Many of our clients ask for proof of COVID vaccination to attend in-person meetings or jobsites, as such our ideal candidate will be able to meet this requirement.

**How to Apply:**

Please submit a cover letter, resume, and the names and contact information of two professional references to [recruiting@ruthchek.com](mailto:recruiting@ruthchek.com) for immediate consideration. The subject line of the email should read: **Structural Senior Design Engineer (5-10 years) [Candidate Name]**.

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**Structural Engineer (3-5 years)**



Rutherford + Chekene (R+C) is one of the foremost engineering practices in California providing structural and geotechnical engineering. Established in 1960, we are committed to hands-on involvement with our clients and to maintaining a friendly and welcoming in-office atmosphere.

Our new building portfolio includes significant collaborations with internationally acclaimed architects on a variety of building types. We pride ourselves in our ability to provide creative and practical solutions that support great architectural visions. Our services also include seismic evaluations and retrofits of existing buildings. We have many new and exciting projects in the institutional and commercial sectors, both in the U.S. and abroad.

R+C offers a competitive salary and benefits package: medical, dental and vision insurance, paid personal time off, 401(k), in-house professional development, and continuing education allowance. R+C is an equal opportunity employer.

**Desired Qualifications:**

- A master's degree in structural engineering is required.
- 3-5 years of experience working in the building structural engineering field.
- California PE license required.
- Experience designing building structures in concrete and steel.
- Experience with assessment and retrofit of existing buildings (ASCE 41 and CEBC) preferred.
- Experience with building analysis software such as RAM, ETABS, and SAP2000.
- Experience with Revit Structure.
- Experience with Perform 3D is a plus.
- Strong analytical, communication and interpersonal skills and ability to develop and maintain good relationships with peers.
- Many of our clients ask for proof of COVID vaccination to attend in-person meetings or jobsites, as such our ideal candidate will be able to meet this requirement.

**How to Apply:**

Please submit a cover letter, resume, unofficial transcripts, and the names and contact information of two professional references to [recruiting@ruthchek.com](mailto:recruiting@ruthchek.com) for immediate consideration. The subject line of the email should read: **Structural Design Engineer (3-5 years) [Candidate Name]**.

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**Structural Engineer (0-3 years)**

Rutherford + Chekene (R+C) is one of the foremost engineering practices in California providing structural and geotechnical engineering. Established in 1960, we are committed to hands-on involvement with our clients and to maintaining a friendly and welcoming in-office atmosphere.

Our new building portfolio includes significant collaborations with internationally acclaimed architects on a variety of building types. We pride ourselves in our ability to provide creative and practical solutions that support great architectural visions. Our services also include seismic evaluations and retrofits of existing buildings. We have many new and exciting projects in the institutional and commercial sectors, both in the U.S. and abroad.

R+C offers a competitive salary and benefits package: medical, dental and vision insurance, paid personal time off, 401(k), in-house professional development, and continuing education allowance. R+C is an equal opportunity employer.

**Desired Qualifications:**

- A master's degree in structural engineering with courses in dynamic analysis, steel design, and concrete design.
- New or recent graduates with 0-3 years of structural design experience.
- Familiarity with building analysis software such as RAM, ETABS, and SAP2000.
- Desire to work on a variety of engineering tasks including the analysis and design of new buildings and the assessment and retrofit of existing structures.
- Strong analytical, communication and interpersonal skills and ability to develop and maintain good relationships with peers.
- Experience with Revit Structure is a plus.
- EIT license is a plus.
- Many of our clients ask for proof of COVID vaccination to attend in-person meetings or job sites, as such our ideal candidate will be able to meet this requirement.

**How to Apply:**

Please submit a cover letter, resume, unofficial transcripts, and the names and contact information of two engineering professor references to [recruiting@ruthchek.com](mailto:recruiting@ruthchek.com) for immediate consideration. The subject line of the email should read: **Structural Designer (0-3 years) [Candidate Name]**.

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**Regional Director & Technical Director**

Seattle, Chicago, Minneapolis (home based office)

**Description & Details:**

- Are you tired of being stuck behind a desk?
- Do you want to help construct more sustainable cities?
- 



WoodWorks is a recognized leader in providing project assistance related to non-residential and multi-family wood buildings. As a result of our continued success and positive impact in the industry, we're adding new staff who want to be part of this exciting growth and help to guide the future of building in the U.S.

**Primary Role:**

Woodworks is looking for 2 Regional Directors (living in either the Seattle, Chicago or Minneapolis area) to be the 'go to' resource for design professionals when they have questions about the use of wood in non-residential or multi-family buildings.

We are also looking for a Technical Director which would be remote in the US with a 50% focus on Sustainability Initiatives.

If you have the combination of well-developed technical knowledge, strong communication skills and an enthusiastic spirit, and you're looking for something other than a billable consulting position or sales, this job offers a unique opportunity. In addition to an impressive compensation package, WoodWorks offers an enjoyable team atmosphere, the opportunity to become an expert in wood structures, schedule flexibility, and the chance for a rewarding career in the wood industry.

[Click here](#) for additional information and details on how to apply.

---

**Senior Structural Engineer**

**Company:** Brown and Caldwell

**Location:** Seattle, WA

**Description & Details:**

Brown and Caldwell, a national environmental engineering firm, has a new opportunity for a Structural



Engineer to provide project leadership and technical proficiency to deliver high quality designs for a portfolio of clients. We are seeking a motivated and achievement-oriented individual to take ownership of the structural design on projects and be accountable for the delivery of the project structural team.

When you join Brown and Caldwell you will enjoy a unique and welcoming culture. You will find that we offer a non-hierarchical, collaborative, and supportive environment, allowing you to do your best work. You will be trusted to do the right thing by our project managers and external clients. The work we do is interesting, challenging and wide-ranging in nature, and so is our client base.

[Click here](#) to learn more about this position and apply today.

## Applying or Renewing your Membership in SEAW

SEAW is organized into the membership categories and their corresponding dues structures listed below. Select the membership category that best fits your status.

Your contact information is shared with our foundation, SEFW. In order to “opt-out” please [contact](#) the association office. [Click here](#) for our privacy policy.

[Join or Renew Today](#)

Please consider making a line-item donation to [SEFW](#) as part of your dues renewal. Special designation can be placed on the donation, so it can be applied to scholarships, disaster preparedness or research opportunities. SEFW fulfills its mission with the assistance of donations from individuals and corporations.

More information on SEFW and its mission to promote structural engineering can be found at [www.sefw.org](http://www.sefw.org). Thank you for your support!

### Structural Engineers Association of Washington

[info@seaw.org](mailto:info@seaw.org) | 206.338.7376 | [www.seaw.org](http://www.seaw.org)

SEAW | 5727 Baker Way NW, Suite 200, Gig Harbor, WA 98332

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