AEG Sacramento Section

Meeting Announcement
Tuesday, May 29, 2012

Location: Aviator’s Restaurant, Sacramento Executive Airport
6151 Freeport Blvd., Sacramento, CA
Lots of free parking!
Link to map = Aviator’s Restaurant-Catering

Speaker: Mr. Dave Bieber

Topic: Gold Run Pipeline Replacement

Agenda:
5:30–6:30pm – Social hour
6:30-7:30pm – Dinner and Announcements
7:30-8:15pm – Speaker Presentation – Mr. Dave Bieber
8:15-8:30pm – Questions and Response

Meeting Cost: $30 members (with RSVP) and $33 non-members
There will be a $3 surcharge for no RSVP
$5 students (no surcharge for student walk-ins)
The FIRST 5 students to RSVP are free.

You may RSVP by going to -- http://www.aegsacto.org or by sending an email to: Tim.McCrink@conservation.ca.gov
Placer County Water Agency (PCWA) – Gold Run Pipeline Replacement

BIEBER, David W., PG, PGP, CEG, CHG, Geocon Consultants, Inc., 3160 Gold Valley Drive, Rancho Cordova, CA 95623 bieber@geoconinc.com

ABSTRACT

The Placer County Water Agency (PCWA) Gold Run Pipeline provides water for a significant percent of the population in western Placer County, California. The Gold Run segment of the 80+ year-old pipeline represented the last and most deteriorated portion to be replaced. This segment is located in a narrow right-of-way between the Union Pacific Railroad (UPRR) mainline tracks and the top of a 100-foot-high bluff above Interstate 80. Alignment relocation was cost-prohibitive because it required two railroad crossings, reconstructing a County road, and conflicts with several existing utilities. At two locations along the alignment, the bluff had retreated within a few feet of the pipeline threatening the pipeline, UPRR tracks, and Interstate 80. Most of the alignment is within 25 feet of the active railroad tracks and access required permitting and extensive coordination with UPRR. The difficult terrain and the presence of the existing deteriorated pipeline with a shallow burial depth also contributed to the difficulty in conducting investigation and construction activities.

Geocon performed an extensive engineering geologic and geotechnical investigation in difficult terrain and developed innovative mitigations that provided stability and long-term serviceability of the alignment. Geocon developed engineering mitigations that allowed PCWA to maintain the current alignment and avoid costly re-routing. Mitigations included a replacement tie-back retaining wall, pipeline support piers at key areas of significant erosion, and surface and subdrainage improvements throughout the alignment. The mitigations were developed and designed in a truly collaborative effort between the design team and owner and considered the steep, mountainous terrain and difficult, limited construction access.

As a direct result of the innovations developed during the investigation phase of the project, PCWA realized significant construction savings (over $1M). A testament to the thoroughness of the investigation was that the project was successfully constructed without a single geotechnical-related request-for-information or change order. The project resulted in several significant social benefits. Foremost, the project provides reliable delivery of water (potable and irrigation) to PCWA customers. In addition, the project ultimately reduced progressive erosion, increased bluff stability, and protected the integrity of the pipeline, as well as the UPRR mainline, and Interstate 80, both of which are vital transportation and commerce corridors. Other benefits include improved maintenance access for PCWA and UPRR personnel. In addition, because of the significant construction cost savings realized, PCWA is now able to move forward with a follow-up project consisting of a 300 KW in-conduit hydroelectric plant for energy recovery. The hydroelectric generation will further offset future cost of infrastructure improvements in the region.

Speaker Bio:  Mr. David W. Bieber, PG, RGP, CEG, CHG

David Bieber is the Geological Services Manager for Geocon Consultants, Inc. in Rancho Cordova, California, is a Past President of the Association of Environmental and Engineering Geologists (AEG), and a current member of the Executive Committee for the American Geosciences Institute (AGI). He is a California Professional Geologist, Professional Geophysicist, Certified Engineering Geologist, and Certified Hydrogeologist, as well as a Wyoming Registered Professional Geologist. His current areas of professional practice include engineering geology applied to mining, the assessment of naturally occurring hazardous substances, geohazards, groundwater resource assessment, and the provision of integrated geological support for active construction projects.

Dave could almost claim to have been doing geoscience from childhood, since his dad is a geological engineer and geophysicist who was taking him along to job sites from the time Dave was five years old. Dave started working as a geoscience technician for his dad’s company as a teenager, and over the years he has worked in oil and gas exploration, searched for underwater treasure, and constructed antennas for talking to submarines, as well as his current engineering geology and hydrogeology work.

David received a Bachelor of Science degree in Pathobiology with a minor in Natural Resource Conservation from the University of Connecticut, finished his undergraduate geology studies at the Colorado School of Mines, and received a Master of Science Degree in Geology from the University of Colorado.