

# Midwestern Family Mindset Drives Safety and Self-Performance

From heavy/civil earth moving to a major bridge construction company, Ames keeps it all in the family

by Monica Schultes

Currently ranked 74th out of the top 400 contractors in the United States by *Engineering News-Record*, Ames Construction succeeds by performing to the best of its ability every day and on every project. Since its inception as a family business in the Midwest in 1962, Ames has upheld a reputation for providing superior construction services to a wide range of clients across the midwestern and western United States.

## Culture of Loyalty

Being a family-owned company makes a difference. Though many employers say that their people are their most valuable asset, Ames Construction is set apart by the dedication of many lifelong employees and its history of company loyalty.

According to Justin Gabrielson, executive Midwest region vice president, the company values at Ames inspire a culture of commitment to customers and each other. Unsurprisingly, many employees

are the second or third generation of their families to work for Ames.

Gabrielson believes that the company's success with employee retention is home grown. "We have been very fortunate to continue to grow as a company, which creates opportunities for coworkers who want to grow with us. There are always positions and opportunities with more responsibilities—we treat them right and respect the work that they do," he explains.

Nick Ruba, vice president of alternative delivery, adds, "It is more than that. They are our company. It is our core belief to develop and grow our people. When we do that right, the rest follows."

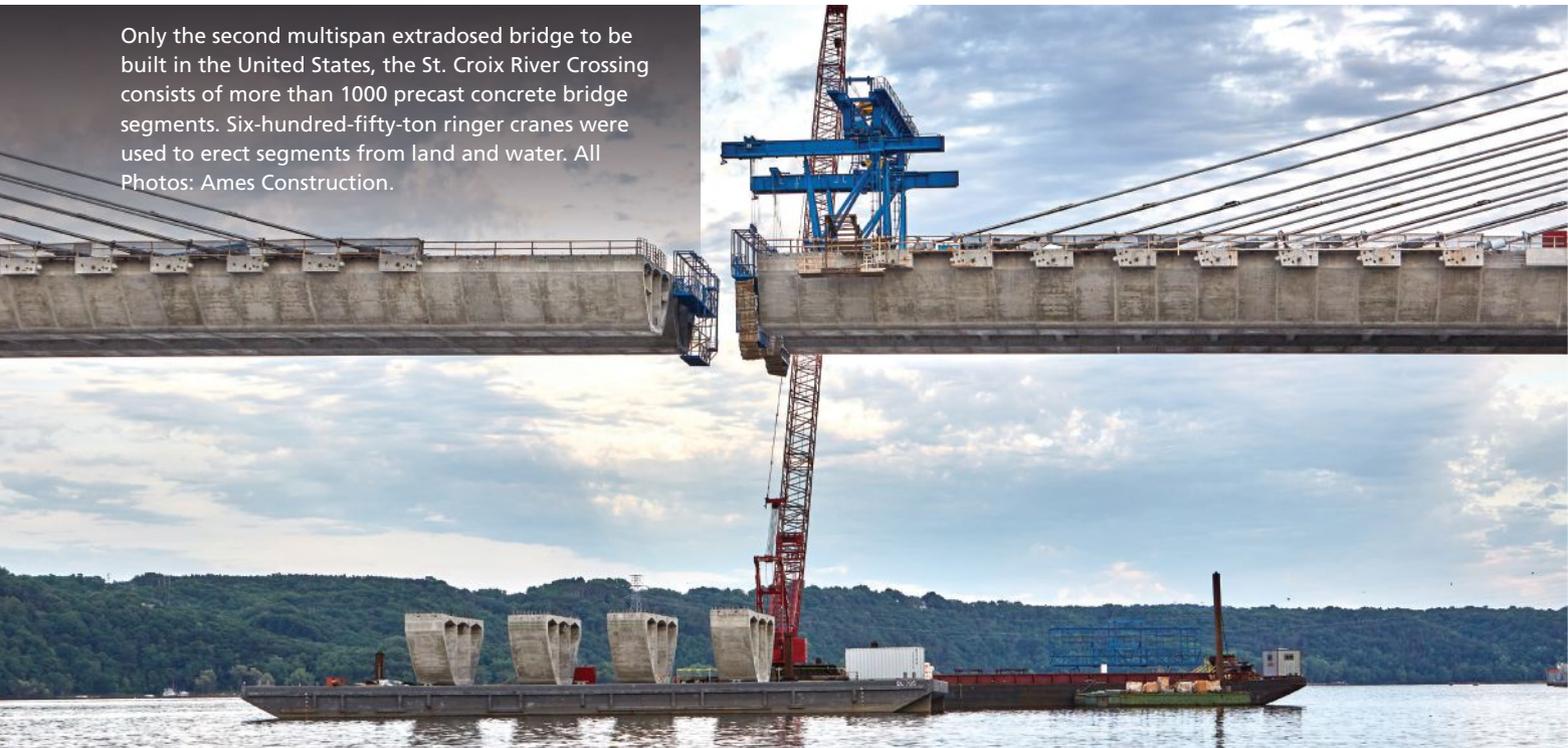
## Workforce Excellence

In many areas of the United States, construction companies struggle to find an adequate number of skilled workers, but this is not a major issue at Ames.

"We are fortunate to not suffer from a severe labor shortage," explains Gabrielson. "We are proactively always looking to add value to our team. Our philosophy is to add people for a career and not just a job," he adds. The company frequently celebrates milestones of lifelong employees who have served 40 or more years with the family business.

Another challenge plaguing the construction industry is its aging workforce. Unlike other vocations that tend to attract a younger pool of talent, the construction industry continues to age. "We put a lot of effort and care into employee development," says Gabrielson. "The bottom line is to attract and keep the right people. There are extensive mentor and internship programs for both tradespeople and project managers. Luckily, the average age of our workforce is trending down with the addition of young employees."

Only the second multispan extradosed bridge to be built in the United States, the St. Croix River Crossing consists of more than 1000 precast concrete bridge segments. Six-hundred-fifty-ton ringer cranes were used to erect segments from land and water. All Photos: Ames Construction.



## Self-Performance

Self-performing the majority of its work, rather than hiring subcontractors, helps Ames with many achievements that are important to the company's success: efficiency, risk reduction, and cost control, to name a few. "We self-perform for the main reason that we control our destiny," says Ruba. "For us, it all starts with safety—if you can control your part of the work, it improves the safety of your people," he adds. "While we don't cast our own precast concrete girders, we try to do as much as possible with our own forces. On mega projects that are \$400 million or more, we try to team with local firms or joint ventures to parse out the work efficiently."

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The ability of Ames to self-perform work in the bridge arena is becoming increasingly critical, according to Jerry Volz, vice president of bridges and structures. Project contract durations are being compressed to minimize the impact of construction activities on the traveling public, freight movement, and local businesses. "By self-performing a majority of the work we contract, Ames Construction meets these challenges by reducing our reliance



A cast-in-place closure pour for the Dresbach bridge. Stainless steel reinforcement was used in the deck, and epoxy-coated reinforcement was used in the box-girder webs and bottom slab. Post-tensioning ducts at the bottom of the web and anchorages for multistrand slab tendons are also visible.

on subcontractors and increasing our control of the workforce," explains Volz. "While our self-performance approach to construction is critical to meet today's project requirements, it also translates into confidence experienced by our clients. They understand that our team is handling their project correctly and that they will receive a successfully delivered project in the end," he adds.

## Safety

Construction continues to be one of the most dangerous industries in the United States. With Ames self-performing most of its work, the company places heavy emphasis on safety. Managing safety is crucial to mitigating risk.

Roger McBride, executive vice president of safety and risk management, emphasizes that safety is a core value at Ames Construction. "Working safely is something we take very seriously. Safety is rooted in our daily decisions, which means that we take the time to plan before the actual work begins. We look for innovative ways to reduce risks to our employees. We use engineering and preplanning to eliminate unnecessary hazards, and then we train our workforce how to do the work as safely as possible."

Embedded safety professionals ensure safe operations with on-site safety



To facilitate the project schedule, the Minnesota Department of Transportation chose Ames Construction as construction manager/general contractor to construct the Highway 43 Mississippi River Crossing in Winona, Minn. The approaches are prestressed concrete girder units, and the four-span main unit is a cast-in-place, balanced-cantilever segmental bridge featuring a concrete box-girder design.

training, preshift meetings, and dedicated programs to mitigate safety issues and minimize injury and illness incidence rates. "Having a skilled and trained workforce is critical to our project success. Sending workers home safe each day has its own sense of reward," McBride points out.

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## Three Major Concurrent Projects

A defining moment for Ames was when the firm tackled three major river crossings concurrently. With an estimated average workforce of approximately 400 people for the three projects combined, they worked through the Minnesota winters to beat completion dates for the Dresbach, Winona, and St. Croix bridge projects.

On the Dresbach Interstate 90 Crossing over the Mississippi River project, Ames constructed two cast-in-place, balanced-cantilever concrete segmental box-girder bridges while



The precast concrete bridge segments for the St. Croix bridge were cast in two locations: The smaller segments were made on site and were handled with a self-propelled modular transporter. The larger segments were cast and stored on Grey Cloud Island, downstream from the project. Segments were surveyed three times in the casting yard by two different parties to ensure accuracy of casting.



As part of a public-private partnership with the Arizona Department of Transportation, Ames Construction and its joint venture partners completed the South Mountain Freeway (Loop 202) around Phoenix, Ariz. One of the largest projects in the state's history, the 22-mile project includes more than 40 bridges.

keeping the highway, waterway, and rail routes open for the duration of construction (see an article on the project in the Summer 2016 issue of *ASPIRE*<sup>®</sup>). The project's 508-ft-long main span achieved a new Minnesota record for concrete main span length. Construction was kept to the smallest footprint possible to protect the environment, and the bridge was built on four fronts at once using balanced cantilever construction. The bridge was completed and fully opened to traffic in 2016.

Ames also worked with the Minnesota Department of Transportation (MnDOT) to construct the Winona Bridge over the Mississippi River, MnDOT's first project using the construction manager/general contractor (CM/GC) delivery method. A concrete box-girder structure type was selected because the graceful lines of the haunched segmental box girder struck the desired aesthetic notes and was also the most cost-effective solution. Through collaboration and partnership efforts, Ames not only completed construction ahead of the already aggressive schedule but also helped MnDOT realize significant cost savings that brought the project in under budget (see the project article in the Winter 2017 issue of *ASPIRE* for additional details).

Opened to the public in the summer of 2017, the striking mile-long St. Croix River Crossing was constructed by an Ames joint venture. The main unit is an extradosed bridge that combines cable stays with a precast concrete segmental box-girder design—the second multispan extradosed bridge to be built in the United States. The innovative design was selected to minimize the structure's environmental impact by

using fewer piers in the water, and its shorter cable-stay towers are below the bluff's line of sight (for more details, see the project article in the Fall 2018 issue of *ASPIRE*). At the peak of construction for the three river crossings, more than 600 skilled and dedicated workers were on jobsites.

### Project Delivery Methods

Ames has extensive experience with design-build and the firm's business using the CM/GC delivery method is growing. "I think the biggest value [clients] see is selecting the best ideas and innovations from all proposals to create an optimized solution," Ruba notes. For example, during the early CM/GC phase of the Winona segmental bridge over the Mississippi River, Ames worked closely with MnDOT and FIGG, the designer. Volz recalls, "The challenge was that we

needed to start casting segments a short five months after contract award. The collaboration allowed us to incorporate the form travelers and post-tensioning components, which streamlined the process." As a result, the bridge opened months ahead of schedule.

In Ruba's opinion, especially with mega projects, Ames's strength is optimized with the progressive design-build process, which is primarily based on qualifications, and owners see the value from early collaboration between designers and builders. "For us, it encourages the team to be proactive. Projects are becoming more complex and yet continue to compress schedule and budget. In the past, our contracts included calendar days and schedule goals. Now, the owner provides only a completion date and you have the

The St. Croix River Crossing is one of three major bridge projects which Ames worked on concurrently. At the peak of construction for the three river crossings, more than 600 skilled and dedicated workers were on the job.



flexibility to accelerate or shut down during winter as needed," he explains.

For its first public-private partnership (P3), the Arizona Department of Transportation (ADOT) selected an Ames joint venture to construct the South Mountain Freeway (also known as Loop 202). Using the innovative P3 approach for the South Mountain Freeway reduced costs and resulted in completion three years sooner than would have been possible with a more traditional approach. The 22-mile freeway opened to the public in late 2019 and includes more than 40 bridges. Two half-mile structures over the Salt River feature the longest precast concrete bridge girders (175 ft) ever used in Arizona.

No matter what project approach is taken, Ames emphasizes the relationships the company has with clients. "We have had success in both public and private sectors," says Gabrielson. "That stems from having established good working relationships with the owners and delivering on our promises."

## Technology

Ames is always on the lookout for the latest technology. A dedicated team researches and vets new devices with the goal of improving workflow or enhancing worker safety. One area of interest is wearable technology, including smart helmets with fall-impact detection and smart vests with GPS.

"If they are viable and make us better, we adopt the new technology," says Ruba. A side benefit is that technology appeals to young employees, who expect to use tablets, cloud-based platforms, and other data-sharing tools. Digital workflow attracts younger project managers and engineers. New hires out of college don't want to review plans on paper. They want to be able to visualize their work with 3-D and ultimately 4-D models, and collaborate with others.

In the future, Ames anticipates greater use of building information modeling (BIM) for bridges, which it frequently uses during the proposal stage but does not yet incorporate into day-to-day operations. "On future projects, the sequence drawings from the BIM model can be incorporated into a 4-D

schedule, which would be a very useful tool for managing project schedules," says Volz.

"To win the Third Avenue Bridge concrete arch project over the Mississippi River in Minneapolis, we looked to BIM modeling with help from our construction engineer, Finley Engineering," Volz recalls. "For this CM/GC project, we collaborated with the engineer of record to depict a stage-by-stage approach to the removal and reconstruction of the concrete deck, spandrel columns, and caps of this historic bridge. That tool helped us win the contract and became invaluable throughout the design phase, as it demonstrated each piece of concrete that was removed in a sequence that kept the bridge arches within the design stress tolerances," he explains.

## Looking Forward

"While earthwork and underground infrastructure projects are out of sight, bridges are on display for all to see," says Volz. "We take special pride in providing a visual and aesthetically pleasing final product on all of our bridge projects. In our experience, concrete provides a longer-lasting, more durable, and more sustainable bridge product, and it is typically more economical."

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Ames continues to look for opportunities to expand geographically and develop new markets. The firm is actively investigating multiple sectors and segments for viable projects.

The South Mountain Freeway Bridge over the Salt River features the longest precast concrete bridge girders (175 ft) ever used in Arizona.

## History and Growth

From one man with a used bulldozer in 1962 to a major heavy/highway firm, Ames Construction provides heavy civil and industrial construction services to the transportation, mining, and power industries, mainly in the Midwest and West. To fuel geographical expansion, Ames family members started satellite operations in Colorado, Arizona, and Utah in addition to the original Minnesota location. "As we moved into a new state, we started with earthwork projects and everything was grown organically," says Gabrielson. "Over the years, each region has grown considerably, until we now have reached \$1.2 billion in annual revenue."

With a reputation as one of the top earth-moving general contractors in the country, the Ames company took pride in moving dirt. "The family made the decision to diversify into bridge construction to avoid waiting for others to create infrastructure to support hauling their dirt," recalls Volz. "When they hired me in 2002 to grow their bridge portfolio, we started with 'cookie-cutter' bridges and avoided river crossings. However, in 2006, we built our first bridge across the Mississippi River in Sterns County, Minn." Since then, Ames has grown into one of the country's top bridge-building contractors with many segmental, precast concrete girder, post-tensioned box-girder, and concrete extradosed bridges in their portfolio.

The company thrives by building strong relationships and is driven by a commitment to not only do things right but to do the right thing. Ames takes pride in maintaining the highest safety and quality standards, knowing that the family name is associated with every project it delivers. **A**

