



# Association of Engineering Geologists Newsletter

March 2010

New England Section

## Thursday March 18<sup>th</sup>, 2010 Meeting

**Topic: Geophysical Investigation of a Sinkhole in a Dam**

**Speaker: Michael McCaffery, P.E., P.G., PB Power, Boston, MA**

A 6 foot deep sinkhole developed on the crest and near the abutment of an embankment dam in southeastern US. The dam is 85 feet high, has an upstream sloping clay core, many filters each side of the clay, rockfill shells, and founded on sandstone. After the sinkhole formed, borings and a test pit were inconclusive in determining its cause. Settlement of the sinkhole continued, and surface geophysics was selected to further investigate the cause of the sinkhole.

The challenges for performing surface geophysics were significant: 1) a very complex geometry of the zoned embankment with a steep bedrock contact, and 2) restrictions from the hydro-electric power generation near the sinkhole.

Two surface geophysics methods were used: 1) Self-potential (SP) survey to evaluate dam seepage, and 2) three dimensional (3D) seismic refraction survey to evaluate the extent of soft clay found in previous borings. Geophysics results were used to evaluate the extent of dam repairs to fix the sinkhole.

The presentation will describe the geophysics results, and compare the results with construction repair observations during excavation which reached a depth of 37 feet.

Michael McCaffrey is a Principal Engineer with PB Power in Boston, and has over 25 years experience. His expertise is in geotechnical engineering, and has worked on a wide range of projects that include: dam engineering; foundation engineering for buildings, bridges, and utilities; rock engineering and blasting; slope stability; forensic engineering; litigation support; and construction monitoring.

## Contacts & Updates

To update your mailing information or submit input for this newsletter, contact Andrew Koenigsberg at 508-836-8844 or e-mail him at [amk32@cornell.edu](mailto:amk32@cornell.edu). Mail all checks for dues or meeting reservations to **Steve Potts, GEI Consultants, Inc., 400 Unicorn Park Drive, Woburn, MA 01801**. You can email him at [spotts@geiconsultants.com](mailto:spotts@geiconsultants.com) or call him at 781-721-4111.

## National Newsletter Contributions

Send Brad Miller Section news items for the national AEG Newsletter. Please contact him at (617) 863-6237 or [bradford.a.miller@gmail.com](mailto:bradford.a.miller@gmail.com). People can send him content anytime, and he can help expand on the subject if necessary.

## Newsletter Distribution by E-mail

If you are not on our e-mail list but would like to be, please e-mail Andy at [amk32@cornell.edu](mailto:amk32@cornell.edu) so we can add your name to our growing list. Please print this e-mail and post it at work for your peers to see, or forward it to those you think may be interested.

## AEG on the Web

**National Web Site** <http://www.aegweb.org>  
**Chapter Web Site** <http://www.aegne.org>

## Announcements from National

**2010 Annual Meeting in Charleston, South Carolina;** September 20-25. The registration forms will be available on or around February 1st, 2010 on AEG's website ([www.aegweb.org](http://www.aegweb.org)). Also, the deadline for submittal of abstracts is April 1st, 2010.

**2010 Shelton Conference.** The dates are set for May 13 through May 15, 2010. Location will be Galveston, Texas. Registration forms and venue information will be available in early February on AEG's website ([www.aegweb.org](http://www.aegweb.org)).

**E-publishing update.** The Journal of Environmental &

Engineering Geoscience will be available to Members electronically soon. Look for more details in the coming months. Also, the Editors of the Journal want your technical papers and peer-reviewed articles for publication! Please contact Abdul Shakoor if you need more information or go to <http://eeg.allentrack.net/cgi-bin/main.plex>.

**Student Members.** The Student and Young Professional Support Committee has developed numerous programs to help you with everything from starting a student chapter, the Visiting Professionals Program and writing your resume – just visit AEG’s website and navigate through the Students tab. You can follow the Committee on Facebook at New Geologist. Also, if you are an AEG Student Member who recently graduated or are about to graduate, you are eligible to receive Full Member benefits FREE for one year after graduation. Just contact AEG HQ for more details.

**AEG AWARDS.** As you saw in the January edition of the AEG NEWS, nominations for most of our Association Awards are due soon. A brief summary of the Award deadlines is included below:

- Honorary Member 3/15/10
- Floyd T. Johnston Service 4/15/10
- Piteau Outstanding Young Member 4/15/10
- Terzaghi Outstanding Mentor 03/31/10
- Holdredge 4/15/10
- Outstanding Section 5/1/10
- Outstanding student chapter 6/15/10
- Student Professional Paper 5/1/10
- Outstanding Reviewer of E&EG 5/1/10
- AEG Publication 5/1/10
- Schuster Award- 4/15/10
- Jahn's Lecturer 3/21/10

**Living With Unstable Ground**, the publication that the AEG helped to sponsor publication of, is available to AEG Members for only \$5.00 plus shipping, just contact AEG Headquarters.

**Important Note for New Hampshire P.G. Licensees**

Every time you attend a monthly AEG meeting, you earn one (1) CEU towards continuing education for the NH PG renewal. In addition, the regulations state that *“Active participation in professional or technical societies shall equal one continuing education hour per year and shall require that the licensee serve as an officer and/or actively participate in a committee of the organization.”*

**Meeting Details:**

Thursday, March 18<sup>th</sup>, 2010, Hilton Hotel, Woburn MA, (781) 932-0999

**Reservations:** Please do your best to phone in or email in ALL reservations by Monday, March 15<sup>th</sup>. We can take a limited number of walk-in attendees; however, for planning purposes, we would prefer that you make a reservation. Payment in advance of the meeting is preferred or you can pay at the door for an extra \$2.00. If you are a no-show, we will bill you for the cost of the meal. To pay in advance, send a check payable to AEG, New England Section, to **Steve Potts, GEI Consultants, Inc., 400 Unicorn Park Drive, Woburn, MA 01801**. You can call Steve at (781) 721-4111 or email him at [spotts@geiconsultants.com](mailto:spotts@geiconsultants.com)

The dinner menu consist of a buffet including Vegetarian Lasagna, Chicken Picatta, vegetables, salad and the usual deserts with the caloric content of the rest of the meal put together.

<b>Schedule:</b>	Board of Directors Meeting	5:00-5:30 PM
	Social Hour	5:30-6:30 PM
	Cash Bar	5:00-7:30 PM
	Dinner	6:30-7:30 PM
	Talk	7:30-8:30 PM

<b>Cost:</b>	AEG National Members and Northeast Section Subscribers:	\$36
	Students:	\$10

**Directions:** Directions - Take Route 128 (a.k.a. I-95) to Exit 36 (Washington St.). Proceed south on Washington St. to the second traffic light and get in the left hand turn lane. Turn left onto Cedar St. then take the right fork onto Forbes Road. The hotel should be directly in front of you.



Name(s)	Email Address	Membership Status:				Amount Enclosed
		National	NE - Section	Student	Non-Member	
<b>Day Phone #:</b>		<b>Total # Attending:</b>				
		<b>Total \$ Amount:</b>				