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Summer

The TJCAA Quarterly

2018
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Message from the President

Employment Opportunities

What's a Condition Assessment?

TJCAA's Business Certifications

- Alameda County Small, Local Emerging Business
- Bay Area Green Business Program, Green Business
- City of Oakland Local Business Enterprise
- California DGS Small Business (SBE)
- Port of Long Beach SBE
- Port of Oakland LIABE/SBE/VSBE
- San Diego County Water Authority SBE
- SoCal Network SBE
- Sacramento Municipal Utilities District (SMUD) SEED Vendor

Message from the President, Gianna Zappettini



Zach and TJCAA CFO Rick

I recently enjoyed watching the NCAA Men's Golf Championships in Stillwater, Oklahoma. Zach Bauchou, the young man whose amateur career we have been following, was playing for Oklahoma State,

the No. 1 team in the nation. The odds were against them to win the championship—a No. 1 team had not done so since match play was implemented in 2009. But this team would not be denied, taking 1st place in stroke play and remaining "driven" throughout match play, which culminated in Oklahoma State's landslide victory. It was the depth, strength, skills, positive attitudes, and ability to work together that helped them achieve their goal. If you are looking for a team with those qualities to help you with your next project, give TJCAA a call. We are also "driven" to provide you with excellent services to reach your project goals.

Employment Opportunities



TJCAA is looking for qualified engineers to work on great projects with great people. To view and apply for open career positions, visit our website at

www.tjcaa.com.

What's a Condition Assessment?

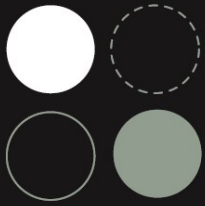
Our clients often must manage large systems of assets including water and wastewater treatment plants, reservoirs, pump stations, chemical facilities, and other structures. Condition assessment, which is one of TJCAA's added services, helps our clients manage their assets effectively. As part of these services, we visit the facility site, identify issues, and report on how the systems, structures, and components (SSCs) are holding up. We make prioritized recommendations for repairs, retrofits, and maintenance to help our clients keep their assets in good shape and in compliance with Code.

Aging caused by the service environment is the primary culprit reducing the integrity of SSCs in the facilities, making them vulnerable to seismic events and creating potential safety hazards for facility operators.

We have performed condition assessments for a variety of structures: "Any facilities that have aging concrete and steel or piping," says Richard Thow, S.E., TJCAA's condition assessment expert. He adds that our experience isn't limited to our core business in the infrastructure field. "We also have assessed ammonia piping systems in manufacturing facilities. Piping is piping; it doesn't know what plant it's in." Ammonia systems are examples of facilities with potential process hazards that could cause a dangerous situation both within a building and outside of it.

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This ladder (yes, that's a ladder) needs replacement.

The purpose of ammonia system assessments is to provide reasonable assurance that an ammonia release having offsite consequences will not occur as a result of a major earthquake. These facilities fall within the requirements of CalARP, the California Accidental Release Prevention Program, and must have a process hazard analysis updated and revalidated at least every 5 years. During these assessments, we also look at utility systems that would be required to operate following an earthquake.

Aging SSCs in other facilities, such as water storage tanks, can create workplace and public safety hazards *and* may have the potential to cause service outages in public systems. Of course, we want important infrastructure such as water and wastewater facilities to be operable after a seismic event. For these, TJCAA conducts a seismic risk assessment in accordance with the *Standard Guide for Seismic Risk Assessment of Buildings* (ASTM E2026), *Seismic Evaluation and Retrofit of Existing Buildings* (ASCE/SEI 41), and *Rapid Visual Screening of Buildings for Potential Seismic Hazards* (FEMA P-154).

We asked Richard for more detail on how TJCAA delivers these services.

How do you prepare?

"For any kind of a condition assessment, we prepare carefully before we visit the site," Richard says. "We review the as-built plans and other info that's available, especially previous assessments. We often find that our clients received reports that didn't cover their whole facility. The report may have covered the roof of a structure, for example, but nothing else." Still, these previous assessments, Richard explains, can provide a baseline for comparison. If problems were noticed in the past, it's important to determine whether they got worse over time.

What do you do when you get there?

"We do a systematic walk-through. We bring the as-builts, and we organize our assessment so that we're moving in a logical manner through the site." Facilities such as treatment plants or factories typically are divided into "areas," and moving to each area in turn gives the engineer a systematic way to make sure that all parts of the facility are covered.



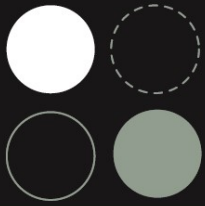
Biogenic sulfide corrosion had severely damaged this influent splitter box.

Most often, our Structural Engineers perform the assessment visually from ground level. The intensity of the assessment

(for example, whether or not the engineer enters any confined spaces) is based on our contract with the client.

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How do you know what to look for?

First of all, we use carefully crafted checklists. ASCE 41 has a checklist (usually for seismic). "TJCAA has customized the standard checklists" Richard points out, "for things we usually deal with, and we tailor them somewhat for each client." The checklists help to make sure that all critical SSCs are assessed. Richard explains that "for CalARP, we deliver a report that clearly meets all of the program requirements, which is a particular benefit for our clients, who can submit it directly to the regulatory agency."

More important still is TJCAA's experience. "We know what to look at." Based on knowledge, training, and experience, we know which areas are likely to be suspect, and which are likely to have deficiencies.

Where are you most likely to see issues of concern?

Where we are most likely to see problems, Richard says, is concrete. "There's two kinds of concrete: cracked concrete, and more cracked concrete." Concrete cracking is not always a problem, Richard emphasizes, but it's very important to identify the cracks that are going to be issues. "Many times, facility owners have the 'if it ain't broke, don't fix it' mentality. But from a Structural Engineer's standpoint, you have to *anticipate* the problems that would occur if a situation continues or if a particular configuration is subject to an earthquake. We have to think post-event."

What's a "smoking gun" you might identify that facility owners might not notice?

"Water basins that leak," says Richard. "These may be viewed as 'just an annoyance' to the owner, but the leaking water can get access to rebar, which may be susceptible to corrosion. It's tempting to just Google up a fix, but it may be the wrong fix. Hire an S.E. that is an expert in condition assessment and get the *right* fix."

Are some findings more important than others?

"Some cracks fall into the category of 'don't worry about it and move on,' some of the deficiencies we see need to be addressed sooner than others, and some are more critical," Richard says. "We make recommendations for whether and how to correct the potential deficiencies that we observe in the field, and then we provide a prioritization for our clients. Some of the items require immediate attention, while others can be picked off as part of periodic maintenance. Sometimes we recommend a reassessment or observation in the future."

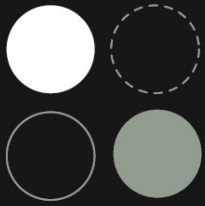


This water basin has a leaking crack in the concrete.

TJCAA's condition assessment services are available both as part of design efforts and as a stand-alone service. If you have facilities, old or new, for which you would like a condition assessment, please contact us.

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TJCAA Welcomes
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What was your
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TJCAA Welcomes New Employees!

TJCAA is pleased to welcome two new employees to the team: **Helen Tran** and **Donald Hildebrandt**.



Helen is an automation engineer with nearly 15 years' experience in instrumentation and controls and system integration. She is joining our Instrumentation, Controls, and Electrical group in our Oakland Office. She has performed a variety of

electrical and I&C designs for process equipment and utility systems. With a background in the electric power, biotechnology, and water treatment industries, Ms. Tran applies practical knowledge in design, documentation, programming, and configuration of control system hardware and software components. She is adept at interpreting client processes and operations, automation planning/design/implementation, and providing support for system integration projects under a variety of automation hardware and software platforms.

Her skillset includes the operating principles of turbomachinery control systems and plant process controls. In addition, her experience includes pharmaceutical and biotech operations, and she has a thorough working knowledge of pharma design, construction, commissioning and qualification, and operations and experience within the current good manufacturing practices regulations.



Don has joined TJCAA's Sacramento office as a CAD Drafter. With more than 10 years' experience in drafting and design, he brings excellent behind-the-scenes support to the engineers in our Structural, ICE,

and CSP Groups. Along with experience in the infrastructure field, Don's background includes providing CAD services to companies in manufacturing and agriculture.

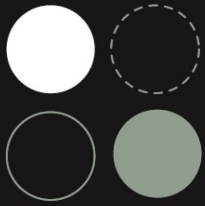
While we keep him pretty busy, he does stay very busy outside the office as well, as a father of four. He shares a love of baseball and outdoor recreation with his family, and we were fascinated to find out that he and his father enjoy the unusual pastime of *falconry* together. Stay tuned next issue for a **Did you know?** feature on that topic.

What was your first concert?

Engineers love organized lists of information, and guess what, they also love music! We got to talking about memorable concerts and decided to find out which concert was each TJCAA staff member's first. For fun, we not only found out the "where and when," but we also gathered some other good tidbits; see the list below. Next time you get in touch with us (and we hope that's soon!) let us know what your first concert was.

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What was your
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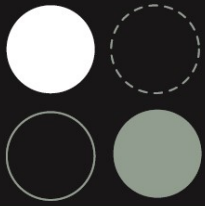
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- Amber** *Def Leppard, Pyromania Tour* • 1983 at the Augusta, GA Civic Center • I was with my mother, she was 8 months pregnant with me... • My real first was Alanis Morissette and I think I was in 6th grade, but I can't remember any of those details. My family always says that DL was my first, and I got to see them outside the womb in 2017 at Carolina Rebellion in North Carolina with my best friend.
- Bee** *Paradise Band* (a Hmong Alternative Band) • 1998 at the Sacramento Convention Center • I was with relatives and teenage friends.
- Daisy** *Janet Jackson* • 1998 at California (either Mountain View Shoreline or Concord Pavilion) • I was with my sister.
- Don** *Tom Petty* • 1991 at The Woodlands TX Pavilion • I was with my family.
- Eden** *Selaelo Selota* • 2003 at Kirstenbosch Summer Concerts (inside Kirstenbosch National Botanical Gardens, Cape Town, South Africa) • I was with a group of friends. • Beautiful scenery and great energy.
- Eileen** *Taylor Swift* • 2015 in Santa Clara, CA • I was with my daughter, Emily. • I initially did not want Taylor Swift to be my very first concert! The performance and venue did not disappoint. I ended up enjoying the entire show and my daughter and I shared our first concert experience together.
- Elaine** *U2* • 2015 in San Francisco at the Cow Palace • I was with my husband.
- Gianna** *Artists the Doobie Brothers/ Graham Central Station/Mimi Farina/Jefferson Starship/Jerry Garcia And Friends/The Miracles/Joan Baez/Santana/ Tower of Power/Neil Young, and Celebrities Frankie Albert, John Brodie, Rosie Casals, Werner Erhard, Cedric Hardman, Willie Mays, Jesse Owens, Gene Washington, the Rev. A. Cecil Williams* • 1975 at Kezar Stadium, San Francisco • S.N.A.C.K. ("Students Need Activities, Culture and Kicks")/Bill Graham Productions • I was with my sister and a friend. Tickets were \$5.00! More info [here](#).
- Helen** *South by Southwest Music Festival* • 2013 in Austin Texas • I was with my sister and brother-in-law.
- Jacqui** *John Legend* • 2014 at the Greek Theatre in Berkeley • I was with college friends. • Best vocalist, in a theatre that makes the experience personal regardless of your seat location.
- Lee** *Rock the Bells* • 2008 • Shoreline Amphitheatre in Mountain View, CA • I was with friends from high school.
- Manan** *Taylor Swift and Camila Cabello* • 2018 • Levi's Stadium in Santa Clara, CA • I was with my wife. • See the photo on the next page!

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What was your first concert?



Photo by Manan Bhatt

McKenzie *Radiohead* (King of Limbs tour) • 2012 • Santa Clara • I was with a friend named Daiki, who was a Japanese exchange student at my university.

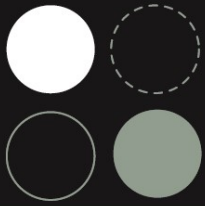
Mike *The Babys* • 1978 • Sacramento Memorial Auditorium • I was with a whole bunch of guys from WC in the back of a Datsun pickup. • I never smoked pot, but the smoke was so thick, I'm pretty sure I was high by the end.

Paul *Playing one of my first paid gigs and very first in a rock band: Copperhead Creek, we were opening act for Tower of Power and Elvin Bishop (headliner) • 1969 at San Ramon HS in Danville CA, when even a high school could afford to hire great bands • I was hoping for groupie appeal, and I met up with a young lady I had high hopes for (she dumped me the next week!)*

Raphael *Kendrick Lamar* • 2017 in Oakland • I was with a friend • The concert was fun, and BART is interesting at night.

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What was your first concert?

Dates to Note

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		Dates to Note
Richard	<i>Queen, "The Game"</i> European Tour • 1980 (yes, I'm that old) in Birmingham, England (spit) • I was with 3 college friends; we drove down in my Mini Cooper. That's the original Mini Cooper, not the behemoth Minis you Americans are used to. • This was "Queen," Freddy Mercury; Brian May; Roger Taylor & John Deacon. Tickets were 5.50 GBP (about \$10).	June 21 The Summer Solstice
		Jun 23-24 Maker Faire®, Kansas City
		Jun 24 Kelly Park Big Band, The Sound Room, 5-8 PM
		Jul 2-15 Wimbledon Championships
Rick	<i>Elton John and Opening Acts: Joe Walsh, Emmylou Harris</i> • 1975 in LA Dodger Stadium. • I was still in high school, but we slept overnight in the parking lot of LA Dodger stadium to get good seats down front. Great show and a great time.	Jul 7-29 105th Tour de France
		Jul 10-12 Intersolar North America, San Francisco
		Jul 13-29 California State Fair
		Jul 15-22 147th Open Championship at Carnoustie
		Jul 28-29 Maker Faire®, Detroit
Terry	<i>The Who and Opening Acts Little Feat, Rufus featuring Chaka Khan, John Sebastian, and the Steve Gibbons Band</i> • 1976 at Anaheim Stadium • As a fun fact, some 30 years after this first concert with Little Feat, they played in Frisco, CO on Main Street during a week when I stayed there with my wife and 3-year-old son. We just walked a few blocks down the street, so he could enjoy his first concert: with Little Feat! No, we didn't plan that.	Jul 29 Kelly Park Big Band, The Sound Room, 5-8 PM
		Aug 12-13 Perseids Meteor Shower
		Aug 26 Kelly Park Big Band, The Sound Room, 5-8 PM
		Aug 26 Full Moon (The Sturgeon Moon)
		Aug 27-Sep 9 US Open Tennis Championship
		Sep 6 99th NFL Season Opener