

Improvements at Warren Tech's Acres Farm

Category 1: Contribution to the Community

Baker Concrete Construction, Inc.

With more than 50 years of experience as leaders in our industry, Baker Concrete Construction has narrowed down our philosophy into three simple words: People. Honor. Grit. Our success depends heavily on that first part—putting people at the center of everything we do. That's why when our founder, Dan Baker, challenged us to bridge the gap between industry and education, we knew we had to do more than show up and give a lecture in the classroom. We needed to form a true partnership with a local high school and build hands-on curriculum to showcase our expertise in a fun and relatable way, inspire future generations, and provide a solid foundation for pursuing a career in the construction trades. We chose to partner with Warren Tech, a career and technical high school in the Jefferson County School District in Lakewood, Colorado. Warren Tech has a reputation of engaging students through real-world experience and offering opportunities to earn community college credits while still in high school.

Giving back to a community staple

Baker leadership kicked off the partnership by engaging Warren Tech faculty, staff, and teachers from the STEM and Building Trades Pre-Apprenticeship programs in discussions about the overall vision and master plan. That is where we learned about a substantial amount of concrete work needed at Acres Farm (commonly known as "The Farm"), a converted horticultural center located just southwest of campus. The Farm features farmland, greenhouses, and indoor-outdoor learning centers where high school juniors and seniors gather to learn about farming, professional culinary skills, and other food systems and industries. The Farm boasts a CSA and farm stand where local community members can purchase seedlings, fresh produce, and seasonal crop shares. Produce raised at The Farm also supplies the culinary and catering programs at Warren Tech.

Once we homed in on The Farm as the focus of our partnership, we created an initial plan that included new sidewalks, an amphitheater-like outdoor classroom, and new greenhouse footings. At the time, STEM and pre-apprenticeship students were constructing a new classroom building adjacent to the current one being used at The Farm. This new classroom was in need of a new

sidewalk and ADA-compliant ramp to the building entrance. Baker decided to make this the pilot project, and if successful, we would continue with subsequent projects in the future.

“Baker Concrete has generously provided an incredible amount of manpower every year for our ROCK Week at Warren Tech. Over 20 co-workers each time provide training, expertise, and manpower to over 50 students each year. It is an amazing gesture because it is an incredible amount of time and money put in by the company. We wouldn’t be able to train the students and build the things we need at our Outdoor Education Center without them.”

– **Liz Hudd, Warren Tech Science Instructional Coach**

ROCK-solid learning approach

Baker’s internal meetings and learning sessions are known as ROCK Nights—short for Reinforcing Our Concrete Knowledge. In our efforts to engage Warren Tech students beyond the ordinary, we created a weeklong curriculum dubbed ROCK Week that’s still in use today. ROCK Week covers the full spectrum of a project, from start to finish. Here’s a day-by-day look:

ROCK Week Day 1: The regional manager and project manager arrive to give students a general overview of concrete construction performed “The Baker Way,” as well as a detailed description of the student project at hand. The field layout crew then takes over to show students how to properly use a robotic total station to lay out this week’s project.

ROCK Week Day 2: Back in the classroom, students learn from two Baker engineers the importance of quantity surveying and estimating. Students then get a chance to simulate performing a concrete, rebar, and formwork takeoff and compiling an estimate of their project.

ROCK Week Day 3: Students spend the day with a safety manager, general superintendent, and one or more project superintendents, getting an overview of safe work practices and pre-job planning. Topics include completing each task safely, completing safety and task forms, sequencing the work, and assigning tasks. Students then put on hardhats, gloves, vests, safety glasses, and safety-green ROCK Week t-shirts and head out to the field, where Baker co-workers

demonstrate proper formwork installation and the students get hands-on, helping to finish the installation of the forms for the upcoming concrete pour.

ROCK Week Day 4: It's pour day! Baker crew leaders start the day leading students in a toolbox talk and stretch/flex exercises. Students watch as the concrete pump sets up, learning how it works. When the first concrete truck arrives, they learn about concrete mixes and watch as the material testing technician performs a slump test. When it's time to start placing concrete, Baker finishers team up with the students to demonstrate how to hold the pump hose and rake and vibrate the concrete for consolidation, followed by how to properly finish the concrete.

ROCK Week Day 5: On this whirlwind project wrap-up day, everyone pitches in to strip forms, clean up the worksite, and record field as-built measurements. Teachers, students, and Baker co-workers cap off the week with a group celebration lunch.

“For the last three years, Baker Concrete has taught our students at Warren Tech all the aspects of a concrete pour. From estimating costs, to framing and finally the pour. One of the main components of the training to these students is the safety and the impact of not being safe while on the job. Working alongside professionals, students are mentored and modeled good safety behavior while on the job site. It is invaluable learning as students see firsthand the importance of safety and professionalism as it is modeled by the Baker employees.”

– **Liz Hudd, Warren Tech Science Instructional Coach**

Building a model for the future

Ten Warren Tech students participated in Baker's first ROCK Week, held March 2017, and the program garnered such a positive response from students, teachers, and Baker co-workers that leadership unanimously decided to split the remaining work into two more ROCK Week project phases to accommodate a growing number of participants.

Twenty-five students signed on for the second phase that was completed in February 2018. The project consisted of placing additional sidewalks around the greenhouse and laying the slab for

an outdoor classroom. The third and final phase, completed in October 2018, involved 50 students—five times the original number of ROCK Week participants—pouring new greenhouse footings and completing walls for the outdoor classroom.

What began as a pilot project has grown into a beautiful partnership between education and industry. Roughly 20 Baker co-workers taught students proper techniques and Baker practices used to maintain Incident and Injury Free (IIF) jobsites. Baker and the students have invested more than 4,600 manhours over the course of this three-phase project and we are proud to report zero injuries.

Our industry partners Martin Marietta and Brundage Bone Concrete Pumping joined the team for each project, donating concrete materials, time, and equipment for concrete pumping. Upon seeing the significant spike in student interest from one phase to the next, leaders agreed to continue the partnership indefinitely and hold an annual ROCK Week every October.

“Baker Concrete has given so much to our school. Every year they send a team of co-workers to work side by side with students on a construction project that improves the space. Most recently, they built a seating structure so we can hold classes outside, and they built concrete walkways and ADA ramps so our facilities are safer and more accessible to students and the community. They donate all materials and personnel time and provide our students with real work with true professionals. Our school would not be able to have many of the upgrades and improvements without their dedication and commitment to work with students to improve their educational experiences.”

– **Sara Leonard, Warren Tech Assistant Principal**

With the help of its coworkers and industry partners, Baker is proud that it has created an all-encompassing curriculum for students interested in the concrete industry. An additional source of pride is derived from efforts that have provided an enhanced sustainable learning environment for the Farm students. We are excited to continue this partnership by helping to bridge the gap between skills-based education and opportunities within the construction industry.











