



EQUILIBRIUM

Newsletter of the Seattle Chapter
Structural Engineers Association of Washington

November 2011

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SEAW Seminar

November 10, 2011

ATC 20 Training

DONT MISS IT!

See Page 6 for Details

Bill and Melinda Gates Foundation Campus

The November 15th meeting (scheduled early due to Thanksgiving week) will feature a program on the recently opened Gates Foundation campus by Hans-Erik Blomgren, of Arup. The new LEED® Platinum for New Construction Bill & Melinda Gates Foundation reflects its commitment to philanthropy and its roots in the Pacific Northwest. The Foundation and design team's goal since the beginning of design was to make sure that sustainability was incorporated into all aspects of the campus. In October 2005, Arup's Seattle office joined the NBBJ-led design team to help them achieve these goals.

The campus spans 12 acres in downtown Seattle and replaces an asphalt parking lot with a facility that returns more than 40% of the site back to green space though two acres of living roofs and native plantings. At 900,000 square feet, the project demonstrates how large-scale sustainable architecture and engineering can be delivered at the highest level, and becomes the largest, non-profit LEED-NC Platinum building in the world.

As part of an integrated and collaborative team including NBBJ, Sellen, KPFF, Seneca Group, Gustafson Guthrie Nichol and others, Arup's contributions to the project included structural, mechanical, electrical, and plumbing engineering, as well as façades, acoustics, information-communications, materials, and audio-visual consulting.

Hans-Erik Blomgren, PE, SE, is an Associate at Arup's Seattle office who played a lead role during the design and construction administration phases of the Bill & Melinda Gates Foundation Headquarters Campus. Hans-Erik has over 14 years of experience in the design and project management of large scale and architecturally expressive structures across a broad range of materials and project types.



Image courtesy of Gareth Reese

Meeting Information

This presentation is valued at 1.5 PDH

Date: Tuesday, November 15, 2011

Place: Best Western Executive Inn
200 Taylor Avenue North, Seattle

Time: 5:00–6:00 PM Social Hour
6:00–6:30 PM Dinner
6:30–6:45 PM Welcome/Introductions
6:45–8:15 PM Program

Menu: Chicken Saltimbocca: Pan Seared Chicken topped with Spinach, Prosciutto, and Gruyere Cheese, served with Wild Mushroom Risotto and a Madeira Demi Glaze,

~OR~

Eggplant Parmesan: Crusted in a Cheese Breading with a Roasted Roma Tomato Sauce served with Penne Pasta

Price: SEAW Members \$30.00
Non-members \$35.00
Students* \$15.00
Registration after 1/10, add \$5.00

*unemployed *current* members may register at the student rate

Reservations Required

Reservation deadline is 5 PM **Thursday, Nov 10.**

Register Online at www.seaw.org

Prepayment is Requested

Credit Cards accepted online only; not at the door.

No-shows and cancellations after the deadline will be subject to full charge.

From the Board: Following My Heart

-by Cheryl Burwell

I was so nervous the first day of grad school orientation. All of my hard work at undergrad classes and internships had paid off and there I was, at the school I dreamed of going to, and surrounded by professors I had only read about. In that moment I felt like I could go anywhere and do anything if I put my mind to it.

The first professor that welcomed my grad class did so by stating that our friends sitting next door in the business school orientation would be making twice as much money as us fresh out of school. Hello, reality! He paused, giving us time to get up and walk next door. Surprisingly none of us took him up on the offer. We obviously weren't attending engineering school for the money. We were there because engineering is what we loved to do. It was our *hearts* that were leading us on our career paths, not the need for money.

The SEAW Seattle Chapter *Equilibrium* is published monthly from September through May and is available online at www.seaw.org.

Articles, letters, and announcements are accepted by e-mail to seaw@seaw.org.

Advertising rates (prepaid)

Help Wanted/Job wanted, max 200 words, \$65; Display ads: Quarter page, \$115; Half Page, \$150; Full Page \$190. 10% discount for ads running two or more months. Deadline is the 20th of the month. Contact SEAW for an advertising order form.

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Since that first day of grad school, I am constantly reminded why I chose to be a structural engineer.

While traveling in Europe this summer I had the opportunity to visit Venice. Oh, beautiful Venice with her meandering canals and bridges that light up the spirit and sky!

I noticed that while the tourists were taking photos of the buildings (don't get me wrong, the architecture is stunning!), my heart was captured by what was hidden underneath and how fascinating it was that these heavy stone buildings were supported by small wooden piles. Make that millions of piles! "Isn't this the coolest thing ever?!" I would exclaim to my partner, who politely listened to me ramble on about the structural design of this and that before reminding me I had just talked about the same thing the day before—okay, make that the hour before. My excitement over such an engineering feat was uncontrollable!

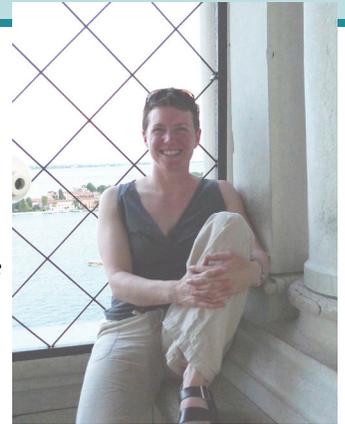
Get this: the history goes that the Italians were fleeing from invaders from the north and finally got so tired of being taken over they fled on boats to

nearby islands, muddy islands at that. Fleeing each invasion was exhausting so they decided to call the islands home. And like every great Italian city, churches built out of heavy stone were desired. They figured out a way to support these heavy buildings on the soft mud by driving wooden piles into the ground. Drive a million poles and viola! They can hold up a church and Venice is born! I found this to be an amazing engineering solution for the time.

However, given that it's now 2011, Venice's engineering feat of the past is not sustainable. Buildings are now sinking, tilting, and falling over. Ironically what once held Venice up is now its demise. What saddens the people of Venice and millions of tourists paradoxically excites my heart as an engineer.

Although I'm not going to be the engineer that fixes Venice, I still love that even while on vacation I'm enthusiastic about the engineering challenges that are out there, both in the past and present.

I look forward to seeing you at an upcoming SEAW event and hearing how you are continuing to follow your heart, be it



taking on a project to help a community in need, spreading your passion for engineering to students through mentoring and outreach, or simply sharing your unique engineering travel stories with colleagues. SEAW is an organization that fosters our passion through member support, events and committees. Thank you for being a part of this great organization and profession in which we are doing what we love and loving what we do.

Cheryl Burwell is a Structural Plans Engineer with the City of Seattle, and is a 2009-2011 Seattle Chapter director. Cheryl is chair of the SEAW Membership Committee.

Cheryl.Burwell@seattle.gov



Structural Engineers Foundation of Washington Inaugural Forum

-by **Cale Ash**

The Structural Engineers Foundation of Washington (SEFW) held its inaugural forum on Thursday, October 6, 2011. Formed in late 2010, the Foundation's primary mission is to enhance public safety through scholarship, research, and education. The Foundation awarded two scholarships to college students earlier this year. The October 6th forum demonstrates the commitment to public education.

Jon Magnusson was the keynote speaker and his "Behind the Scenes Stories of Seattle's Latest Generation of Landmarks" was an engaging look at both real and proposed Seattle-area projects. Over 450 people attended this free event held in the Nordstrom Recital Hall inside of Benaroya Hall.

Jon's presentation began by attempting to answer the question of what constitutes a "landmark" with a brief look into the history of such structures in Seattle. He shared stories of landmarks that were never built, including transportation projects such as a regional heavy-rail transit system and a series of north-south highways running through Seattle. Atlanta received the rail funds that were originally earmarked for Seattle and the demise of the latter project explains the dead-end SR-520 overpasses just north of the Arboretum.

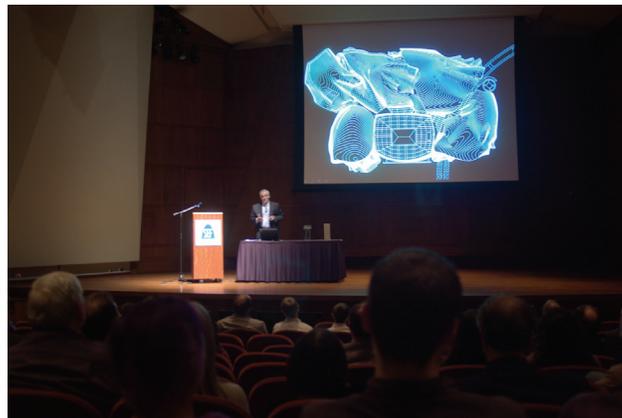
Fortunately, many projects made it off the drawing boards and Jon recounted the engineering accomplishments of sports landmarks such as Safeco Field and CenturyLink Field. Both stadiums use protective systems in their respective arched roof structures. CenturyLink features friction pendulum bearings between the steel roof truss and the concrete

support piers. These bearings allow the arch to expand under thermal loads while providing the ability to re-center after a seismic event. The roof at Safeco Field relies on the loading-rate-dependent properties of piston dampers to resist seismic loads while allowing thermal expansion. These dampers and adjacent hinge connection are clearly visible at the north end of the moveable roof structures.

Jon explained that tall buildings also frequently use dampers. In the case of Seattle's tallest build-

ings, the dampers are located at each corner. It was important to maximize the gravity loads resting on these columns to resist overturning demands. To achieve this, selected columns were removed from the basement level, thereby forcing the braced frames to load the mega-columns in an arching action.

Two contemporary landmarks have turned out to be polarizing from an aesthetic standpoint while remaining innovative structurally. The Seattle Central Library and the Experience Music Project have elicited



ing, the Columbia Center, friction dampers were located parallel to the braced frame diagonals to control drift under wind loads. To accommodate the curved façade of this landmark building, a triangular floor framing grid system was used with concrete mega-columns lo-

calated at each corner. It was important to maximize the gravity loads resting on these columns to resist overturning demands. To achieve this, selected columns were removed from the basement level, thereby forcing the braced frames to load the mega-columns in an arching action. Two contemporary landmarks have turned out to be polarizing from an aesthetic standpoint while remaining innovative structurally. The Seattle Central Library and the Experience Music Project have elicited



the building also proved challenging and Jon said that the human ribcage served as inspiration for the final design. The Central Library was designed by Rem Koolhaas and features a book spiral in the upper floors to accommodate an ever-expanding book collection. Finite element analysis was used to design the structural steel exterior walls.

In keeping with the Foundation's stated mission of "improving public safety and enhancing the profession of structural engineering through scholarship, research, and education," future forums will be held on an annual basis. The next forum will feature Bill Baker of Skidmore, Owings & Merrill in October 2012. Bill is the structural engineer of record on the Burj Khalifa, currently the tallest building in the world.

The Foundation's Board of Directors wishes to thank the sponsors and attendees for making this inaugural event a great success.

Cale Ash is a Project Engineer with Degenkolb Engineers in Seattle and is a licensed Structural Engineer in Washington and California. He is current the Seattle Chapter Vice President. He can be reached at cash@degenkolb.com

YMF Corner

Tour of Nucor Steel Seattle

This October the YMF organized tours of Nucor Steel Seattle, Inc. First I would like to begin by thanking Pat Jablonski for taking time out of his busy schedule to show us around. It's a fascinating tour. For those of you who weren't able to make it I'll touch on some of the highlights.

The steel plant has been here in Seattle under various owners for 106 years. From the 1920s to 1980s, it was owned by Bethlehem Steel. Ownership then went to Seattle Steel, and then Birmingham Steel. Nucor took ownership in 2002. The plant employs around 300 people and typically runs 6 days per week. The plant's primary product is rebar, though they also make channels, angles, and flats, all of which are made exclusively from recycled steel.

All steel is purchased from a few trusted suppliers in order to maintain high standards. Upon entry, a load of scrap steel undergoes double screening in radiation detectors. An entire load is rejected should any radiation be detected.

Once the scrap metal is brought in, it is sorted by size and type. Various combinations of scrap are used in a given batch to achieve different grades of steel. Huge magnets on cranes are used to move scrap metal around and to load it into buckets that transport the metal into the furnace.

continued on Page 5

ASCE's Pacific Northwest Regional Conference (PNWRC)

Engineering students from around the region participate in this annual event, which features various presentations and competitions, most notably, the Steel Bridge and Concrete Canoe competitions. The 38th annual conference will be held April 26–28, 2012 here in Seattle and co-hosted by both Seattle University and the University of Washington. Winners of this competition then go on to compete at the National Conference, which will be held June 14–16, 2012 at the University of Nevada, Reno.

Currently, UW and SU are in fundraising mode for the event. Their projected costs are around \$60,000, which will cover facility rentals, equipment, food, awards, and various other necessities. Sponsorship offers companies a great opportunity to gain exposure to students, as contributions are acknowledged through various means of marketing based on contribution level. For more information or to make a contribution, please contact Fundraising Co-Chairs Fawm Saefong tinysfong2000@yahoo.com or Sherry Kim kimsherr@uw.edu.

Judges and volunteers will also be needed for the conference. If you're interested in helping out, please contact Volunteer Coordinator Amanda Neice at amanda.neice@gmail.com or Judges Coordinator Nina Mao ninamqx@gmail.com.

Meeting Recap

October 25th Meeting: The Bullitt Center

-by Karen Damianick

The Bullitt Center is located in Capitol Hill and is part of the Living Building Challenge.

The Living Building Challenge is a set of guidelines developed to eliminate any adverse impacts on the environment caused by constructing and operating a building.

Due to the integration and focus on energy efficiency, the design energy use of this building was able to be reduced by 83% compared to a typical building. This included using triple pane windows, changing beam locations to increase daylight saturation on each floor, and creating "irresistible stairs" to reduce elevator use, among many other things.

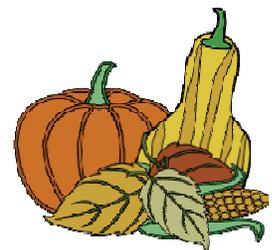
Photovoltaic (PV) Panels are installed on the entire roof of the structure, even extending out over the sidewalk right-of-way. Use of PV panels in Seattle is very much a test case, since it has one of the lowest levels of sunlight saturation in the country. In addition, it has some of the cheapest electricity in the country, so getting the financials to work out on paper required a very large area of panels.

One goal of this particular project was to show that a building like this can be designed and built on a developer's budget.

This was not actually achieved, but many of the obstacles were due to institutional issues. For example, there are no codes dealing with composting toilets, so there was delay getting approval for them. Also, most engineered wood contains glue containing formaldehyde, which is on a list of banned substances, so an alternative to that had to be found.

This building will be monitored for years to come, and many things will be learned about what works best for environmentally sound buildings.

Karen Damianick, owner of KLD Engineering and SEAW member since 2003, is a frequent contributor to the Equilibrium. She can be contacted at kld@kldengineering.com.



YMF Leadership

President:

Natalie Low
gmatann@gmail.com

Vice President:

Jennifer Ahlport
Jahlport@degenkolb.com

Social Representative:

Anna Troeh
atroeh@gmail.com

Past Chair:

Dan Yeager
dyeager@dc-engineers.com

Outreach Representative:

Eric Pope
pope.eric.w@gmail.com

Upcoming YMF Events

- | | |
|--------|--|
| Nov 8 | Happy Hour, 5:00 PM
The Diller Room, Downtown Seattle |
| Nov 12 | Habitat for Humanity Build Day |
| Dec 13 | Happy Hour, 5:00 PM
Location TBA |
| Jan 10 | Happy Hour, 5:00 PM
Location TBA |

Created in 2007, the Younger Member Forum provides networking and social opportunities to SEAW members 35 and under, as well as new non-member engineers and students. All SEAW members are welcome to participate in YMF functions.

News of Note

YMF Corner

continued from Page 4

Which brings me to the furnace. The furnace is really an amazing sight to see, and since I can't possibly do this part of the tour any justice, I'll just offer a few details. Their melt shop uses an electric arc furnace, which consists of three electrodes. About half of the energy used to melt the steel is from the arcing electrodes while the other half is provided via chemical energy. The cost of electricity required to operate the arc furnace ends up being about \$70,000/day, making Nucor Seattle City Light's largest customer!

Each batch is made up of three buckets of scrap metal which each weigh about 118 tons! The steel is heated to around 3100° F before it is tapped and cast into billets. A layer of slag, made up of powdered carbon and lime, is used in the melting process to act both as an insulator and also to extract impurities from the mixture. The slag gets poured off before the batch is tapped. Once cooled, slag can be broken up and

used as aggregate for road base material.

After the desired grade of steel is obtained, it gets cast into billets each weighing about 2 to 2.5 tons. The billets are then cooled. Next, they will go to the rolling mill where they're reheated to about 2250° F. Although a lot of energy is wasted in cooling the billets down and reheating them, continuously running the melt shop is more efficient than starting and stopping to keep pace with the rolling mill. The various sizes and forms of product necessitate frequent modifications and maintenance to the rolling mill. The rolling mill, though not quite as impressive as the furnace, is mesmerizing in its own right.

There are few steel plants on the west coast, so this Nucor plant services much of the region from Alaska and western Canada down to the Bay Area and from Hawaii to Idaho.

-Natalie Low, YMF President
gmatann@gmail.com



YMF Members Josh Welch, Hannah Lee, Leo Moyer, Travis Williams, Bryon Perry, Natalie Low, and Erik Evenson from the Oct. 10 tour.



SEAW Fall Seminar, Diaphragms, Chords & Collectors

-by Mike Wright, SE

Ninety-six individuals signed up for the fall seminar in downtown Seattle. The speaker was Professor Tim Mayes from The Citadel in Charleston, South Carolina. Seattle was the 73rd city where this seminar has been presented. Professor Mayes was the editor for the *Guide to the Design of Diaphragms, Chords and Collectors based on the 2006 IBC and ASCE 7-05*, which was the textbook for the seminar.

Professor Mayes was a dynamic and entertaining speaker and thoroughly covered the basics of flexible and rigid diaphragm analysis and design. Design examples for wood, metal and concrete diaphragms were presented for both wind and seismic loading (both high- and low-seismicity examples). He also brought up some of the more

challenging issues and discussed his work on the analysis of semi-rigid diaphragms.

This was our first time at The Conference Center. The location offers good parking and transit access. Attendees from Wenatchee commented on how easy it was for them to fly in, and take light rail to the facility.

Goals for this seminar were to restart the program and to find a regular facility for future seminars and other events.

As is the case with first efforts, there are lessons to be learned. Included would be the need to clearly point out the targeted level of engineering competence for the seminar, and from a non-technical perspective, more refreshments will be provided for attendees. Any comments would be greatly appreciated. Contact me at mike@mawright.com.

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Meetings, Seminars, Announcements

SEAW to present ATC-20 Training

The SEAW Disaster Preparedness and Response Committee will hold an ATC-20 training session on Thursday, November 10, 2011, at the Conference Center, 801 Pike Street in downtown Seattle.

The ATC-20 training session will help participants develop the skills to properly assess earthquake damaged buildings for occupancy following a major earthquake.

Paul Brallier, P.E., S.E., and Michael Pena, P.E., Disaster Prep and Response committee members, are the scheduled instructors.

The four-hour training session will be held from 4:00–8:00 pm (with registration beginning at 3:30 pm), and will include a box-lunch style dinner.

Registration for SEAW members is \$50 for the training session. Those who don't currently have the ATC-20-1 "Post Earthquake Safety Evaluation of Buildings: Second Edition" may include the manual for an additional \$24.

Registration by Monday, November 7, and prepayment are required. An additional \$10 will be charged for registrations after November 7.

To view the seminar flyer or register online, visit www.seaw.org.

Structural Masonry Design Webinar

The Northwest Concrete Masonry Association will be conducting a three-session webinar focusing on the design of reinforced concrete masonry construction. Both working stress and strength design methods of the 2009 IBC and 2008 MSJC codes will be covered.

The updated webinar will

cover design examples of masonry building elements by manual and automated methods. It is aimed at practicing engineers who want to learn how to design masonry in a practical and efficient manner. Continuing education credit (up to 7.5 PDH) can be earned. Certificates of attendance will be issued.

The webinar dates are: **November 29th**, **December 6th** and **December 8th**. Each session will run from 4:00 - 6:00 pm Pacific Time. Additional information can be obtained from the Northwest Concrete Masonry Association at 425.697.5298 or www.nwcma.org.

Emerging Trends 2012

Urban Land Institute (ULI) Seattle presents its annual real estate trends and forecast meeting, featuring insights from leading experts both nationally and locally. Our event will feature a presentation on "Emerging Trends in Real Estate 2012" published by ULI and Pricewaterhouse Coopers, as well as a session on the outlook for Seattle-area real estate, including a panel of leading area real estate investors and experts.

Wednesday, Nov 9, 2011
7:00 - 7:30 AM: Registration & Networking
7:30 - 9:00 AM: Breakfast Program
Sheraton Seattle Hotel
Metropolitan Ballroom
1400 Sixth Avenue
Seattle, Washington

The Urban Land Institute's mission is to provide leadership in the responsible use of land and in creating and sustaining thriving communities worldwide. ULI is an independent, non-profit education and research institute supported by its members and neither lobbies nor acts as an advocate for any one single industry.

ULI Seattle is a district council of the Urban Land Institute serving all of Washington State and Oregon. ULI Seattle has over 800 members, representing the entire spectrum of land use and real estate development disciplines. Members include developers, public officials, property owners, investors, financial institutions, architects, planners, brokers, appraisers, attorneys, accountants, engineers, academicians and students.

For more information and online registration, please visit www.seattle.uli.org or call 206-224-4500.

COSMOS Technical Session

Recent Major Earthquakes and Their Influence on Strong Ground Motion Determinations and Design

The Consortium of Organization for Strong Motion Observation Systems (COSMOS) will be holding its Annual Meeting and Technical Session at the Hilton Garden Inn in Emeryville, California, on Friday, November 4, 2011. The day-long Technical Session will focus on "Recent Major Earthquakes and Their Influence on Strong Ground Motion Determinations and Design." This year's COSMOS Technical Session is being co-sponsored by the Pacific Earthquake Engineering Research Center (PEER) and the California Geological Survey (CGS).

The earthquakes that occurred in 2010 in Maule, Chile, and in 2011 in Tohoku, Japan, Christchurch, New Zealand, and in Virginia, U.S., will have a major influence on strong ground motion determinations and design. This year's Technical Session will provide presentations on ground motions measured in these earthquakes and in their influence on attenuation relationships. There will

also be presentations on how these earthquakes will influence the design of foundations and geotechnical structures such as earthen dams. As in years past, the last part of the technical session will include a lively panel session.

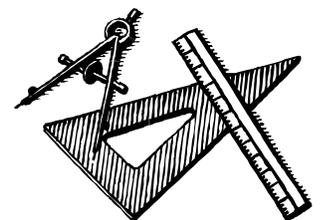
For complete program and registration details for the COSMOS Annual Meeting and Technical Session, visit the COSMOS website at www.cosmos-eg.org.

PSEC Mentor Night

PSEC is seeking volunteers to participate in Mentor Night at the UW Bothell Campus on Tuesday, November 15th from 6 to 8 pm. We are looking for at least two practicing engineers in 20 disciplines willing to share their expertise, advice, and career experiences with community college and high school students that are interested in pursuing a career in engineering. Please bring a sample of your work that would fit on a 30" X 30" table top to show the students what you do. If you are available to attend, please sign-up at the following link: <http://www.pseconline.org/Events/MentorNights>

Please note that the event will be held at the North Creek Events Center as indicated in the flyer and not at Mobius Hall as indicated on the Eventbrite sign-up.

Questions about the event can be directed to Paul Grant, PSEC Past President, at pgrant@pangeoinc.com.





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- Al Truss, President, Fountainhead Group Consulting, Ltd.
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www.hendricks_consulting.com

Invoice Date	Invoice Num
Feb 6, 2011	1020
Billing From	Billing To
Jan 11, 2011	Jan 31, 2011

Ms. Rhonda Ware
Factor Foundation
28 Bayberry Street
Fountainhead, CA 95021

Project ID: 15234
Project Name: Long Beach Hotel
Manager: MK

Invoice

Phase	Phase Description	Contract Amount	% Complete	Price Billing	This Invoice
01.001.000	Schematic Design	\$1,000.00	95%	\$1.00	\$4,000.00
01.001.000	Design Development	\$1,000.00	90%	\$1.00	\$1,200.00
01.001.000	Construction Documents	\$1,000.00	90%	\$1.00	\$1,000.00
01.001.000	Construction Administration	\$2,000.00	7%	\$1.00	\$600.00
TOTAL:		\$5,000.00		\$1.00	\$7,800.00

Consultant Fees:

Description	Date	Rate	Cost	Amount
Structural Engineer Project #1	01/20/11	1.00	\$6,000.00	\$6,000.00
				TOTAL:
				\$6,000.00

Reimbursable Expenses:

Subs	Date	Rate	Cost	Amount
Subs	01/20/11	1.00	\$750.00	\$750.00
				TOTAL:
				\$750.00

Total Invoice Due: \$15,550.00

This amount is due upon receipt.

Account Summary

Billed To Date	Paid To Date	Balance Due
\$15,420.00	\$1.00	\$15,420.00

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Opportunities

Structural Project Engineer

Quantum Consulting Engineers is looking for a Structural Project Engineer with experience designing a variety of building types and structures in various building materials, including concrete, steel, masonry, and wood-frame construction. Experience in structural detailing, seismic design and evaluation of existing structures a plus. The successful candidate must be capable of preparing structural calculations and construction drawings for commercial, residential, mixed-use, industrial, and public-building projects.

Candidates must have earned a bachelor's degree in engineering and should have 5-6 years of experience. A professional engineering license is required. Excellent verbal and written communication skills are re-

quired. Our engineering software includes RISA-2D and 3D, RAMSteel and RAMFrame, Concept, and TJBeam; knowledge of these programs is helpful but not mandatory.

We offer a friendly and supportive work environment and opportunity for growth and advancement. Benefits include medical, dental, and vision insurance coverage; paid vacation, holiday, and sick leave; Simple IRA, a cafeteria plan, and pre-tax transportation benefits; and funds for professional licensing and seminars.

To learn more about us, please visit our website, www.quantumce.com. Send resume to Quantum Consulting Engineers, 1511 Third Ave, Suite 323, Seattle, WA 98101, or email to R@quantumce.com. No calls, please.



Brown and Caldwell is a privately owned and employee held environmental engineering consulting firm that has been providing municipalities, private businesses and government agencies with sustainable environmental solutions for more than 60 years.

Entry-Level Structural Engineer

Currently our Seattle office has an exciting opportunity for an Entry-Level Structural Engineer (0-5 years experience) to join our Structural Design Group. The candidate will work with structural, mechanical, process and electrical engineers and designers on designs for facilities primarily serving the water and wastewater industries. Project work includes structural detailed design on small to large projects in Washington, Idaho, Oregon, Hawaii and Guam. Responsibilities include design of tanks and basins per ACI 350; design of concrete, steel, masonry and wood facilities and structures per IBC; seismic design and evaluations

using IBC, ASCE, and ATC documents; design of monorails and crane runway beams; prepare detailed design sketches, or work directly within CAD or Revit Structure, and coordinate with CAD drafting staff to prepare 3-D models and design drawings; provide construction support; and utilize RISA 3D, Enercalc and other software for structural design.

B.S. and M.S. in Civil Engineering with an emphasis in structural coursework required. EIT preferred. Effective oral and written communication is essential.

We offer a competitive salary and benefits package. Please visit our Web site at <http://tbe.taleo.net/NA9/ats/careers/requisition.jsp?org=BROWNCALDWELL&cws=1&rid=720> to apply online for job code 720. We value workforce diversity. EOE/AA

Senior-Level Structural Engineer

Currently our Seattle office has an exciting opportunity for a Senior-Level Structural Engineer to join our Structural Design Group. The candidate will

2011 Seattle Chapter Unpaid Members

The following members show in our records as being unpaid for 2011. Members whose dues are unpaid at the end of the year are removed from the membership. Please contact the SEAW office if you feel an error has been made.

Robert Bourdages

Josh Brown

James Chen

Chris Covington

Daniel Currit

Richard Dethlefs

Hien Duong

Kerry Everton

Youssef (Joe) Ferzli

Nathan Galer

Ella Garber

Jordan Hague

Taesam Hose

Michael Neale Huggins

Cary Kopczynski

Anne Krauser

Paul Larson

Martin Maingot

James Maras

Chad McDonald

Ian McFarlane

Robert McNiesh

Mahvash Nassiri

Joshua Nelson

Vu-Hoang Nguyen

Leilani OConnor

Brian Olmsted

Dylan Parker

Robert Raichle

Sri Rajah

Clemens Russell

Kyle Rumble

Eric Rupp

Patrick Ryan

Lavina Sadhwani

William (Bill) Sandbo

Christi Schwend

Jean Spangler Shortreed

Kathrina Simonen

Kenneth Simons

Ken Smolarek

James Stephens

Robert Stevens

Gary Swenson

Matt Toton

Narong Trongtham

Andy Tu

Mark Uchimura

Hayden Watson

Andree Yen

work with structural, mechanical, process and electrical engineers and designers on designs for facilities primarily serving the water and wastewater industries for municipal, industrial, and federal clients. Project work includes leading the structural design effort on small to large projects in Washington, Idaho, Oregon, Hawaii and Guam. Responsibilities include design of tanks and basins per ACI 350; design of concrete, steel, masonry and wood facilities and structures per IBC; seismic design and evaluations using IBC, ASCE, and ATC documents; design of monorails and crane runway beams; develop structural scope and engineering estimates for projects; provide construction support; utilize RISA 3D, Enercalc and other software for structural design; and contribute to company standard detail and specification updates.

B.S. and M.S. in Civil Engineering (structural emphasis) and a minimum of 8 years of experi-

ence in structural engineering design required. WA SE license or the ability to obtain quickly through comity required. Ability to obtain SE for OR, HI, and Guam (requires passing 16-hour structural exams recognized by western states) preferred. Candidate should have comprehensive knowledge of concrete, steel, masonry and wood structural design per IBC and referenced codes. Structural design experience with wastewater treatment plant or industrial facilities preferred. Seismic design experience required. Experience coordinating with staff performing 3-D CAD or Revit Structure is a plus.

We offer a competitive salary and benefits package. Please visit our Web site at <http://tbe.taleo.net/NA9/ats/careers/requisition.jsp?org=BROWNCALDWELL&cws=1&rid=722> to apply online for job code 722. We value workforce diversity. EEO/AA



**STRUCTURAL ENGINEERS ASSOCIATION
of WASHINGTON • Seattle Chapter**

PO Box 44 • Olympia WA 98507 • 206/682-6026 • www.seaw.org

Seattle Chapter Committees & Chairs

House/Program	Peter Opsahl
Refresher Course	Mark Moorlegghen
Membership	Cheryl Burwell
Newsletter	Lynnell Brunswig
Presentations/Awards	Howard Burton
Engineer of the Year	Ed Huston
Governance	Howard Burton
Committee Oversight	open
YMF	Natalie Low

Statewide Committees & Chairs

Code Advisory	John Hooper
Earthquake Engineering	Tom Xia
Building Engineering	Scott Beard
Existing Buildings	Peter Somers
Professional Practices	John Tawresey
Wind Engineering	open
Exam Liaison	Ed Huston

Scholarship	Bill Mooseker
Legislation	open
Education	Mike Wright (interim)
Finance & Auditing	Ted Smith
Disaster Prep/Response	Paul Brallier
Public Information	Cale Ash
Sustainability	Marjorie Lund
Snow Load	John Tate
SEAW Historian	Don Northey

For Committee contact information, visit www.seaw.org and click the Committee page

SEAW Calendar

NOVEMBER, 2011

Tuesday	8th	YMF Happy Hour, 5:00 PM The Diller Room, Downtown Seattle
Thursday	10th	ATC-20 Training, Convention Center
Tuesday	15th	Seattle Chapter Board & Dinner Meetings Executive Inn
Friday	18th	State Board Meeting
Saturday	19th	SEAW Strategic Planning Session
Monday	21st	December Newsletter Deadline
Thursday	24th	Thanksgiving

DECEMBER, 2011

Tuesday	13th	YMF Happy Hour, 5:00 PM Location TBD
Tuesday	13th	Seattle Chapter Board Meeting Noon Meeting at Seattle Structural
Tuesday	20th	January Newsletter Deadline
Saturday	31st	Deadline for 2011 Membership Dues Unpaid Members Deleted

JANUARY, 2012

		2012 Dues Statements Go Out
Tuesday	10th	YMF Happy Hour, 5:00 PM Location TBD
Friday	20th	February Newsletter Deadline
Tuesday	24th	Seattle Chapter Dinner Meeting Election of Nominating Committee
Friday	27th	SEAW State Board Meeting

Membership

Membership Applications

Tyler Kurz

DCI Engineers, Inc.
BSCE, 2010, MSCE, 2011, University of Washington
Class: Associate

Patrick Lindblom

DCI Engineers, Inc.
BSCE 2001, University of Washington
Class: Associate

Tony Nguyen

University of Washington Student
Class: Student

Applications Accepted

Joanne Bayuga, Affiliate

Kent Hulet, Associate

Megan Isbell, Associate

Ethan Ramberg, Student

John "Cal" Smith, Jr., Student

Are Your 2011 Dues Paid?

Names of unpaid members are listed on page 8

INSTRUCTIONS FOR PAYING YOUR DUES ONLINE:

1. Go to www.seaw.org and Log in to the member area (Default login name is your email address; password is your first name).
2. Click on "My Membership" in the menu bar
3. Select "Membership Renewal" in the gray menu bar to see if there is an outstanding invoice.
4. Select the invoice and Follow the prompts to pay your dues online using your VISA or Mastercard.
5. When your payment has been made, you will receive an automated receipt by email.