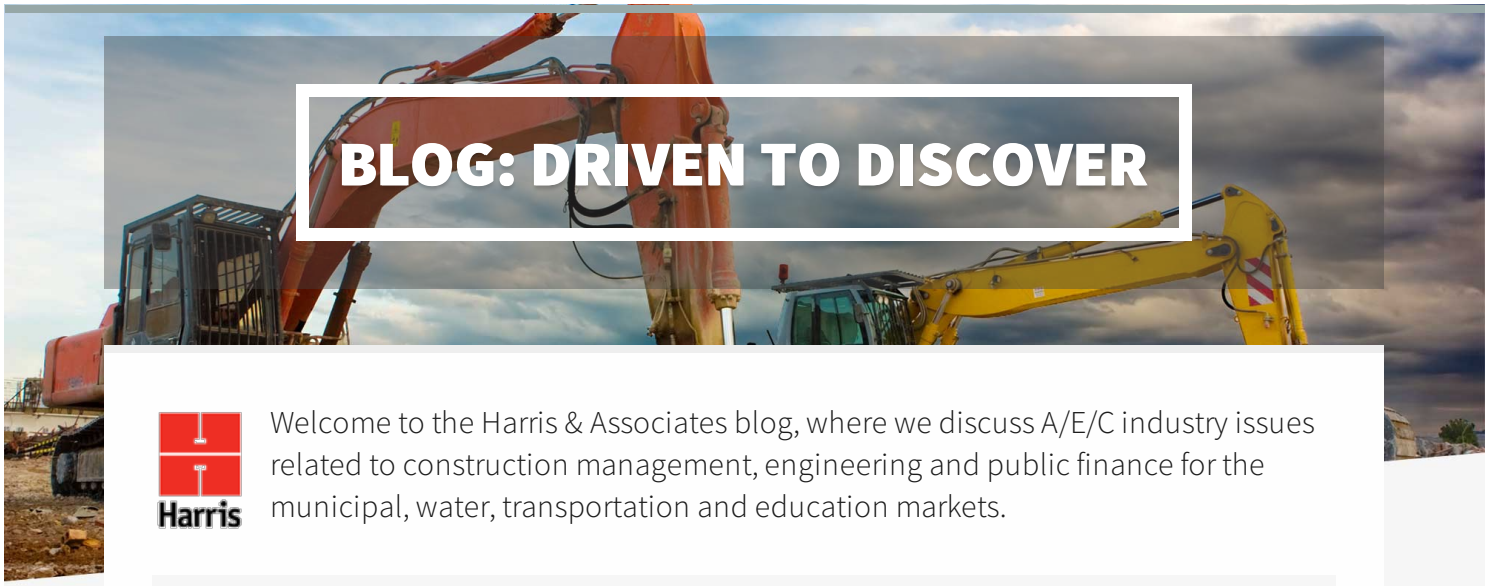


BLOG: DRIVEN TO DISCOVER

Welcome to the Harris & Associates blog, where we discuss A/E/C industry issues related to construction management, engineering and public finance for the municipal, water, transportation and education markets.

Small Spaces, Huge Implications: The Chu Hall Challenge

MONDAY, JULY 13, 2015

CATEGORIES: EDUCATION
POSTED IN: CONSTRUCTION MANAGEMENT

I love being on campus, managing construction projects for higher education. I've worked on dozens, and I always get excited about the importance of these structures. That said, the significance of my most recent project was off the charts.

I'm referring to Chu Hall, a $59 million solar research facility within the U.S. Department of Energy's

Lawrence Berkeley National Laboratory. Chu Hall promises to change the world with its renewable energy discoveries.

At this very moment, teams of scientists are there perfecting artificial photosynthesis to create carbon-neutral fuels that could alter the power-production paradigm. The building is named in honor of Steven Chu, the Nobel laureate and former U.S. Energy Secretary whose vision helped inspire its creation.

Handling Research Facilities with Care

Research facilities like this demand attention and precision, and our team brought both in spades at every step.

The 40,000 square-feet site occupies an incredibly small footprint. It sits atop a hill on a high-security campus, hemmed in on all sides by existing buildings and a main access road. Complicating matters further, the site was only 15 feet away from another construction site, which required significant advance planning to minimize disruptions. Constant, open communication among all workers was critical to keep on schedule and on budget.

The highly sensitive equipment inside the building had to run smoothly during construction, too. Researchers couldn't afford to wait for us. I've faced similar situations in academic buildings that housed different disciplines of science.

I recall a design meeting with two researchers: one spoke about how vibrations affected her electron microscope, while the other stressed his need to crush rocks into smithereens. We arranged to put their labs on opposite ends of the building, with careful attention to the floor on the microscope side—and even the cooling system, which could buffet the equipment if it was designed for a normal environment.

For Chu Hall, we innovated a bit to reduce vibrations: We created an oversized first-level floor plate made of 8' x 2' T-shaped footings that wrap around the building's perimeter and go down about six feet, with isolation joints on all four sides.

Not all of the challenges involved construction logistics. Part of my role was serving as liaison for navigating state *and* federal guidelines, because this groundbreaking public/private joint venture was on state land, for a federal agency.

I can tell you that our entire Harris team is proud to have helped bring this project to life—a hub of innovation that will someday benefit us all.

How about you? What construction environments do you find most rewarding? Have you worked your way out of a tight spot recently? Let me know.

Author

Jules P. Feher

Throughout Jules' 30+ years in the industry, he has been a project and construction manager for educational research facilities and labs, high-rise office buildings, hotels, hospitals, theme parks and condominiums. He has managed numerous challenging projects on the UC Berkeley campus for the past 18 years, including the award-winning Sutardja Dai Hall.

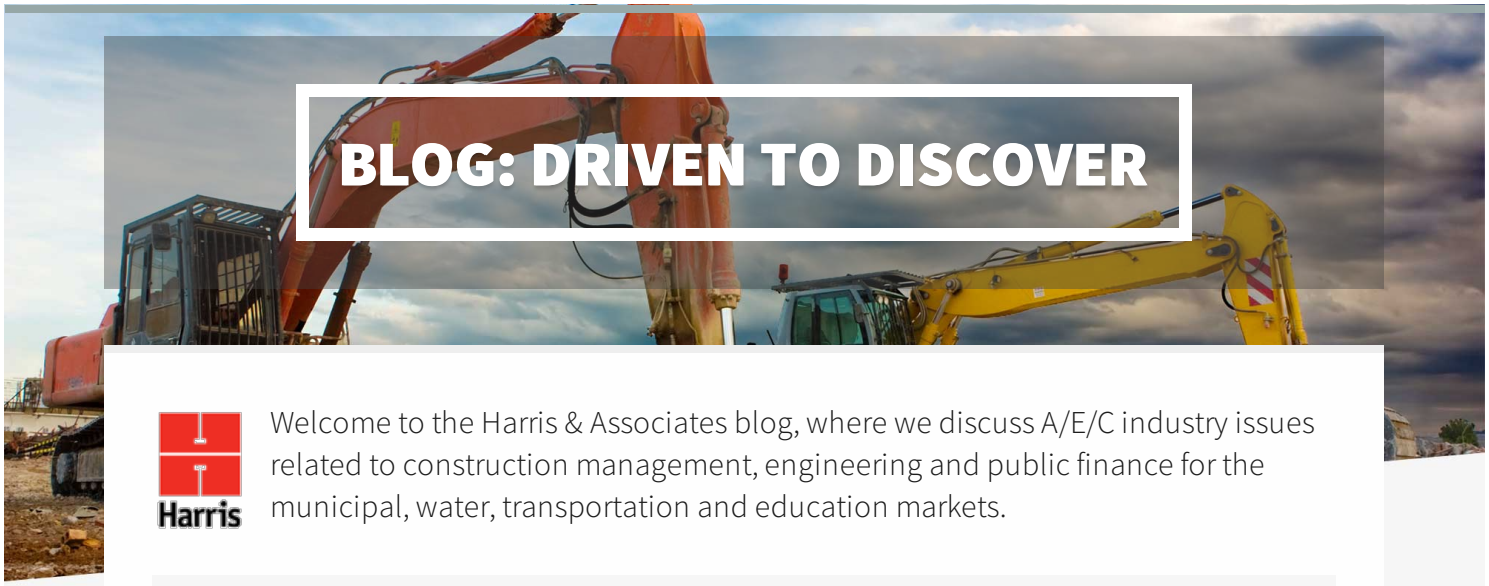
ENGINEERING FOR IMPACT

Welcome to the Harris & Associates blog, where we discuss A/E/C industry issues related to construction management, engineering and public finance for the municipal, water, transportation and education markets.

CATEGORIES:

- AEC Industry
- Community Services
- Education
- Municipal
- Transportation
- Water
- Water Wastewater

BACK TO WEAREHARRIS.COM



BLOG: DRIVEN TO DISCOVER

Welcome to the Harris & Associates blog, where we discuss A/E/C industry issues related to construction management, engineering and public finance for the municipal, water, transportation and education markets.

Lessons from the CM Trenches

MONDAY, NOVEMBER 09, 2015

CATEGORIES: AEC INDUSTRY / EDUCATION
POSTED IN: CONSTRUCTION MANAGEMENT / PROGRAM MANAGEMENT

Once upon a time, there was a construction manager with lots of book knowledge and precious little practical experience. (Spoiler alert—it's me.) Things didn't always go as I'd planned. But as they say, live and learn. That's just what I did. Decades later, I stand—er, blog—before you a true seasoned professional.

Through all the Rolaids and ribbon cuttings, I've learned quite a bit from my successes and failures. I thought I'd share some of my favorite lessons in hopes that you'll find them useful in your CM ventures.

- **Bridges are for building, not burning.**

The Golden Rule is important for its own sake, but I didn't realize how crucial it was to CM life until I participated in RFQs involving joint ventures. As I tried desperately to keep up with which corporate entity had gobbled up the other, it dawned on me that I'd be in deep trouble if I would've burned bridges earlier in my career. Fierce competitors today can easily become joint venture pals tomorrow.

- **Memorize the contract, regardless of language.**

I always remind my CMs to read and learn their contracts backwards and forwards. Nothing is more humiliating then having a GC start reciting contract verse that your CM forgot.

When I worked in Saudi Arabia, we had a contract that was in English and Arabic, with the Arabic version governing in any dispute. Not knowing Arabic, I counted on the translated text as the basis of my work. Unfortunately, some details were not fully translated, and I had to scramble at the end to provide all the contract deliverables. May this pain lead to your gain.

- **Learn from your past.**

You didn't implement recommendations from your last project on this one? A future accident or malfunction claim "discovery process" might nail you if it was flagged earlier. So before diving into a project, take a deep breath and see where previous "teachable moments" can prevent headaches.

- **Remember the owner's operations and maintenance staff.**

There are many reasons to include end users in the process as we go from programming to design to construction to commissioning. A huge one is promoting engagement over discouragement. Make sure these critical personnel know you're listening.

- **Embrace the BIM buzz.**

Most people, clients included, visualize in 2-D. They can only confirm their complete understanding when they actually see, touch and feel what's described on paper. BIM is a CM miracle—visually expressing our ideas and concepts to clients in a tangible form.

But the value of BIM is actually nothing new. When I worked for Walt Disney Imagineering in the late 80s, we would fabricate highly detailed scale models. Once the client signed off, they were sliced, diced and scanned to produce computer templates, which became the basis of the final design, production and shop drawings. Models first, drawings last.

- **Keep paper trails.**

Our legal counsel bangs the drum for CMs to document and keep records of everything. It's smart practice. I recently was involved in litigation and came prepared with volumes of supporting documentation. The claimant came with two sheets of paper. Before we even started with the hearing, the judge gave away the outcome with his smirk.

- **Reward your safety stars.**

Heap praise upon those who go above and beyond to maintain a safe workplace. My safety consultant would award $25 Starbucks cards to CMs, PIs and supers who kept the safest sites. On a project in England, we gave bottles of champagne to the safest contractor of the month (with the understanding they would be enjoyed after hours!)

We all have stories to tell, experiences to share and advice to give. What about you? Let us know some of your favorite hard-won life lessons.

Author

Daniel Sicile-Kira, CCM, ASID, LEED Green Associate, CM-BIM

Students and teachers in Southern California today benefit from the world of experience Daniel brings to every project—literally. His 35-year career in program, project and construction management has included ventures across the globe—from hospitals in the Middle East to theme parks in Europe. Today, he focuses primarily on improving educational environments. He has led numerous new and modernization construction projects for the San Diego Unified School District, the San Diego Community College District and the Santa Monica - Malibu Unified School District.

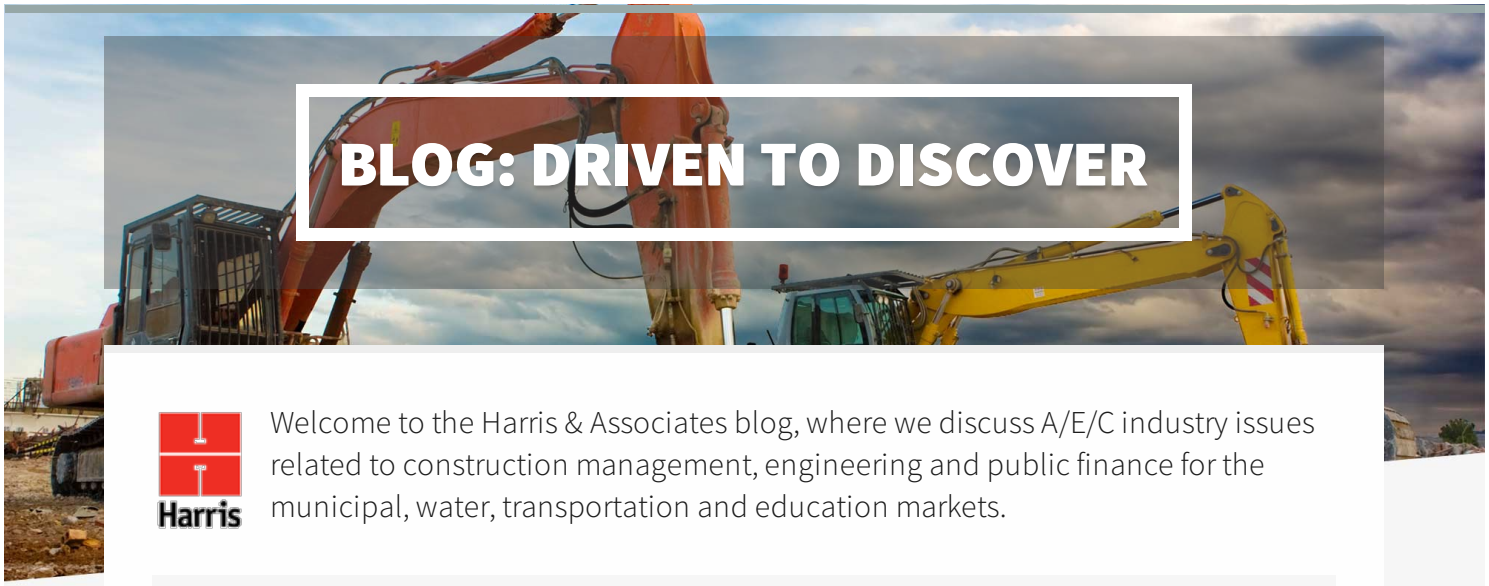
ENGINEERING FOR IMPACT

Welcome to the Harris & Associates blog, where we discuss A/E/C industry issues related to construction management, engineering and public finance for the municipal, water, transportation and education markets.

CATEGORIES:

- AEC Industry
- Community Services
- Education
- Municipal
- Transportation
- Water
- Water Wastewater

BACK TO WEAREHARRIS.COM



BLOG: DRIVEN TO DISCOVER

Welcome to the Harris & Associates blog, where we discuss A/E/C industry issues related to construction management, engineering and public finance for the municipal, water, transportation and education markets.

Tomorrow's Engineers (Part 2): Let's Team Up to Change the World

WEDNESDAY, APRIL 20, 2016

CATEGORIES: AEC INDUSTRY
POSTED IN: ENGINEERING SERVICES / WAR FOR TALENT

Friends, engineers, countrymen—lend me your ears!

We serve a noble profession, designed to help people live better lives. But we need to make sure every potential engineer knows that. We need to encourage and nurture the next generation of audacious engineers, the big dreamers and blue-sky thinkers waiting in the wings.

We need to let them know that working together creates an ideal team. When we combine the insight and experience of veterans with the trailblazing ideas and boundless enthusiasm of up-and-comers, we can transform our field—and the world—in profound ways.

When reflecting on the complex challenges facing engineers and society today, I was reminded of President John F. Kennedy's famous speech at Rice University in September 1962 regarding the United States' decision to go to the moon:

“We choose to go to the moon in this decade and do the other things, not because they are easy, but because they are hard, because that goal will serve to organize and measure the best of our energies and skills, because that challenge is one that we are willing to accept, one we are unwilling to postpone, and one which we intend to win, and the others, too.

The time has come for engineers to accept this challenge just like America did with going to the moon. We need to recruit new talent to our profession if we want any hope of addressing our nation’s infrastructure crisis, among other current and future engineering obstacles.

How do we start? Think of the most ambitious 20-somethings (or younger) you know and forward this open letter to them.

An Open Letter to Those Who Want to Change the World

The Flint water crisis reminded me of how much we take for granted. We don’t always think about where water comes from when we turn on the faucet, but clean, running water is a modern marvel.

And that’s true in so many areas of our lives. Think of all the structures that have survived for thousands of years—and the ones in your neighborhood. The roads, the bridges, mass transit and the structures that protect us from floods—we forget that civil engineers are responsible for the technology we rely on every day.

Of course, they also need the support of the public, because our work is a shared enterprise designed to benefit society. And that’s exciting to me! I get to learn so much, come up with new innovations and then disseminate those ideas so they can become real and make a difference in people’s lives!

What We Do Reflects Our Values

Let’s return to water for a moment. The quality of our water is a direct result of myriad decisions made decades ago. Today’s engineers continue to improve upon those decisions: They figure out how to pioneer new technologies and encourage the public to embrace novel approaches.

For instance, we’re reusing water to address drought. Civil engineers figured out how to purify wastewater into drinking water and are making the process more efficient than anyone could have imagined. And in Washington, DC, wastewater is transformed into energy in a model of urban innovation.

That’s the beauty of our profession. Our work is tangible and has a social impact, even when it’s behind the scenes.

Envision Your Impact

Imagine that you can see into the future. When you look at our country 30 years from now, do you see a thriving nation that solved its infrastructure crisis through ingenuity and commitment? Or do you see one where quality of life decreases daily because we didn’t develop the solutions we needed?

You want to make an impact on society? Become a civil engineer. It’s the ideal field to make your

mark, where you'll be proud to come to work every day.

You've already taken the first step by reading this far. Now it's time to reach out to your mentors and take the next one. Ask them what inspires them, what they leap out of bed in the morning looking forward to—and how you can get on the path to becoming an engineer.

Open your eyes further. Love what you do. Make a difference.

Change the world.

Share:

Author

Gary Yagade, PE

Gary Yagade is Vice President of Engineering Services at Harris & Associates. His enthusiasm, experience and vision have factored heavily into smart engineering solutions over the past 30 years. An expert in floodplain management, transportation, water and wastewater, he takes the greatest pride in projects that enhance the public's benefit and safety. Before coming to Harris, he managed an integrated water resources and environmental sciences operation with 80 employees and $25 million in annual revenue. He was also project manager for the $48 million California Department of Water Resources contract for engineering services for floodplain delineation and management.