Newsletter | Spring 2024

IT'S A BORING LIFE

Iowa Trenchless

BORING & TUNNELING SPECIALISTS

AUGER BORING | TUNNELING | MICROTUNNELING
ROCK BORING/TUNNELING | PIPE RAMMING | PIPE JACKING

2023 IOWA TRENCHLESS PROJECT HIGHLIGHT

Grinnell College South Energy Plant

By Jason Klein

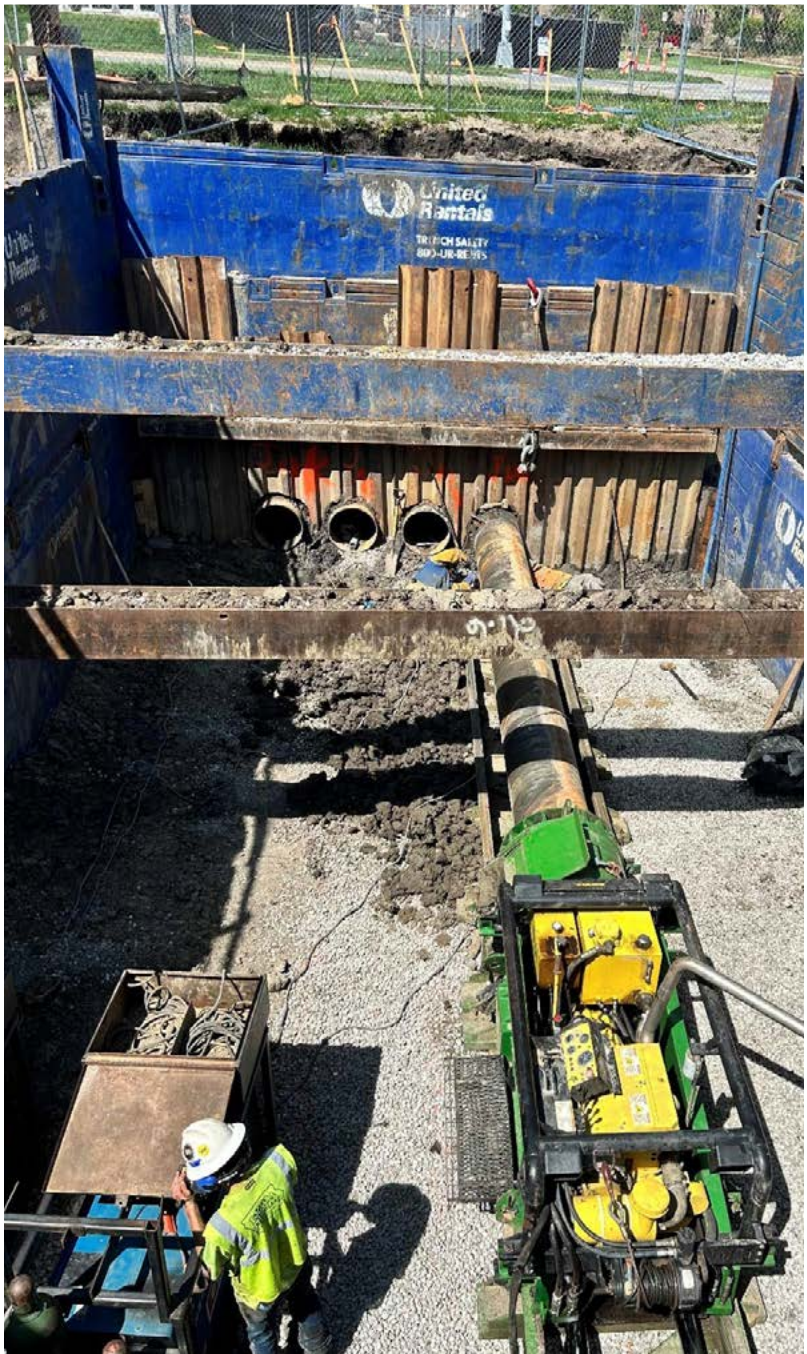
Grinnell College is continuing to grow its heating, cooling, and power distribution, with further progress in reducing electric and fossil fuel consumption; their ultimate long-term goal is being carbon neutral. New heating and cooling water piping, as well as campus power, is being routed between campus from the north, serving upcoming building projects at the Broad St. and Hwy 6 vicinity, connecting with the College's existing on-campus distribution systems. Site preparation began in July 2022 as the College develops a timeline and plan for the south energy plant project, which builds upon infrastructure and furthers campus carbon-neutrality goals. This work will help connect energy use across parts of campus and downtown, making improvements such as air conditioning in more residence halls possible.

General Contractor, Weitz, and Mechanical Contractor, Waldinger Corp, enlisted Iowa Trenchless to perform auger bores for a total of 9 casing crossings and a dozen HDD crossings required to run hot and chilled water supply and return lines across Hwy 6 and throughout central campus, including four (4) bores side-by-side of 320 LF each in length and five (5) more bores of 170 LF each in length. The interesting detail about these side-by-side parallel bores was the minimal 12" separation between casings. Iowa Trenchless elected to install 24" diameter steel casing for the 6" and 10" diameter fused, dual wall, insulated HDPE piping.

Iowa Trenchless utilized the Akkerman 240A Guided Boring Machine in conjunction with a Barbco 36/48-750 Auger Boring Machine to complete the over 2,100 LF of casing installations. Pilot-tube guided auger boring work started in March and was completed at the end of May by a single crew: Jon Kile, Joe James, Jim Herbst, and Jason Craver.

An additional 1600+ LF of the same dual wall, insulated HDPE was installed by HDD under the contract in parallel pairs for supply and return lines throughout campus to avoid excavating through numerous sidewalks, paved areas, green space and a matrix of underground utilities.

Midwest Vac Professionals assisted on the project providing hydro excavation services to locate and verify dozens of utilities in advance of the HDD bores, CCTV inspection and cleaning of city sewer lines pre and post installation, and hauling and disposal of drilling fluid.



Iowa Trenchless Employee Spotlight: Rick Siemers

Recognizing hard work, dedication and leadership
By Elysha Eddy

It's our privilege to feature Rick Siemers, General Superintendent at Iowa Trenchless, in this edition Employee Spotlight.

Rick started his first job in the trenchless industry at a young age; He was 16 years old and still in high school when his dad recruited him to do some tunnel work over summer vacation. His dad owned Wisconsin Road Crossing and needed an extra hand for a tunneling project. Rick was eager to step up and help, and recalls that there were no modern tunnel machines back then; this tunnel was dug by hand. It was hard work, but he looks back on that job, over 50 years ago, fondly. He and his 6 brothers: Russ, Randy, Robert, Raymond, Ronnie, and Rodney and sister Cindy enjoyed working with and learning from their dad. When his father passed in 1985, Rick decided to run Wisconsin Road Crossing and after 6 years decided to start his own boring company – Wisconsin Road Boring. He and his wife, Patti, who has been known to jump in the operators seat when needed, have 2 sons, 2 daughters, and 8 grandchildren.

In Rick's years in the trade, he notes some of the more memorable changes in the industry. He credits computers for launching the next generation of trenchless technology, streamlining the process of building jobs and enhancing communication. Rick has always been an early adopter of new technologies. In fact, he was running his company and calculating bids on a PC in the mid 1980's, and installed a cellphone in his truck that connected with his computer, allowing him to receive faxes remotely while on the road! Rick was leaps and bounds beyond the technology of the time. Rick is still a technology leader today, helping manage the Iowa Trenchless IT network and hardware. He also serves as jobsite photographer and the official pilot of the company drone. Rick also points out that clutches and gear boxes in the earlier years were too fragile, which lead him to use all-hydraulic machines. They allow more torque which exponentially progressed the boring process.

Rick and Jason Clark (President/Owner of Iowa Trenchless) like to point out that, although they didn't know it, prior to combining forces at Iowa Trenchless, the two had actually worked just across the street from each other on separate jobsites in Milwaukee while Jason was working for Michels and Rick was working for Cape. They had no way of knowing at the time but just a few years later they would be working together on one of Wisconsin Road Boring's contracted projects. There were several bores added to Rick's company's original scope, and Rick had other contracts to complete in California to stay on schedule. Rick reached out to Rich Prosser, a mutual friend, who connected Rick with Jason to help finish the project. The two would stay connected, becoming friends and continue working together over the years. When Jason started Iowa Trenchless in 2002, Rick loaned him a hydraulic auger boring machine to use, and Iowa Trenchless' first contract was a project for Wisconsin Road Boring and in 2005 Rick began operating for Iowa Trenchless.

One of Rick's favorite jobs at Iowa Trenchless was for the Union Pacific Railroad (UPRR) in Arizona. A large and challenging project, Rick believes it helped put Iowa Trenchless as a company on the map. It was a massive project, covering over 110 miles from west of Maricopa to Tucson. It consisted of 520 auger bores across the UPRR mainlines and required the cooperative efforts of three boring companies. Rick headed the project and lead 7 different crews; 3 Iowa Trenchless crews, 3 Midwest Mole crews out of Indiana, and 1 crew from Pacific Boring out of California. At the beginning of the project there were 5 to 7 crews auger boring

simultaneously, every day. Several times on this project Rick had 7 separate bores going, side by side, utilizing every crew. Under Rick's leadership this team was finishing entire sections of auger bores even faster than the pipe companies could manufacture pipe and get it to the jobsite! This Arizona project took multiple years to complete, running from 2008-2010. Rick and Jason found and rented several houses in Arizona where the crews lived between work and trips back home. At that time, this was the biggest project either Rick or Jason Clark had ever seen or conquered.

Another of Rick's favorite projects was in Fallon, Montana in Fall, 2019. According to Rick, this project was unique because, mixed into the 500+ feet of auger boring, 600 feet of pipe jacking and 800 feet of cellular grout abandonment work, there were challenges involving "a little bit of everything". However, Rick is always ready for a challenge! The project involved bringing Midwest Vac Professionals (an Iowa Trenchless sister company) on board with their Combination Jetter/Vac trucks to clean an 11 foot x 6 foot irrigation aqueduct running under the interstate, enlisting the services of a specialty lining contractor from Pennsylvania and hiring Elastizell of Wisconsin to produce and pump hundreds of yards of cellular concrete to re-line the aqueduct.

With a legacy of over 50 years of experience in the Trenchless Industry, including 20 years (and counting!) with Iowa Trenchless, Rick holds a well-respected position in the company, having earned his colleagues' respect. Iowa Trenchless is extremely proud and honored to have had Rick's help all these years, expanding our boundaries, leading safety, and teaching the next generation about the wonder that is the trenchless industry.

Jason Clark says, "Without Rick we wouldn't be the company we are today. His leadership and experience in the company's early days set an example for our culture of strong work ethics, can-do attitudes, and technical knowledge that makes Iowa Trenchless successful. Rick has an uncanny ability to think outside the box. My respect for Rick as one of the trenchless industry's stand-out individuals is second to none."

Working in Cold Weather and Environments

As the weather becomes "frightful" during winter months, construction workers who must brave the outdoor conditions face the occupational hazard of exposure to the cold. You need to be especially mindful of the weather, its effects on the body, and proper prevention techniques.

Environmental conditions
The following four environmental conditions are the causes of cold-related stress:

- Low temperatures
- High/cool winds
- Dampness
- Cold

When your body is unable to warm itself, serious cold-related illnesses and injuries may occur, and permanent tissue damage and death may result. Hypothermia can occur when land temperatures are above freezing or water temperatures are below 98.6 degrees F. Cold related illnesses can slowly overcome a person who has been chilled by low temperatures, brisk winds or wet clothing.

Risk Factors
Major risk factors for cold-related stress include the following:

- Wearing inadequate or wet clothing increases the effects of cold on the body
- Taking certain drugs or medications such as alcohol, nicotine, caffeine, and medication; they inhibit the body's response to the cold and impair judgment
- Having a cold or certain disease, such as diabetes, heart, vascular, and thyroid problems, may make a person more susceptible to the winter elements.
- Becoming exhausted or immobilized, especially due to injury or entrapment, may speed up the effects of cold weather.

Preventing cold-related disorders
Wearing the right types of clothing can help in fighting the elements. You should wear at least three layers of clothing such as the following:

- An outer layer to break the wind and allow some ventilation.
- A middle layer of wool or synthetic fabric to absorb sweat and retain insulation in a damp environment
- Inner layers of cotton or synthetic weave to allow for proper ventilation.

In addition, you should do the following:

- Pay special attention to protecting feet, hands, face, and head. Up to 40 percent of body heat can be lost when the head is exposed
- Wear insulated footgear to protect against cold and dampness
- Keep a change of clothing available in case work garments become wet

One Railroad, Connecting North America

By Jason Klein

CPKC was born from the combination of two iconic railroads – Canadian Pacific and Kansas City Southern.

Founded in 1881, Canadian Pacific Railway was formed to unite Canada from coast to coast and grew to reach the U.S. Midwest and beyond with direct links to major ports on the west and east coasts. Established in 1887, Kansas City Southern began as a belt railroad in Kansas City, Mo. and grew to become a vital north-south rail link providing customers with cross-border service between the U.S. and Mexico.

In 2023, CPKC made history by creating the first and only transnational railway that connects Canada, the U.S. and Mexico with unrivaled cross-border services and port access. CPKC unlocks the full potential of the CP and KCS networks and connect markets and communities far and wide, fostering growth and economic prosperity across North America.

The combined network will include approximately 20,000 miles of rail, and integration of both companies is expected

to take over three years. CP plans to spend more than $275 million to improve rail safety and capacity on the core north-south CPKC main line between the U.S. Upper Midwest and Louisiana.

Iowa Trenchless was fortunate enough to be able to work on a portion of the infrastructure improvements this year, including four (4) separate siding extension projects throughout Iowa and Missouri. In total, 22 bores and nearly 1,800 LF of 36-60" diameter culverts were installed.

Boring work began in early May on the Washington Siding, followed by Belleuve, Laredo and finally Clinton finishing up in November. Multiple crews worked throughout these projects. In fact, over half the company worked on a CPKC project at some point this year.

Washington, IA: 60 LF and 75 LF x 36" SSP; 75 LF x 42" SSP; 60 LF and 75 LF x 48" SSP; 75 LF x 54" SSP; 2 x 80 LF x 60" SSP; 2 x 130 LF x 60" SSP (10 bores totaling 840 LF)

Laredo, MO: 2 x 70 LF x 60" SSP; 2 x 90 LF x 72" SSP (4 bores totaling 320 LF)

Bellevue, IA: 3 x 60 LF x 36" SSP; 70 LF x 36" SSP; 70 LF x 48" SSP; 90 LF x 48" SSP; 75 LF x 66" Slipline (6 bores totaling 485 LF)

Clinton, IA: 2 x 70 LF x 36" SSP (2 bores totaling 140 LF)

Pipe Ramming to Termination

By Jason Klein

Horizontal directional drilling and pneumatic pipe ramming are two trenchless methods that complement each other on small and large projects alike. HDD installation has allowed projects that were once unthinkable to become realty. And pipe ramming is the ultimate muscle method, there to help, assist and even salvage HDD projects that run into problems. The two methods complemented one another on a project in Fort Worth, TX for the installation of a large diameter sanitary sewer force main. The project included the installation of approximately three miles of 36-inch diameter HDPE force main to service the Fort Worth area in which two sections of the project required horizontal directional drilling with a steel conductor casing.

Iowa Trenchless was contacted by General Contractor SJ. Lewis of Texas to install via pneumatic pipe ramming two 54-inch diameter conductor casings to help facilitate the HDD work – 90 feet and 180 feet each. The conductor casings were installed consecutively, in advance of the HDD drilling and on the entry side of each crossing - one for a crossing parallel to the Trinity River and the other for crossing an interstate, multiple frontage roads, and a half dozen railroad tracks.

Pipe Ramming Specialist Rick Melvin from TT Technologies explains the concept behind the casings Iowa Trenchless was contracted to install. "With the Trinity River, the conductor barrel was installed as a way to contain the drilling fluid, protect the start of that bore and ultimately get into a point where drilling can begin. And that's the basic definition of a Conductor Barrel. It's a casing that is rammed into the ground, at a predetermined angle, until desirable soil conditions are met. Drilling happens within the casing that helps the drill head reach desirable soil conditions. It also helps contain the drilling fluids and helps in other ways, but that's the concept of the installation."

Iowa Trenchless utilized a 24-inch diameter Grundoram Taurus pneumatic pipe ramming system from TT Technologies and two 1600 CFM air compressors to power the ramming tool. A crew of seasoned professionals including supervisor Brandon Derry, and superintendent Rick Siemers, led the way for Iowa Trenchless, as well as educating some of the younger crew members on a project that they might not have been on before. Learning the art of pipe ramming for the first time was Wyatt Clark, son of Owners Jason and Shari Clark, and Avere Doles, 3rd year summer intern from Louisiana Tech Trenchless Technology Center.

"If you've ever been on a pipe ramming job, I mean, you can feel it in your body when the hammer is hitting, you can feel it"

"Not necessarily a training exercise, but as a way to introduce some of the guys to the installation and equipment that might not get on that type of job as often. If you've ever been on a pipe ramming job, I mean, you can feel it in your body when the hammer is hitting, you can feel it", explains Clark.

Crews began work establishing the ramming pad at the angle required of the project. Clark said, "We set up on a dirt berm into the subsurface to get us to where we needed to be rather than build a big, elaborate platform. We needed to ram the conductor barrel in at 16 degrees, or 28.1 percent grade. It was about two thirds underground and one third ramped above ground."

Once the angle was established, the ramming platform was shored, and an auger bore track was set in place to drive the casing from. After the first 30-foot section of 54-inch casing

was in place, crews used an excavator to lift the 24-inch diameter Grundoram Taurus into position. Prior to positioning the ramming tool, the ram cone was attached to the lead end of the rammer. This piece makes the connection between the 24-inch diameter rammer and the 54-inch diameter casing.

Crews proceeded to ram three 30-foot sections of pipe in for the first conductor barrel. Ramming moved as quickly as one foot per minute early in the ramming process. Once the first section of 30-foot casing was installed, the next segment was brought in and placed. That section was welded to the back end of the installed casing. Setting, fitting and welding took approximately 8 hours to complete per casing segment.

It was determined through discussions with landowners in the area that the soil conditions on the first site left something to be desired. Clark explained, "The first one, which was near the river, was mostly fill and garbage. There was one individual we talked to that knew or was related to the owner of that property and indicated that it had been filled in with garbage years ago. So, we literally went through garbage."

As ramming traveled deeper toward bedrock, speed decreased significantly. Total working time to install all three segments for the first Conductor Barrel was six working days. Then crews moved the ramming gear and set up to the next site, which was a little bit deeper.

According to Clark the site conditions improved on the second installation. He said, "The soil on the second one was better ground. This one was not on the river, but it was crossing railroad tracks and a few other obstacles. It started out as clay, then changed to sand and gravel. On the second one, the advancement rates were faster at the beginning, then we got into sand, gravel, and then eventually cobbles and boulders. It went from moving fast to moving moderately to moving slow to barely moving, which is what you're looking for when you're trying to get into the rock interface. In total that one was 180 feet."

For both sites, Iowa Trenchless crews used bentonite lubrication in combination with the pipe ramming.

Iowa Trenchless crews cleaned out portions of each Conductor Barrel casing with an auger boring machine before turning over the jobsites to the HDD contractor. Melvin said, "Great to work with these guys. Jason has a lot of experience, and his crews are right there too. Good project all around."

Midwest Vac Professionals

By Bud Durnan and Elysha Eddy

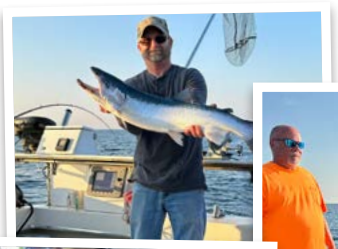
Midwest Vac Professionals (MVP) got its name back in 2016 by founding partner Shari Clark. The company started with two-combo vac trucks, one straight cleaning truck and two camera pipe inspection trucks. In the past few years MVP has gained new clients and began to expand their fleet. Currently, they have four-combo vac trucks, one straight hydro truck and three camera pipe inspection trucks. MVP has 10 employees that work nonstop throughout the year, with 24/7 hours of operation, to keep this company thriving. They service different types of municipalities; from cleaning sanitary/storm sewers to locating utilities for civil engineers for new developments.

MVP travels all over Iowa and, on occasion, teams up with Iowa Trenchless and other contractors like they did for a project in Fallon, MT in 2019 to complete a pre-cleaning for an aligning installation under I-90. They have performed work in various surrounding states like Illinois, Minnesota, Missouri, and Wisconsin and are currently finishing up a job in Kansas for Northern Natural Gas. A crew is down in Hamilton Missouri cleaning and inspecting 78,000 feet of their sanitary sewer system. It takes all the hard work and effort of these guys to work safely together and to keep our customers happy. MVP greatly appreciates their team for all they do for this company.

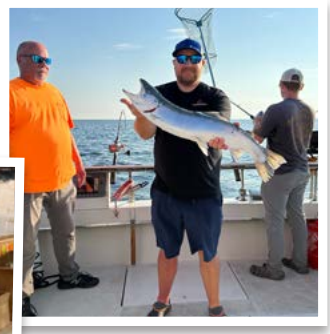
COMPANY HIGHLIGHTS

Racine Fishing Trip

Iowa Trenchless had a company outing to Racine, Wisconsin where they had the opportunity to take part in a fishing excursion on Lake Michigan. They had wonderful weather this past June. Check out some of their catches!



◀ *Darrell Morris with his catch of the day*



▲ *Jason Klein, Vice President, with his salmon*

◀ *Randy Siemers – Superintendent, and his lake trout with Jason Clark - President/Owner*

◀ *Jason Clark guiding an excavator bucket*

▼ *Rick Siemers and Jason and Shari's son, Wyatt, inside the face of the tunnel shield*

Jobsite setup ▲

Jason and Shari's daughter, ▶ *Ashley, checking out the inside of the tunnel*

A Look Back

Fifteen years ago, we were just finishing a 120" concrete pedestrian tunnel beneath a set of railroad tracks in Iowa City, Iowa. In these pictures you can see a young Jason Clark guiding an excavator, Superintendent Rick Siemers operating the Akkerman EXS 1200 tunnel shield, and the Clark kids experiencing the first big tunnels for Iowa Trenchless.

Iowa Cubs Company Family Day

Iowa Trenchless and Midwest Vac Pros were able to attend an Iowa Cubs baseball game with family members and enjoyed a good game, food and drinks and interacting with Cubbie Bear!

Kiefer Mathews with his son ▶ *meeting Cubbie Bear*

Brandon Derry with his son ▶▶ *meeting Cubbie Bear*

Congratulations!

Iowa Trenchless would like to recognize and congratulate **Brandon Derry** on earning a promotion to General Superintendent in 2024. Brandon has worked for Iowa Trenchless since 2006. He has modeled our culture of safety, leadership and efficiency and we are excited to watch him continue in his role as General Superintendent.

Iowa Trenchless
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IOWA TRENCHLESS | MVP MIDWEST VAC PROFESSIONALS
POT HOLING•HYDRO EXCAVATION
TV INSPECTION•VACTOR CLEANING•SMOKE TESTING