

“Do Good Work”

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Geotechnical Firm Expands Legacy with Aggie Engineers

One of the most ambitious transportation projects in Northern Utah was completed earlier this year thanks to a team of innovative problem solvers at a local, specialty geotechnical engineering firm. State Route 177, known as the West Davis Corridor, is a 16-mile highway stretching from Farmington to West Point in Davis County. The \$500 million project required bold ideas and careful engineering to deliver a complex interchange with 33 structures to connect the new roadway to both Legacy Highway and Interstate 15. The completed interchange—a proverbial spaghetti bowl of aerial bridges and roadways — is a masterpiece of geotechnical and structural engineering.

“We’ve Grown Steadily by Doing Good Work”

Gerhart Cole was founded in 2008 by Phil Gerhart, a Brigham Young University alumnus, and Ryan Cole, a graduate of the University of Utah and BYU. The pair built a reputation on the geotechnical work and research they did for the I-15 reconstruction projects leading up to the 2002 Olympic games. Company principal and civil engineering alumnus Ryan Maw joined the firm in 2014 when Gerhart Cole had just six employees. “Do good work. That was the mantra of our founder, Phil Gerhart,” said Maw, recalling the leadership style of the firm’s late mentor. “We’ve grown steadily by doing good work.”



Standing, left to right: Joseph Stringham, Tyler Jackson, Bracken Falslev, Andrew LeCheminant, Nick Langford, Richard Buhler, Zach Gibbs, Amber Cole, Mathew McNeil; Seated, left to right: Ryan Maw, Ryan Cole and Brian Garrett (Photo: Mike Johnson)

“There’s a Palpable Difference”

Today, Gerhart Cole has 39 full-time staff including 11 Aggies who oversee a portfolio of projects from Utah to New Jersey. The company culture is a mix of engineering talent from USU, U of U and BYU. Increasingly, however, Gerhart Cole is building its future on Utah State engineers. “We’ve recruited from all three universities for years,” says Cole. “After we hired Ryan Maw, our relationship with Utah State became more meaningful. We’ve changed our recruiting strategy over the last five years to more aggressively go after Utah State students. The reason is they tend to have a different work ethic. There’s a different attitude that we’re not observing in candidates from the other schools.”

“We’re Technical, but Completely Practical”

The company—small compared to the mega firms that take on big, state-funded transportation jobs—is niche and specialized. “A firm our size should be doing ‘curb and gutter work,” joked Cole. “We work on sophisticated, complex projects that a small firm normally does not deliver. But we do. And we succeed because we invest a significant amount of time coaching our engineers to become better professionals. Sometimes that means giving them opportunities that are completely out of their comfort zone.” SR-177 definitely falls outside a typical comfort zone. “This was a massive project,” said Maw about the three-year endeavor. “It was large, fast and had a lot of geotechnical challenges. Our team won the project because we came up with ways to reduce costs, accelerate the schedule, and reduce risk. But ultimately, it was

also the fastest and had a significantly lower cost.” The new I-15 interchange is unique in multiple ways. Because the new on- and off-ramps are located so close to existing infrastructure, conventional building methods would be problematic. “This section of the Salt Lake Valley has soft soils and shallow groundwater, which can lead to significant settling,” says Maw. “If the ramp embankments were built using conventional road base—which weighs, on average, 135 pounds per cubic foot—the four-story-tall ramps would cause significant settling to nearby infrastructure. Instead, we built the embankments with lightweight concrete and stackable foam blocks, which weigh just 1 pound per cubic foot.” The growing stacks of foam on the side of the freeway caught the attention of the local community. In a public opinion website for the project, a resident asked, “I can’t even trust Styrofoam to ship my Amazon package, how am I supposed to drive on it?” The comment gave the engineers a good laugh but no buyer’s remorse. Foam blocks are a proven solution for embankment construction. In fact, Gerhart Cole was the first to implement foam embankments in the I-15 reconstruction in the 1990s. The company’s commitment to innovation is reflected in their recent recognition by the Utah Associated General Contractors as Consulting Engineering Firm of the Year in nearly back-to-back years.



The interchange that connects the new SR-177 to both Legacy Highway and Interstate 15 features long, flyover bridges that required innovative geotechnical engineering to design and build. (Photo: Gerhart Cole)

“We’re a Data-Driven Business”

At its core, Gerhart Cole is a consulting firm. Maw says the secret to their success is a culture of professionalism and a willingness to dig deep into research for site-specific design solutions. “We work in dynamic geologic environments,” said Maw. “It’s not like a piece of engineered steel or concrete that comes out of a plant. We work with what nature gives us. We drill and collect subsurface data and samples from the field, test samples in our laboratory and use this data to develop engineering properties unique to a particular site.” Because the ground materials at the interchange site are soft, the flyover bridges were built using dozens of 24-inch piles that were full-scale and dynamically tested at the site and below each bridge support.

“A Master’s Degree is Essential to our Work”

Cole says he recruits engineers who can take on big challenges. An advanced degree makes a big difference in selecting the right candidates. “We really do value folks who have or are getting a master’s degree,” he said. “They’ve been through that process of having to figure something out. When you combine a master’s degree and a strong work ethic, now you have a young professional who we can take; and in five years we can create the equivalent of a 10-year engineer. It requires hard work, but from there your career can just take off.”



From left: Ryan Cole, Ryan Maw and Brian Garrett survey the completed interchange for the new West Davis Corridor in Farmington, Utah. (Photo: Mike Johnson)

"We're Asking to Be Partners"

When Ryan Cole was in graduate school, he received financial assistance from a generous donor. He later learned that the funding came from individuals just like him. "They were engineering business owners who wanted results," he said. "They wanted someone who could work on a problem. That's what we want in our future engineers, and that's why we pay it forward to the next generation of engineers at Utah State. Gerhart Cole has a longstanding partnership with USU. They offer a unique apprenticeship program that provides young students a chance to do meaningful work. "We don't call them interns," says Cole. "What we provide is a real training environment that gives these young professionals a chance to work on real-world engineering projects." The company also generously supports research efforts and education expenses through contributions that benefit USU graduate and undergraduate students, including those working with USU Professor Brady Cox.

"This is a Lifetime Profession"

"I am so grateful for the education I got at Utah State," said Maw. "It changed my life. And it has given me opportunities that I would have never dreamt of." Speaking to tomorrow's engineers who will take on Utah's civil infrastructure challenges, Maw and Cole say the future of the profession is more about attitude than smarts. Once you stop learning, your growth in the engineering profession is stagnant, and the others are going to pass you," said Cole. "We see in the Utah State grads a sense of humility and the complete opposite of arrogance. This, for us, is the big difference."

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