OREGON SECTION OF THE ASSOCIATION OF ENVIRONMENTAL & ENGINEERING GEOLOGISTS

January 2013

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The Official

OREGON SECTION AEG NEWSLETTER

http://www.aegoregon.org

AEG/ASCE Joint Meeting Presents: Willamette River Transit Bridge

Guest Speakers: David Higgins, Derrick Hayes, and Steve Litchfield

Portland's scenic downtown river waterfront is experiencing its first major change in 40 years with the construction of the centerpiece to TriMet's Portland to Milwaukie Light Rail transit project. The Willamette River Transit Bridge is a cable-stayed structure that will accommodate pedestrians, bicyclists, light rail, buses, and a streetcar route traveling between the South Waterfront on the west side and OMSI on the east shore. Shannon & Wilson teamed with HNTB Corporation to perform the preliminary engineering, develop the design-build contract documents, and act as the Owner's representative during bridge construction.

This presentation will provide a summary of the bridge work completed to date, from bridge type selection to the current status of construction. The primary focus of this presentation is services provided by Shannon & Wilson during the Preliminary Engineering Phase. We will discuss the subsurface exploration program and site characterization. One of the primary challenges of the subsurface characterization was identifying site constraints, including more than a century of riverbank modifications, nearby obstructions, soil contamination, and soft liquefiable deposits. A primary goal of preliminary engineering was to understand the hazards posed by those constraints and to evaluate design impacts. We will also discuss the key geotechnical concerns of seismic performance of the riverbanks and design of the main tower foundations. Shannon &Wilson evaluated seismic performance with the help of FLAC, resulting in input ground motions for the 3-D structural bridge model and post-earthquake soil strength profiles. Finally, we will discuss the construction of geotechnical elements of the project, including the cofferdam tower islands and the Osterberg Cell load tests performed on the tower foundations.

January Meeting Details

Tuesday January 15th

Location: Ernesto's

8544 SW Apple Way

Portland, Oregon

6:00 pm Social

6:45 pm Dinner

7:30 pm Presentation

Dinner: Italian Buffet

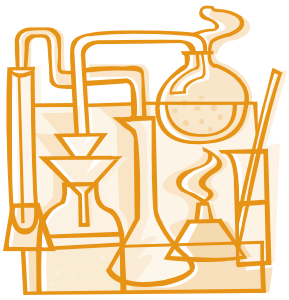
$35 Dinner ($10 Students)

Reservations:
mwegner@cornforthconsultants.com with "AEG Reservation" in the subject line or 971-222-2047 by 4pm Fri. Jan. 11

There is a $2 surcharge for those who do not reserve by the deadline.

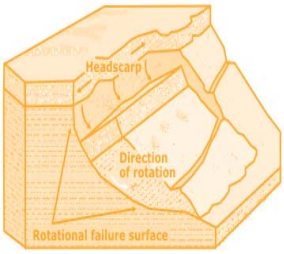
Upcoming Meetings:

Feb 19th Jim O'Connor
Mar 19th Matthew Morris
Apr 16th Student Poster Night
May 21st James McCaplin



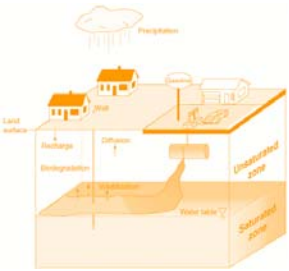
Bio: David Higgins, CEG

Dave is a Senior Principal Engineering Geologist with Shannon & Wilson, Inc. Dave graduated from Kutztown University of Pennsylvania with a bachelor's degree in geology. He has 14 years of professional experience in Oregon, where he started his career working on the TriMet Interstate Max Project. Since that time he has primarily worked on transportation and water/wastewater projects, specializing in geologic site characterization and geologic hazard mitigation. He plans and executes large exploration and instrumentation programs, including those for the Lake Oswego Interceptor Sewer, Sandy River Conduit Crossing Tunnel, I-5 Columbia River Crossing, TriMet Portland to Milwaukie Light Rail (Orange Line), and dozens of landslide mitigation projects.



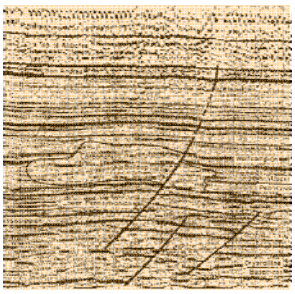
Bio: Derrick Hayes, PE

Derrick is a Senior Principal Engineer with Shannon & Wilson, Inc. Derrick graduated with a master's degree in civil engineering from Oregon State University and has spent the majority of his career in the transportation and water/wastewater market sectors, focusing on the Portland metro area. Derrick has worked on many of the region's major transportation infrastructure projects, including the I-5 Columbia River Crossing, TriMet Portland to Milwaukie Light Rail (Orange Line), and the Sunrise Corridor JTA Project. His professional focus has been on seismic site response, deep foundations, and pavement design.



Bio: Steve Litchfield, PE

Steve has 19 years of experience in the design and construction of bridge projects, and he manages HNTB's Portland Office. He graduated from Texas A&M with a master's degree in civil engineering. Steve is the Project Manager for HNTB serving as owner's engineer on TriMet's Willamette River Transit Bridge. His responsibilities include managing the day-to-day engineering development and reviewing the final design deliverables for compliance with the design-build requirements.



Message from the Chair

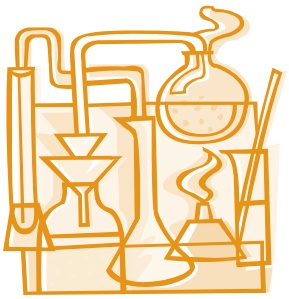
Happy New Year! Please accept my apologies for the late arrival of the January newsletter.

As noted earlier in the newsletter, this month is our annual ASCE/AEG meeting. AEG is hosting, and we hope for a great turnout at Ernesto's next Tuesday, despite the late notice. Dave Higgins and Derrick Hayes with Shannon & Wilson, and Steve Litchfield with HNTB will share a presentation with us on the Willamette River Transit Bridge project. As one who drives by that project nearly daily, I am looking forward to learning more about it.

National AEG and the Student & Young Professional Support Committee of AEG is seeking volunteers and local liaisons for the Visiting Professionals Program (VPP). The VPP is comprised of AEG member volunteers working as geologists/professionals in the environmental/engineering geology or related fields that visit colleges/K-12 classes/community groups (could be any group) and present on topics of interest that they think may interest the audience. I will have more information about this at a later date, but if you have any early interest in participating, please let me know.

Thanks again to Dulcy Berri with PBS Engineering and Environment for speaking at last month's Joint AWG/AEG meeting; thanks to AWG; and thanks too, to Bob Janak and NRC for hosting the beverages at that event.

See you soon,
Robin



Courses taught at Portland State University, Winter Quarter (January 7-March 15, 2013)

Geology Courses: (all classes are 4 credits)

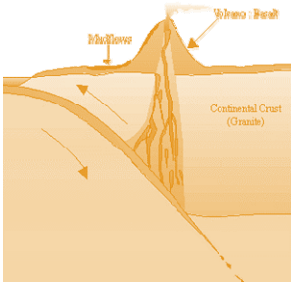
- G 470/570: Engineering Geology, MW 17:30-18:45, F, 15:00-17:00, Cramer Hall S17, Scott Burns (last time he will teach this course)
- G 410/510: Geothermal Systems, TuTh 16:40-18:30, Cramer Hall S17, Mike Cummings and Al Waibel
- G 443/543: Groundwater Geology, TuTh, 13:15-16:20, Cramer Hall S17. Ben Perkins

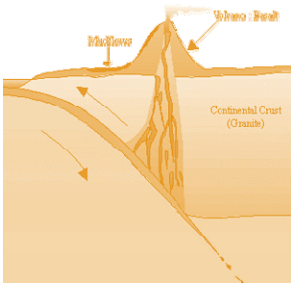
Geography Courses (all classes are 4 credits)

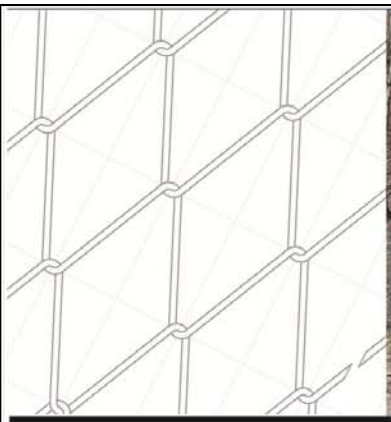
- Geog 488: GIS, TuTh, 18:00-19:50, Cramer Hall 413, Franczyk
- Geog 490: GIS Programming, 12:00-13:50, TuTh, Cramer Hall 419, David Percy
- Geog 492: GIS II, 16:00-17:50, TuTh, Cramer Hall 413, David Banis

Civil Engineering (all courses are 4 credits except CE581 which is 2 credits)

- CE 542: In Situ Soil Testing, MW, 12:00-13:50, EB260, Trevor Smith
- CE 544: Adv. Shallow Foundations, MW, 16:00-17:50, EB 260, Trevor Smith
- CE 568: Soil and Groundwater Restoration, MW, 10:00-11:50, EB 310, Gwynn Johnson
- CE 572: Environmental Fluid Transport, TuTh, 10:00-11:50, EB 310, Scott Wells
- CE 581: Columbia River as a System, W, 12:00-13:50, EB 310, David Jay
- CE 587: Aquatic Chemistry, TuTh 12:00-13:50, FAB 10, Jim Pankow







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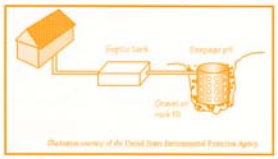
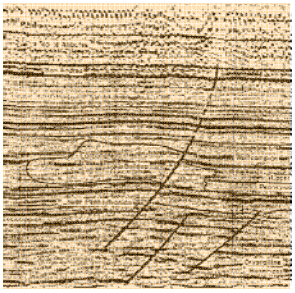

Schematic of a Seepage Pit (Dry Well)



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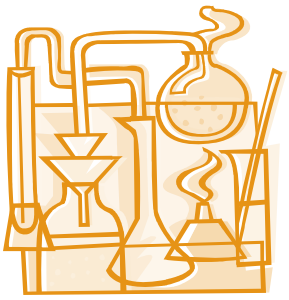

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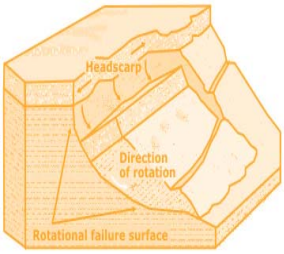

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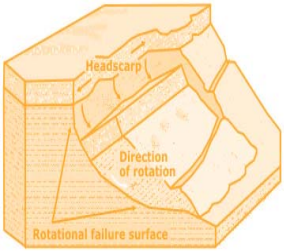

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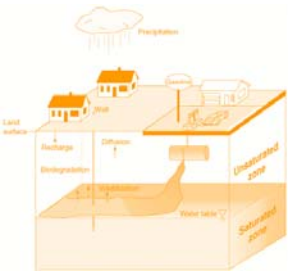

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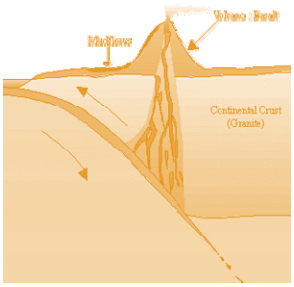
"Keen observation is at least as necessary as penetrating analysis"

Karl Terzaghi



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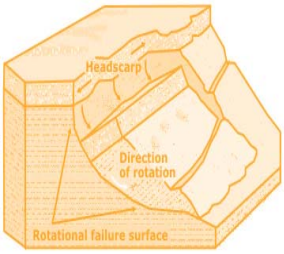

The Oregon Section Newsletter

OREGON SECTION AEG NEWSLETTER is published monthly from September through May. Subscriptions are for members of AEG affiliated with the Oregon Section or other Sections, and other interested people who have requested and paid a local subscription fee of $10.00. E-mail subscriptions are free. News items are invited and should be sent to: Scott Braunsten, OR Section AEG Newsletter Editor, PBS Engineering and Environmental, 4412 SW Corbett Avenue, Portland, OR 97239, e-mail: scott.braunsten@pbsenv.com, phone (503) 417-7737. Electronic media is preferred. Deadline for submittal is the 20th of the month. Advertising: business card $100/yr; ¼ page $200/yr; ½ page $350/yr. Please notify Scott if you have a change to your email or mailing address.

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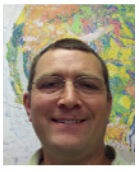

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