CHAD E. WELKE, CEG, PG, PE

PROFESSIONAL SUMMARY

With fourteen years of engineering geology and soils engineering consulting experience throughout Arizona and California, Mr. Welke has ascertained that good communication between the consultant and clientele is essential for both parties' success. He has mentored, managed, and supervised geologic staff during exploration and report production on large and small scale projects. His diverse project experience has included consulting for various governmental agencies, infrastructure projects, commercial developments, transportation projects, and private sectors. Expertise include incorporating shallow and deep foundation design, earth retaining structure design, pavement design, landslide stabilization, rock rippability, rock fall hazard evaluation, earth and rock slope stability evaluation/stabilization, and forensic evaluations.

INDUSTRY EMPLOYMENT

- Earth-Strata, Inc., Vice President, Principal Geol./Eng., C.E.G., P.G., P.E., Murrieta, CA, 2007 – Present
- LGC Inland, Inc., Assoc. Geol./Eng., Geol. Manager, C.E.G., P.G., P.E., Murrieta, CA, 2003 – 2007
- Fugro West, Inc., Project Geol./Eng., P.G., P.E., Ventura, CA, 2000 - 2003
- Maxim Technologies, Inc., Staff Geologist, E.I.T., Chandler, AZ, 1999 - 2000
- Terrane Engineering Corporation, Staff Geologist, Tempe, AZ, 1998 - 1999
- The J. Byer Group, Inc., Staff Geologist, Glendale, CA, 1993 - 1998

EDUCATION

- Applied Rock Slope Engineering, Temecula, CA, 2006
- Deep Foundation Design, Los Angeles, CA, 2006
- Guidelines for Analyzing and Mitigation of Landslide Hazards in CA, 2002
- Probabilistic Seismic Hazard Analysis, Los Angeles, CA, 2001
- National Highway Institute Certificate of Training, Subsurface Investigation, 1998
- Eng. Geology Course, California State University, Los Angeles, CA, 1995
- B.S. Geology, Ball State University, Muncie, IN, 1993
- A.A. Business, Ball State University, Muncie, IN, 1993

PROFESSIONAL REGISTRATIONS/CERTIFICATIONS/AFFILIATIONS

- Association of Engineering and Environmental Geologists, 2006
- C.E.G., California Registration No. 2378, 2005
- P.E., California Registration No. 63712, 2002
- P.G., California Registration No. 7341, 2001
- E.I.T., Arizona Registration No. 07958, 1999
- City of Los Angeles Deputy Grading Inspector, 1997
- Radiation Safety and Use of Nuclear Gauges, 1997
- Sigma Phi Epsilon Fraternity, 1989

PROJECT EXPERIENCE

Richland Communities – Rubidoux Area, Riverside County, California. Project manager and principal geologist for a 300 foot high vertical cliff slope stability and rock fall hazard evaluation for the proposed 500± home residential development planned for an abandoned rock quarry. The scope of work included a preliminary geotechnical investigation, repelling the cliff face for geologic mapping, rock coring and RQD testing, unconfined compression testing, kinematic analysis (stereo net) for likely planes of weakness, and detailed rock fall analysis. Some of the latest most sophistecated software and techniques were utilized to determine the rock strength and for the slope stability analysis. In addition, seismic refraction survey lines were effectively used (due to an abundance of boulders) to narrow down the depths of existing tailing/fills, which were on the order of 50 feet. Finally, appropriate cost effective building setbacks were established from the cliff face and potential rock fall hazards.

Target Department Store – Strategic Design, City of Lake Elsinore, Riverside County, California. Co-project managed this geologically and geotechnically challenging site. The geotechnical challenges, which included very shallow groundwater and a combination of poorly consolidated young alluvial materials and well consolidated materials under the same proposed structure. However, these challenges were overcome in a timely cost effective manner.

McDonalds – McDonalds Corporation, City of Lake Elsinore, Riverside County, California. Principal geologist for rush job that we performed subsurface exploration, laboratory testing, and provided a preliminary geotechnical report within 36 hours of authorization.

City of Chino Hills – Fieldstone Development, City of Chino Hills, San Bernardino County, California. Project manager of quality analysis and quality control during rough grading operations for the City of Chino Hills. The consultant of record overestimated the strength parameters of the earth materials, which lead to backcut failures as large as a ¼ the total size of the project. Due to the backcut failures, LGC required the consultant of record to back calculate the earth material strengths based on the known failures. As a result, the consultant of record realized that the keyways had been under designed. The grading plans were revised to reflect the new keyway dimensions and both the City of Chino Hills and Fieldstone got a development with an adequate factor of safety. The developer incurred substantial delays and cost overruns due to the miscalculations of the consultant of record.

Lennar Communities – Heartland Project, City of Beaumont, Riverside County, California. Project manager for the 417-acre residential, industrial, and commercial development. Project included extensive liquefaction analyses, slope stability analysis, and geologic mapping. The digital image of the USGS geologic map of the area was overlain onto the topographic map provided by the client to supplement and confirm geologic mapping of the site. Previous exploration was also imported and overlain onto the topographic maps.

Curtis Development Corp., Residential Development, Moreno Valley Area, California. Project manager for the 99-acre residential development that included a comprehensive fault study of the Claremont segment of the San Jacinto Fault. Contrary to expensive and prohibitive 40+ feet deep trenches suggested by Riverside County, I was able to confirm our identification of the fault using Cone Penetration Test soundings at a fraction of the cost to our client.

Los Angeles County, Rio Hondo Westside Slope Stabilization, Los Angeles County, California. Project manager/team leader for comprehensive slope stability analyses of a two-mile segment of the Rio Hondo River. Analyses included probabilistic slope stability analyses. Contract deliverables included the following submittals: Subsurface Exploration Plan, Geotechnical Report, Concept Design, and Final Design.

Caltrans I-15 Widening, San Diego, California. Managed/supervised exploration and production for ten retaining walls. Provided project engineering analysis for proposed retaining walls and slope stability. This large project was completed as part of a statewide contract with Caltrans on time and on budget.

Point San Luis Light House Road, San Luis Obispo, California. Performed geologic mapping to evaluate the projects feasibility. Due to the steep topography and the constant wave action, which gradually reduces the resisting forces at the toe of existing landslides, research, geologic mapping, and landslide identification played key rolls in the project.

Arizona Department of Transportation, Highway 191, Clifton to Morenci, Arizona. This project consisted of constructing passing lanes, drainage channelization, and shoulder widening along Highway 191 from Clifton to Morenci, an area with relatively high topographic relief. I participated in the field exploration and preparation of the geotechnical engineering report.

Co-Brand Chevron/McDonalds Service Stations, Throughout Phoenix Metropolitan Area and Douglas, Arizona. I provided foundation design, estimated foundation settlement, estimated expansion potential, and site specific grading recommendations.

Roosevelt Irrigation District Canal Bridge, Avondale, Arizona. This project consisted of constructing a bridge over the Roosevelt Irrigation District Canal. I provided a combination of skin friction and end-bearing values for the challenging soil conditions to support the structure.

City of Phoenix 23rd Avenue Water and Sewer Alignment, Phoenix, Arizona. This project consisted of providing water and sewer infrastructure for future expansion north of Phoenix. I was responsible for the field exploration and laboratory testing programs. I also participated in the geotechnical evaluation of the earth materials and geotechnical design.

Large-Scale Residential Estates, Throughout Los Angeles Metropolitan Area, California. Provided shallow and deep foundation design, earth retaining structure design, landslide repair, earth and rock slope stability evaluation, and distress evaluation. Reports were typically reviewed by the City of Los Angeles for compliance with their rigid building codes. Some of the more elaborate projects included elevator shafts, large stepped retaining walls, and subterranean garages on challenging terrain. Examples of the clientele are listed below:

- Warren Beatty & Annette Benning (actors)
- Oliver Stone (producer)
- Kirkorian (billionaire)
- Pauly Shore (comedian/actor)
- Ian Ziering (actor)
- Wes Craven (director)
- Randy Newman (singer)
- Marciano (Guess Jeans)
- Mr. and Mrs. Mars (M&M/Mars)
- Rebecca DeMornay (actress)
- Steven Segal (actor)
- Danny DeVito (actor)