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# To the Next 100 Years

Greetings all,

Welcome to our 100th Anniversary issue of *Look to Lakehead*. As always, I would like to thank our valuable trade partners, suppliers and subcontractors for their contributions. Without them, this publication would not be possible.

Since 1916, Lakehead Constructors, Inc. has been providing construction services to clients, partners and projects throughout our region and the upper Midwest. Safety, quality, service and innovation are Core Values and the foundation of the company. With 100 years of building and engineering expertise comes dependability, long-standing community involvement and high-quality projects that stand the test of time.

Continual investment in people, technology and programs has made Lakehead a clear choice for our quality- and value-minded customers. In this very competitive business, the dedication of our employees and highly skilled tradespeople is necessary to achieve our goal of becoming the contractor of choice for our customers. Our company has consistently demonstrated a commitment to client service, professional excellence and a spirit of exceptionalism. Honest and hard-earned relationships with owners and labor allow us to form alliances and create successful projects to benefit all parties.

Times change; customers and their expectations evolve and change. Consistent adherence to our Core Values and diversifying our services and markets has provided continued opportunity to meet the needs of our clients.

As we celebrate our 100-year anniversary, it's worth noting that not many companies have the honor to say they have been in business for that long. The loyal contributions and achievements of five generations of families, coupled with our diverse and dynamic abilities as a contractor, have forged a proud legacy and reputation leaving an indelible mark on our region.

In closing, this year's magazine reflects the commitment to our Mission Statement to provide innovative, reliable and high-quality services to our clients. I hope you find our history and the supporting articles interesting and informative. I would like again to thank our employees, suppliers, subcontractors, unions and associates who have made, and continue to make, Lakehead Constructors the great company it is. Together we look forward to continued success and the next 100 years.

Best regards,



Brian Maki  
Chairman, President and CEO



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## 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.

## Core Values

In support of LCI's objective of being the most admired contractor, we are building on a framework of strong corporate values.

### Markets We Serve

Institutional and Commercial Construction Services  
Oil and Petrochemical  
Power Generation  
Mining and Steel Industries  
Pulp and Paper  
Vacuum Truck Services  
Railroad Maintenance

### Services We Provide

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Shoring and Underpinning  
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Millwright Services  
Industrial Piping  
Precipitator Erection

### Safe Production

- 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

### Customer Focus

- Listening to the customer
- Being responsive and on time
- Meeting quality expectations
- Help the customer succeed

### Creating Economic Value

- Doing the right things right the first time
- Elimination of waste and inefficiency
- Breakthroughs in productivity and technology

### Bias for Action

- Getting things done
- Reduced red tape
- Barrierless
  - Call anybody you want
  - Management by fact
  - Plan the work – work the plan

### Trust, Respect and Open Communication

- Open access to information
- Constructive conflict
- Delegation to the appropriate level
- Tolerance of failure in pursuit of business success
- Encouraging the acceptance of different opinions
- Feeling an obligation to explain your actions to those they affect
- Gender and racial diversity

### 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
- Walk the talk

### Integrity

- Doing what you say you're going to do
- No hidden agendas
- Doing the right thing
- Being truthful
- Zero tolerance – not walking away from a situation
- Be 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

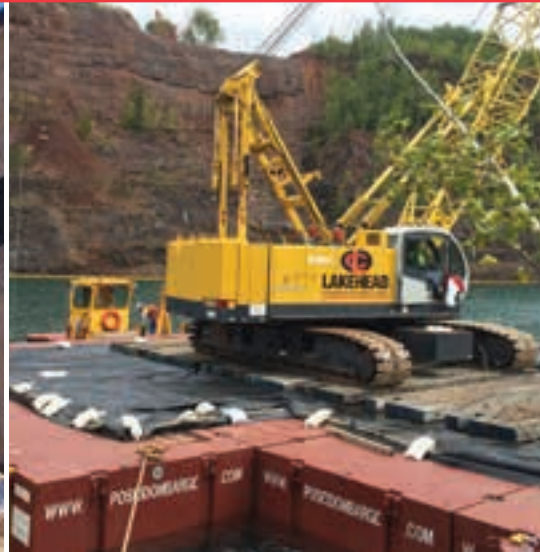
### Recognize and Reward Achievement

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

### Environmental Stewardship

- Going beyond compliance
- Being socially responsible
- Anticipating and addressing potential impacts before they occur
- Personal accountability
- 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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# Celebrating a Century of Service

by Stephen Jones, VP Resources



## Lakehead Constructors, Inc. Timeline



1916 – Roland C. Buck



1925 – Androy Hotel



1927 – Arrowhead Bridge



1934 – Floyd Bernard

Lakehead Constructors, Inc. (LCI) is celebrating its 100th anniversary as a leading provider of general contractor services for clients, partners and projects spanning virtually every public and private sector in the region.

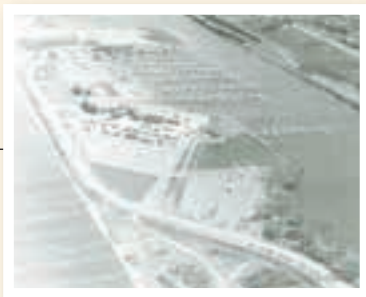
LCI was founded in 1916 by civil engineer Roland C. Buck. The business originally specialized in design and construction of large-scale harbor facilities. The young company soon began to expand into other areas of construction and, with landmark projects such as Superior's Androy Hotel and the Arrowhead Bridge, rapidly earned a reputation for quality, innovation, honesty and integrity.

In 1934, a young engineer, Floyd Bernard, joined the company and worked his way up to ownership in 1955 with partners Mel Aselford and Les Olson. They shared and continued the philosophy that had served them and the company well: Do good work, be responsible, act with integrity, and take care of the community and people who work for you. Through the ensuing years, the direction of the company continued to expand and be influenced by our customers. Service expanded outside the local market to include regional institutional and commercial work, power generation facilities, cement, lime and salt plants, and refineries.

In December 1986, the company was purchased by Dennis Hallberg and Tony Phillippi, who pioneered new markets and opportunities not only for the company but also for the industry and oversaw a period of unparalleled expansion and capability. Strong ties to the Iron Range, particularly the taconite industry, brought groundbreaking opportunities for union contractors in maintenance outage and shutdown services as well as capital projects throughout the



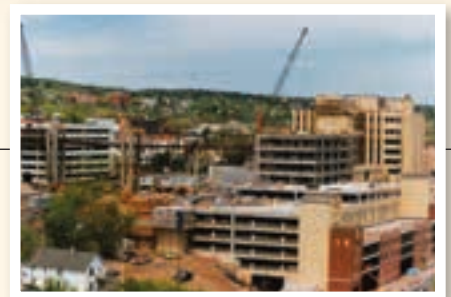
1973 – Dome  
Petroleum expansion



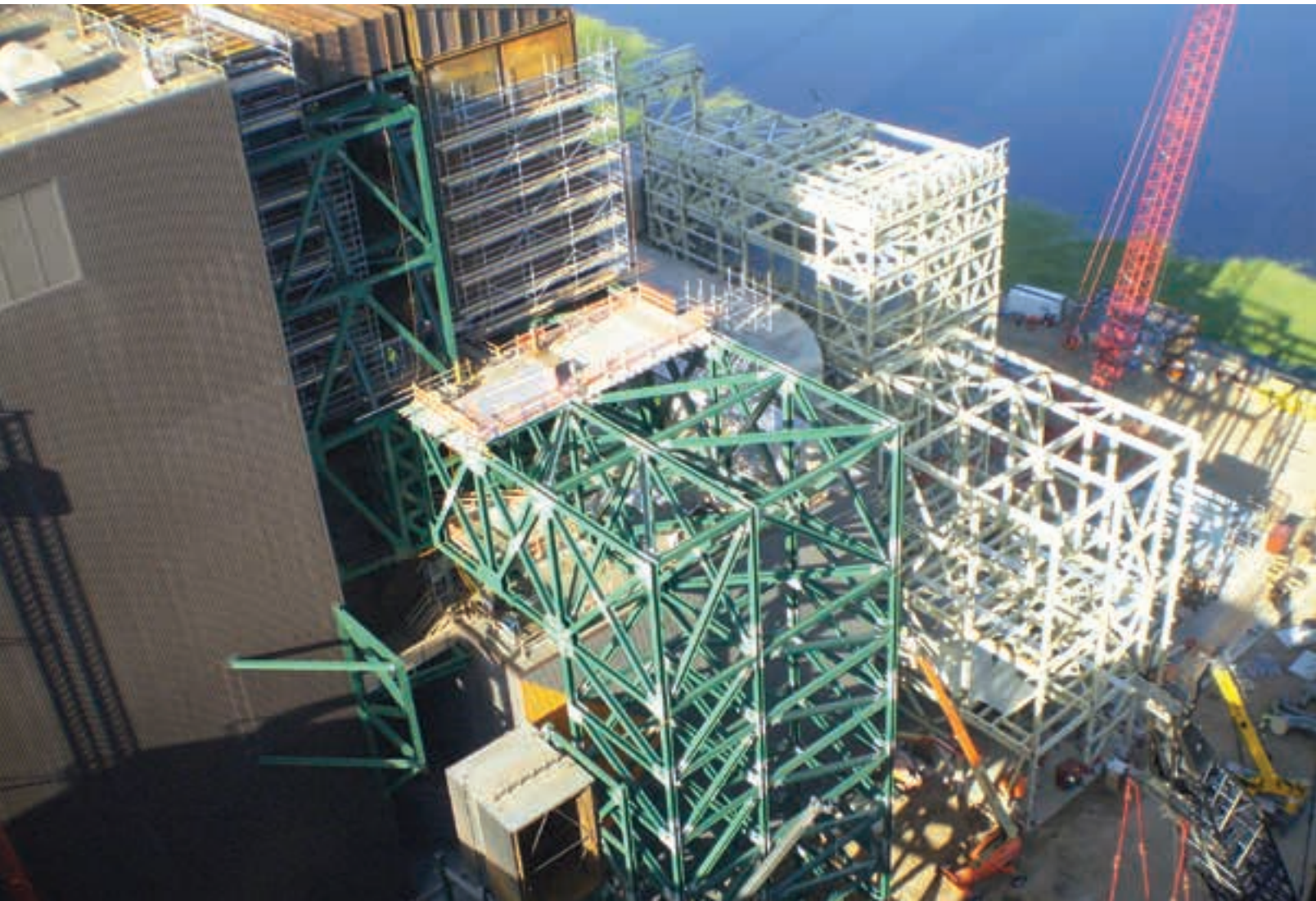
1980 – Radisson Inn & Yacht Club  
(Barker's Island)



1986 – Dennis Hallberg



1992 – Duluth Medical Center Expansion



## Lakehead Constructors, Inc. Timeline



1999 – Tech Center Parking Ramp



2002 – United Taconite



2003 – Giant's Ridge Golf & Ski Resort





region's mining facilities. Additional investment and growth in our traditional, heavy industrial markets expanded services to include pipeline and specialized mechanical and boiler maintenance, crane rental, industrial painting, and coatings and refractories.

In 2003, the company was purchased by three of the company's senior managers — Don Odermann, Brian Maki and Mark Hubbard — who had over 50 years of combined employment with the company. Under their leadership, LCI has undertaken some of the company's largest industrial projects. Among them was \$7.25 million in work on the \$75 million, 250,000-square-foot expansion of the St. Mary's/Duluth Clinic Health System campus in Duluth and the \$250 million Minnesota Power Clay Boswell Unit 3 environ-

mental retrofit project, for which LCI served as the lead contractor.

Safety, quality, service and innovation are hallmarks of this company. LCI's commitment to those core values was strengthened, and existing programs advanced with the development and implementation of our Zero Injury Safety Program in 2004, our ISO-9001 (2008) Quality Management System Certification in 2010 and our American Institute of Steel Construction (AISC) Certification for Advanced Structural Steel Erectors in 2013. The company also reinforced its roots and commitment to the Iron Range with the addition of our Mountain Iron office and facility in 2010.

By combining old-fashioned values with 21st century equipment and skills, LCI has grown into a highly respected, diverse firm with



2004 — SMDC expansion



2007 — Minnesota Power Boswell Unit 3 APC retrofit



2008 — Cathedral of Christ the King renovation



a solid industry reputation and has received critical acclaim for its work on notable local landmarks, such as the restorations of the historic Clyde Iron Works building in Duluth's West End and Superior's Cathedral of Christ the King church.

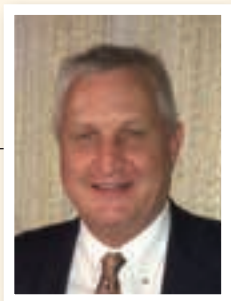
With Maki assuming sole ownership in 2015, we continue our strong traditions of focusing on client satisfaction and service, constantly pursuing new technologies, and providing a safe workplace full of employment opportunities. LCI consistently embraces the future. The company's founding principles resonate in every project, as well as in its dedication to its employees, clients, community and environment.

For a company with modest beginnings, we have extended our reach region-wide, meeting the needs of our clients by diversifying our services and markets. We're proud of our history, our consistent adherence to our core values and the client-oriented culture of our company, all of which have more to do with our past and future successes than any one individual. While the faces and names have

changed through the years, our company has consistently demonstrated a commitment to client service and professional excellence. Our continuity demonstrates that we have managed leadership and ownership transitions while holding firm to fundamental values of excellence in client service and recognition that our employees are our most important asset.

Our 100 years of building and engineering expertise, dependability, community involvement and high-quality projects that stand the test of time forge a proud legacy and have left an indelible mark on our region's landscape and industry. Grounded in our past, with a vision and enthusiasm for new challenges, we plan for our next 100 years of service and contribution to our community and proud legacy. Our colorful past and bright future are a tribute to the company's outstanding history of leadership; thousands of amazing clients, partners, talented and loyal employees; and an unwavering focus on our values of quality, innovation, honesty and integrity.

## Lakehead Constructors, Inc. Timeline



2008 – Brian Maki



2010 – Lakehead Constructors Mountain Iron facility opened



2010 – Clyde Iron Works renovation



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## Total Success



# Spirit Mountain Pipeline

by Larry Wallin, Senior Project Manager



When you go through as much water as Spirit Mountain Ski Resort does making snow and you have a massive resource of water right down the hill, it only makes sense to tap that source directly rather than pull in water through 16 miles of pipe from the city of Duluth. In May 2015, Lakehead Constructors, Inc. (LCI) broke ground to make this a reality. Lakehead's scope of work mainly consisted of constructing the main pump house and installing the forced water pipeline from the main pump house to the distribution network of piping along the ski runs. From the main pump house, pipelines were run to three valve houses built halfway up and at the top of the slope, which LCI constructed to further distribute water to each of the terminals along the slope. Snow guns were then connected to these terminals. In all, about one mile of pipeline was installed, and capacity is almost triple what it was previously. After a summer of contending with steep, muddy terrain and countless boulders of all sizes, work was completed in October, just in time for the 2015-2016 ski season.

In its first season, the project has already proven to be a huge success with annual savings estimated at \$200,000. While this is the polar opposite of "making hay while the sun shines," the goal is still the same — to make the most of ideal weather, but in this case, for making snow. With the much higher capacity of the new system, Spirit Mountain can do that like never before.

The benefits continue even after the season ends. When spring arrives and the snow melts, the runoff is collected in a pond at the base of the hill, separated from the sediment and returned back to the St. Louis River via the reversible pipeline.



# Canadian National Railway **BRIDGE FIRE**

In late May 2015, a mechanical failure caused the Canadian National Railway (CN) bridge over the Rat Root River in Ericsburg, near International Falls, to catch fire. By the time the flames were extinguished, the bridge was a total loss. With this being a mainline route for the CN and one of busiest rail crossings on the U.S.-Canadian border, it was crucial to get trains through as soon as possible. As with past CN emergencies, Lakehead

Constructors, Inc. was called in to provide support. CN, along with LCI and others, worked 24 hours a day to build a shoefly around the destroyed bridge to get trains across the river. Overall, it took about three days to build the shoefly using approximately 30,000 yards of material. LCI stayed on site for an additional three weeks to provide support with the construction of the new bridge and cleanup.



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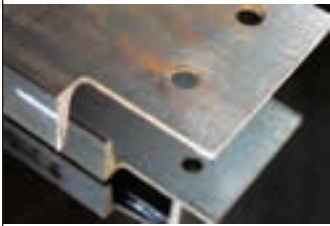
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# Lakehead Teams Up with Hoover for the **MNDOT TH 53 Rockfall Project**

by Randy Babiracki, Iron Range Facility Manager, Field Resource Manager

The Minnesota Department of Transportation (MNDOT) built the original Trunk Highway 53 (TH 53) between Virginia and Eveleth in 1960 on land owned by mining interests. The easement MNDOT signed included a requirement that the department would be given a three-year notice if the mining company needed to get the ore underneath the highway. In 2010, the mining interests notified MNDOT that the highway needed to be moved, and later that year, MNDOT and the mining company agreed to a 2017 date for the highway to be moved. Part of the development process included mineral rights acquisition. The state purchased the mineral rights under the new alignment to insure that MNDOT will not have to move the highway again. Many different options and routes for the new highway relocation were brought to the table and discussed publicly. The route chosen included the construction of an approximately 1,100-foot-long bridge more than 200 feet above the surface of the water-filled Rouchleau pit in Virginia.





Prior to bridge construction, the initial project would be the stabilization of the 300-foot-high cliff on the east side of the Rouchleau pit, otherwise known as the MNDOT TH 53 rockfall project. MNDOT hired Hoover Construction Company to create a safe working condition on the eastern wall for the future installation of the new bridge pier at water level. Hoover's goal with this project was to clear the rock and debris that had gathered on the cliff's benches during the past 40-plus years. The area to be cleared of material was approximately 300 feet high with an approximate width of 300 feet. Hoover used several different sizes of excavators and skid loaders, all which would need to be lowered to benches on the cliff's wall.

Hoover asked Lakehead Constructors, Inc. (LCI) to design lifting plans based on depth, height and radius along with the weights of all equipment Hoover would



use for the rock removal. After performing these various lift plans, a decision was made to use a 200-ton crawler crane at the rim of the pit along with a 100-ton crawler crane at water level on a barge. Another key factor in sizing a crane for this work was the limited space on the rim of the pit. Hoover would need to blast out a section of rock for the crane to set on safely. These cranes would hoist and lower equipment, personnel and various materials along with a clamshell bucket attachment. Hoover looked to LCI to provide crane service for this work based on LCI's reliability to get the right equipment for this project and ability to provide certi-

fied and qualified operators. Industrywide, LCI stands alone in its ability to provide multiple operators qualified to perform specialized crane services that are out of the ordinary.

The project started out with LCI's 200-ton Manitowoc 14000 SII crawler on the rim of the Rouchleau pit, lowering a three-yard clamshell bucket to the first bench, approximately 50 feet below the rim. This was to create a flat area on the first bench to safely land the larger equipment with the crane to start the rock removal. After the first bench was ready for additional equipment, the project took off from there. While positioned on the top side of the pit, LCI's crane lowered several skid loaders, mini excavators, remote control drill rigs, skip boxes, concrete buckets, fueling tanks, rockfall mesh, explosives and two 47,000-pound John Henry drill rigs. The John Henry drill rigs were disassembled and hoisted below in three different sections per rig and then reassembled on the cliff wall by Hoover's mechanics.

Also on the top of the list of duties for LCI's crane and operator was the continuous hoisting of personnel to the lower benches in a personnel hoist basket. LCI's crane would lower Hoover's workers daily to their equipment as well as MNDOT's geologists, survey crews and safety inspectors. Rock scalars working along the face of the cliff would also need to be hoisted in the personnel hoist baskets several times a day. After the upper half of the rock wall was cleared of debris and loose rock, LCI hoisted the rolls of rockwall mesh that would be anchored and draped over the top half of the cliff. This secure but temporary wall fencing would now make it safe to work below on the lower half of the cliff.

Much of the work on the lower half of the cliff mimicked what took place on the upper half. The only difference was that there would be a need to perform all of this crane service from a barge. A barge was designed and engineered by Poseidon Barge Corporation specific to LCI's CK1000-II, a Kobelco 100-ton



crawler crane. LCI's barge crane would dock on the west side of the pit lake and travel across to the east with drills, supplies, explosives, personnel, excavating equipment and, of course, a personnel hoist basket. The barge and crane would navigate the short distance in just minutes but, at times, would be traveling in 150-foot to 300-foot water depths. The lower half of the rockfall project would take a bit longer than the upper half as the rock was all taken from the top down, most of the material ending up on the lower half of the cliff.

As with all jobs, LCI's commitment to safety and its Zero Injury Safety Program were at the forefront of this project. One of the main obstacles faced was the sheer beauty of the job site. One could not help but stare at the view from up above, looking over the pit lake, or from the bottom side of the project, at the enormous expanse where there would soon be a bridge. Daily safety meetings were vital in reminding all workers on-site about the hazards of working at elevation next to a cliff edge as well as on water. Hoover and MNDOT were vital as they worked together with LCI to provide work scopes and detailed schedules, as well as accurate weights of equipment, well in advance. With this early information, LCI was able to perform all of the lift plans and rigging plans for the entire project ahead of time so a steady flow of work could continue throughout the project.

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# WLSSD BIOGAS PROJECT

by Joe Polo, Project Manager

In early 2015, Lakehead Constructors, Inc. (LCI) was awarded the Western Lake Superior Sanitary District (WLSSD) biogas conditioning and main campus heating improvements project. This project originated because WLSSD wanted a more efficient way to use the biogas generated from its digesters. Currently, WLSSD sends its biogas to an older biogas boiler or a flare. The existing biogas and natural gas boilers supply

the heat to keep the digesters running at an optimum temperature as well as supply heat to the buildings on campus.

The scope of the project was to demolish the old incinerators and cyclones in the building as well as many old heat exchangers, valves, piping, electrical motor control centers (MCCs) and wiring. Extensive concrete rework, infills and concrete masonry unit block work were needed to retrofit the building to accept the new equipment. The new equipment included three biogas boilers, six natural gas boilers, three plate heat exchangers, two biogas filter towers, and a biogas conditioning and compression system. An electrical room, with all the MCCs' electrical work needed to connect everything, was added on the boiler floor. The biogas filter towers needed a foundation with 15 driven pipe piles with a 2-foot-thick pile cap slab to mount the equipment. A two-crane lift was used to unload the tanks and place them on the pile cap slab.

LCI, acting as the general contractor on this project, managed over 20 subcontractors in order to complete the job. Rachel Contracting was hired for the demolition.

Total Mechanical Services took care of the mechanical work. EIM was the electrical contractor, partnering with Primex on controls. Harbor City Masonry, Swanson & Youngdale, Hecksel Machine and A.W. Kuettel were just a few of the other contractors that comprised a great project team.

The project began April 1, 2015, with an expected completion date in April 2016. The new system will be fully functional by early March 2016.





# LCI'S NB AND ASME CODE PROGRAM

## Repairs, Alterations, Assemblies, Fabrications and Installations

by Charlie Cleaver, Welding Process Engineer

**S**ince 1988, Lakehead Constructors, Inc. (LCI) has maintained various certificates of authorization through the National Board of Boiler and Pressure Vessel Inspectors (NB) as well as the American Society of Mechanical Engineers (ASME).

The work itself covers a broad spectrum but can be categorized in three ways: the repairs and alterations to metallic pressure equipment ("R" certificate), the assembly of power boilers ("A" certificate), and the fabrication and assembly of pressure piping ("PP" certificate). Because of the efforts invested in maintaining these certificates, clients are provided a standardized level of quality for the equipment that was installed, repaired or altered.

To support this type of work, the company owns and maintains various types of up-to-date and calibrated equipment, such as temperature, amperage and voltage monitoring devices; measuring tools; welders; and ultrasonic hardness testers. Beyond the equipment, the program relies on a number of individuals — commissioned authorized inspectors, engineers, quality control managers, certified welding inspectors, nondestructive evaluation personnel, safety personnel, and a wide array of skilled and

To support this type of work, the company owns and maintains various types of up-to-date and calibrated equipment, such as temperature, amperage and voltage monitoring devices; measuring tools; welders; and ultrasonic hardness testers.

trained craftspeople. As the work progresses, so do various forms of inspection and documentation.

Over the years, the ability to complete this work has brought the company to a number of unique projects and locations throughout the Midwest. Industries in which code work has been performed include the following: pulp and paper, power generation, mining and steel, chemical processing, and oil and gas (both refining and transmission). Each industry, and subsequently each client, typically has unique and proprietary processes that need to be addressed and left unaltered. Detail oriented project planning has proven itself to be a key component in successfully meeting these needs.

There are many parallels between satisfactorily completing code work and meeting clients' needs. Safety, quality, service and innovation are more than simply parallels — they are the tools LCI is committed to using in order to support clients and industries as unique as their locations and needs.



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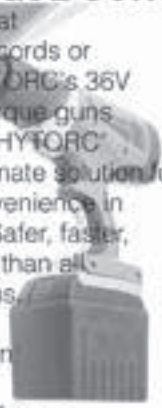
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