CalGeo SM

The California Geotechnical Engineering Association

E.Geo Newsletter

August 2016

GeoGirl To The Rescue!

Get Your Free Copy

GeoGirl is a fun, informative, innovative comic book that was created by one of our members, Murray Engineers. We offered it at our annual conference thanks to Andrew Murray, and it was a great hit! He is generously offering it FREE to anyone that would like a copy-especially professionals that can appreciate it! To get your copy of "Issue #1, GeoGirl vs. Lance Lied", just email andrew@murrayengineers.com and he'll gladly mail you a copy. Let your colleagues know about it too!

Thank you Andrew for offering this creative comic....we know others will thoroughly enjoy it!

Future Code Change: Geotechnical Parameters For Retaining Walls

by Mark Swanson, P.E. /Swanson & Associates Engineering

The 2017 Building code cycle recently completed the public comment phase, and the ICC has voted and approved some changes to the future building code with respect to geotechnical issues.

Active lateral pressure on retaining wall keyways intended to enhance sliding resistance has been deleted! This code provision was a 2009 IBC change, and it never made sense.

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President's Message

Hannes Richter, GE of Stoney-Miller Consultants, Inc. and CalGeo President talks about his vision for CalGeo this year.

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The description of the loading was not defined. Most designers and software developers were forced to extend the active loading triangle to the bottom of the keyway. The 2017 code will strike the offending language.

> * 1807.2.1 General. Retaining walls shall be designed to ensure stability against overturning sliding, excessive foundation pressure and water uplift. *(strike) Where a keyway is extended below the wall base with the intent to engage passive pressure and enhance sliding stability, lateral soil pressures on both sides of the keyway shall be considered in the sliding analysis.(strike)*

Until the code is in effect, we encourage you to add the following to your standard retaining wall language, as follows:
"The mechanics of soil pressure on footing keyway intended to enhance sliding stability has been considered. The active pressure on the keyway, acting opposite the passive pressure, may be taken as zero".

Currently, retaining walls subject to short term earthquake loading need not exceed a safety factor of 1.1 when short term loading is considered (1807.2.3). The code is silent about short term wind loading. The 2017 code cycle disapproved a proposal to include wind loading on technical (wording) issues, but we expect it will eventually pass.

Until the code is changed, we encourage you to add the following language to your standard retaining wall language, as follows:
"Where short term earthquake or wind loads are included, the minimum safety factor for retaining wall sliding and overturning shall be 1.1 for earthquake loads and 1.2 for wind loads."

Sea Cave Infills

By: Danny Cohen/JC Baldwin Construction

Preparing & Filling Sea Caves

Sea caves are formed by wave action and erosion of the natural bluff material. Softer portions erode and can extend back 10 to 20 feet into the bluff and 10 feet below the sand level in some locations, creating a hazard to beach goers as well as bluff top homes.

Flowable/erodible fill (a.k.a. lean concrete) is used to fill sea caves at the bas e of the bluffs in Solana Beach to protect homes above the bluffs. Bluff erosion can be unpredictable and proper planning is essential to make sure property is protected.

Outstanding Project Award

Private-Large Project Winner-Hayward Baker, Inc.

TL-6914 Loveland to Los Coches Substations
Drilled Shafts and Design-Build Micropiles for Environmentally Sensitive Wood-to-Steel Project

The TL-6914 wood-to steel replacement project, approximately 12 miles long and over challenging hillside terrain, included the construction of 96 steel monopoles; 51 supported by drilled shafts and 45 by micropiles. Subsurface conditions included alluvium, colluvium, and residual soil overburden consisting primarily of silt, clay and sand overlying weather metavolcanic bedrock at depth. The metavolcanic bedrock in this area consists of granitic materials.

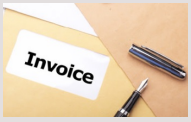
Due to the terrain and environmentally sensitive areas, restrictions for improvements to the existing access roads prohibited trucking equipment to many of the work locations and restricted the movement of the drill rigs needed to complete the work, which were sometimes required to track extensive rocky, off-camber roads to gain access to many of the working areas. Environmental access restrictions required helicopter only delivery of all equipment and materials to many of the micropile sites.

Despite the many access and construction related obstacle encountered, drilled shaft and micropile foundations are effectively supporting the transmission tower foundations.

Photo depicting helicopter placement of the approximately 7,000 lb. micropile cap plate

To read the full article, click here.

Membership Renewals Due September 15



Dues renewal invoices were emailed out the first of August and are due September 15. If you are the primary rep for your company, you would have received that email. If you did not receive it, please contact the CalGeo office at mmyers@calgeo.org or (530) 344-0644.

This year, we have made it even easier to pay your dues! You can click here to pay by credit card. BUT, be sure to fill out your dues invoice too and return it to CalGeo so that we can credit your payment appropriately and update your information on our website and other areas. Of course, you can also mail the completed invoice form with your check!

We appreciate your continued support of CalGeo!

SAVE THE DATE!

CPT Short Course

CalGeo's Sacramento Emerging Professionals Group Presents:

Dr. Peter Robertson
CPT Short Course

September 30, 2016
8:00 am to 5:00 pm
Consumnes River College

$125 for Professionals (limit 30 spots)
FREE for students with ID (limit 20 spots)
All first come, first served.
Course notes and lunch included.

Look to your email soon for registration information and to pay online.

Dr. Peter Robertson of Gregg Drilling

Member Highlights

Share Your Bio and Photo On Our Website

We Want You!

If you would like to be in our Member Highlights area on our website, we need a head shot (jpg file in color or B/W, preferably cropped to 74px wide by 104px high) and a bio under 150 words.

Please look on our website for examples. E-mail them to Marsha Myers at mmyers@calgeo.org .

Job Board

Visit our website for the latest information on current available positions throughout the industry, including:

- Senior Soils Technician with LGC Geotechnical, Inc.
- Staff Engineer with Rock Solid Engineering, Inc.
- Staff Geotechnical Engineer with WRECO
- Field Engineer or Geologist with California Push Technologies

If you're LOOKING for help throughout the year, we also have a number of resumes on our website at CalGeo

Like Us On Facebook!

Check out our Facebook page! Like us here FACEBOOK and let others know in your organization too!

Meet The Students!

CalPoly Pomona Student Chapter Needs Speakers

By: Epifanio Torres, Student Chapter Vice President

The Cal Poly Pomona Student Chapter is looking for professionals to present on Civil Engineering and their experiences working in this industry as well as any research projects. Won't your company sponsor one of their meetings?

Criteria:

- 20-30 minute presentation
- PowerPoint is available

Possible Topics:

- Company Background
- Job Descriptions
- Recent/Current Projects
- Career Advice

CAL POLY POMONA

Donations:
Also, as a non-profit organization, they are seeking companies willing to assist with covering food and general administration costs associated with running the meeting (usually $100-$200 donation). Any donation would be greatly appreciated, but is not required.

They feel that it will not only benefit the students, but will also provide insight to what your company does and inspire the students to work for a company of such caliber. If you are interested in sponsoring a meeting, the following dates still need to be filled:

Meeting Dates:
All dates are available for Fall:

- 10/11/2016
- 10/25/2016
- 11/8/2016
- 11/22/2016

If the listed dates above do not work, they have additional dates available for Winter and Spring.
Please contact Epifanio Torres at epifaniot@cpp.edu if you can participate as a speaker, donator, or both!

Information regarding this CalGeo student chapter can be found here: http://calgeocpp.weebly.com/

Safety First!

Common Sense Is Not So Common

"Courtesy of the California State Compensation Insurance Fund"

You've heard the expression, "Haste makes waste," but hurry and haste can lead to accidents and injuries, when speed becomes more important than safety. In fact, hurrying is a common factor in many accidents.

Any time you're about to climb a ladder, drive a vehicle, pick up a heavy object or use a potentially dangerous piece of machinery, give a thought to your safety. Make a mental note to do the task at a safe and steady pace. This is especially true if you're about to start a new job or use equipment you're not familiar with.

Sometimes workers, especially new ones, work at a fast pace in order to impress their boss. While that kind of attitude is appreciated, it won't be appreciated if it results in an accident or injury. For an employer, the cost of the accident could more than wipe out the profits from the job, but what's more important is the pain, worry, and the financial loss to injured workers and their family.

There's also another expression, "Slow and steady wins the race." Work at a safe pace. The job will get done and everyone will end up winners.

Questions? Contact CalGeo at (530) 344-0644 or mmyers@calgeo.org