



Vancouver Geotechnical Society

A Local Section of the Canadian Geotechnical Society

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NOTICE OF UPCOMING DINNER PRESENTATION

TUESDAY, JANUARY 22, 2013

SUBJECT: **Temporary Tower Foundations for the New San Francisco-Oakland Bay Bridge Self-Anchored Suspension Span**

SPEAKER: Alex Sy, Ph.D., P.Eng.
Vice President Technical, Klohn Crippen Berger Ltd.

Alex has a Bachelor of Civil Engineering from the University of Queensland in Australia, and an M.Eng. and a Ph.D. in Geotechnical Engineering from the University of British Columbia. He has more than 35 years of experience in geotechnical and earthquake engineering throughout Canada, the US and overseas. His experience includes site investigations and characterization, seismic hazard and liquefaction assessments, soft ground engineering, ground improvement, and foundation design for heavy civil and industrial facilities, transportation projects, including bridges and ports, and earth and mine tailings dams. He has also provided forensic engineering and expert witness services for infrastructure failures involving dykes, pipelines, highways, bridges and buildings. Alex is an Adjunct Professor in the Civil Engineering Department of the University of British Columbia. He has authored more than 40 technical papers in journals and conference publications.

CONTENT: The new east span of the San Francisco-Oakland Bay Bridge, currently under construction, will become the world's largest self-anchored suspension bridge when completed in 2013. This signature span, with its unique asymmetrical design, has a single main tower and one continuous main suspension cable anchored to the deck. During construction, temporary towers and trusses are needed to support the bridge deck consisting of box girders, until suspension cables are erected and the deck load is transferred to the suspension cables. The foundation condition varies from sedimentary bedrock outcrop with steep slopes at the west end of the span on Yerba Buena Island to deep, thick, soft marine sediments (Bay Mud) overlying bedrock at the east end in the Bay. The foundations for the temporary towers consist of micro piles, rock socketed drilled shafts, and large diameter steel pipe piles driven into bedrock and into deep marine sediments. This presentation will describe the challenges faced during the design and construction of the tower foundations, including pile relaxation during pile driving into sedimentary rock and pile set up for piles installed into the Bay Mud. Construction of the temporary foundations and towers began in 2008, placement of the box girders and construction of the permanent main tower occurred in 2010-2011, erection of the suspension cables and load transfer were completed by late 2012, and the bridge is scheduled to open to traffic in September 2013.

DETAILS **Executive Inn**, 4201 Lougheed Highway, Burnaby, BC V5C 3Y6 (Phone: 604-298-2010)
Social Hour: 5:30 to 6:30 pm (drinks available at the hotel bar)
Technical Presentation: 6:30 to 7:30 pm
Dinner: 7:45 pm (\$30 will be charged for dinner)
RSVP: Dinner reservation to ali.amini@shaw.ca by Monday, January 21, 2013.