
Groundhog

From the Chair

The ASCE Seattle Section Geotechnical Group has successfully started the 2001-2002 season. The new officers, as well as the planning committee, have been busy organizing this year's activities, including the monthly dinner meetings and the spring seminar.

Early this fall, **Aaron Bradshaw** (Hart Crowser) volunteered for the Secretary position for the Geotechnical Group – Thanks Aaron! Our vice-Chair (or ex-vice-Chair), **Mark Ahlstrom**, was actively planning and organizing the Spring Seminar meetings through December, but he recently moved to Colorado. However, up to the plate stepped **Dave Pischer** (Landau) and **Steve Wright** (Landau) who graciously volunteered to take over for Mark and co-Chair the Spring Seminar – Thanks Dave and Steve! The Spring Seminar will be held at the University of Washington on April 20, 2002. This year's topic is "Recent Advances in Geotechnical Earthquake Engineering". The Spring Seminar is the Geotechnical Group's biggest and most time-consuming event, thus all help is greatly appreciated. Please contact Dave Pischer, Steve Wright, Aaron Bradshaw, or myself if you would like to volunteer.

One of the main activities of the planning committee is to provide technical programs for the monthly Geotechnical Group dinner meetings. Typically, the programs include summaries of local or national case histories, current research, and/or presentations by recognized local and national experts in geotechnical engineering. The committee has arranged a great lineup of speakers and has again scheduled for the Terzaghi Lecturer to visit Seattle - This year all the way from Norway! Upcoming dinner meeting programs, dates, and locations are summarized in the Group Dinner Meetings section.

The Geotechnical Group is continuing its tradition of supporting local universities. For the past two years the Geotechnical Group provided financial support for two small research projects in geotechnical engineering at the UW. The focus of these two research projects is on the capacity of small diameter pin piles and the bond strength of soil nails in local geologic units. These projects are winding down at this time and we are always looking for new projects.

I hope to see you all at the monthly dinner meetings and upcoming Spring Seminar!

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Group Dinner Meetings

Our first meetings of the 2001-2002 session included excellent presentations from speakers located around the northwest including **Tony Allen** (WSDOT), **Barry Myers** (Squier Associates) and **Tom Armour** (DBM). The remaining speakers for the spring session will be traveling to Seattle from throughout the U.S. and Europe. We start in February with **Billy Camp** who was the lead engineer for the extensive axial and lateral drilled shaft load test program conducted in South Carolina. **Ben Gerwick** (San Francisco) who is a world-renowned expert on bridge foundations will visit us in March. Coming all the way from Norway is **Dr. Suzanne Lacasse** who is the 2001 Terzaghi Lecturer. We were able to schedule Dr. Lacasse during her busy tour through Canada and the western U.S. **Dr. Ross Boulanger** from U.C Davis will conclude our spring dinner meeting schedule. Dr. Boulanger will present supplemental information to the Spring Seminar on the behavior of pile foundations in liquefied and lateral spreading ground. Don't miss these outstanding speakers and topics!!!

Our next dinner meeting is scheduled for February 28 at the Bellevue Hilton Hotel and includes the presentation by Billy Camp (S&ME, Inc., South Carolina) on the drilled shaft load test program for the Cooper River Bridge project in South Carolina. According to ADSC, this was the largest load test program conducted in the U.S. to date. Axial load testing included single and multi-level Osterberg cells and an axial Statnamic device. Lateral loading testing included hydraulic actuators (cyclic), lateral Osterberg Cells, and a lateral Statnamic device. Some lateral tests were conducted during blast induced liquefaction. The drilled shafts were constructed using different techniques to evaluate the effects of slurries and casing. Bottom cleanliness was also evaluated.

The following is a schedule of Dinner Meetings for this spring. Please note that some of the dates are not our traditional Thursday nights due to availability of the speakers.

Meeting Date	Speaker	Location
February 28 (Thursday)	Billy Camp (SM&E Inc., S.C.)	Bellevue Hilton
March 20 (Wednesday)	Ben Gerwick Jr. (Ben Gerwick & Assoc.)	Bellevue Best Western
May 1 (Wednesday)	Dr. Suzanne Lacasse (NGI)	Bellevue Hilton
May 30 (Thursday)	Dr. Ross Boulanger (U.C. Davis)	Rock Salt Steak House

Planning Committee Meetings

In order to continue to provide quality programs and seminars as well as provide community outreach, it is important for a diverse group of individuals to be active in the planning committee. We encourage all of the Seattle area geotechnical firms/agencies to have a representative at the monthly Geotechnical Group planning committee meetings. The **Planning Committee** is looking for your help in selecting topics of interest or identifying potential speakers for the upcoming 2002-2003 session. If you have any suggestions for the meetings, please contact one of the group officers.

The next **Planning Committee meeting** is scheduled for **February 20** at noon at Shannon & Wilson. Please contact Bob Metcalfe, or one of the other officers, if you would like to volunteer and assist the planning committee.

Washington Section of AEG Upcoming Meetings

February 21- Dr. **Perry H. Rahn**, 2002 **Richard H. Jahns** Distinguished Lecturer in Engineering Geology and Professor Emeritus, South Dakota School of Mines & Technology. Dr. Rahn will speak about current techniques of flood evaluation, FEMA programs now in effect, and flood plain management as a method of reducing flood hazards. Included will be examples of flooding in

the United States and the usefulness of geomorphology and detailed field mapping to flood hazard evaluation.

March 21- **Travis Shaw** of the Corps of Engineers will speak about the Wykoff/Eagle Harbor Superfund remediation project.

For more information, you can contact Ted Hopkins at 206-695-6887 (twh@shanwil.com) or go to the section web site at www.aeg-wa.org.

ANNUAL SPRING SEMINAR

April 20, 2002

“RECENT ADVANCES IN GEOTECHNICAL EARTHQUAKE ENGINEERING”

The 2002 annual Geotechnical Group spring seminar, on the topic of “Recent Advances in Geotechnical Earthquake Engineering,” will be held on Saturday April 20, 2002 at the University of Washington HUB Auditorium. The spring seminar planning committee is currently finalizing the program for the 2002 seminar, and some minor changes to the following program will be required.

The morning portion of the program will focus on recent advances in general topics of earthquake engineering; and the afternoon portion will present an overview of local issues with emphasis on the effects of the February 2001 Nisqually Earthquake. Speakers for the morning session will include **Dr. Les Youd** of Brigham Young University (lessons learned from recent earthquakes, and advances in the evaluation of liquefaction and lateral spreading); **Maury Power** of Geomatrix Consultants, Inc. (ground motions and code-related issues); and **Dr. Jon Bray** of UC Berkeley (seismic slope stability and deformation modeling). Afternoon speakers will include **Dr. Geoff Martin** of the University of Southern California (The Role of Foundation Behavior in Performance Based Seismic Design); **Dr. Steve Kramer** of the University of Washington (overview of Pacific Northwest seismicity and the

Nisqually Earthquake); **Dr. C.B. Crouse** of URS Corp. (Nisqually Earthquake ground motions); **Paul Grant** of PanGeo, Inc. (Nisqually Earthquake liquefaction), and **Ivan Wong** of URS Corp. (seismic hazard evaluation). Additionally, **John Hooper** of Skilling Ward Magnusson Barkshire will discuss the relationship between structural and geotechnical earthquake engineering.

As always, volunteers will be needed to help make the spring seminar a continuing success for the Geotechnical Group and the University of Washington. Please contact Dave Fischer or Steve Wright at Landau Associates (425-778-0907) for more details on how you can participate in this years spring seminar.

CONTROLLING EXPENSES – “SNAIL-MAIL” COSTS ADD UP

The Geotechnical Group has been diligently reducing our mailing costs by trimming the snail-mail list. We have also been expanding the e-mail distribution list, which saves money and provides an easy and more efficient means to distribute information. Currently, over 60 percent of our distribution is made via e-mail! However, it still costs the Geotechnical Group about \$150 for monthly dinner meeting announcement mailings and up to \$350 for each issue of the **Groundhog**. Using e-mail to distribute the monthly dinner meeting announcements and the **Groundhog** has saved a lot of time and money. In addition to helping the Geotechnical Group save time and money, by receiving announcements via e-mail you will have access to information that is sent only via e-mail. This information includes announcements for special seminars or conferences, Geo-Institute Graduate Student Society (GIGSS) seminars at the University of Washington, reminders to sign-up for the monthly dinner meetings, and occasional announcements from AEG, ASCE, and VGS.

You can help us reduce our costs more by receiving Geotechnical Group announcements via e-mail. If you are still receiving Geotechnical

Group announcements via "snail-mail" and you have e-mail capability, please provide your e-mail address to Bob Metcalfe (rmetcalfe@geoengineers.com) or Aaron Bradshaw (aaron.bradshaw@hartcrowser.com). In addition, if your e-mail address changes, please e-mail us your new address. Send us e-mail addresses for anyone you know that would be interested in receiving Geotechnical Group announcements. In the near future, we plan to terminate distribution of announcements via snail-mail. It is the policy of the Geotechnical Group not to distribute the e-mail list to others outside the group. The e-mail list is only used by the Geotechnical Group to distribute group-related information.

City of Seattle Public Landslide Workshops

The City of Seattle is in the process of holding three Public Landslide Workshops. The ASCE Geotechnical Group is hosting a table with two representatives from our group who will provide one-on-one discussions with homeowners. The first workshop was held at South Seattle Community College on January 26. The next two workshops will be held on February 2 at the Blaine Elementary School cafeteria and on February 9 at the Meadowbrook Community Center. For information refer to the DCLU website at www.ci.seattle.wa.us/dclu/default.asp.

Larry Wade Scholarship Fund

In support of the ASCE Seattle Section and the memorial scholarship fund to honor Larry Wade, the Geotechnical Group recently donated \$1,000 to the Larry Wade Memorial Scholarship Fund. The ASCE Seattle Section has a goal of raising \$50,000 to establish an endowment to fund a scholarship for an engineering student at the

University of Washington. Donations can be sent to: The Larry Wade Memorial Scholarship Fund, c/o ASCE Seattle Section, P.O. Box 24925, Seattle, WA 98124.

ASCE Seattle Section and Geotechnical Group Website

We are in the process of updating our website, including the announcement for the Spring Seminar, schedule of monthly dinner meetings, and the list of Seattle area geotechnical firms. Check out the ASCE Seattle Section and Geotechnical Group website at http://sections.asce.org/seattle/Geotech/geo_top.htm.

The Geotechnical Group's goal is to keep the web page updated with the current issue of the Groundhog as well as a current schedule of the Geotechnical Group's activities. Please visit the website and contact us if your firm's information is not included and/or not current. The Geotechnical Group would also like to include your firm's URL on the Geotechnical Group Website. To include your firm's URL on the Geotechnical Group's website, send the URL via email to Bob Metcalfe at rmetcalfe@geoengineers.com.

Are You a Member of ASCE?

If you are not a member of ASCE or are not current, we encourage you to join and help support the Seattle Section and the Geotechnical Group. In addition to joining ASCE we encourage you to join The Geo-Institute (at no additional cost!) and you'll receive the Geo-Strata publication. For additional information on how to become an

ASCE member, check out the ASCE website at:
<http://www.asce.org/membership/aboutapp-inside.cfm>

News About Geo-Town

The use of the **Groundhog** to inform others in the Geotechnical Community as to what is happening at your firm is encouraged. Anyone interested in announcing news in future issues of the **Groundhog** should send articles to Aaron Bradshaw (aaron.bradshaw@hartcrowser.com).

On-going Research by UW Graduate Students

Kiet Lieu is working on a consolidation problem at a waste treatment lagoon in Portland comparing the results of conventional consolidation analysis to results using the finite element program PLAXIS. Kiet will graduate in March 2002 with his MSCE degree. **Jenny Persson's** research involves dynamic modeling of gravity retaining walls in the finite element program PLAXIS. A static, pseudostatic and dynamic model is created, analyzed and compared with other finite element studies and with analytical theories, such as the Mononobe-Okabe method and the Richard-Elms method. Jenny will graduate in March 2002, after which she will begin her PhD studies with the geotechnical group at Chalmers University of Technology in Gothenburg, Sweden. **Susan Robarge**, an MSCE student also graduating in March 2002, is testing the program OpenSees for validity as a site response analysis predictor, and its capability to model laterally loaded piles and pile groups, in both static and dynamic cases. **Alison Stanley**, an MSE student graduating in December 2002, is studying critical state parameters and index properties of gravel with Professor Pedro Arduino. **Brian Bennetts** is working with Professor Steve Kramer to investigate the dependence of residual

strength of sands on density, gradation, particle shape, fines content, and soil structure using the Ring Simple Shear Device. Brian plans to finish work on his MSCE by next winter. **Changho Choi**, a Doctoral student working with Professor Arduino, is studying three-dimensional material properties of gravelly soils using a cubical triaxial apparatus. The mechanical behavior of gravelly soils is identified by three-dimensional testing device and the constitutive model is developed based on test results. **Fadzilah Saidin** is studying internal stresses and internal stability design of geosynthetic-reinforced soil walls emphasizing on poor quality backfill and back-to-back walls with Professor Bob Holtz. She plans to finish her Doctoral studies by next year. **Michael Harney**, also a Doctoral student working with Professor Holtz, is studying the long-term performance and design issues such as backfill drainage and soil stabilization associated with the construction of geosynthetic-reinforced soil retaining walls using poorer quality backfill. **Eric Heller**, an MSCE student, is working with Professor Arduino to study the coefficient of consolidation and its effect on tsunami induced liquefaction of sands. **Sarah Paulsen**, graduating in March 2002 with her MSCE is working with Dr. Kramer on a reinforced modified Newmark model (RMNM) that estimates seismically induced permanent displacements of reinforced soil slopes. **David A. Baska** is completing work on his dissertation entitled "An Analytical/Empirical Method to Predict Lateral Spread Displacements". David has been working with Dr. Kramer and anticipates graduation in March 2002.

AMEC

Jess T. Abed, P.E. has been promoted to manager of the Geotechnical Unit for our offices in Kirkland and Tacoma, WA. Jess joined AMEC in 2000, bringing with him three decades of experience in project development, marketing and business management. He has many contacts in the Seattle market through his management of projects and active participation in professional

associations, research institutes and conferences. He is a founder and past president of the Washington chapter of the American Society of Engineering Management. He holds a B.S. in Civil Engineering from Oregon State University and a M.S. in City and Regional Planning from California State University at Fresno

Aspect Consulting

Aspect Consulting was created November 1, 2001 when the senior employees purchased the Bainbridge Island office of Associated Earth Sciences, Inc. There has been no change in the staff, office location or capabilities. This transition strengthens the foundation for continuing the steady growth the office has enjoyed since its founding in 1995. Aspect expects to continue delivering specialized environmental and water resources services to a broad range of clients throughout the Pacific Northwest and Western United States. As the largest geotechnical firm located in the West Sound area and with easy access to downtown Seattle, Aspect also anticipates expansion of its municipal services and further development of teaming relationships to serve these important regional markets.

C. Felice & Company, LLC.

Conrad W. Felice P.E., P.Eng. is pleased to announce the formation of C. Felice & Company. The firm provides geotechnical & geoenvironmental management consulting services to national and international clients with a focus on project management and review, risk analysis, claim avoidance and resolution, numerical analysis and engineering design. The firm applies a systems approach to problem solving and develops specific solutions that meet the interdisciplinary needs of challenging projects. Current projects include the foundation design for the Bandra-Worli Sea Link Project, a 500m cable stay bridge under construction in Mumbai, India, research for the FHWA on defects in drilled shafts and a threat

analysis and mitigation design for a suspension bridge on the east coast of the U.S.

The firms Managing Principal, Dr. Conrad W. Felice has 22 years of experience in program and project management of multidisciplinary above and below ground engineering projects that include bridges, pipelines, marine and offshore structures and transportation facilities. He is a former Vice President for AMEC Earth & Environmental and is an active member on national technical committees of the Transportation Research Board as well as an Editorial Advisor for the International Journal of Geomechanics. Also joining CFC is Mr. **Dean M. White** as a Principal of the firm and Mr. **Tim Kovacs** as Staff Engineer.

CH2M HILL

CH2M HILL's geotechnical group continues to provide support on our environmental, transportation, and water projects. **Mike Reimbold** has taken over leadership of the geotechnical group from **Joan Stoupa**, who has become project manager for geotechnical work on the BrightWater Wastewater Treatment Plant project.

Our core group of eight geotechnical engineers has had a great year providing engineering and construction support on a variety of projects, including the Cedar River Water Treatment Facilities, a design/build project for Seattle Public Utilities; the Tolt and Tacoma water supply pipelines for Seattle Public Utilities and Tacoma Public Utilities; the Centralia Wastewater Treatment Plant for the City of Centralia; the SR-522 Paradise Lake Road Interchange and the SR-520 Translake projects for WSDOT; the Renton HOV (I-405 widening) project for Sound Transit; and the design/build of a low-level radioactive disposal facility at the Idaho National Environmental Engineering Laboratory in Idaho Falls for the Department of Energy. We've also been working on the fish bypass facilities at Rocky Reach Dam for Chelan PUD and at Bonneville Dam for the Corps of Engineers.

Several individuals on our staff have been active professionally with **Dick Coon** serving on a national underground tunneling committee and **Don Anderson** working on the ATC/MCEER effort to update the seismic design procedures for the AASHTO LRFD Bridge Specifications. Don also is a member of the Foundations Committee for the 2003 NEHRP update and the Scientific Advisory Committee for the Pacific Earthquake Engineering Research (PEER) Center. **Tami Thomas** is serving as secretary on the board of the Washington Organics Recycling Council (WORC), a group concerned with promoting the use of compost processes and of organics for erosion control, waste reduction, toxics remediation, and biological diversity.

Donald B. Murphy

As part of their effort to expand their engineering expertise, DBM has hired **John Bickford** as their Engineering Manager. John will join their Seattle office. John earned his Bachelor of Science in Civil Engineering from Seattle University and is an active participant in the ADSC, ASCE, and DFI. With nine years of design and project management experience, John will be involved in several high profile projects in the western United States. John's past expertise has focused on consulting Architects and Developers on deep excavations in urban environments. His past projects include the Experience Music Project, Madison Financial Center, One Convention Place, Millennium Tower, Uwajimaya Complex, Elliott Grand Hyatt Hotel, Pacific Science Center Garage, the Benaroya Research Institute at Virginia Mason, and the Benaroya Concert Hall.

With the increased need for geotechnical services in the southwest United States, DBM has opened a new office in Gold River, California. Along with opening the new office, DBM has hired **Steve Viani**, PE to manage this office. Steve earned his Bachelor of Science in Civil Engineering from California State University, Sacramento and is a licensed contractor in Oregon

and California. Steve has over 24 years of experience in geotechnical construction on the west coast. Steve has worked extensively on projects involving soil stabilization, excavation and remediation. Before joining DBM, Steve served as vice-president of operations for the BCN Company. His knowledge and expertise in this region will enable DBM to better serve their clients.

GeoEngineers, Inc.

GeoEngineers welcomed aboard **Todd Colocino** and **Kimball Olsen** who were recently hired in the Redmond office as staff geotechnical engineers. GeoEngineers congratulates **King Chin** who was promoted to Staff 3 Geotechnical Engineer; **Drew Sparks** to Project 1 Geotechnical Engineer, **Matt Smith** to Sr. 1 Geotechnical Engineer; and **Shaun Stauffer** to Sr. 2 Geotechnical Engineer. **Dan Mageau**, Principal, transferred from the Redmond office to the Seattle office. **Teresa Dugger** transferred from the Spokane office to the Tacoma office, and was also promoted to a Staff 3 Geotechnical Engineer. **Teresa Dugger** (Tacoma), **Anthony Coyne** (Seattle), and **Drew Sparks** (Redmond) each earned their Professional Engineers license in Washington State. **Mark Miller** (Redmond) also passed the Engineer-in-Training examination for the State of Washington.

GeoEngineers' held its annual "fun in the sun" golf tournament last summer for employees and guests from the various GeoEngineers offices. There were 44 participants from the Redmond, Seattle, Tacoma, and Portland offices. GeoEngineers started their first annual camping/4WD/hiking/biking spectacular in the Southern Utah area. Sites visited by the group during the trip included the White Rim Trail in Canyonlands National Park and Arches National Park. GeoEngineers also sponsored a company team for the 200-mile Seattle to Portland (STP) bike ride last July. Staff from several offices and departments participated together in the event.

GeoEngineer's geotechnical, engineering geology, hydrogeology and environmental staff continue to be busy on a wide range of public and private projects.

Golder

Golder is currently working on a number of exciting projects including; shoring and rock slope services for Utah DOT's Provo Canyon slope remediation project; geotechnical and river engineering services for three major expansions to Northwest Pipeline's network including the Grays Harbor Lateral, the Everett Delta Lateral, and the Evergreen Project; shoring design and construction observation services for the new Seattle Central Library, which is currently under construction; and assessing offshore slope stability and construction options for the various proposed marine outfalls for the proposed Brightwater sewage treatment plant.

The new faces in Golder Engineering Group include **Adrienne Hyldahl** and **Andrew Walker**. Adrienne received her Master's Degree in civil and environmental engineering from MIT last year. Andrew is an associate who is recently transferred from our Toronto office. Andrew received his Master's Degree in geotechnical engineering from Cornell University.

Hart Crowser

Hart Crowser's geotechnical and hydrogeology staff have been busy with final design of the Third Runway embankment and MSE walls at Sea-Tac, over the past several months. The Third Runway is the largest earthwork project ever constructed in the State of Washington, a compacted earth-fill embankment totaling 17,000,000 cubic yards. Portions of the fill are retained by three mechanically stabilized earth (MSE) walls, which range in maximum height from almost 50 to 135-feet in height. While all the Hart Crowser staff are multi-tasking on this project, our major involvement has been in the following areas. **Matt**

Woltman, Carsten Becker, and Jostein Aasen have been working on the stability calcs to verify the MSE wall sections meet the AASHTO code requirements. **Doug Lindquist** and **Reda Mikhail** continue with the independent analyses using the finite difference code FLAC. **John Laplante** has been concentrating on seismic deformation analyses using a modification of the Newmark analysis suggested by Professor Ed Idriss; and **JoDee Celes** has been focusing on design of the subgrade improvements. A major development in the project has been the addition of a new seismic input motion, based on modeling by Professors Pedro Arduino and Steve Kramer at the UW, using QUAD4, a two-dimensional site response analysis.

Hart Crowser continues to work on our Geotechnical On-call projects with Washington State Department of Transportation (WSDOT). We have recently completed the geotechnical design for the SR-8 McCleary Interchange project. The project involved geotechnical explorations, embankment stability and deep foundation design for the 4-span bridge piers and abutments. We are currently in the process of completing an Environmental Impact Study (EIS) Soil and Geology Discipline report for the 15-mile I-90 Snoqualmie East Improvement project. The I-90 EIS project poses interesting engineering issues concerning new tunnels, retaining structures, and elevated decks. Hazards include rock fall, extreme snow avalanche, and sections of soft soil and landslides. We are also working on the initial phase of the geotechnical design for a 2.2-mile section of the I-90 Snoqualmie East Improvement project. **Barry Chen** is the project manager for our WSDOT Geotechnical On-call projects. **Wayne Adams** is the lead engineer and geologist for the I-90 EIS study and **Amy Jones** is the project engineer for both SR-8 and I-90 geotechnical design projects.

Landau Associates

Landau Associates congratulates **Sean Cool**, who has been promoted to Senior Staff Engineer and **Ken Reid** and **Ryan Reich**, who have been

promoted to Senior Staff Geologist. New in our Tacoma office, **Jim Swortz** is a project geologist currently supporting field investigation and construction monitoring activities in our geotechnical and environmental groups. **Reid Carscadden** has been enjoying the challenges of providing engineering design and construction quality assurance services for the Cascade Pole sediments remediation project at the Port of Olympia. Our environmental engineering and natural resources groups also continue to grow in size and diversity, with **Sam Casne** having recently joined the firm as Director of Natural Resources. We are sorry to say good-bye to **Mark Ahlstrom**, who has been an active member of the ASCE Seattle Section Geotechnical Group for the past several years. Mark is moving to the Denver area in January and joins GEI Consultants where he will be working on dam-related projects. We all wish him well in his new challenging position (and altitude)!

Digging in for the New Year...2002 promises to be a busy one again for Landau Associates. We were selected in December to provide geotechnical engineering design services for the Port of Tacoma's Maersk/Union Pacific Site Development and Lincoln Avenue Overpass. **Ed Heavey** responded to the recent landslide and waterline break in Burien on behalf of the Highline Water District. Working with Reid Middleton, Landau Associates is providing geotechnical engineering services in support of the Port Ludlow Marina Expansion. The 7.5 mile water supply pipeline project in Anacortes for Montgomery Watson Harza also keeps our geotechnical engineers busy as it traverses open channels, wetlands, roadways, and drainage systems. **Dave Thielen** in our Portland office, is working with the Federal Highway Administration (FHWA) on the current version of a compact disc on roadway aesthetics for use by the FHWA to encourage improved aesthetic design. Other recent projects awarded include: Kitsap County Public Works Annex, Overlake School Gymnasium, several churches, City of Bothell Joint Use Facility, and ongoing

assignments from our on-call clients in the greater Puget Sound area.

PanGeo, Inc

PanGEO, Inc. is a Seattle-based geotechnical and earthquake engineering consulting firm. We are located in the University Village area, just north of the University of Washington campus. The company was co-founded by **Paul Grant** and **Robert Kimmerling** in late 1999. Currently the company has five registered professionals providing engineering support services to various private and public projects. Some of the current and recently completed projects include the Terminal 18 redevelopment project on Harbor Island, base isolation study for Aurora Avenue Bridge in Seattle, seismic vulnerability study for a double bascule bridge (South Park) in King County, geotechnical study for a power plant in eastern Washington, and numerous transportation and building projects in western Washington. After the 2001 Nisqually earthquake, PanGEO was invited by WSDOT to provide seismic input to the "Blue Ribbon" Structural Sufficiency Review Committee to retrofit the Alaskan Way Viaduct. PanGEO is also under contract with FHWA to produce a design manual titled Geotechnical Engineering Circular/Shallow Foundations, which will be used by highway designers nationwide.

PanGEO had a wonderful two years, and 2002 looks as promising as the last two.

Zipper Zeman Associates

Celebrating our third year of business, Zipper Zeman Associates (ZZA) continues to grow in staff size and breadth of projects. The showcase project of our first two years was the 1700 Seventh Avenue Building – a Seattle high-rise with an 80-foot-deep excavation. After securing the geotechnical and environmental work for this project, **John Zipper** and **Al Zeman** increased the staff size to the current total of 22 working in our Lynnwood and Seattle offices. The addition of

Jim Thompson (former Geotechnical Committee Chair and Seattle Section President) to ZZA during these formative years has complemented the engineering and management experience of John and Al nicely.

Other members of the Seattle Section of ASCE working at ZZA are **Tom Jones**, **Tim Roberts**, and **Rob Ross**. Member **Dave Baska** merged his specialty firm, Cascadia Earthquake Consultants, with ZZA one year ago. The engineers work closely with the highly qualified ZZA geologists: Dave Williams, Sean Donnan, Fred Becker, Curt Thompson, and James Georgis. Over the last year, ZZA has had the typical mix of building, slope stability, infrastructure, and environmental projects. **John** and **Tim** are currently working on design of the Alderwood Mall expansion. **Jim** and **Rob** are assessing stability of rockeries owned by the City of Bellevue; **Tom** continues to service many retail projects with stores throughout the western U.S.; **John** enlists the help of several staff members during the multi-year construction of a 70 million gallon storage lagoon for the Port of Seattle; **Dave** and **Tim** are assessing the static and seismic stability of Bellingham City Hall; and **Al** continues to peer review Nordstrom projects throughout the country. Add to all of this some forensic engineering for the insurance industry and it makes for a fast paced and technically challenging environment.

Positions Available

LANDAU ASSOCIATES, a leading regional environmental and geotechnical engineering consulting company, is currently seeking qualified **GEOTECHNICAL ENGINEERING** candidates for staff, project, or senior to principal level positions in our Edmonds or Tacoma, WA offices.

We are particularly interested in motivated individuals with a strong technical background, an MS in geotechnical engineering or related field, relevant experience for the desired position, and strong written and verbal communication skills.

For the more senior positions, professional registration and an established track record of project performance, client relations, and business development within the Puget Sound area is highly desired.

We offer a competitive compensation and benefits package and a casual workplace. Please send a resume and a letter of interest with salary expectations Attn: Human Resources, BLB/GH1201, Landau Associates, 130 2nd Ave. S., Edmonds, WA 98020, or fax: 425-778-6409, or e-mail HumanResources@landauinc.com. EEO/M-F, N/S Environment.

PanGEO, Inc., a geotechnical and earthquake engineering firm in Seattle, is seeking a mid- to senior level **GEOTECHNICAL ENGINEER** to join our firm. Candidates should have 5 - 15 years of experience, MS in geotechnical engineering or related field, and PE registration. Local experience a plus. Please forward your resume to Mr. Siew L. Tan, P.E. at stan@pangeo.com, or fax to (206) 262-0374. All responses are confidential. Salary DOE. PanGEO is an EQE.

CH2M HILL, Inc., a worldwide consulting engineering firm, currently has an opportunity in our Bellevue office for an entry level **Geotechnical Engineer** with 0 to 2 years experience. This position applies civil engineering knowledge to observe field exploration programs, conducts geotechnical analyses, prepares reports and observes earthwork construction. Masters degree in Civil Engineering with Geotechnical specialty required. EIT desired.

Please forward resume/salary history, **indicating job code 1715HS/**, to: CH2M HILL PO Box 549260 Suite 263 Waltham, MA 02454-9260, or email to: careers@ch2m.com.

Advertisements

Gary Sander, P.E., of TENSAR Earth Technologies, Inc., will provide to your firm information on the latest technological developments in Subgrade Improvement, MSE Walls, Reinforced Soil Slopes, and Foundation Improvement systems. Please call him to schedule a lunchtime presentation, (360) 297-5181 or email at gsander@tensarcorp.com.



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