

A Publication of Lakehead Constructors Inc.

SPRING 2021



# Look to Lakehead



SAFETY • QUALITY • SERVICE • INNOVATION





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Founded in 1916 by Roland Buck, a civil engineer, Lakehead Constructors has played a significant role in providing construction services to building and maintaining the area's key industries that drive our economy and support our communities. Over our 100-plus year history, we have built some of northern Minnesota and Wisconsin's major industrial facilities, unique commercial projects, critical transportation infrastructure and many historical restorations. Our legacy and sustained success is due to the philosophy of our founding fathers – "Do good work, be responsible, act with integrity and take care of the community and people who work for you."

## Mission Statement

The mission of Lakehead Constructors is to provide innovative, reliable and high-quality services to clients throughout the Upper Midwest. We treat our clients honestly and provide services that represent an excellent value. We fulfill our mission by developing highly trained and loyal employees who work as a team to anticipate, identify and respond to clients' needs.

## Vision Statement

Lakehead Constructors' vision is to be the contractor of choice for our clients. Our exceptional employees allow us to partner with clients to continually identify ways to improve existing services and to build on Lakehead's experience and quality innovation to adapt our expertise.

## Markets We Serve

Industrial and Manufacturing  
Institutional and Commercial  
Mining and Steel Industries  
Oil and Gas  
Power Generation  
Railroad  
Water/Wastewater

## Services We Provide

Boiler Repair  
Bridge and Tunnel Construction  
Concrete Construction  
Concrete Restoration  
Construction Management  
Crane Service  
Design Build  
Emergency Repairs  
Equipment Alignment  
Equipment Installation  
Equipment Maintenance  
Equipment Rental  
General Construction  
Heavy Rigging  
Hydro Excavation  
Industrial Piping  
Kiln Construction and Servicing  
Mechanical Services  
Millwright Services  
Pile Driving  
Plant Maintenance  
Plant Shutdowns and Outages  
Precipitator Erection  
Preconstruction Services  
Pre-Engineered Metal Buildings  
Refractory Services  
Secondary Containment Liners  
Shoring and Underpinning  
Site Work and Preparation  
Specialized Coatings  
Specialized Grouting  
Steel Erection  
Vacuum Truck

## Safe Production – ZERO Injury

- Record production with lack of injuries
- Good housekeeping and orderly work areas
- Well-maintained equipment, proper training and procedures
- Looking out for and correcting each other
- Safe conditions, safe behavior

## Client Focus

- Listening to the client
- Being responsive and on time
- Meeting quality expectations
- Helping the client succeed
- Take action on feedback

## Advocacy for Our Clients and Industry

- Supporting sensible industrial projects
- Workforce development – careers in construction
- Economic development in community and region

## Bias for Action and Client Value

- Getting things done and done right
- Elimination of waste and inefficiency
- Breakthroughs in productivity and technology
- Plan the work – work the plan

## Trust, Respect and Open Communication

- Open access to information
- Delegation to the appropriate level
- Toleration of failure in pursuit of business success
- Encouraging the acceptance of different opinions

## Group/Individual Accountability

- Behaving in line with our core values
- Being responsible for our actions
- Providing plans/standards/expectations
- Holding yourself and/or the group to a high standard of performance
- Gender and racial diversity
- Walk the talk

## Integrity

- Doing what you say you're going to do
- No hidden agendas
- Doing the right thing
- Being truthful
- Being credible

## Teamwork

- Actively involve others in decision-making
- Know when to take a leadership role and when to be an active member
- Recognize the value of teamwork and the synergy it creates

## Recognize and Reward Achievement

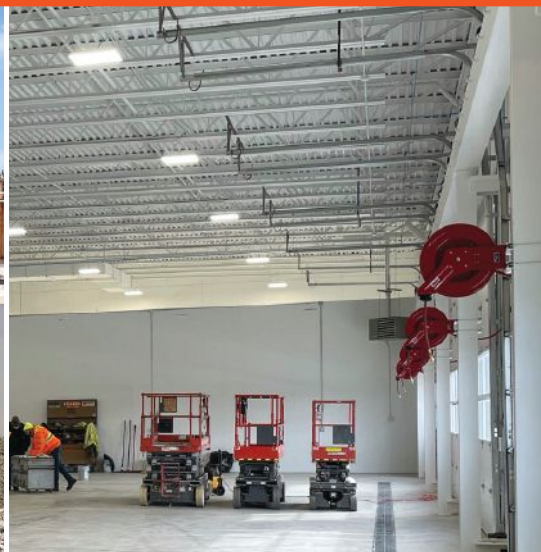
- Celebrating successes
- Stress training and development
- An effective appraisal of performance
- Giving a simple thank-you

## Environmental Stewardship

- Going beyond compliance
- Anticipating and addressing potential impacts before they occur
- Operating to conserve the environment for future generations

These core values are important to our future. Everyone will be judged on his or her support of and commitment to them.





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## Working Toward Another Successful Year

Be prepared. Some good advice and words to live by. As I reflect back on 2020, I am thankful we were prepared.

We entered 2020 with great optimism for another banner year at Lakehead Constructors. Strategic plans were in place, with new hires, past successes and a strong economy. But as we all know, 2020 did not go as planned. Thankfully, we were prepared and had a pandemic plan in place, developed and implemented by Lakehead leadership 10 years prior. Early in March 2020, we started to hear new terms — “novel coronavirus,” “pandemic” and “COVID-19” — soon followed by some additional terms and phrases such as “shelter-in-place,” “social distancing,” “Zoom” and our new favorite, “You’re on mute.” Seriously, we were very fortunate at Lakehead for having a pandemic plan and inventory in place. We knew how to act quickly and communicate our plans with our strategic clients, deemed essential critical infrastructure workers, and those businesses continued to operate. Being prepared for this unforeseen global pandemic included the following:

**Succession planning** – Executive Vice President of Construction and longtime employee at Lakehead Constructors Randi Mackereth officially retired in March 2020, and we were fortunate to have been in the middle of a planned transition to Brian Hubbard, our new vice president of construction. Thank you to Randi for his 25-plus years of service to making Lakehead what it is today!



**Technology in place** – Not many people were using Microsoft Teams as a communications platform yet. However, practically overnight, all employees who could, were working from home at the onset of the pandemic. Again, the employees and Lakehead’s implementation of technology allowed for a smooth transition. Accounting,



payroll, estimating and project management all made the transition to working remotely and didn’t miss a beat.

**Field operations** – Construction folks by nature adapt every day. Project management, supervision, tradespeople and safety team





members quickly adapted to new COVID-19 protocols: physical distancing, daily temperature

checks, hand-washing stations, staggered shifts, additional break trailers and constant communication with owners.

2020 was filled with examples of Lakehead Constructors' employees demonstrating our core value of service by safely and productively providing our valued clients with the construction and maintenance they count on to keep running. Our feature project is with our long-term client at the Superior Refinery, where we were part of rebuilding their facility. Other stories include a new addition for a local business — a story on our growing Painting and Coatings Group; a project with CN Railway on the scenic and historic Arcola High Bridge; Boyer Trucks; and an update from our Mining Group.

2020 was a challenging year. We are thankful for resilient employees and industry trade partners, and for clients who worked with us and kept us busy during this past year — who trusted our preparedness and ability to be safe. We look forward to working with all of you toward another successful year and, as always, to being the contractor of choice.

Best regards,

Brian Maki  
Chairman, President and CEO

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Before



After

# Painting and Coatings Group

Our Painting and Coatings Group at Lakehead Constructors has a long history and presence in our region of supporting the needs of our area's industrial client base. Just visiting some of our industrial sites helps you appreciate the very unique needs they have for painting, coating, and protecting and preserving their assets for the long term. Our clients count on us to provide high-performance coatings for their plant infrastructure, equipment and buildings. We do so in all environments, whether it be installed pipe several feet below grade; platforms or buildings hundreds of feet in the air; above operating equipment, water or rail; and at temperatures from 20 below zero to well above 100 degrees in operating plants. Since the very beginning, Lakehead Constructors has had a Painting and Coatings Group for many of our core clients' facilities, including Minnesota Power, Minntac, Superior Refinery, Enbridge, Plains Midstream, Northern Natural Gas and Burlington Northern.

How do you get paint to stick to taconite dust? Well, according to Lakehead Constructors Coating Superintendent Larry Carl, it takes some luck, skill and a lot of prep work. Larry has led this group since 2001. In his time, Larry and crews have practically repainted all of Minnesota Power's Boswell Energy Center and much of Minntac. The core offering of Lakehead's Painting and Coatings Group includes various surface preparation methods and coatings.

- Metal and bar joist ceilings
- Metal coatings
- Metal stairs, platforms, railings and catwalks
- Multipart epoxies
- Oil- and latex-based paints
- Precast and block walls
- Polyurea coatings and linings
- Rapid cure coatings
- Rust coatings
- Storage tanks and containers



## Interior and Exterior Coatings

- Above and below grade piping
- Commercial and industrial floor coatings
- Enameling
- High access work
- Industrial machinery and equipment



### COATING INSPECTOR PROGRAM (CIP) – LEVEL 2

CIP Level 2 focuses on advanced inspection techniques and specialized application methods for both steel and non-steel substrates, including concrete, using both nondestructive and destructive techniques. Surface preparation, coating types, inspection criteria, lab testing and failure modes for various coatings, including specialized coatings and linings, are considered.

- Structural steel
- Stucco, masonry and EFIS
- Urethane coatings

### Surface Preparation

Before anything gets coated, nothing is more important than surface preparation. Our experienced and certified crews are skilled in the appropriate methods of prepping surfaces in the very challenging industrial environment. From corrosive water treatment plants and paper mills to dust-covered taconite and coal-fired power plants, we are familiar with surface prep and coating adhesion. Our offerings include:

- Pressure washing
- Steam cleaning
- Sand and other media blasting
- Chemical treatments
- Floor grinding
- Lead abatement
- Industrial vacuum/vac truck services

### Capabilities and Credentials

A NACE 2 Inspector, SSPC, specifies and consults on surface prep and coatings, applications and specialized equipment. Highly trained staff are ready to work in challenging industrial settings — heights and hazards. Employees are union members and have respective qualifications and training through OSHA, MSHA, DOT and Confined Space.

As our clients' demands continue to evolve and grow, so has the Lakehead Constructors Painting and Coatings Group. In 2020, we added staff and talent to ensure a sustained offering for our clients for years to come. In July, we brought Rick Lajoie on board as Assistant Superintendent, not only to help with an immediate need at the Superior Refinery, but also to support other oil and gas clients and regional industrial clients. Rick has more than 12 years of experience in the industry, from estimating and project management to inspecting and safety. Rick is a NACE Level 2 Coatings Inspector, MSHA Trainer, OQ Trainer, CHST (Construction Health and Safety Technician) and STS (Safety Trained Supervisor). Rick and his painting crew have significant experience with a local oil refinery, its terminals' tanks and yard piping, other gas and oil pipelines and their tanks, and the many local heavy industrial facilities.



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# CN RAILWAY ARCOLA HIGH BRIDGE

by Aaron Nelson, Lakehead Constructors Project Manager

In 2020, the Canadian National Railway (CN) continued to invest in their mainline infrastructure. One project located near Somerset, Wisconsin, was an upgrade to the bridge deck that had a particular focus on safety for railway workers.

The historic Soo Line High Bridge, also known as the Arcola High Bridge, was built in 1910 to 1911. It is roughly 185 feet above the St. Croix River and spans almost 2,700 feet, connecting Wisconsin to Minnesota. Up until the fall of 2020, the current bridge, which runs east to west along CN's Minneapolis Subdivision, had a walkway and handrail system on the south side but not on the north side. Without a proper walkway system on both sides of the bridge, everyday tasks such as track inspections and rail repairs were challenging and treacherous. CN made the decision to add a walkway system onto the north side, thus eliminating the fall hazard.

Lakehead has worked on various bridges in the past but never on a rail bridge of this magnitude. After visiting the bridge, Lakehead negotiated the project with CN's Bridge and



Structure team and developed a plan to complete this project efficiently and safely. Although most of the bridge was already set up for installing a walkway system, the west 600 feet required

longer bridge timbers. The first task was to replace 128 12-foot bridge timbers with 16-foot bridge timbers. Without the additional 4 feet of timber, there would not be enough space to install the





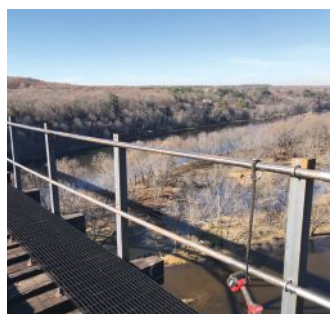
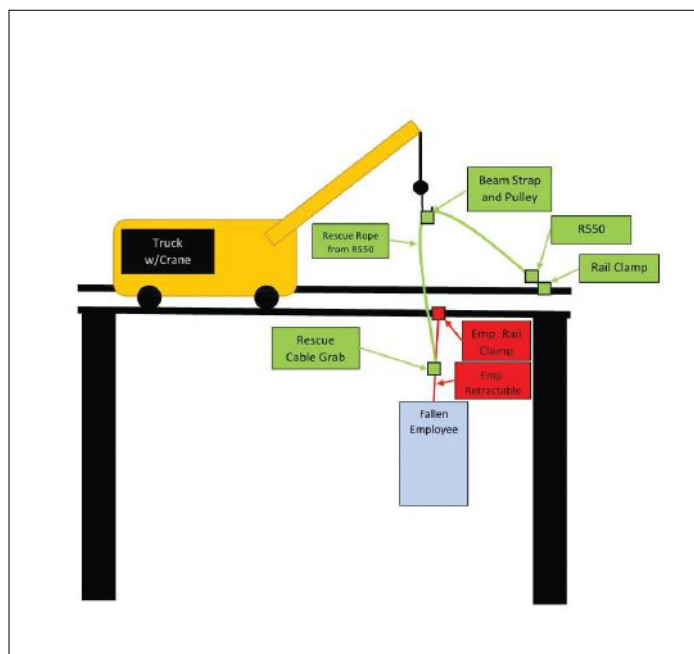
north-side walkway. The second task consisted of our ironworkers installing the 2,700-foot walkway system, which included 2-foot wide grating, handrailing and 550 vertical handrail posts.

As with many of Lakehead's projects, this one required specialized equipment to complete the tasks. Two specialized trucks were utilized. One was a hi-rail grapple (log loader) truck that is equipped with creep drive, a magnet and onboard hydraulics for tool usage. This truck allows the operator to move freely up and down the track while never leaving the operator station. The grapple truck was used to move material around

and install the bridge timbers. The second truck was a modified F-550 crew truck that is equipped with rail gear and is fully furnished with hydraulic tools and a small crane. This truck is very versatile and was used as a base station for the project. The most important specialized equipment used was Lakehead's fall protection equipment. The project site, tasks and safety risks were reviewed by Lakehead Safety Professional Kyle McKenna. Kyle then developed the plan for safely working on the rail bridge. The plan included purchasing a R550 rescue and descent drive, pulley, 8-foot twin leading edge self-retractable rail clamps and other

accessories. This equipment allowed the crew to clamp onto the rail and move freely, all while having a system in place to complete a retrieval if necessary.

Overall, the new walkway structure was furnished and installed, allowing CN's workers to move about the bridge freely without the hazard of falling. As always, detailed preparation made for a flawless installation. The project was led by Lakehead's Nick Maki, Laborer Foreman for the timber replacements, and Matt Landwehr, Ironworker General Foreman. Tasks were completed during the fall of 2020 under budget and without incident.



# Superior Refinery Rebuild Project

by Brian Johnson and Brandon Bonderson, Lakehead Constructors Project Managers

**W**hen people think of our hometown, they think of the Superior Refinery. It has been a cornerstone of our community since we helped build it back in 1951 — then known as Lake Superior Refining Company. Lakehead Constructors Inc. (LCI) has had a very long working relationship with the refinery over the years, from process unit additions to full-plant turnarounds.

We have known them as Murphy Oil, Calumet, Husky Energy and now Cenovus, but always as a good neighbor and client. We were there on that unfortunate day in April 2018 when the plant had an explosion in their FCCU and subsequent fire at the refinery. Fortunately for our community, the owners were committed to rebuilding the refinery and very quickly began their engineering and equipment selection. During 2019, Lakehead Constructors did our part to advocate on behalf of the refinery and spoke up at public hearings for air permits needed to move the project forward. And in just under two years, Husky Energy turned to a longtime trusted local contractor for the civil package. Working with local employees, Husky's corporate project team and Worley Parsons engineers, we spent months navigating through a complex negotiated bid process for their civil scope(s) of work on the rebuild project's civil packages for work on the OSBL (outside battery limit), PDC (power distribution center) and FCCU control room building foundation. High-level scope included site work, foundations, stormwater,

underground piping, electrical grounding, underground sump, setting PDC building and final grade.

Husky Energy's Superior Refinery Company (SRC) rebuild was scheduled as a fast-track build, so we knew we had our work cut out for us. Planning is the key to success on any project, but on a fast-track project it is the only way to success, and fortunately we had about a month to plan between official project award and mobilization. During the preconstruction phase, Superintendent Joe Sobolik spent time in the office planning out the project by looking at the 3D model and preplanning our work. Lakehead Constructors mobilized to the SRC OSBL civil site on March 23, 2020, to get started on the foundation work. The very next day, we were directed to remove or stage our equipment in an area outside of the OSBL, due to COVID-19-related issues, and put the project on pause until Husky could come up with a plan and the procedures to work safely with ever-changing COVID-19 information. Nobody knew immediately how long the



project would be on pause, but we knew we should be ready to forge ahead in any work that was available. We went back to the planning stage to come up with a game plan for several scenarios and what ifs so we could be ready for the work and for dealing with COVID-19 in the workplace.

Knowing we could not physically be on-site for a few weeks but still having to hold the schedule, we began completing some work off-site at our Superior Yard area. We had rebar delivered to our warehouse and began tying the concrete reinforcing rebar cages for the project foundations. Between the drilled piers, foundation piers and foundations, there were more than 500 assemblies we could pre-tie. Thanks to our ironworkers ("rod busters"), Erik Trader and John "Pat" Nieman, Lakehead was able to minimize people on-site in what would be a very tight space and get a jump on production.

In addition to our civil package, we were also awarded the work of creating laydown yards and overseeing the initial phases of material management (receiving). We started out by modifying the old construction yard of Rueben Johnson & Sons (Atwater Yard), located 1.5 miles to the west of the site, so it could be used as a staging location for the large vessels that would be installed at the refinery. The second area, 2 miles to the north of the refinery, required the takeover of most of Mariner Mall's parking lot to be used as a laydown for all the structural steel, piping and some small- to midsize equipment. Both laydown yards required excavation of existing soils, installation of Geotech fabric and 12 to 16 inches of compacted fill to meet the load-bearing requirements. Further, our laydown yard crews created some indoor warehouse space inside the old mall by installing a couple thousand square feet of pallet shelving for smaller parts. The above work allowed us to keep some of our key craftsmen working so they would be available when we were able to start back up at the refinery. The laydown crew consisted of operators, ironworkers, laborers and a field engineer to oversee shipping and receiving. The crew used Jovix software to scan in materials' bar codes as they arrived and to allow for a material's radio-frequency ID (RFID) to identify its final storage location on-site.

Working closely with the Husky Rebuild Team, we came up with a plan to allow us to return to the site the day after Memorial Day, with a small crew, and get our foundation work started, about two months past the original scheduled date. The first milestone we had to achieve was to make sure the PDC foundations were finished 28 days in advance of PDC section setting so the concrete had time to fully cure. The PDC foundations consisted of five large individual foundations with 39 piers that were 13.5 feet high. The poured concrete piers required very tight tolerances, within 1/16 inch horizontal and 1/32 inch vertical. This formed the supporting structure that would receive the six PDC sections, surrounding catwalks and electrical tray support steel. The pipe and electrical racks on either side of the PDC foundations also had to be installed so we could have the area backfilled to grade and so a crane mat runway could be installed for the PDC section placement. We were able to beat the schedule and set the sections about a week earlier than planned.

To get ready for the PDC setting, we had to overfill the east side of the PDC to get grade above the PRO1 (pipe rack) piers to prevent them from interfering with the crane mat runway. We hired Vic's Crane Service to provide the 300-ton crawler crane to set the PDC sections. The sections ranged in weight from



92,000 pounds to 164,000 pounds, and when all were set in place, bolted together and welded to the piers, it formed a building 40 feet wide by 180 feet long and 10 feet above grade. Working together to plan the lifts with our Ironworker Superintendent AJ Westby and Vic's Site Superintendent Mark Brouwer allowed the setting to go flawlessly and ahead of schedule. This new PDC will provide all the electrical for the entire plant when fully operational.

On the west side of the PDC, we built many foundations and containment slabs to hold the seven large transformers, two capacitors and dozens of cable tray columns. We also built the foundations and piers for pipe racks (PR) 1, 2,

3, 6, 9, 10, 14, 15 and 18. Husky continued their design work, which added the following to our work scope: two large deep-pit sumps, hot oil expansion foundation and containment slab, HO 102 heater and stack foundations, 15 large pump and blower foundations, 230 2-foot diameter by 8-to-10-foot deep drilled piers, asphalt and rail loadout foundations and piers, JR and SR dock modifications, clay containment berms, firewater piping and hydrants, underground 8-inch electric conduits and associated concrete duct banks, and many other projects. Our work scope had doubled from our original bid, and we were still able to help get the project back on track, with the efforts of the team we pulled together. Randy Koenen, our carpenter superintendent, was extremely instrumental in getting most of the foundation/pier work finished in this fast-track project. When Randy left to head up another LCI project, we were able to get Tim Casey, another LCI field supervisor, to take over to finish.

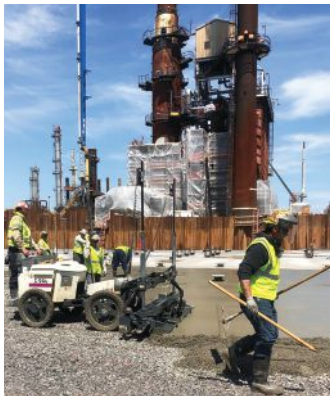
Husky then approached Lakehead Constructors to see if we would give them a bid to erect some structural steel and install piping to help get them back on track and on schedule with pre-COVID-19 milestones, prior to bringing on the mechanical package general contractor. The one caveat was to let them know upfront if we did not think we could meet these milestones. We felt confident that we could perform, so we gave them a bid and were awarded the steel erection of PRO1-3, PR10, PR14-15, PR22 and the vacuum column structure. We also were awarded Level 1 and 2 piping in PR22 and pre-installing platforms and ladders on two large refinery vessels.

PRO1 is a structure 30 feet wide, 50 feet tall and 162 feet long, sitting adjacent to the PDC, and it carries both piping and electrical trays. There is a large span between column lines 6 and 7 connected by a bridge that we prebuilt and will be installed at a later date after some of the larger equipment (heaters and stack

expansion unit) is set. PR22 is the largest pipe rack in the plant and is in the Crude Unit. Most of the structural steel for PR22 came with fireproofing pre-installed, making it more difficult to set. Both PRO1 and PR22 had a milestone of November 16, 2020, to set the first piece of structural steel, with the goal to be ready for the general contractor by the end of the year. We set the first steel for the vacuum column structure on December 16 so we could have it ready for the setting of the 440,000-pound vacuum column on January 22, 2021. We finished the main structure well in advance of that date, so we were able to also install the stair system, catwalk, grating and handrail to enable the mechanical general contractor to have safe access.

Piping was a challenge because most of the first piping we needed to weld out and set had not been delivered from the fabricator; however, we still met the first milestone by setting a spool on December 4, 2020. Piping size ranged from 1.5-inch to 14-inch diameters, and the materials consisted of two types of stainless steel — carbon steel and low-temp carbon steel. Due to the cold weather, we had temporary tents set up for every weld so it could be welded in a controlled environment. Work decks were set up for the full length of PR22 for both levels of piping so we could land/position the pipe, set up temporary shelters and weld out. Our Pipefitter Superintendent Mike Josephson and Pipefitter General Foreman Marty Nelson went the extra mile to keep everything organized and to do workarounds when we did not have the exact spool pieces needed for sequences we had planned.

We also brought in our lead boilermaker, Matt Madsen, to run the crew to “dress out” the naphtha splitter column and depropanizer column. Husky wanted to take advantage of adding some of the platforms and ladders while the vessels were still in the horizontal position at the Atwater Yard.



**“This was a great project, knowing that we were helping to get the refinery that supplies hundreds of permanent local jobs back up and running. We pulled together a great Lakehead team to make this happen, and they need to be recognized. First and foremost was our Site Superintendent Joe Sobolik, who kept all the crews organized and working together across the trades and attended the daily meetings with refinery coordinators. Next to mention is Brandon Bonderson, who wore many hats, including QA/QC, project engineer and project manager. Harry Aro, our lead safety specialist, helped keep the site a safe place to work. Lastly, I need to thank Tom Paulley, Oscar Horton and Billy Enger for showing the crew the importance of having great laborers on a project.”**

**— Brian Johnson, Lakehead Constructors  
Project Manager**




Some of the challenges on this project were:

- COVID-19
  - COVID-19 set the whole project back across every aspect: engineering, fabrication, transportation and construction.
  - To continue to work and not spread COVID-19, we had to come up with and follow strict procedures, such as social distancing, wearing masks when working close to each other and diligently cleaning break areas and tools.
  - Masks were not too hard to deal with until the weather turned cold and our breath through the masks would fog our safety glasses.
- Confined and congested work areas
  - Due to the nature of oil refineries, most foundations and equipment are very close together, so there is very little staging/storing area.
  - There were several other contractors performing their work and at times we competed for the same space, so planning and working together became paramount.
- Workforce
  - Because of the extent of construction work taking place at the same time in the region, area craftspeople were not readily available to fill all of our needs.
  - LCI peaked at more than 100-plus tradespeople on-site.
  - The unions had calls out across the country, so we had travelers from as far away as Georgia and had to get them up to speed and integrated into both LCI's and Husky's expectations and work culture.

Some project facts:

- Placed 3,700 cubic yards of concrete.
- Placed 230 tons of reinforcement bar.
- Formed 260 individual piers.
- Hauled about 4,000 tons of excavated soils off-site.
- Hauled in 63,000-plus tons of sand, gravel or rock backfill.
- Erected 700-plus tons of steel.
- Placed 10,000 linear feet of piping.
- Made 200-plus pipe welds.
- Worked 100,000 craft hours — without lost time or recordable incidents.
- Utilized Meva and Symons system forms and custom leave-in-place steel concrete forms. The Meva forms were used on the PDC piers because they were very lightweight and required fewer hands to set up, and for their height requirements and reliability in providing quality results.

Overall, the project was a huge success for Lakehead Constructors on a number of fronts: safety, communication, productivity, coordination, improving on the schedule and making the project team and local Husky group look good. As we write this article, the refinery is partway through their rebuild, and we will continue to help them with their final civil, painting and other scopes of work that come up.




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# BOYER TRUCKS

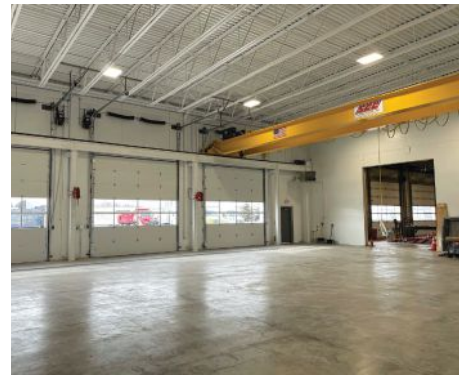


Boyer Trucks in Superior, Wisconsin, is one of several Boyer facilities in the Midwest that sells new and used heavy commercial trucks, provides repair services on all makes and models, and has a large inventory of parts. In Superior, the dealership has enjoyed great success — so much so that in 2020, their General Manager, Lynn Ondracek, called Lakehead Constructors to discuss their plans for expanding their operations in Superior. After watching Lakehead Constructors build our own facility down the street from Boyer Trucks in just five months, Boyer thought Lakehead would be a perfect contractor to help them fast-track their project. At an initial planning meeting, Boyer Trucks shared their concept plans to add new vehicle service bays, a wash bay, an expanded parts area and locker rooms.

Lakehead Constructors was officially engaged in a design-build capacity to take the concept and have it designed and built within the coming year. Bob Fern with RW Fern



Associates was hired to be a part of the team and prepared the preliminary plans for the 100-by-135-foot precast panel addition and partial remodel of existing space for more parts inventory storage, customer service space and locker rooms. The new addition is 13,500 square feet of open bay space with 11 overhead doors, one wash bay and one oil pit area. The remodel portion includes a 3,000-square-foot second-floor mezzanine addition.



Once the design was officially approved by Boyer Trucks, the architect submitted it to state and local agencies for approval. With long lead times on precast panels, the order was placed with Fabcon in Savage, Minnesota, to expedite shop drawings, approvals and production of panels for a midsummer delivery.

Lakehead Constructors officially mobilized to the site in July 2020 and started with site prep, piling for future building additions. The sitework





included soil corrections, 160-foot sewer and stormwater piping, 8,000-square-foot concrete aprons, 200 linear feet of concrete curb and gutter, and 28,400-square-foot bituminous paving. Once the footings were excavated, we poured the concrete footings and foundations. After the keyed footings were ready, Fabcon delivered the precast panels (12-inch thick Versa-Core Green panels, 8 feet wide, 26 feet tall and set 4 feet, 5 inches below grade with a height of 26 feet above grade). Shipments came directly from the plant a little more than two hours away and were staggered to allow minimal truck traffic on the dealership's occupied site. The first panel went up on a Tuesday morning with Lakehead's new 90-ton crane setting the panels. By Thursday that week, the three sides of the building addition were all set. As the panels were set, Fabcon workers were up on lifts welding plates to join the panels. Next, the Lakehead ironworker crews set the building roof joists/metal deck, and the roofing subcontractor later installed an EPDM rubber roof. Inside crews roughed in utilities and trench drains. The floor design called for an in-floor heated slab, so once the footings and foundations inside were backfilled, crews laid tubing for the heated slab and rebar for the concrete floor.

The five service bays to the south has a new 7.5-ton bridge crane overhead. Crane rails were installed, leveled and aligned by our Superintendent Randy Koenen and Millwright Superintendent Dale Zifko. Shortly thereafter, our operators, ironworkers and Lead Mechanic Steve Levine were on hand to install the new

bridge crane; with building design and overhead doors, it was a very tight fit, but not a problem for our crews.

Once the overhead doors were installed and the new addition was painted, it was ready for business. At that point, Lakehead crews began the renovations to the existing space. Three existing service bays received a new mezzanine —

helical piles and footing pads support structural steel with precast plank floors for additional parts storage, a break room and a men's locker room. The lower area includes service/parts, an aluminum storefront, a women's locker room and offices. The Boyer Trucks addition was wrapped up spring 2021 and ready to help support their growing operations.

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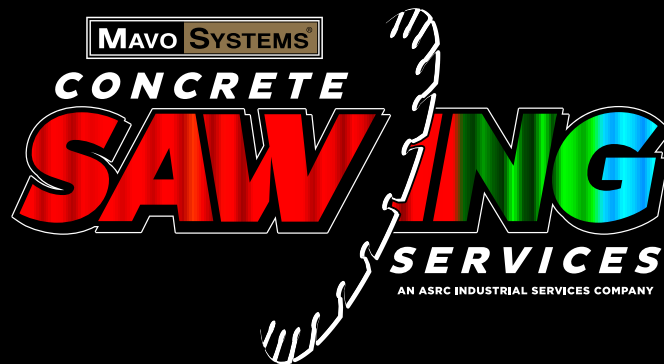
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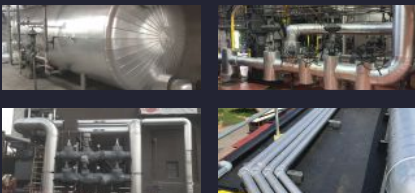
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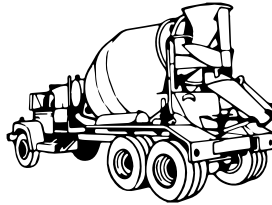
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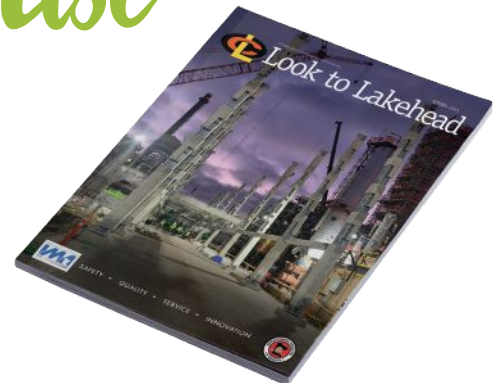
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# MINING GROUP UPDATE

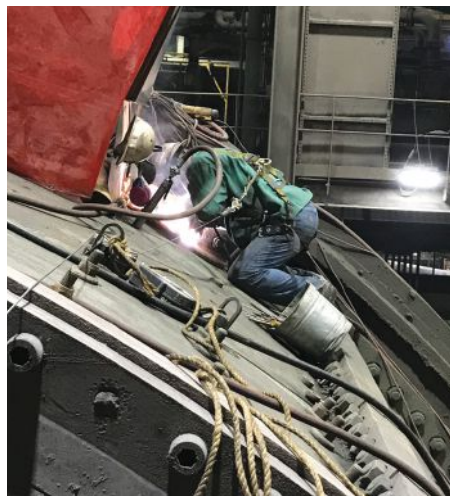
by Jeremy Uncini and Carissa Smith, Lakehead Constructors Mining Group

Our Mining Group was plenty busy last year, completing several major plant outages performing mechanical, structural and refractory maintenance throughout the crushing, concentrating and agglomerating processes. Our employees are known for their knowledge of the plants and are extremely committed to our clients. In return, the plants count on Lakehead for emergency repairs to quickly resume production and to support them on process enhancements and in upgrades with capital projects.

As it did across the globe, the onset of COVID-19 created new, unprecedented challenges for the operating and maintenance of our local iron ore and steel industry. Steel being considered a strategic and critical resource in the United States allowed the local taconite plants to continue operating. Also, Lakehead Constructors and our skilled tradespeople were designated essential workers to keep the plants maintained and running.

Having a pandemic plan already in place allowed us to quickly adapt to the requirements of COVID-19. We formulated and implemented project-specific controls to mitigate the risks of virus exposure to our employees and clients. Through innovation, communication and dedication during this challenging time, we were able to apply social distancing and administrative and environmental controls, allowing us to safely execute some of the largest outage repairs northern Minnesota had even seen.

Our first test came in April, as U.S. Steel Minntac had plans for their annual major outage. For weeks leading up to the outage, communication and coordination with U.S. Steel was constant and everchanging: Will the plant stay operational? Will contractors be allowed on-site for the outage? Will the



scope of work be scaled back? What would we do if a worker tests positive for COVID-19? Ultimately, the Line 7 Agglomerator Outage was very successful due to the partnership between Minntac and Lakehead. New practices were developed and used for future outages in 2020: manage the scope, schedule the number of contractors on-site, increase the on-site break trailers to accommodate more physical distancing, add handwashing stations and heavily communicate COVID-19 protocol.

We provided flexibility for our clients so they could find ways to complete projects even while the strain of the pandemic mounted. For example, the Windbox Exhaust Fan Replacement project with Minorca Mine was originally scheduled for April 2020, and with some additional coordination and planning, it was moved to September, a month where Lakehead Constructors completed more than 85,000 labor hours.

At United Taconite (UTAC), our crews completed one of the plant's largest outages ever, expending just under 30,000 labor hours, most of which happened over just nine days in October. Lakehead distributed crews for repairs in the loading pocket bins, on the coarse



ore pan feeders, in the primary crusher, in the fines crusher, in the ore barn, on the concentrator mill outage, on the finishers in the concentrator and on Lines 1 and 2 in the pellet plant. Following right after the UTAC outage, we provided emergency repairs on the thickener.

Over at Hibbing Taconite, we were called in to provide emergency weld repairs to a cracked 36-foot-diameter autogenous mill shell.

At Northshore Mining, we provided mechanical and structural maintenance for the mine and plant and completed a number of small capital projects: bin repairs, mill water screen replacement and Filter 12 mechanical upgrades.

We extend a thank-you to all of our mining clients who worked with us during the COVID-19 pandemic to keep our crews busy despite the plants facing many unknowns in the market and the stress of operating under such unique conditions. Also, thank you to our valued Mining Group and all the superintendents, general foremen, tradespeople, project managers, safety managers, project engineers and administrators who worked throughout this challenging year and managed to deliver our services to the highest standards.

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