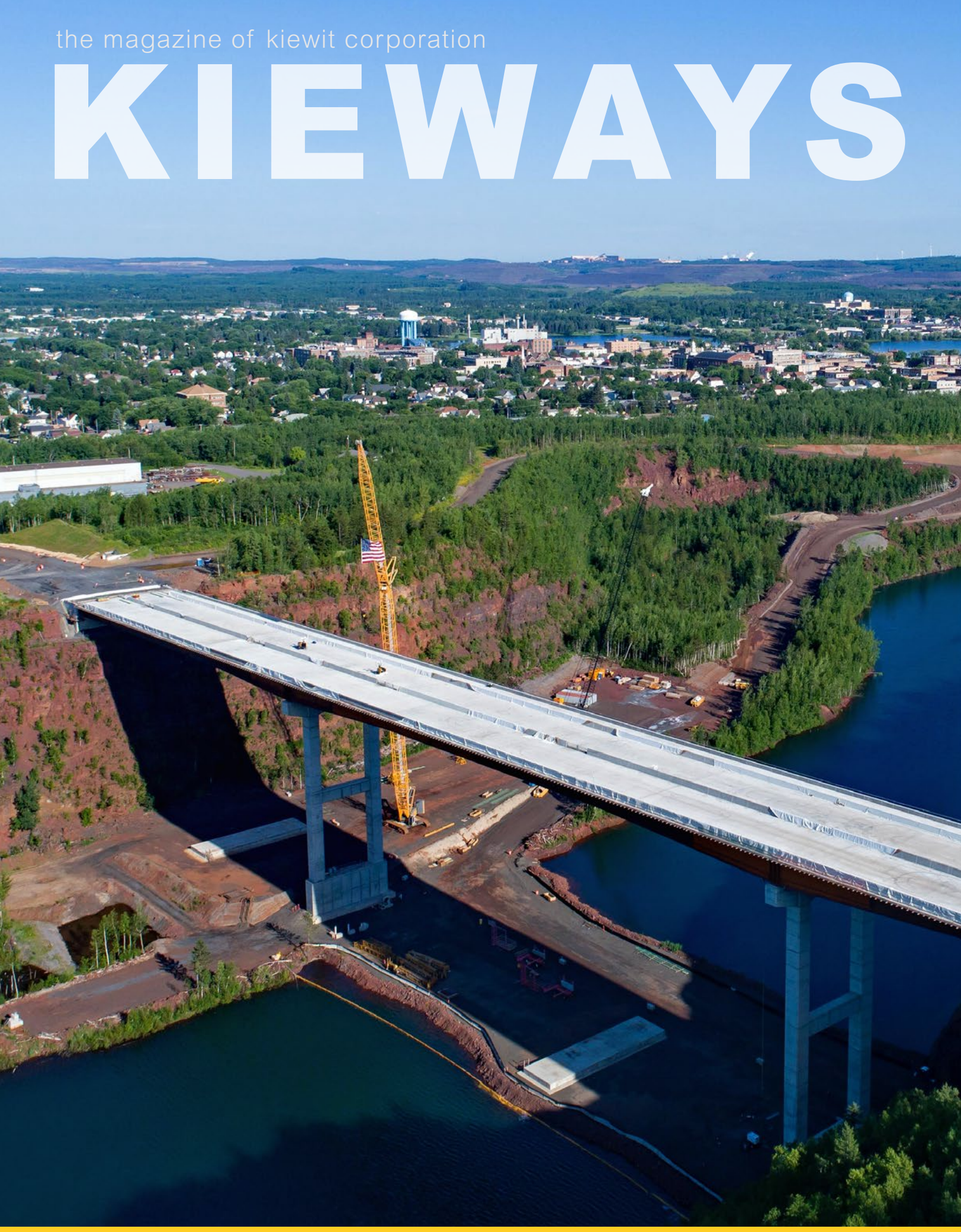
the magazine of kiewit corporation

KIEWAYS



2017 / Quarter 3

Kiewit is one of North America's largest and most respected construction and engineering organizations. With its roots dating back to 1884, the employee-owned organization operates through a network of subsidiaries in the United States, Canada, Australia and Mexico. Kiewit offers construction and engineering services in a variety of markets including transportation; oil, gas and chemical; power; building; water/wastewater; and mining. Kiewit had 2016 revenues of $8.6 billion and employs 20,000 staff and craft employees.

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KIEWAYS
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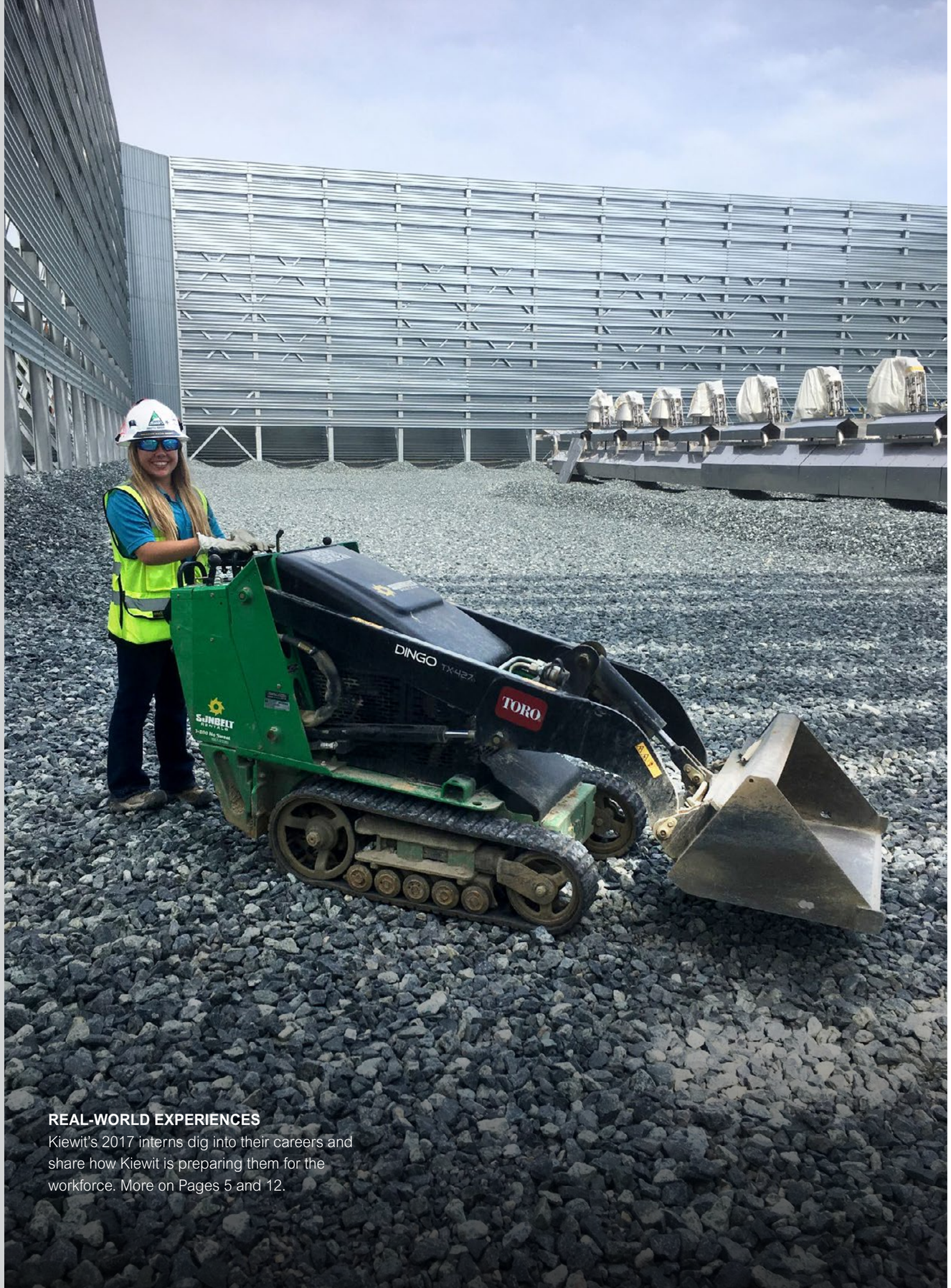

REAL-WORLD EXPERIENCES
Kiewit's 2017 interns dig into their careers and share how Kiewit is preparing them for the workforce. More on Pages 5 and 12.

CONSTRUCTION IS A PROBLEM-SOLVING BUSINESS

From start to finish, if you were to take a 30,000-foot view of a project life cycle, you would see that Kiewit isn't only in the construction business — it's in the business of solving problems.

Take Kiewit Engineering Group for example; on Page 6, we explain how our professional design arm uses construction-driven engineering to alleviate much of the risk that comes with large, complicated jobs. Flexibility and collaboration are also solution-focused practices necessary for the work we do. On Page 14, you'll learn how Kiewit crews reduced risk, navigated the elements, and stayed connected to the community while relocating Minnesota's tallest bridge over an abandoned mine pit.

It takes a lot of skill and coaching to be an expert problem solver, so at Kiewit, our interns don't make copies and coffee, they hit the ground running with extraordinary results. Don't take it from me — get it straight from them on Pages 5 and 12.

Kiewit also does its part to help solve industry problems; a good example is on Page 20. Learn how the team at Metropolitan Community College's Fort Omaha job is helping address our industry's labor shortage.

We can't solve all the world's problems, but when it comes to building work, problem solving is what gives Kiewit its innovative spirit.

BRUCE GREWCOCK
Chairman and CEO

VIEW FROM ABOVE
On Page 14, The Highway 53 Relocation project in Minnesota includes construction of Minnesota's tallest bridge, and much more.

ON THE COVER

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In northern Minnesota, Kiewit crews built a new bridge, highway improvements and strong community ties.

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Kiewit's interns take on important responsibilities on projects and in offices across North America.

20 **MEETING THE DEMAND**
In Nebraska, expansion on Metropolitan Community College's Fort Omaha Campus is poised to help address workforce shortages in many industries, including construction.

OUR MARKETS

BUILDING | MINING | OIL, GAS & CHEMICAL | POWER | TRANSPORTATION | WATER/WASTEWATER

What began in 1884 with two hard-working brothers has grown into a Fortune 500 construction and engineering industry leader. As a multi-billion dollar organization, Kiewit can tackle projects of all sizes, in any market. Here are a few interesting facts about Kiewit.

A LOOK BACK
In 1940 Kiewit started its first operation on the Mesabi Iron Range.

EXTENDING THE LINE
Valley Metro named Kiewit its construction manager at-risk for the South Central Light Rail Extension. This five-mile extension will run south out of downtown Phoenix, Arizona.

MILE HIGH WINS
Kiewit will begin work this fall on two commercial mixed use projects in Denver — 9th & Colorado and Market Street Station. Combined, these Continuum Partners developments will provide more than 1 million square feet of office and retail space, and luxury and market-rate apartments.

POWERING MORE THAN 1 MILLION HOMES
Competitive Power Ventures (CPV) selected Kiewit as its engineer, procure, construct (EPC) contractor for its Fairview Energy Center in Jackson Township, Pennsylvania. Once complete in 2020, this 1,050-megawatt, natural gas-fired 2x1 combined cycle plant is expected to power more than 1 million Pennsylvania homes.

AWARD-WINNING
Engineering News-Record (ENR) California named the Folsom Dam Auxiliary Spillway Phase IV project its 2017 Best Project in the Water/Environment category.

WEST COAST WIN
KBJ, a joint venture partnership comprising Kiewit Energy Group Inc., Black & Veatch Construction, Inc., and JGC US Projects, LLC, was selected by Jordan Cove LNG to engineer and construct an LNG export terminal in Coos Bay, Oregon. The complete construction of the project is anticipated to span 53 months and will require nearly 2,000 construction workers at peak.

OUR VALUES

PEOPLE | INTEGRITY | EXCELLENCE | STEWARDSHIP

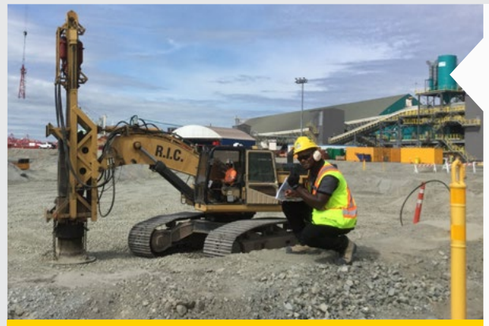
For more than 130 years, Kiewit's culture has thrived on strong principles. From generation to generation, the torch has been passed down and carried by the company's leaders and workforce. Today, its core values — People, Integrity, Excellence and Stewardship — remain the company's cornerstone and are the way Kiewit runs its business.

INTERNS OF KIEWIT

Internships are an important stepping stone on the path to a lifelong career in construction and engineering. Here are a few snapshots of Kiewit intern experiences from this summer. Read more about the intern experience on Page 12.

Clay Stuart (University of Central Missouri) — St. Joseph Energy Center, Indiana

Julia Stebbins (University of Nebraska-Lincoln) — Cove Point LNG, Maryland



Ruddy Ndina (University of British Columbia) — G3TV, British Columbia

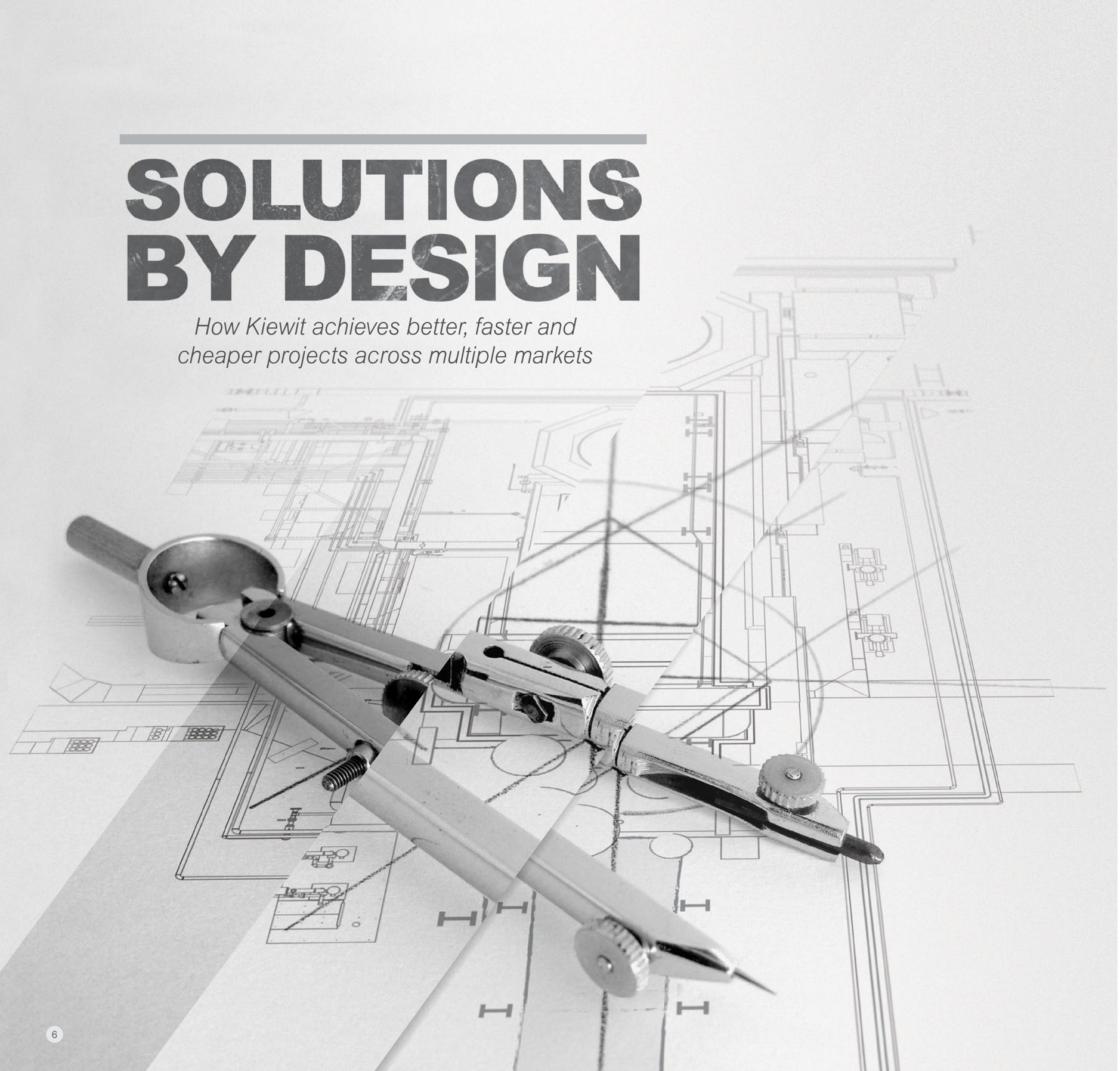
"Never in a million years did I think my first construction-related job would be on something this massive and this important ... Working as the upper chute structural intern gave me the opportunity to do real work I will actually be doing in my future career, because my mentor was not afraid to give me crucial roles on this project. Now, after working on this once-in-a-lifetime project, I feel prepared for what the future holds and can't wait to graduate and get to work."

Richard Gallegos (California State University, Fresno) — Oroville Dam Spillway Repair, California

"As a civil engineering intern on the G3TV project, I have benefited from an incredible multi-disciplinary learning experience. From engaging with engineers, foremen, surveyors, craftsmen, etc., I know that safety always comes first! I've learned key lessons about hard work, perseverance, efficiency and the value of doing the work right the first time ... My supervisors have entrusted me with the responsibility of managing my own subcontractors and this has been an incredible learning experience, boosting my confidence in being able to serve as a meaningful contributor to the fantastic work that Kiewit does ... I absolutely feel blessed to be here!"

SOLUTIONS BY DESIGN

How Kiewit achieves better, faster and cheaper projects across multiple markets



If the devil is in the design details, then the solution is in Kiewit's divine discontent, according to Kiewit's Chairman and CEO Bruce Grewcock.

"Our owners today, across all markets, want more realistic solutions to their problems," Grewcock told a crowd of employee-owners at Kiewit's 2017 Annual Meeting. "They bring us to the table and we help them take the risk out of their projects. We take out the cost and schedule blowouts that are all too common in our industry."

How does Kiewit accomplish that? It designs projects that reflect "real constructability, real schedules and real costs," said Grewcock. "Kiewit is a construction-driven engineering company."

Wait, Kiewit designs projects? That might surprise anyone who recognizes the company for its reputation as a world-class builder. For those more familiar with Kiewit's "Pleased, but not satisfied" culture, Kiewit Engineering Group — the professional design arm of the organization — is an obvious part of its evolution.

"The most common reason for cost and schedule blowouts is that during the conceptual phase of the project, things were missed," said Dan Lumma, president of Kiewit Engineering Group.

Lumma has a tenured understanding of how those inconsistencies and missteps happen between design and construction. He's played a lead role in Kiewit's design capabilities in the power market since the very beginning, starting his career with Bibb and Associates, a design firm and partner acquired by Kiewit in 1998. Two years later, Kiewit was selected to engineer, procure and construct (EPC) its first marquee design project — the High Desert combined-cycle power plant in Victorville, California.

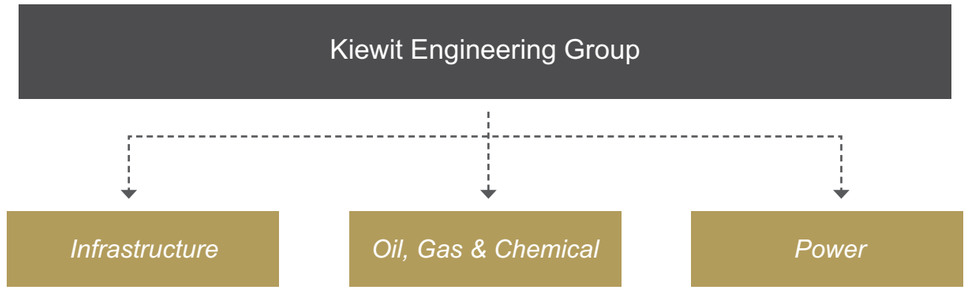
"Over the past 30 years, EPC has dominated the power market, so having an in-house engineer has been crucial," said Lumma. "We became successful in power because we had a dedicated team that learned how to work together to the point where it's now hard to distinguish the engineering side from the construction side when you walk on a project or go to a team meeting."

Kevin Needham, president of Power Engineering at Kiewit, says though the company's professional design engineers are independent from the construction side of Kiewit, being part of the same company has its advantages.

"Through repetition we become closer as a team. We get better at figuring out how to work together and how to drive costs out of our work," said Needham, who employs approximately 1,000 designers and engineers.

While perfecting its design capabilities in the power market, Kiewit expanded those services to two other major markets: infrastructure, led by John Donatelli, and oil, gas and chemical (OGC), led by Jay Norcross.

Kiewit Engineering Group organization



"We've always done construction engineering to support the work that the company builds, but what's new is we're starting to self-perform design work," explained Donatelli. "We're in a better position because we're more aware of where the pain points are for construction."

After getting the wheels in motion in 2011, Donatelli's team is now bidding and winning transportation work across North America. Norcross, a 35-year OGC market professional, hand-picked his own team of engineers and commissioning specialists from the energy industry and is currently executing three OGC projects in Mexico. While the power, OGC and transportation teams work under one organization and may benefit from some of power's mature processes, design isn't a one-size-fits-all-markets business.

"Everything we do is about OGC," said Norcross. "To operate in the oil and gas project delivery space for super-major oil and gas companies requires specific experience in oil and gas technologies, and in OGC project execution."

"All three engineering teams are not identical, but the concept is the same," said Lumma. "We have a repeatable project execution model."

That model looks much different than a design engineering firm's model, which is set up to bill by the man-hour. The goal of Kiewit's model is to ensure all decisions are benefiting the client or project overall, not just what's best for engineering, design — or even construction.

"Our business model is to be an outstanding project delivery partner," said Lumma. "The key element is to drive costs out of the most expensive part of the project, which is typically construction in North America."

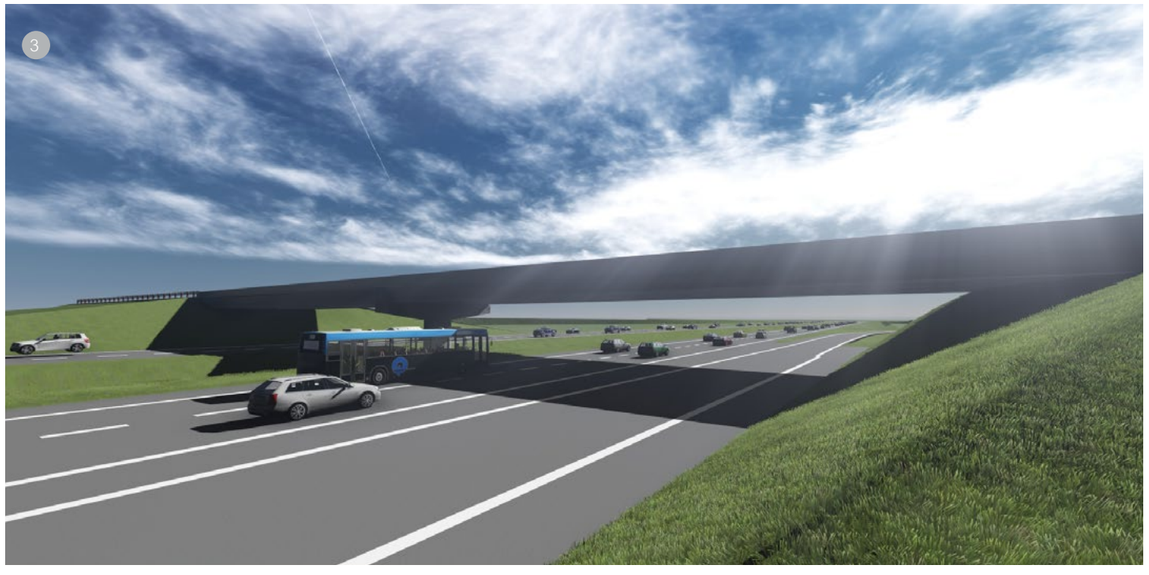
What does that mean for Kiewit's outside engineering partners?

"We're still going to team with external engineers when it's right for the project," explained Lumma. "But now we'll be an even better partner for them because we have that in-house experience and insight."

Donatelli says those external engineering partners are especially important on jobs that call for a local workforce.

"We know what we bring to the table is our design-build expertise and how to perform in that contract model. What we won't always bring is a local presence. In the infrastructure market, there are a lot of clients and there's often a local component."

Kiewit employees — current and prospective — also reap



1. In 2000, Kiewit won an EPC contract for the High Desert combined-cycle power plant — its first marquee design project since acquiring Bibb and Associates design firm two years earlier. 2. Kiewit's engineering approach encourages close partnerships between the design and construction teams. 3. Kiewit has been selected to design and build the Warman (Highway 11) and Martensville (Highway 12) overpasses in Saskatchewan, Canada.

1. Kiewit design engineers and construction teams worked together on Kentucky's Paradise Combined Cycle Project in Drakesboro, Kentucky. Design began in Lenexa, Kansas, eight months before Kiewit started replacing Tennessee Valley's two oldest coal-fired plants with a natural gas plant. 2. Whether it's construction or design, Kiewit employees receive continuous on-the-job training and development through a variety of resources.

The most fun an engineer can have

"I came to Kiewit in October of 2014 and I've been in the business for 40 years. The most fun I've ever had in my engineering career is working for a construction company that just so happened to have engineering. We use the term construction-driven engineering here at Kiewit, but when you break it down to the engineer's level we are construction-focused: our goal is to serve construction; we're here to answer questions that construction teams might have about the design; and we're here to see that the project gets built the way it should get built. And that is fun engineering because we get to be wrapped up in the end product. Construction-focused engineering is a lot more dynamic. It can really push things along and challenge an engineering group. It makes you get out of your box and have some fun."

– Don Tyler, *General Manager, Kiewit Oil, Gas and Chemical Engineering*

the benefits of the company's engineering expertise.

"One of the advantages we offer job candidates is you not only get to come here and be a design engineer," said Needham. "You also get to see the end product of what you engineered and work on a team with your fellow constructors to make it the best possible project."

In some cases, experiencing that project life cycle opens new doors to unexpected career paths between engineering and construction.

"There are people who spend their entire careers in a single market and others who do it for five years and say, 'I want to try something else,'" said Norcross. "The oil, gas and chemical business is different from infrastructure and different again from power engineering in other ways. However, this diversity in execution and technologies is an advantage for Kiewit; the greater our diversity of designs and execution models, the better equipped we are to ride out economic storms, move from one area to another, keep people busy and challenge them with new opportunities," he said.

It's something most aspiring engineers dream of as kids, said Donatelli. "If you polled our folks who we hired from the engineering industry, I would say the number one thing that attracted them to Kiewit would be the ability to work for a company that actually builds the work they design."

"The fact of the matter is, if we do it ourselves we can build a consistency and repeatability that you just can't do with an outside company. This helps us become a true tier-one project delivery organization," explained Lumma. It's a goal clearly defined by Kiewit's chairman and CEO during that 2017 Annual Meeting.

"We need to be a construction-first engineer, driven by real-world experience of how to actually build stuff," said Grewcock. "And with that great Kiewit divine discontent, we put a constant emphasis on finding ways to be better, faster and cheaper."

> "Our business model is to be an outstanding project delivery partner. The key element is to drive costs out of the most expensive part of the project, which is typically construction in North America."
>
> **DAN LUMMA,**
> KIEWIT ENGINEERING GROUP PRESIDENT

INTERNS OF KIEWIT

Zachary Hartley — Lackawanna Energy Center, Jessup, Pennsylvania

Maine Maritime Academy

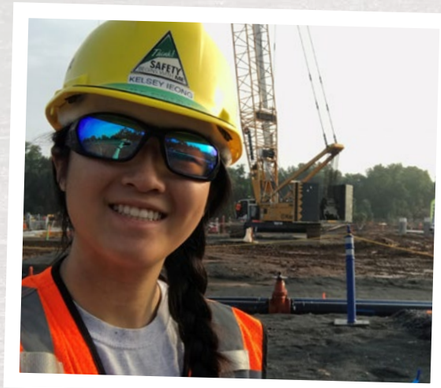
"I quickly realized when I started my Kiewit internship at Lackawanna Energy Center that I would be learning much more about startup and commissioning of a power plant than I had in school. As a startup intern, I've gained a great amount of technical knowledge that will help me in my career. Although this is very important, I think the most important thing I have learned is that communication is the key to a successful jobsite. With this being the largest combined cycle power plant Kiewit has ever built, all disciplines must be able to communicate effectively to be able to do their respective jobs as efficiently as possible. This is also the case in learning as much as you can on the job site. I have learned that everyone around you has something they can teach you, but it's up to you to reach out to those resources to gain as much as you can from this internship."

Each year, the Kiewit organization hires nearly 700 interns for positions in offices and on projects across North America. They take on a variety of tasks and responsibilities and are important contributors to Kiewit's business. Here's what some of this year's interns had to say about their experiences with the company.

Benjamin Bass — Kiewit Offshore Services, Ingleside, Texas

Texas A&M University

"... Working with process piping engineers on the power module team has provided unparalleled exposure to mega-construction projects as well as the technology used on offshore production platforms ... The challenges faced on a daily basis are perpetual and to press on and meet your goals and deadlines, a strong degree of willpower and mental balance is required. I have been fortunate enough to recognize qualities like this from some of the finest engineers and field personnel Kiewit has to offer. I am looking forward to transition this mentality on an academic level, in my personal life and in my professional career."



Austin Greene — Alaska Airlines Anchorage Hangar, Anchorage, Alaska

University of Nebraska–Lincoln

"Three summer internships, two part-time internships, three states, three markets and five projects later, Kiewit has brought me to the top of the world: Anchorage, Alaska. The opportunities I've been given have allowed me to learn the fundamentals of construction in both office and field settings. The people I have been fortunate to work with have helped me develop my career so I am a confident, professional and successful engineer. Kiewit has taught me how to use two effective tools, technical skills and communication. The combination of these tools has prepared me to take on any challenge I am presented with and take control of my career. Thank you, Kiewit!"

Kelsey Ieong — Birdsboro Power, Birdsboro, Pennsylvania

Iowa State University

"... I've learned many valuable lessons here at the Birdsboro Power project in Pennsylvania. The two valuable lessons that resonated with me are safety and communication. Kiewit goes the extra mile to ensure all the training and correct precautions are being taken to allow us to return home safely to our families each and every day ... The second valuable lesson is communication. Communication is a key component in having a successful job. Having clear communication between each department is an important piece in having a job flow smoothly and preventing delays or rework ... I will be carrying these valuable lessons with me as I kick start my career."

REACHING NEW HEIGHTS

IN MINNESOTA MINING COUNTRY

Highway 53 Relocation team implements rock-solid solutions

For Kiewit's staff and crews working in the Minnesota Iron Range, the checklist for their latest contract has grown to be anything but ordinary.

Relocate a three-plus-mile highway without disrupting traffic. Check. Build the Minnesota Department of Transportation's tallest bridge over an abandoned mine pit. Check. Work through snowy, windy winters as well as some of the wettest summer months the area has seen in recent years. Check. Rescue a lost golden retriever. Check.

The Kiewit employees working on the Moosejaw-Highway 53 Relocation project have demonstrated their ability to anticipate changes and handle the unexpected without compromising safety and schedule — and implement some innovative ideas along the way.

MOVING A ROAD, MINING NEW POSSIBILITIES

Located between the towns of Virginia and Eveleth in northern Minnesota, the existing stretch of four-lane Highway 53 has been a critical roadway for citizens and commerce since 1960.

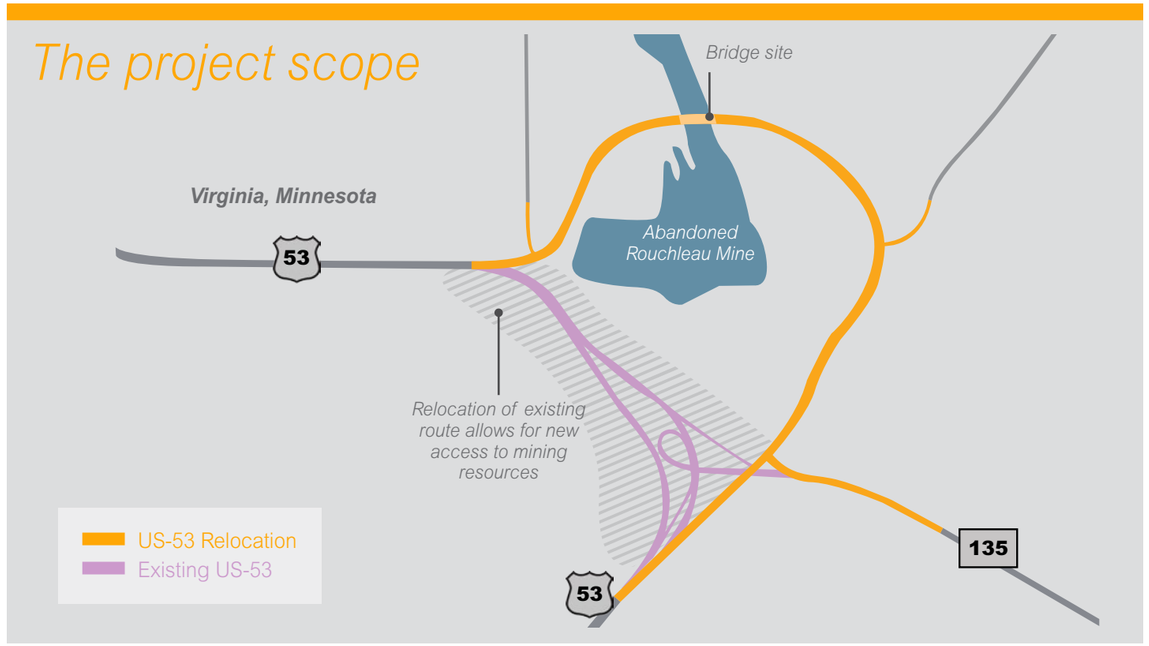
It sits in the heart of the state's mining country, a site with sources of iron ore still waiting to be unearthed. An agreement between iron mining interests and the Minnesota Department of Transportation (MnDOT) required MnDOT to move the road if the mining company wanted to access the untapped ore.

Current mining interests exercised their right to the land in 2010; both parties agreed to move the right-of-way by the end of this year. MnDOT now owns the mineral rights to the land where the new roadway and bridge sit.

FROM WATER TO LAND

The Moosejaw-Highway 53 Relocation is the first MnDOT project for Kiewit and is a collaboration between many parts of its business.

Even before winning the bid, Kiewit had a CMGC (Construction Manager-General Contractor) pre-construction contract to provide constructability reviews, risk workshops, schedules and cost estimates, and where appropriate, incorporate innovation into the design.



1. Crews construct a pier cap and column on the causeway. 2. More than 3,600 cubic yards of concrete were placed during a series of six bridge deck pours. 3. Members of the project team are pictured at a 4:30 a.m. testing and inspection meeting before a deck pour.

The team's experience and ability to look at the project from a different angle proved valuable in coming up with a solution for how to access the bridge site, located over the abandoned Rouchleau Mine.

"We had 200-foot-high rock faces on either side of the bridge and a 120-foot-deep water body, so access was a huge challenge," said Jim Thomsen, project manager.

"Whenever you're on water with that type of height, along with 750,000-pound girder lifts, there's a high degree of risk."

After going through several iterations of access schemes and plans for how to erect the girders, Kiewit changed the definition of the job itself: Once a marine job, it would now be a land job.

By building a 170-foot permanent causeway under the bridge, crews would have a stable platform from which to work — one that would provide safe access in the future for MnDOT crews, too.

Pat Huston, MnDOT project director, said the solution benefits MnDOT for the long-term maintenance and operation of the bridge.

"We're always going to have to go down and maintain the east pier. Except by using a boat, we really have no way of getting there without that access. In hindsight, we can't imagine constructing this job without that causeway."

Taconite: a strong substitute in steel production

Since the late 19th century, Minnesota's Iron Range has been a main source of iron ore for the steel industry.

By the mid-1950s, the once plentiful sources of raw iron ore were tapped out. Mine operators then turned to an alternate substance called taconite. Considered a low-grade form of iron ore that requires significant processing, it still fits the bill as a viable substitute.

Once mined, the iron ore is removed from the taconite and turned into pellets that are shipped to area mills where they're melted down into steel.

The granular substance that remains after the taconite is extracted from quarried rock is a resource, too, referred to locally as "tailings." On the Moosejaw-Highway 53 Relocation, taconite tailings have been used in the subgrade material for the 3.2-mile roadway.

WORKING AROUND WEATHER

Contract work for the $156-million job began in November 2015 with a contracted completion date in November 2017. Given the aggressive schedule, the team hit the ground running, said Bill Marshall, project engineer.

“We literally started moving dirt three days after receiving the award. When we sit back and realize the amount of work that’s gotten done, including erecting 10.5 million pounds of steel throughout the winter, we think about the amount of coordination it’s taken to get us where we are today and do it ahead of schedule.”

Throughout the project, the crew has worked in challenging weather conditions. Not the least of which have been the sub-zero temperatures — as low as 40 degrees below zero during some typical Minnesota winters — and uncommonly wet springs and summers that have drenched the work sites and crews.

“These conditions caused us to really work every shift that we could, including double shifts and on weekends,” Marshall said.

INSPIRED BY KIEWIT’S SAFETY COMMITMENT

Despite the challenges, the Kiewit team has worked with an eye on meeting a tight deadline and doing it safely.

“Working with the community and the unions, following the Kiewit Safe attitude and making sure nobody got hurt” have been priorities for the team, said Thomsen. “We spent time talking to the local folks to get an understanding of what it’s like to work in that environment.”

MnDOT has been impressed by the Kiewit commitment to safety, Huston said — so much so that they are applying similar procedures in their organization.

“The safety has been outstanding. We’re engaging Kiewit in helping us take the lessons learned on how they have changed their safety culture over the years so we can improve ours.”

GOING ABOVE AND BEYOND

And, as for those unexpected to-dos on the checklist, one of the more satisfying might be rescuing a golden retriever named Hat Trick. His owner is a former NHL player who lives in Virginia.

“The dog got lost on the trail and wound up following the edge of the mine pit, where he started wandering down behind our rock fall protection,” Marshall said.

“He got about halfway down the hill — about 200 feet of vertical rock face — when one of our crew spotted him. He hurried over in the manlift and brought him back down to safety. We checked his tags and called the owner.”

It’s one more way the Kiewit team has demonstrated its core values to MnDOT and everyone in the community.

Did MnDOT know in its first meetings with the team that going above and beyond was just part of how Kiewit does business?

“We did, but it didn’t really register until later,” said Huston. “For me personally, at the beginning I didn’t know if it was just talk. I needed to see it. And we’ve all continued to see it, steadily. They’ve honored every commitment they’ve made.”

When it comes to community, Kiewit team walks the talk

Life doesn’t happen in a vacuum. Kiewit team members are aware of the impact they’ll have on the communities in which they work.

That goes beyond notifying residents about road closures and the other inconveniences that go along with construction. It includes being good stewards of a respected company — and also being responsible residents in the community.

The Moosejaw-Highway 53 Relocation has had many stakeholders to please, including the residents of Virginia and surrounding towns, as well as city governments, public utilities and even local snowmobile associations that use area trails.

Pat Huston, MnDOT project director, and his team have heard firsthand the enthusiastic comments about Kiewit’s commitment to the community.

“I think there was some sentiment that this big contractor is going to come to town, they’re going to do this job and they’re going to leave,” he said.

“But they’ve been highly engaged in the community. We’ve heard positive feedback from locals about their external engagement in the community, from charity events to work with Habitat for Humanity. Those sorts of outreach activities are looked on very favorably by the local community.”

Here are a few ways Kiewit has been involved in the Iron Range community:

- *Hosting Dr. Mohamed Diab, associate professor of construction management at Minnesota State University, Mankato, as part of the Kiewit University Relations new Faculty Scholars Program.*
- *Presenting project updates at MnDOT’s weekly Coffee and Conversation community meetings.*
- *In conjunction with MnDOT, giving tours and presenting the job to the construction and engineering classes from Iron Range Engineering.*
- *Hosting the engineering class of Mankato State University for a job tour.*
- *Giving a project tour to the Virginia High School alumni of 1966 during their class reunion.*
- *Maintaining access through the jobsite over the winter for snowmobiles.*
- *Participating in Habitat for Humanity, United Way and Laurentian Chamber of Commerce events. The team poured a 100-foot-long driveway for a Habitat for Humanity home.*

MEETING THE DEMAND

MCC's Fort Omaha Campus

According to the Associated General Contractors of America's (AGC) 2016 workforce survey, nearly 70 percent of construction firms in the U.S. are having trouble finding craft workers.[1]

As a project manager with Kiewit, Kyle Marler faces this reality every day.

"Everyone in our industry would tell you it's one of our biggest challenges," Marler said.

Projections from the Bureau of Labor Statistics show the demand for skilled workers increasing. Employment of construction laborers is expected to grow 13 percent from 2014 to 2024 — faster than the average for all occupations.[2]

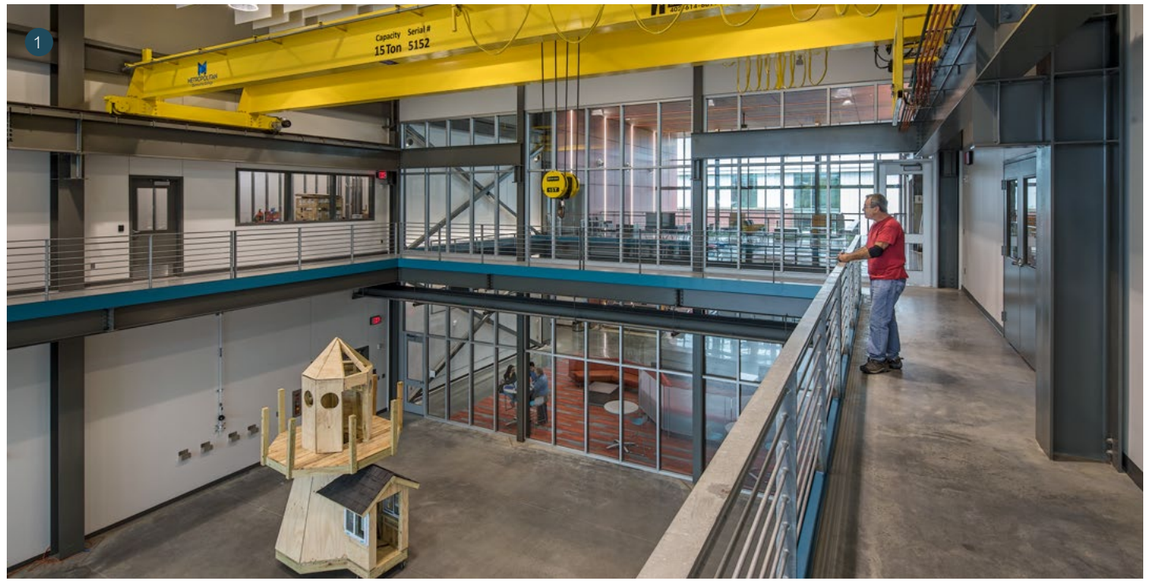
These numbers make a contractor's job more challenging, but it's also one of the trends that drove the expansion of Metropolitan Community College's (MCC) Fort Omaha Campus, Marler's most recent assignment with Kiewit.

When MCC leaders planned for the Fort Omaha Campus, they did so with the needs of several industries in mind, including construction.

"We got a lot of input from industry that helped us understand the workforce," said Stan Horrell, MCC's director of campus planning and sustainability.

MCC evaluated trends in technology and workforce demographics, among other variables, to reach their final project plan. The resulting $90 million development features the Career and Academic Skills Center, a Center for Advanced and Emerging Technology and the Construction Education Center (CEC).

The CEC is a 95,000-square-foot facility equipped to prepare students for lifelong careers in construction. It centralizes MCC's construction trades programs, which had been scattered across several locations, and is designed to encourage interaction between all of the construction disciplines.



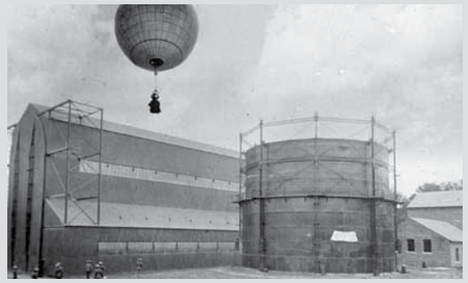
1. In the capstone lab, students will participate in the assembly of modular buildings. A 15-ton gantry crane will assist in loading the completed modules.
2. Residential heating and air is one of the disciplines that will be taught in the new facility. Other disciplines include commercial heating and air, plumbing, electrical, general construction, welding, drafting, layout and construction management.

"One of the major questions we asked ourselves was, 'In five years, why would anybody come to a location for education?'" Horrell said. "We decided that you can share a lot of things online, but you can't really do hands-on work and you can't share the coordination between the various disciplines if they're not co-located."

You need look no further than construction of the Fort Omaha Campus project itself to recognize that MCC's focus on coordination and collaboration was founded in how things play out in the real world.

The history of Fort Omaha

When Metropolitan Community College acquired portions of Fort Omaha in 1975, it came with a rich history. Some of the site's uses in the past include a supply fort, home to the Army Signal Corps, and "one of the largest training centers for observation balloon crews" during World War I.[3]



Photos courtesy of Metropolitan Community College.

Throughout the construction process, the project team led several tours for prospective students, showcasing the buildings and educating them on career opportunities in construction.

"With three new buildings, site work and a central plant on the 18-acre site, we essentially had five standalone projects under one contract," Kiewit Project Engineer Anayeli Martinez Real said.

Frequent meetings with MCC, designers and subcontractors kept construction on track. Kiewit's staff team was organized so that each new building and the site work had its own superintendent and office engineer managing that scope and coordinating with the trades, subcontractors and designers assigned to it. Those individuals were further supported by project management overseeing the job's collective big picture.

Collaboration extended into the community. MCC and Kiewit made it a point to get Omahans involved in the project. It started early with Industry Days, a program that connected local subcontractors and small businesses with the Kiewit team, providing business owners with the information they'd need to bid on the job. Two of these events were held prior to the start of construction, in addition to a third presentation with similar information that was presented in Spanish.

MCC and Kiewit took that information to the classroom too. Small businesses could enroll in a 10-week, MCC noncredit course called Contractor & Small Business Academy to learn business and contracting essentials. It started with five weeks of business fundamentals taught by MCC faculty, followed by five weeks of contracting fundamentals taught by Kiewit. Seven of the 10-week sessions were taught during construction.

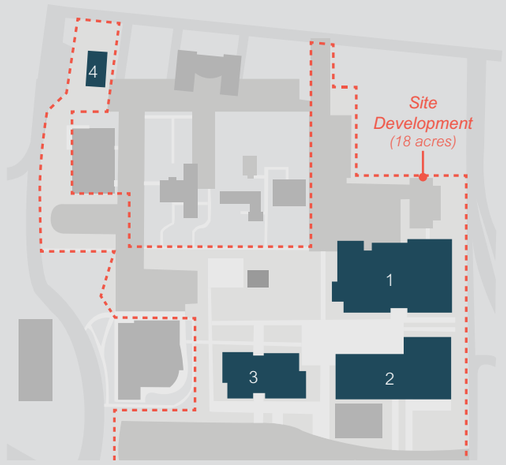
"Many of the participants were just starting to consider going from what might be a side job hanging drywall or building decks, to taking the next step to make it a full-time business," said Marler. "We focused on what it takes to be successful in commercial construction, from the business side to complying with safety regulations. Some of the more experienced participants were able to bid work on our project."

A bustling addition to campus

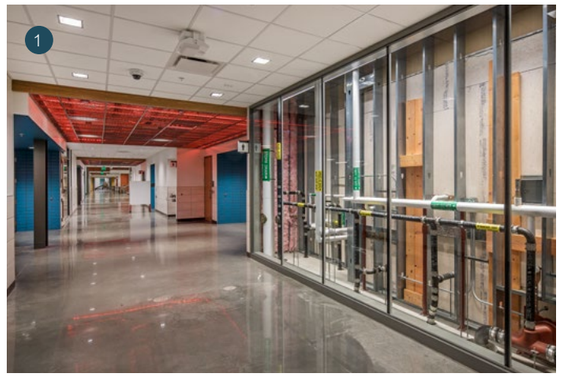
The Construction Education Center (CEC) isn't the only new addition on the Fort Omaha Campus. Crews also built the Career and Academic Skills Center and a Center for Advanced and Emerging Technology.

The Career and Academic Skills Center is a prospective student's first stop on campus. They can meet with advisors, navigate career opportunities and enroll in courses in this new facility.

In the Center for Advanced and Emerging Technology, students work with businesses to test and develop new technologies and products. The space is large enough that an industry partner in the equipment sector could bring in equipment as large as a combine to provide hands-on opportunities for aspiring technicians.



1. *Construction Education Center (95,150 square feet)*
2. *Center for Advanced and Emerging Technology (63,400 square feet)*
3. *Career and Academic Skills Center (74,300 square feet)*
4. *Central Utility Plant (4,150 square feet)*



1. In the new Construction Education Center (CEC) even the building is a teaching tool. Plumbing, utilities, electrical and mechanical systems are all visible through interior glass and lighting. 2. In the Center for Advanced and Emerging Technology (CAET), Innovation Central is a large exhibition space with an aircraft hangar style overhead door.

Kiewit and MCC also got the community's youth engaged in the project. During construction, high school classes, SkillsUSA and nonprofit groups visited the jobsite.

Touring in the same personal protective equipment required by crews on the job, these young men and women were able to get an up-close look at the many different careers in construction, all working together on one project.

"When we talked to these high school students still determining their paths, this project offered a unique vantage point," Kiewit Engineer Michael Zenker said. "We could talk to them about going to the trades, going to MCC for classes, going to MCC and then to a four-year university, or going directly to a four-year university. Each of those paths will land you in a different role on a job like this."

On-the-job training and development

When Michael Zenker arrived at Fort Omaha, it was his first job out of college. He joined Kiewit after working for the company as an intern, but doing civil work rather than vertical building. That didn't stop him from excelling.

"We focused a lot on training and developing our young staff on this project and Mike is a real success story," said Project Engineer Anayeli Martinez Real. "He started as an office engineer but we quickly saw an opportunity for him to move up because he was driven and could problem-solve. He dominated every job we gave him."

On-the-job training like this is a major cornerstone of Kiewit's employee development philosophy. Employees are assigned to roles that will allow them to challenge themselves and prepare for the next steps in their careers.

"I feel very lucky to have experienced so many areas of our industry in such a short range of time," Zenker said. "All of my mentors on this job have helped me build a strong foundation in the fundamentals. I have gotten in-depth training on everything from quality control and subcontractor management, to owner relations and cost controls. I'm very excited to see how these lessons learned translate to the next project. I know they'll help me jump in with the right foot forward."

The hope is that this chance to be on site inspired students to consider a future in the industry.

Bob Campos, Kiewit's general superintendent at the Fort Omaha Campus, has been in construction for close to 40 years, 10 of them with Kiewit.

> More than anything else, I think it's the fact that you can actually see and visualize the work you complete every day become part of a larger project. I think that feeds a pretty basic human desire to work toward and accomplish a goal.

STAN HORRELL,
MCC'S DIRECTOR OF CAMPUS PLANNING AND SUSTAINABILITY

"I started in the field working for my dad's company," Campos said. "There's a huge need for people and it's a career that, dollar-wise, allows you to provide for yourself and your family."

Data from the Bureau of Labor Statistics helps illustrate that point. In May 2016, the median wage for all construction and extraction occupations was more than $43,500. That's higher than the average for all other occupations, which was just over $37,000.[4]

And it's not just about monetary rewards. Horrell started his career in construction and pointed to the sense of accomplishment as an added benefit of working in the industry.

"More than anything else, I think it's the fact that you can actually see and visualize the work you complete every day become part of a larger project," Horrell said when asked why he would encourage others to consider a career in construction. "I think that feeds a pretty basic human desire to work toward and accomplish a goal. There are daily rewards, and in some jobs in life that's pretty hard to see."

Now that the Fort Omaha Campus project is complete, Horrell hopes to see it become a premier destination for people looking to pursue these types of careers.

"When community and industry come back to us as the primary educational resource for trades people and technicians, and when we are all completely engaged, we'll know it's successful."

1.2016 Workforce Survey Results (Rep.). (2016, August 31). Retrieved June 22, 2017, from The Associated General Contractors of America website: https://www.agc.org/sites/default/files/Files/Communications/2016_Workforce_Survey_National_Final.pdf 2.Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook, 2016-17 Edition, Construction Laborers and Helpers, on the Internet at https://www.bls.gov/ooh/construction-and-extraction/construction-laborers-and-helpers.htm (visited August 04, 2017). 3. http://www.nebraskahistory.org/lib-arch/research/public/federal_finding_aids/ft_omaha.pdf 4. 2016 Median Pay. (n.d.). Retrieved August 04, 2017, from https://www.bls.gov/ooh/construction-and-extraction/home.htm

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