Andre Hawks, PhD, PE, A/C57/HAZ

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EDUCATION

Missouri University of Science & Technology, Rolla, MO
PhD: *Geological Engineering*, July 2021
Dissertation: Helical Load Deflection Prediction
Advisor: Dr.J David Rogers (http://web.mst.edu/~rogersda/)

University of California, Berkeley, CA
MS: *GeoEngineering*, May 2009 + Accepted to Structural MS as well
Jane Lewis Fellowship (Full Fellowship)

California Polytechnic State University, San Luis Obispo, CA
BS: *Civil Engineering*, June 2007

LICENSES

California Civil PE #: 79010 (Active Since 2011)
Texas Civil PE #138932
Cal OSHA Certified Gas Tester #*:* G1361-12
Cal OSHA Certified Underground Safety Representative #: S889-12
CA Licensed Contractor – General Engineering A, C57, HAZ

LANGUAGES

Spanish (Reading & Writing & Speaking)

DESIGN SKILLS

◊ Tunnels
◊ Temp & Permanent Shoring
◊ Timber Structures
◊ Soil Nail Walls
◊ Shallow/Deep Foundations
◊ Micropiles
◊ Telecommunication Foundations
◊ Reinforced Concrete
◊ Prebid Studies
◊ Shafts
◊ Cost Estimating
◊ Geotechnical Engineering
◊ Tiebacks
◊ Rock Support
◊ Push Piers & Helicals
◊ Structural Steel
◊ Precast Segments
◊ Dam Engineering

HMI Polyurethane & Deep Injection Seminar, January 2019

EXPERIENCE- 25+ Years

Geostructural Engineering Inc, Principal
Christensen & Associates, Geotechnical & Structural Specialist
ILF Consultants, Tunnel Engineer & Project Manager
Drill Tech Drilling & Shoring, Project Manager/Estimator
Brierley Associates, Tunnel & Shoring Engineer
Jacobs Associates, Tunnel & Shoring Engineer
Holmes Culley, Pankow Builders & Kiewit Pacific- Internships
Hawks & Hawks Wine Caves- Tunneler

GEOSTRUCTURAL ENGINEERING INC

Founded and leading a design build Geotechnical Construction firm as a licensed contractor and licensed engineer. As the Lead Engineer responsible for overall leadership of the development of cost estimates and construction schedules for state of the art engineering applications and construction techniques I am managing 4-6 Staff Engineers, 5 administration staff, and up to 60 field personnel for projects all over California working on Public Works projects for highways and water infrastructure such as the SFPUC Pump Station #2 in San Francico for the SFPUC. My day to day involves Geotechnical, Structural, and Construction Engineering for Shoring, Soil Nails, Tiebacks, Micropiles, Soldier Piles, Timber Lagging and other heavy civil structures necessary for transportation and water infrastructure projects.

I also serve as a subject matter expert on Cost Engineering for the Heavy Civil projects we work on and I am in charge of detecting discrepancies, inadequacies, and nonconformance with approved criteria including construction drawings, construction specifications, and other associated contract documents.

CHRISTENSEN & ASSOCIATES

As Geotechnical & Structural specialist at Christensen & Associates I was in charge of putting together construction drawings, construction specifications, and other associated contract documents for Dam Safety modification projects. My duties also included helping put together Engineer's Estimates for projects using my subject matter expertise in Cost Engineering for projects involving any geotechnical or structural aspects relying on my experience as a licensed contractor. Christensen & Associates focused on water supply agencies, irrigation districts, public utilities, independent power producers, and electric utility companies with Dam facilities requiring Dam Safety modifications.

SAMPLE PROJECTS

LA Metro North County Project, Santa Clarita, CA- Design Build Temporary Soil Nail wall to shore I-5 North bound for 1,300 LF up to 35 ft in height. I-5 is a critical highway for the west coast therefore the design and construction came under intense scrutiny by LA Metro and Caltrans District 7.
Role: Engineer of Record and Project Manager
Company: Geostructural Engineering Inc

Dr Fine Bridge Replacement Project, Crescent City, CA- Design Build Soldier Pile Wall Abutments with Timber Lagging and Ground Anchor lateral restraint system for the Temporary Bridge over the Smith River. The Smith River is the only undammed river in California and therefore came under intense scrutiny from Caltrans District 1, California Coastal Commission, and other agencies. Other scope included 60" CIDHs in the river channel.
Role: Engineer of Record and Project Manager
Company: Geostructural Engineering Inc

Amtrak ADA Platform Improvement Project, Dunsmuir, CA– As part of the Amtrak nationwide ADA platform improvement program a new platform is being installed. The platform includes 106 Cast In Steel Shell Piles to support the platform next to a live rail line using Form B for Amtrak on UPRR property.
Role: Contractor of Record
Company: Geostructural Engineering Inc

Indian Canyon Dr Improvements, Palm Springs Project, CA– As part of improvements project including building new bridges, two temporary Soil Nail Walls were required for shoring next to a live BNSF rail line requiring a Form B. In addition, a permanent Soil Nail wall is to be built to allow for a shoulder on Indian Canyon Dr.
Role: Engineer of Record & Contractor of Record
Company: Geostructural Engineering Inc

SFPUC Pump Station #2 Micropiles, San Francisco, CA- Seismic remodel of SFPUC's Pump Station #2 requiring 82 total 325 Kip Micropiles inside an existing historic pump station.
Role: Engineer of Record and Project Manager
Company: Geostructural Engineering Inc

SMUD Headquarters Micropiles, Sacramento, CA- Seismic remodel of SMUD's Headquarters requiring 55 total 300 Kip Micropiles in Low Overhead environment in the basement of the building.
Role: Engineer of Record and Project Manager
Company: Geostructural Engineering Inc

Peterson Elementary School, Mountain House, CA- Construction of a new elementary school for Mountain House School District. Provided Design Build engineering services to get DSA approval of Helical Foundation Elements. Conducted tension testing to prove performance of Helical Foundation system.
Role: Engineer of Record
Company: Geostructural Engineering Inc

New Bullards Bar Dam, Dobbins, CA- Construction drawings, construction specifications, and other associated contract documents for the Drain System Cleaning Program for the New Bullards Bar Dam as part of Dam Safety modifications required for the Yuba County Water Agency FERC license renewal. New Bullards Bar Dam is a 645 ft tall by 2,587 ft long concrete arch dam constructed in the 1960's operated by Yuca County Water Agency. At some point in history, it was the second tallest concrete arch dam in the world. Work also included onsite observations to detect discrepancies, inadequacies, and nonconformance with the approved criteria including construction drawings, construction specifications, and other associated contract documents.
Role: Project Manager & Engineer's Estimate Cost Estimator
Company: Christensen & Associates

Auxiliary Dam, Dobbins, CA- Construction drawings, construction specifications, and other associated contract documents for the Apron repair and silt removal program for an Auxiliary Dam that is part of the New Bullards Bar Dam system as part of Dam Safety modifications required for the Yuba County Water Agency FERC license renewal. The Auxiliary dam is a concrete dam constructed in the 1960's as part of the power generating system. Work also included onsite observations to detect discrepancies, inadequacies, and nonconformance with the approved criteria including contract drawings, construction specifications, and other associated contract documents.
Role: Project Manager & Engineer's Estimate Cost Estimator
Company: Christensen & Associates

Black Diamond Mines Tunnel Enlargement, Antioch, CA– The Black Diamond Mines Park is undergoing an improvement program in order to open up different levels of the mine tour. Tunnel to be built expands an existing 6 ft by 6 ft tunnel to 12 ft wide by 12 ft tall tunnel. Tunnel excavated with a road header and ground support consisting of steel sets and shotcrete lagging. Duties included project management, Tunnel Safety Plan development, implementation, and monitoring as required by Cal OSHA Mining & Tunneling Unit, as well as initial ground support determination.
Role: Designer and Project Manager
Company: Drill Tech Drilling & Shoring

Harry Tracy Water Treatment Plant Improvement Project, San Bruno, CA – The Harry Tracy Water Treatment Plant is undergoing a large improvement program. Scope consists of two tunnels, 3 soil nail walls, inclined and vertical micropiles, soldier piles, and a solider pile and lagged shaft. Tunnels built are 12 ft wide by 12 ft tall excavated with a road header approximately 600 ft in length. Designed initial ground support consisting of steel sets and shotcrete lagging. Duties include Project Management, Tunnel Safety Plan development, implementation, and monitoring as required by Cal OSHA Mining & Tunneling Unit, ground support design for the tunnels, and micropile design.
Role: Designer and Project Manager
Company: Drill Tech Drilling & Shoring

Seismic Upgrade for Bay Division Pipelines 3 & 4 at Hayward Fault, Fremont, CA – The SFPUC is seismically upgrading Bay Division Pipelines 3 & 4 which cross the Hayward Fault and delivery water to over 2 million people in the Bay Area. Scope consists of Secant Piles with 35 ft depth for the unreinforced primary piles and 65 ft depth for the reinforced secondary piles and are used to create a 32 ft deep, 30 ft wide, 400 ft long trench crossing the Hayward Fault where the world's largest ball valve will be installed. Duties include Project Management and development, implementation, and monitoring of Site Specific Injury Illness & Prevention Plan.
Role: Designer and Project Manager
Company: Drill Tech Drilling & Shoring

New Gompers & LPS School, Richmond, CA – The West Contra Costa Unified School District is currently building a new high school and leadership facility. Scope consists of 313 18" and 43 30" diameter drilled piers placed under slurry. Request for substitution to install 18" diameter drilled piers using the Auger Cast method was obtained from the Division of the State Architect. Duties include Project Management and development, implementation, and monitoring of Site Specific Injury Illness & Prevention Plan.
Role: Designer and Project Manager
Company: Drill Tech Drilling & Shoring

Raw Water & Transmission Main Facilities WTP Number 4, Austin, TX – The Raw Water & Transmission Main Facilities of Water Treatment Plant Number 4 will be located near Lake Travis in Austin. The Raw Water Facilities include a Raw Water Intake Shaft constructed under water, a Raw Water Intake Tunnel 4,386 ft long with a 9-ft diameter, and a 30 ft inside diameter access shaft 450 ft deep with a suction cavity and future connection tunnels. The Transmission Main Facilities include a Raw Water Transmission Main Tunnel 3,863 ft long with a 7-ft diameter.

Evaluated the geologic / geotechnical conditions and performed design for the initial support and final lining for both the tunnels and the shaft. Wrote GBR and Geotechnical Design Memorandums for both the Raw Water & Transmission Main Facilities.
Role: Designer
Company: Brierley Associates

Millard Dock Repair, Mobile, AL – The Millard Dock facilty in Mobile , AL is one of the world's largest port facilties for the shipment of frozen chicken and beef products to markets around the world. The current sheet pile dock is progressively failing and threatens to shut down the port. Evaluated structural load path and failure mechanisms and designed 7 and 9 strand tiebacks for mitigation of failing sheet pile dock retaining wall through poor quality fill.
Role: Designer
Company: Brierley Associates

New Irvington Tunnel Pre-Bid Study, Fremont, CA- The New Irvington Tunnel (NIT) will be located in the Coastal Mountain ranges. The project involves the construction of a new tunnel, connections to existing facilities at each end of the tunnel, and construction of ancillary facilities. The new tunnel will be approximately 3.6 mi long and will have a finished inside diameter approximately 9 ft excavated using SEM/NATM using roadheader and drill and blast methods.

Performed an analysis of the anticipated geologic / geotechnical conditions independently of the GBR to be encountered during construction and designed initial support including split sets with welded wire mesh and steel sets for bidding purposes. Also performed groundwater inflow analysis using

construction records from the existing Irvington Tunnel. Pre-bid study aided in winning bid by Oscar Renda/Tutor Perini joint venture.
Role: Prebid Estimator
Company: Brierley Associates

Cesar Chavez Memorial Building Shoring, Denver, CO- Designed temporary soil nail walls and micropile shoring in sandy soil in an urban environment. Soil nail wall height was up to 20 ft tall and micropile shoring consisted of shoring an existing stairwell of a Denver School District Building. Visits to the site were conducted to perform construction observation and compliance with the design.
Role: Designer
Company: Brierley Associates

Kings Ford Pipe Jacking Crossing, Concord, NC- The project is part of the Cabarrus County Sewer upgrade located in Charlotte, NC. The geologic conditions consist of a mix of medium dense sand, loose clayey fine, coarse sand, and sandy clay. A bentonite lubricant was used to reduce the skin friction around the 67 in. diameter TBM used to excavate in front of the pipe being jacked across Interstate 85. Construction observations were performed on a 24 hour basis to monitor tunnel stability. Performed night shift tunnel inspection and safety observations.
Role: Inspector
Company: Brierley Associates

7-Line Extension Site J Contract, Manhattan, NY- The project is part of the 7-Line subway extension in Manhattan and includes two large inclined tunnels and a vertical shaft. The geologic conditions consist of granite and schist and are generally massive. Utilizing Unwedge and Swedge designed the initial rock support system for 11 rock cut walls with heights of up to 63 ft, two inclined tunnels with cross sections of 38 ft by 38 ft, and a vertical shaft to access the existing 34th Street Cavern Station.
Role: Designer
Company: Brierley Associates

Monroe County CSOAP Tunnel System Improvements RFP, Rochester, NY- Lead the RFP team in developing the technical approach for inspecting 35 miles of CSO tunnels and drop structures that have been in service without inspection for 40 years. Worked with inhouse and JV partner's marketing manager to assemble resumes, team diagram, relevant tunnel inspection experience, and the technical direction. RFP did not require any pricing just technical and team approach.
Role: Deputy Project Manager
Company: Brierley Associates

Sunnydale Auxiliary Sewer, San Francisco, CA – The project will be upgrading the Sunnydale Sewer for the San Francisco Public Utilities Commission (SFPUC). Provided takeoffs and settlement analysis due to tunnelling activities near active high speed commuter railroad tracks. Designed precast segments and steel set & shotcrete support for excavation methods comparison study to evaluate EPB vs. SEM/NATM excavation method.
Role: Designer
Company: Jacobs Associates

Caldecott 4th Bore Tunnel, Oakland, CA – The project will be adding a 4th tunnel to the already existing 3 tunnel Caldecott Tunnel System for Cal Trans. The proposed Caldecott Tunnel will be excavated using the NATM method. Provided takeoffs and helped develop instrumentation plan.
Role: Designer
Company: Jacobs Associates

New Irvington Tunnel, Fremont, CA – The project will be adding a redundant tunnel to the Coastal Mountain system with a new 8.5' diameter pipe. The proposed New Irvington Tunnel will be dug using the NATM method along with drill and blast construction methods. Provided initial support design for the Vargas Shaft consisting of secant piles and liner plate with ring beam initial support system. Designed shotcrete and steel sets for initial support of the tunnel.
Role: Designer
Company: Jacobs Associates

SOFTWARE

- ◊ Unwedge
- ◊ MathCAD
- ◊ Dips
- ◊ CT Shoring
- ◊ GSTABL7
- ◊ Enercalc
- ◊ Swedge
- ◊ Auto CAD
- ◊ SlopeW
- ◊ SNAIL Z
- ◊ RISA 2D

PAPERS

Tunnel Education in the US (Co-Author), T&UC June 2010
Economical Benefits of Rock Joint Testing, GeoCongress March 2012
Economical Benefits of Rock Joint Testing, NAT 2012
Innovative Infrastructure Inspection Technologies, NAT 2014