

Bach Steel: Bridge Moving - Historic Truss Bridge Restoration - Custom Fabrication and Erection

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Bach Ornamental and Structural Steel Inc (Bach Steel) is a company that specializes in the restoration of historic wrought iron and early steel structures. Much of our work focuses on the disassembly/reassembly, restoration, and relocation of historic metal truss and plate girder bridges, as well as hot riveting in both the shop and field. Related to this work is extensive experience in pneumatic pack rust removal, heat straightening, and welding of historic metals including pad welding for section loss.

Bridge work places a high expectation on our company in terms of quality of our work and safety of the finished product for the public. Most of the bridges worked on are eligible for or listed in the National Register of Historic Places, and our work typically must therefore conform to the Secretary of Interior's Standards for Rehabilitation. Bach Steel also brings a thorough understanding of the transportation industry and its expectations to the table, with extensive experience working with various state transportation departments and many different prime contractors. Bach Steel is a DOT preapproved company for riveting and other specialty historic bridge restoration work in states that have special qualifications for this type of work including Michigan, Indiana, Pennsylvania, and Ohio, and also has performed riveting and other bridge restoration work in Texas, New Mexico, Colorado, Delaware, Illinois, and Arkansas. Our experience also extends to the repair and rehabilitation of non-historic bridges including Interstate Highway and other major highway bridges.

Bach Steel also does general structural steel fabrication and erection, hand-forged (wrought) iron/steel, ornamental art/furniture, stairs and rails, manufacturing, miscellaneous structural metal work, welding and repair. Bach Steel was founded by owner Nels Raynor who has over 30 years of iron/steel fabrication and erection experience.

Contractor Experience (Past Project References)

Please find attached a list of projects that Bach Steel has worked on. As you will see, we have extensive experience in the repair of wrought iron and early steel.

Bridge Projects and Other Historic Structures: Project Portfolio

Project: Hidden Lake Forest Preserve Bridge, Dupage County, Illinois

- Dates of Work: April 2022-2023
- Brief description of the work performed: Disassembly, full in-kind restoration, and reinstallation of this abandoned highway bridge which had been in use in the park for pedestrian traffic for many years, and had a pier added underneath. The restoration required extensive replication of new riveted parts to match the originals. Heat straightening, pack rust removal, and hot riveting were all a part of this project. The restored bridge will serve pedestrian traffic after reinstallation in the original location. The bridge is a 50 foot 1870s iron bowstring built by the King Bridge Company of Cleveland, Ohio. Bach Steel was also responsible for disassembly and reassembly of truss.
- Specialty Work: Disassembly/reassembly of truss bridge, repair of wrought iron, pack rust removal, heat straightening, riveting (removal and installation).
- Name of the specialty work supervisor(s) on the project: Nels Raynor and Derek Pung and Lee Pung.
- Bridge Owner: Dupage County, Illinois.
- Cost of Work Performed By Bach Steel: \$413,828.95



Owner Contact:
Christopher Welch, P.E., CFM
Civil Engineer
Forest Preserve District of Dupage County
630-871-6411
cwelch@dupageforest.org

Prime Contractor Contact:
Scott A. Marquart
Vice President
Alliance Contractors
1166 Lake Avenue
Woodstock, Illinois 60098
P-815-338-5900
SMarquart@alliancecontractors.com



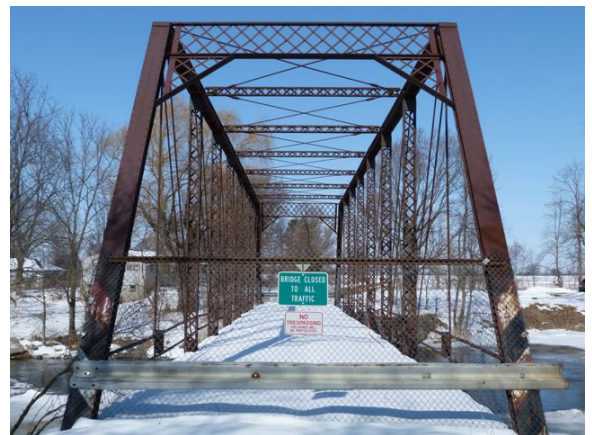
Project: Watts Mill Bridge, Beaver County, Pennsylvania

- Dates of Work: March 2019-2023
- Brief description of the work performed: Disassembly, full in-kind restoration, and reinstallation of this abandoned highway bridge which had been closed to traffic. The restored bridge will serve pedestrian traffic after reinstallation to the original location . The bridge is a 109 foot continuous wrought iron Pratt pony truss highway bridge built in 1878. Iron/Steel work: Bach Steel was responsible for repair of existing wrought iron, and riveting of replacement/replicated sections, and heat straightening of bent members. Bach Steel was also responsible for disassembly and reassembly of truss.
- Specialty Work: Disassembly/reassembly of truss bridge, repair of wrought iron, pack rust removal, heat straightening, riveting (removal and installation).
- Name of the specialty work supervisor(s) on the project: Nels Raynor and Derek Pung and Lee Pung.
- Bridge Owner: Beaver County, Pennsylvania.
- Cost of Work Performed By Bach Steel: \$187,564.00



Owner Contact:

Tammy Frank, Director
Beaver County Liquid Fuels
469 Constitution Boulevard
New Brighton, PA 15066
Phone: 724-770-4431
Fax: 724-728-3285
tfrank@beavercountypa.gov



Project: Snuff Mill "Martin Road" Bridge

- Dates of work: 2015 - 2022 (Multiple Phases)
- This project involved the relocation and reuse of a historic 1885 Pratt through truss previously located in Shiawassee County, Michigan. The bridge was reused at Auburn Heights Preserve in Delaware as a pedestrian bridge. Unique aspects of this project included near-collapsed stone abutments in Michigan that put the bridge and workers at risk and thus required temporary shoring before the bridge could be removed. Removal was done with temporary steel falsework placed in the river, allowing for disassembly with smaller equipment (no crane pick), thus minimizing the footprint in this environmentally sensitive area. Restoration was complicated by issues with the 1885 rivets, most of which required replacement due to an unusual brittle iron. Bach Steel replaced all defective rivets in-kind with new rivets meeting ASTM A 502. Other major iron work included replacement of the original floorbeams, which were unfortunately badly deteriorated.
- Specialty Work: Disassembly/reassembly of truss bridge, repair of wrought iron, pack rust removal.
- Name of the specialty work supervisor(s) on the project: Nels Raynor and Derek Pung and Lee Pung.



- Bridge Owner: Delaware Division of Parks and Recreation.
- Cost of Work Performed By Bach Steel: \$206,740.00

Owner Contact:

Delaware Division of Parks and Recreation
Planning Preservation and Development Section
Matthew P. Chesser
(302) 739-9235
Matthew.Chesser@state.de.us

Project: M-63 Blossomland Bridge, Berrien County, Michigan

- Dates of Work: 2020 - June 2021
- Brief description of the work performed: Bach Steel's portion of this historic plate girder bascule bridge rehabilitation included misc. steel repairs including hot driven rivets for any repairs requiring replacement of rivets. Bach Steel also installed a new steel floor for the bridgetender house.
- Specialty Work: Hot Riveting.
- Name of the specialty work supervisor(s) on the project: Nels Raynor and Derek Pung and Lee Pung.
- Bridge Owner: Michigan Department of Transportation.
- Cost of Work Performed By Bach Steel: \$107,826.00

Owner Contact:

Southwest Region Office
1501 Kilgore Rd.
Kalamazoo, MI 49001
Phone: 269-337-3900
Media Representative
Nick Schirripa
269-337-3927

Prime Contractor Contact:

Milbocker & Sons Inc
1256 29th Street
Allegan, MI 49010
269-673-2195
Scott A. Miller
smilbocker@milbocker.com



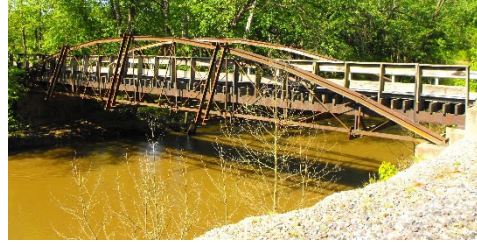
Project: Iron Bridge Road Bridge (Pike County, Indiana: Bridge 150)

- Dates of Work: March 2020 - March 2021
- Brief description of the work performed: This project involved the relocation and restoration of a historic 1875 cast and wrought iron bowstring bridge. The work included careful removal of modern, non-historic outriggers that had been added to stabilize the bridge for highway use. The new usage as a pedestrian bridge did not require these. The bridge was instead made usable by adding smaller vertical posts to the bridge to strengthen it.
- Specialty Work: Relocation of cast/wrought iron bridge; removal of non-original alterations.
- Name of the specialty work supervisor(s) on the project: Nels Raynor and Derek Pung and Lee Pung.

- Bridge Owner: Pike County Highway Department
- Cost of Work Performed By Bach Steel: \$305,625.00

Owner Contact:

Pike County Highway Department
552 N St Rd 61
Petersburg, IN 47567
roger@pikecounty.in.gov
(812) 354-9743



Prime Contractor Contact:

Ragle Inc.
5266 Vann Rd. Newburgh IN, 47630
812 853-9558
Jennifer Bradshaw
(812) 319-9944
jbradshaw@ragleinc.com



Project: I-96 over M-52 Bridges, Ingham County, Michigan

- Dates of Work: September 2020 - March 2021
- Brief description of the work performed: Pack rust removal around pin plates on pin and hanger steel multi-beam (stringer) bridge on pair of Interstate Highway bridges over state trunkline highway.
- Specialty Work: Pack rust removal, rivet replacement.
- Name of the specialty work supervisor(s) on the project: Nels Raynor and Derek Pung and Lee Pung.
- Bridge Owner: Michigan Department of Transportation.
- Cost of Work Performed By Bach Steel: \$124,000.00

Owner Contact:

University Region
4701 W. Michigan Ave.
Jackson, MI 49201
Phone: 517-750-0401
Fax: 517-750-4397
Aaron Jenkins
517-243-9075

Prime Contractor Contact:

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8177 Goldie Road
Walled Lake, MI 48390
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(248) 363-3813 General Office
jreed@cahull.com
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Project: M-55 Pine River Bridge, Manistee County, Michigan

- Dates of Work: February 2019-June 2020
- Brief description of the work performed: This project involved the repair of a 613 foot cantilevered deck truss highway bridge. Field work for Bach Steel included extensive pack rust removal. New members were also required for this historic bridge and had to be fabricated in the shop where Bach Steel conducted the required shop riveting for these built-up members.
- Specialty Work: Pack rust removal, shop riveting.
- Name of the specialty work supervisor(s) on the project: Nels Raynor and Derek Pung and Lee Pung.
- Bridge Owner: Michigan Department of Transportation.
- Cost of Work Performed By Bach Steel: \$318,067.00

Owner Contact:

MDOT North Region
1088 M-32 East,
Gaylord, MI 49735 Map
Phone: 989-731-5090

Secondary MDOT Contact:

Lloyd Baldwin
Historian, Environmental Section
E-Mail: baldwinl3@michigan.gov
Phone: 517-241-2702

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Project: Brandewie “Zenas King” Bridge, Relocation to Sydney, Ohio

- Dates of Work: October 2019-September 2020
- Brief description of the work performed: Disassembly, full in-kind restoration, and relocation/reassembly of this abandoned bridge which had been damaged by floods. The bridge is a 68 foot cast and wrought iron bowstring pony truss highway bridge built ca. 1875. The bridge relocation is to a park for pedestrian use. Iron/Steel work: Bach Steel was responsible for repair of existing wrought iron, repair and replication of cast iron connection blocks, riveting of replacement/replicated sections, heat straightening of bent members. Bach Steel was also responsible for disassembly and reassembly of truss.



- Specialty Work: Disassembly/reassembly of truss bridge, repair of wrought iron, pack rust removal, heat straightening, riveting (removal and installation), and repair of cast iron.
- Name of the specialty work supervisor(s) on the project: Nels Raynor and Derek Pung and Lee Pung.
- Bridge Owner: City of Sidney, Ohio.
- Cost of Work Performed By Bach Steel: \$187,564.00

Owner Contact:

Gary Clough
 Assistant City Manager/ Public
 Works Director
 City of Sidney, Ohio
 Phone: 937-498-8141
 Email: gclough@sidneyoh.com

Prime Contractor Contact:

Stephen S. Zachrich
 R.G. Zachrich Construction, Inc.
 10105 Haller Street
 Defiance Ohio 43512
 Phone: 419/782-7846
 Fax: 419/782-1433
 Cell: 419/576-0026
Stevejr@zachrichconstruction.com



Project: Farm Lane “Marsh Creek” Bridge

- Dates of work: January 2016-October 2020 (Multiple Phases)
- This project involved the relocation and reuse of a historic pony truss previously located in Adams County, Pennsylvania. The bridge was reused at Auburn Heights Preserve in Delaware as a vehicular bridge. To accommodate the required loading, the trusses were attached to steel stringers which help by carrying the heavier loads, while the trusses are carefully attached so as to retain their original appearance. Work included misc. repairs to the truss
- Specialty Work: Disassembly/reassembly of truss bridge, repair of wrought iron, pack rust removal.
- Name of the specialty work supervisor(s) on the project: Nels Raynor and Derek Pung and Lee Pung.
- Bridge Owner: Delaware Division of Parks and Recreation.
- Cost of Work Performed By Bach Steel: \$206,740.00



Owner Contact:

Delaware Division of Parks and Recreation
 Planning Preservation and Development Section
 Matthew P. Chesser
 (302) 739-9235
Matthew.Chesser@state.de.us

Project: I-75 River Raisin Bridge

- Dates of Work: September 2019-September 2020
- Brief description of the work performed: Pack rust removal of plate girder bridge on Interstate Highway.
- Specialty Work: Pack rust removal.
- Name of the specialty work supervisor(s) on the project: Nels Raynor and Derek Pung and Lee Pung.
- Bridge Owner: Michigan Department of Transportation.
- Cost of Work Performed By Bach Steel: \$25,035.86

Owner Contact:

Metro Region

18101 W. Nine Mile Rd.,
Southfield, MI 48075 Map

Phone: 248-483-5100

Fax: 248-569-3103

Diane Cross, Communications Representative
248-483-5127

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**Project: M-37 Muskegon River Bridge**

- Dates of Work: September 2019-November 2019
- Brief description of the work performed: Pack rust removal and heat straightening at pin and hanger assemblies of plate girder bridge
- Specialty Work: Pack rust removal, heat straightening.
- Name of the specialty work supervisor(s) on the project: Nels Raynor and Derek Pung and Lee Pung.
- Bridge Owner: Michigan Department of Transportation.
- Cost of Work Performed By Bach Steel: \$45,000.00

Owner Contact:

MDOT Grand Region
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Grand Rapids, MI 49504 Map
Phone: 616-451-3091
Toll Free: 866-815-6368
Fax: 616-451-0707

John Richard, Communications Representative
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RichardJ2@Michigan.gov

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Project: Historic Truss Bridges, Canon City, Colorado

- Dates of Work: December 2019
- Brief description of the work performed: This project involved misc. repairs to three historic truss bridges. The bridges included 2 historic riveted Pratt deck truss bridges, a 90 foot bridge, and a 158 foot bridge, that cross ravines on Tunnel Drive, which is today a pedestrian trail. The bridges date to 1930. The third bridge repaired was the historic 4th Street Bridge over the Arkansas River which is a wrought iron pin-connected Pratt through truss that was built in 1891. The work included replication of a missing piece of ornamental portal cresting as well as misc. rivet replacement.
- Specialty Work: Repair of wrought iron, riveting (removal and installation).
- Name of the specialty work supervisor(s) on the project: Nels Raynor and Derek Pung and Lee Pung.
- Bridge Owner: Beaver County, Pennsylvania.
- Cost of Work Performed By Bach Steel: \$22,440.00



Owner Contact:
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Phone: 719-269-9011
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Prime Contractor Contact:
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TMI Coatings, Inc.
3291 Terminal Drive
St. Paul, MN 55121
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ssalmon@tmicoatings.com



Project: Shelby County Bridge #13, Buck Creek, Relocation/Restoration To Blue River Park, Shelbyville, Indiana

- Dates of Work: September 2018 – April 2019
- Brief description of the work performed: Disassembly, full in-kind restoration, and relocation/reassembly of this 95 foot wrought iron pin-connected Pratt truss highway bridge built in 1889 to a park for pedestrian use. Iron/Steel work: Bach Steel was responsible for repair of existing wrought iron, and riveting of replacement/replicated sections, and heat straightening of bent members. The project had limited contingency funds available, so Bach Steel worked with the project Engineer to develop in-kind repair procedures for unanticipated repairs that addressed the problems but also minimized the cost of the work. Bach Steel was also responsible for disassembly and reassembly of truss.
- Specialty Work: Disassembly/reassembly of truss bridge, repair of wrought iron, pack rust removal, heat straightening, riveting (removal and installation).
- Name of the specialty work supervisor(s) on the project: Nels Raynor and Derek Pung and Lee Pung.
- Bridge Owner: Shelby County, Indiana.
- Cost of Work Performed By Bach Steel: \$150,352.00



Owner Contact:
Shelby County Courthouse Annex
25 W. Polk St.
Room 206
Shelbyville, IN 46176
Phone: 317.392.6330



Prime Contractor Contact:

Earl Settles

Estimator/Project Manager

HIS Constructors, Inc.

5150 E. 65th Street, Suite B, Indianapolis, IN 46220

earl.settles@hisconstructors.com

317-284-1195 office 317-883-0739 mobile

Engineer: USI Consultants

Project: Dix Toledo Road over Allen Road and Pennsylvania Road, Wayne County, Michigan

- Dates of Work: September-October 2018
- Brief description of the work performed: Removal of pack rust from a mid 20th century steel highway overpass girder bridge. Work included pneumatic hammer removal of pack rust and closing the gap between plates.
- Specialty Work: Pack rust removal.
- Name of the specialty work supervisor(s) on the project: Nels Raynor, Derek Pung and Lee Pung.
- Bridge Owner: Wayne County, Michigan.
- Cost of Work Performed By Bach Steel: \$83,833.20
- Original Prime Contract Amount: \$3,591,083.61
- Final Prime Contract Amount: \$6,579,508.92

Owner Contact:

Wayne County Roads Division

29900 Goddard Rd, Detroit, MI 48242

Phone: (734) 955-9920

Prime Contractor Contact:

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8177 Goldie Road

Walled Lake, MI 48390

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248.694.8030 Direct Office

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Project: Amtrak Railroad Bridge over St. Joseph River, Niles Michigan

- Dates of Work: December 2017.
- Brief description of the work performed: Misc. Installation of rivets on a historic 640 foot long Baltimore truss railroad bridge built in 1899, serving an active Amtrak railroad line. Work had to be completed in a manner so as not to disrupt traffic on the active railroad bridge.
- Specialty Work: Riveting.
- Name of the specialty work supervisor(s) on the project: Nels Raynor, Derek Pung and Lee Pung.
- Bridge Owner: Amtrak
- Cost of Work Performed By Bach Steel: \$13,250.00



Owner Contact:
National Railroad Passenger Corporation
AMTRAK
500 W. Jackson Blvd.
Chicago, IL 60661

Prime Contractor Contact:
Russ Benning
Project Manager
630-277-6243
russbenning@icceo.com
Illinois Constructors Corporation
39W866 Fabyan Pkwy
Elburn, IL 60119

Project: McIntyre (Paper Mill) Bridge

- Dates of work: January 2016 – July 2018
- This unique project involved the complete restoration of a rare 120 foot historic cast and wrought iron bowstring truss bridge built in 1883 that collapsed into a river in Iowa and was severely damaged. The bridge was restored by Bach Steel and installed on a trail at Auburn Heights Preserve in Delaware. Work included extensive heat straightening and spliced repairs of the top chord arch, and complete replication (with slight enlargement for strength) of the riveted vertical members, as well as additional repairs and replications throughout. Work included repair and replication of cast iron connection blocks and cast iron bearing shoes.
- Specialty Work: Disassembly/reassembly of truss bridge, repair of wrought iron, pack rust removal, heat straightening, riveting (removal and installation), replication and repair of cast iron.
- Name of the specialty work supervisor(s) on the project: Nels Raynor and Derek Pung and Lee Pung.
- Bridge Owner: Delaware Division of Parks and Recreation.
- Cost of Work Performed By Bach Steel: \$231,656.00

Owner Contact:
Delaware Division of Parks and Recreation
Planning Preservation and Development Section
Matthew P. Chesser
(302) 739-9235
Matthew.Chesser@state.de.us



Project: Repairs to Historic NM-395 Lincoln County Bridge, New Mexico

- Dates of work: October 2017
- Brief description of the work performed: Heat straightening of vertical members, portal bracing, and sway bracing of historic riveted through truss damaged by over-height truck. The bridge was built in 1927 and consists of a 140 foot span. Bach Steel completed shop riveting of replica lower sway and portal bracing beams. This was followed by field riveting of the replica beams in place onto the bridge, with heat straightening also being completed to correct members to remain in place. This project was completed (including painting work by the Prime Contractor) in the 30 day period as required by contract.
- Specialty Work: Heat straightening, riveting (installation).
- Name of the specialty work supervisor(s) on the project: Nels Raynor and Derek Pung and Lee Pung.
- Bridge Owner: New Mexico Department of Transportation.
- Cost of Work Performed By Bach Steel: \$134,875.00



Owner Contact:

New Mexico Department of Transportation
120 Cerrillos Road, Santa Fe, NM, 87504-1149
(505) 827-5100

Prime Contractor Contact:

TMI Coatings, Inc. Arizona Branch
Benjamin Nicholson
bnicholson@tmicoatings.com
P: (651) 452-6100
C: (952) 405-0743

Project: Relocation and Restoration of Historic Springfield Bridge, Conway, Arkansas

- Dates of work: November 2016 – August 2017
- Brief description of the work performed: This project included the removal of this abandoned (and leaning) 1874 cast and wrought iron bowstring bridge measuring 146 feet, which required removal of remaining timber deck, and installation of temporary bracing to prepare for its removal with cranes (cranes by others). This was followed by the nondestructive disassembly of the bridge (with match-marking of parts), and in-kind restoration of the bridge, including heat straightening of lower chord eyebars, vertical member rods, sway bracing tubes, and diagonal member rods. Bach Steel also fabricated simulation riveted caissons and installed these along with the load-bearing concrete substructure (also by Bach). This to be followed by reassembly and installation at the new park location. This project also involved fabrication and installation of replica riveted railing by Bach, as well as deck installation by Bach. Missing and broken cast iron components including connection blocks and bearing shoes had to be repaired or replicated.



- Specialty Work: Disassembly/reassembly of truss bridge, repair of wrought iron, pack rust removal, heat straightening, riveting (removal and installation), and cast iron repair.
- Name of the specialty work supervisor(s) on the project: Nels Raynor and Derek Pung and Lee Pung.
- Bridge Owner: City of Conway, Arkansas
- Cost of Work Performed By Bach Steel: \$291,460.00

Owner Contact:

Jack Bell,

Chief of Staff

Conway City Hall

1201 Oak Street

Conway, AR 72032

Phone: (501) 450-6100

jack.bell@cityofconway.org



Project: Repairs to Historic US-23 Bascule Plate Girder Bridge, Cheboygan, Michigan

- Dates of work: November 2016 – February 2017
- Brief description of the work performed: Bach Steel completed shop riveting of replica sidewalk cantilever brackets. This to be followed by field riveting of the replica brackets in place onto the existing bridge girders. This project also involves field riveting on the approach spans, which is a particularly challenging aspect of this project due to the limited space for personnel and equipment in areas being repaired.
- Specialty Work: Riveting (removal and installation).
- Name of the specialty work supervisor(s) on the project: Nels Raynor and Derek Pung and Lee Pung.
- Bridge Owner: Michigan Department of Transportation.
- Cost of Work Performed By Bach Steel: \$96,480.65
- Original Prime Contract Amount: \$1,658,344.31
- Final Prime Contract Amount: \$1,767,562.16



Owner Contact:
Benjamin J. Gowell, P.E.
Construction Engineer
Michigan Department of Transportation –
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(989) 731-5090

Secondary MDOT Contact:
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Historian, Environmental Section
E-Mail: baldwinl3@michigan.gov
Phone: 517-241-2702

Prime Contractor Contact:
Anlaan Corporation
P.O. Box 599 Grand Haven, MI 49417
Phone: 616.846.8442 ext. 134
Derrick Arens
derrickarens@anlaan.com
www.anlaan.com



Project: Repairs to Historic US-31 Bascule Plate Girder Bridge, Charlevoix, Michigan

- Dates of work: January 20 - 30 2017
- Brief description of the work performed: This project involved rehabilitation of approach spans and sidewalks of a historic riveted steel bascule bridge. This project involved field riveting and in-kind restoration by Bach as part of a repair project to take place during the winter when the operable bascule bridge does not operate for boats. Bach is responsible for field removal of existing rivets and installation of new rivets as part of floorbeam repairs, and as part of a replacement of the machinery room enclosure.
- Specialty Work: Riveting (removal and installation).
- Name of the specialty work supervisor(s) on the project: Nels Raynor and Derek Pung and Lee Pung.
- Bridge Owner: Michigan Department of Transportation.
- Cost of Work Performed By Bach Steel: \$44,091.00
- Original Prime Contract Amount: \$1,936,179.73
- Final Prime Contract Amount: \$1,968,820.43

Owner Contact:
Benjamin J. Gowell, P.E.

Construction Engineer
Michigan Department of Transportation –
Gaylord TSC
GowellB@michigan.gov
(989) 731-5090

Secondary MDOT Contact:
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Historian, Environmental Section
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Phone: 517-241-2702

Prime Contractor Contact:
Anlaan Corporation
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Grand Haven, MI 49417
Phone: 616.846.8442 ext. 134
Derrick Arens
derrickarens@anlaan.com
www.anlaan.com



Project: SR-1029 Over Tunkhannock Creek Bridge Restoration and Relocation, Wyoming County, Pennsylvania

- Dates of Work: November 2015 – April 2018
- Brief description of the work performed: Full in-kind restoration of this rare design lenticular metal truss bridge and relocation to park for pedestrian use. Steel work: Bach Steel was responsible for repair of existing steel (including pack rust removal), and riveting of replacement/replicated sections including replicating new riveted bottom edge bracing and vertical end posts. Bach Steel also responsible for disassembly and reassembly of truss. Missing cast iron end post caps, plaques, and pin caps also required replication.
- Specialty Work: Repair and welding of wrought iron, pack rust removal, riveting (removal and installation), cast iron repair and replication.
- Name of the specialty work supervisor(s) on the project: Nels Raynor and Derek Pung and Lee Pung
- Bridge Owner: Pennsylvania Department of Transportation
- <http://bachsteel.com/project-gallery/project-gallery-historic-bridge-restoration-pierceville-bridge/>
- Cost of Work Performed By Bach Steel: \$316,114.00

Owner Contact:
Ryan Vitaletti
Project Engineer/Inspector
rvitaletti@pa.gov
PennDOT District 4-0
55 Keystone Industrial Park
Dunmore PA 18512
Main Number: 570-963-4061

Secondary PennDOT/Owner Contacts:
Kara H. Russell | Historic Preservation Supervisor
PA Department of Transportation
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Highway Delivery Division
Environmental Policy and Development Section
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Kris Thompson
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PA Department of Transportation | Bureau of Project Delivery
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Project Consulting Engineer Contact:
Brandon J. Newpher E.I.
Structural Designer
McCormick Taylor
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Project: M-86 Bridge Relocation and Restoration, St. Joseph and Cass Counties

- Dates of Work: August 2016 – August 2018 (Completed In 2 Phases)
- Brief description of the work performed: Bach Steel was responsible for the match-marking and non-destructive disassembly of this two lane rivet-connected pony truss bridge of heavy construction. Bach is then responsible for completing in-kind restoration/repair (including hot riveting and pack rust removal) to the existing steel members, followed by reassembly of the bridge at its new location on a county road in Cass County.
- Project Award: American Public Works Association Michigan Chapter, 2020 Project of the Year in Category: Historic Preservation \$1-\$5 Million
- Specialty Work: Pack rust removal, heat straightening, riveting.
- Name of the specialty work supervisor(s) on the project: Nels Raynor and Derek Pung and Lee Pung.
- Cost of Work Performed By Bach Steel: \$305,156.00
- Original Prime Contract Amount: \$4,944,120.71
- Final Prime Contract Amount: \$6,152,223.29
- Bridge Owner: Michigan Department of Transportation and Cass County Road Commission.
- Additional Photos: <https://historicbridges.org/bridges/browser/?bridgebrowser=michigan/crystalsprings/>

Owner Contact:
Lloyd Baldwin
Historian, Environmental Section
Michigan Department of
Transportation
E-Mail: baldwinl3@michigan.gov
Phone: 517-241-2702

Prime Contractor Contact:
Todd M. Schrader
President
Hardman Construction
todd@hardmanconstruction.com
242 South Brye Road
Ludington, MI 49431-9362
Phone: (231) 845-1236

Engineer:
OHM Advisors
<https://www.ohm-advisors.com/>



Project: M-14 Huron River Plate Girder Bridge Repairs, Ann Arbor, Michigan

- Dates of Work: July 2016 - October 2016
- Brief description of the work performed: This project involved removal of pack rust and straightening of affected steel on this bridge which has fracture critical details and remained open to traffic during the pack rust removal process. The repair areas were primarily the bottom flanges of the plate girders. Doing this work properly involves careful heating of the steel with close monitoring of the temperature of the steel throughout the heating process to insure the integrity of the steel is not compromised. Working with MDOT, Bach Steel developed a procedure to ensure this work could safely be performed with the bridge open to traffic.
- Specialty Work: Pack rust removal.
- Name of the specialty work supervisor(s) on the project: Derek Pung and Lee Pung.
- Bridge Owner: Michigan Department of Transportation.
- <http://bachsteel.com/projects/m14huronriver.pdf>
- Cost of Work Performed By Bach Steel: \$289,422.00
- Original Prime Contract Amount: \$9,911,332.70
- Final Prime Contract Amount: \$11,491,076.73

Owner Contact:
Biniam K. Aregawi
MDOT-Design Division, Bridge
Section
Van Wagoner Building
425 West Ottawa Street
PO Box 30050 Lansing, Michigan
48909
517.373.0628

Prime Contractor Contact:
C.A. Hull Co., Inc.
8177 Goldie Road
Walled Lake, MI 48390
810.217.0453 Mobile
248.694.8030 Direct Office
(248) 363-3813 General Office
jreed@cahull.com
www.cahull.com



Project: Rehabilitation of Historic M-72 Ausable River Bridge, Grayling, Michigan

- Dates of work: March 2016 – May 2016
- Brief description of the work performed: In-kind restoration of a historic riveted steel bridge. Bach Steel completed shop riveting of replica sidewalk cantilever brackets. This was followed by field riveting of the replica brackets in place on the bridge. Repair of existing steel included removal and replacement of selected abutment rivets, as well as minor pack rust removal.
- Specialty Work: Pack rust removal, riveting (removal and installation).
- Name of the specialty work supervisor(s) on the project: Nels Raynor and Derek Pung and Lee Pung.
- Bridge Owner: Michigan Department of Transportation
-
- Cost of Work Performed By Bach Steel: \$45,200.00
- Original Prime Contract Amount: \$1,783,824.80
- Final Prime Contract Amount: \$1,960,921.86

Owner Contact:

Benjamin J. Gowell, P.E.
Construction Engineer
Michigan Department of Transportation –
Gaylord TSC
GowellB@michigan.gov
(989) 731-5090

Secondary MDOT Contact:

Lloyd Baldwin
Historian, Environmental Section
E-Mail: baldwinl3@michigan.gov
Phone: 517-241-2702

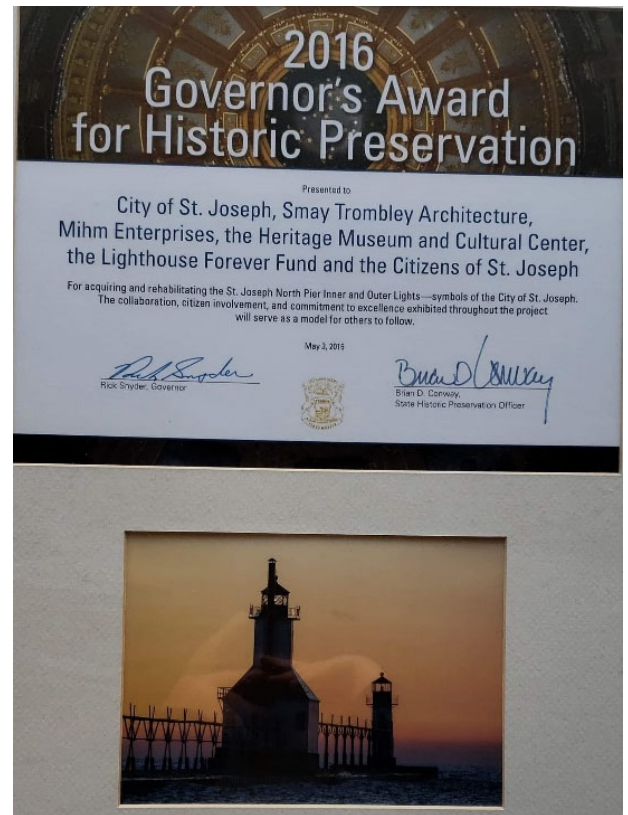
Prime Contractor Contact:

Anlaan Corporation
P.O. Box 599
Grand Haven, MI 49417
Phone: 616.846.8442 ext. 134
Derrick Arens
derrickarens@anlaan.com
www.anlaan.com



Project: Restoration of the St. Joseph Lights, St. Joseph, Michigan

- Dates of work: August 2015 – March 2016
- Brief description of the work performed: In-kind restoration of the historic 1906 lighthouse complex, which consists of the main lighthouse, a range light, and over 1,700 feet of riveted catwalk. All work for this National Register lighthouse had to be in keeping with the Secretary of Interior's Standards For Rehabilitation. Bach Steel's scope of work included pack rust removal and replication of partial sections of elevated catwalk for St. Joseph Lighthouses. Hot riveting used throughout project both in the shop and in the field. Heat straightening as needed to correct damaged steel, particularly on the riveted steel legs supporting the elevated catwalks where impact damage existed. Work included replication of riveted steel doors for lighthouses and miscellaneous repair and replication work for lighthouses. Work also included misc. repairs to the steel lighthouse buildings.
- Project Award: 2016 Governor's Award for Historic Preservation
- Specialty Work: Heat straightening, pack rust removal, riveting (removal and installation).
- Name of the specialty work supervisor(s) on the project: Nels Raynor (shop) and Derek Pung and Lee Pung (field).
- Bridge Owner: City of St. Joseph, Michigan
- <http://bachsteel.com/project-gallery/project-gallery-historic-lighthouse-restoration-st-joseph-lights-and-catwalk/>
- Cost of Work Performed By Bach Steel: \$296,398.00

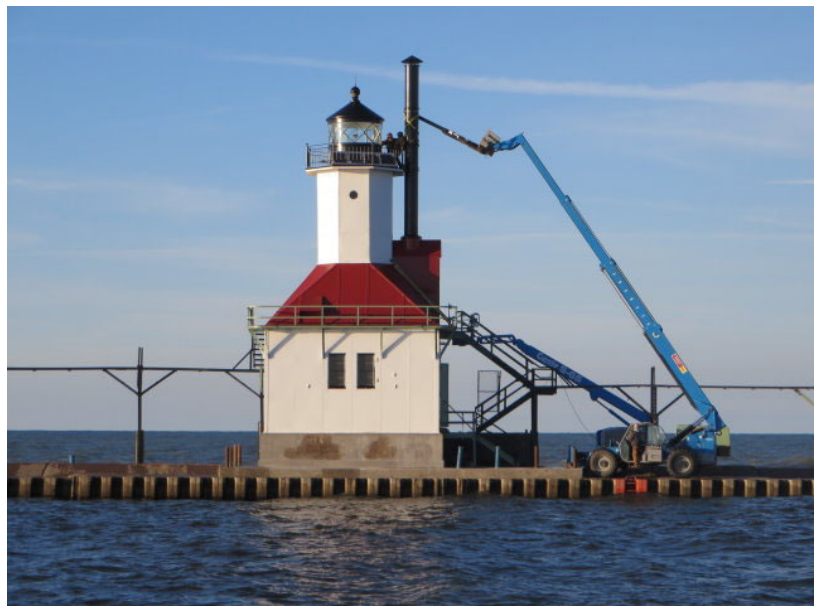


Owner Contact:

City of St. Joseph
City Clerk/Finance Director: Sara McCallum
Address: 700 Broad Street
Phone: (269) 983-6325

Prime Contractor Contact:

Bob Ziman
Project Manager
Mihm Enterprises, Inc.
Office: 269-751-5522
info@mihmenterprises.com



Project: CR-125 (Providence Road) over Little Brazos River, Robertson County, Texas

- Dates of work: 2012-2014
- Brief description of the work performed: Full in-kind repair and restoration of this historic metal truss bridge for continued vehicular use. Dating to the early 20th century, this pin-connected Pratt through truss features a main span of 150 feet. Steel work: Bach Steel was responsible for repair of existing steel including heat straightening including repair of moderate impact damage to a vertical member of the truss, riveting of replacement/replicated sections including base of end posts.
- Specialty Work: Disassembly/reassembly of truss bridge, repair of wrought iron, pack rust removal, heat straightening, riveting (removal and installation).
- Name of the specialty work supervisor(s) on the project: Nels Raynor
- Bridge Owner: Robertson County, Texas, Texas Department of Transportation Oversight.
- <http://bachsteel.com/project-gallery/project-gallery-historic-bridge-restoration-providence-road-bridge/>
- Cost of Work Performed By Bach Steel: \$125,000.00

Owner Contact:

Robertson County Texas

Judge Charles L. Ellison

P. O. Box 427

Franklin, TX 77856

Phone: 979-828-3542

(CONTRACT THROUGH TXDOT):

125 East 11th St.

Austin, TX 78701

(512) 463-8588

Prime Contractor Contact:

Scott Miller

Vice President

Davis Construction, Inc.

5236 Dumond Court Suite A

Lansing, MI 48917

(517) 322-3800 - Office

(517) 712-1160 – Cell

Scott@davisconstruction.us

http://www.davisconstruction.us/company_directory.htm



Project: CR-120 (Wildcat Bridge Road) over Little Brazos River, Robertson County, Texas

- Dates of work: 2012-2014
- Brief description of the work performed: Full in-kind repair and restoration of this historic metal truss bridge for continued vehicular use. Dating to 1920, this pin-connected Pratt through truss features a main span of 150 feet. Steel work: Bach Steel was responsible for repair of existing steel, including heat straightening of truss members and bracing as needed, riveting of replacement/replicated sections including base of end posts.
- Specialty Work: Disassembly/reassembly of truss bridge, repair of wrought iron, pack rust removal, heat straightening, riveting (removal and installation).
- Name of the specialty work supervisor(s) on the project: Nels Raynor
- Bridge Owner: Robertson County, Texas, Texas Department of Transportation Oversight.
- <http://bachsteel.com/project-gallery/project-gallery-historic-bridge-restoration-wildcat-bridge/>
- Cost of Work Performed By Bach Steel: \$175,000.00

Owner Contact:

Robertson County Texas
Judge Charles L. Ellison
P. O. Box 427
Franklin, TX 77856
Phone: 979--828-3542
(CONTRACT THROUGH TXDOT):
125 East 11th St.
Austin, TX 78701
(512) 463-8588

Prime Contractor Contact:

Scott Miller
Vice President
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5236 Dumond Court Suite A
Lansing, MI 48917
(517) 322-3800 - Office
(517) 712-1160 – Cell
Scott@davisconstruction.us
http://www.davisconstruction.us/company_directory.htm



Bunker Mill Bridge, Kalona, Iowa

- Dates of work: 2013-2015
- Brief description of the work performed: Repair and in-kind restoration of this historic wrought iron truss bridge for pedestrian use. The pin-connected Pratt through truss with its 118 foot span was built in 1887. Work included heat straightening as needed, pack rust removal as needed, and a new steel deck stringer flooring system for the bridge.
- Specialty Work: Disassembly/reassembly of truss bridge, repair of wrought iron, pack rust removal, heat straightening, riveting (removal and installation).
- Name of the specialty work supervisor(s) on the project: Nels Raynor
- Bridge Owner: Julie Bowers, Workin' Bridges (North Skunk River Greenbelt Association)



Project: BR 1102(020) CR Piano Bridge Road, Fayette County, Yoakum District, Texas

- Year the work was completed: 2012
- Brief description of the work performed: Full in-kind repair and restoration of this historic wrought iron truss bridge for continued vehicular use. The 80 foot pin-connected Pratt through truss span was built in 1885. Bach Steel was responsible for repair of existing steel, including heat straightening, hot riveting as needed for fasteners, pack rust removal as needed. Heat straightening work included the heavily impact-damaged portal bracing, bent bottom chord eyebars (a fracture critical member), and impact damaged lattice railing.
- Specialty Work: Disassembly/reassembly of truss bridge, repair of wrought iron, pack rust removal, heat straightening, riveting (removal and installation).
- Name of the specialty work supervisor(s) on the project: Nels Raynor
- Bridge Owner: Fayette County, Texas, Texas Department of Transportation Oversight.
- <http://bachsteel.com/project-gallery/project-gallery-historic-bridge-restoration-piano-bridge/>
- Cost of Work Performed By Bach Steel: \$185,000.00

Owner Contact:

Fayette County
Judge Ed Janecka
151 North Washington St., Room 301
La Grange, TX 78945
Office Phone: (979) 968-6469
E-mail: ed.janecka@co.fayette.tx.us (CONTRACT THROUGH TXDOT):
125 East 11th St.
Austin, TX 78701
(512) 463-8588

Prime Contractor Contact:

Scott Miller
Vice President
Davis Construction, Inc.
5236 Dumond Court Suite A
Lansing, MI 48917
(517) 322-3800 - Office
(517) 712-1160 – Cell
Scott@davisconstruction.us
http://www.davisconstruction.us/company_directory.htm



Project: State Street over Cass River

- Year the work was completed: 2010
- Brief description of the work performed: Extensive restoration of trusses in a shop setting. Trusses disassembled and restored in a shop setting. Some of the more noteworthy work requiring riveting was installation of new cover plate to existing top chord and end posts using riveting, and splicing replicated (riveted) pin plates for vertical members. The bridge was built in 1906 and consists of two 124 foot pin-connected Pratt through truss spans and an overall length of 331 feet.
- Specialty Work: Disassembly/reassembly of truss bridge, repair of wrought iron (eyebars), pack rust removal, heat straightening, riveting (removal and installation).
- Name of the specialty work supervisor(s) on the project: Nels Raynor
- Bridge Owner: Bridgeport Township in Saginaw County. Michigan Department of Transportation Oversight.
- <http://bachsteel.com/project-gallery/project-gallery-historic-bridge-restoration-bridgeport-bridge/>
- Cost of Work Performed By Bach Steel: \$265,000.00

**Owner Contact:**

BRIDGEPORT CHARTER TOWNSHIP

6206 Dixie Hwy.

Bridgeport, MI 48722

989-777-0940

(CONTRACT THROUGH MDOT):

Michigan Department of Transportation

State Transportation Building

425 W. Ottawa St.

P.O. Box 30050

Lansing, MI 48909

517-373-2090

Prime Contractor Contact:

Scott Miller

Vice President

Davis Construction, Inc.

5236 Dumond Court Suite A

Lansing, MI 48917

(517) 322-3800 - Office

(517) 712-1160 – Cell

Scott@davisconstruction.us

http://www.davisconstruction.us/company_directory.htm

Project: Sterling Road Bridge, Morenci, Michigan

- Year the work was completed: 2004
- Brief description of the work performed: Complete restoration of the truss parts for this wrought iron bridge which was relocated to Morenci, Michigan for pedestrian use. The 80 foot pin-connected Pratt through truss was built in 1897. The extensive deterioration on the bridge required hot metal riveting, and replication of deteriorated sections of truss members, and welding plate to address areas of section loss. Eyebars with section

loss were pad welded to repair them. Bach also did selected repairs to the existing floor beams and installed new rivets where needed.

- Specialty Work: Disassembly/reassembly of truss bridge, repair/welding of wrought iron, pack rust removal, heat straightening, riveting (removal and installation).
- Name of the specialty work supervisor(s) on the project: Nels Raynor
- Bridge Owner: Michigan Department of Transportation Oversight for City of Morenci.
- <http://bachsteel.com/project-gallery/project-gallery-historic-bridge-restoration-sterling-road-bridge/>



Kent Street Bridge in Portland, Michigan

- Year the work was completed: 2004
- Brief description of the work performed: Restored, reassembled, and reinstalled this large 220 foot through truss span in a new location over the Grand River for pedestrian use on Portland's trail system. The bridge is 219 feet in length and was built in 1907. Due to the size of the bridge and restrictions on the type of work that could be performed in the water, a special tramway system was designed to erect and deploy the bridge over the river in sections.
- Specialty Work: Disassembly/reassembly of truss bridge, pack rust removal, heat straightening, riveting (removal and installation).
- Name of the specialty work supervisor(s) on the project: Nels Raynor
- Bridge Owner: City of Portland
- <http://bachsteel.com/project-gallery/project-gallery-historic-bridge-restoration-kent-street-bridge/>



Information and details on additional projects available upon request, or at our website
www.bachsteel.com

Bach Steel General Project References

We also encourage you to contact Bach Steel's references below to discuss relevant projects and experience our firm has working with historic metal bridges. Our references are as follows:

Brion Klopf, Michigan Department of Transportation (Reference For Michigan Projects)
Bridge Operations / Steel Fabrication Specialist
(517) 204-6701
klopfb@michigan.gov

Vern Mesler (Reference for Michigan Projects)
VJM Metal Craftsman, Former Project Manager for Historic Bridge Park, Calhoun County, MI
www.historicbridgerestoration.com
Phone: 517-614-9868
Email: meslerv@gmail.com

Jim Reed (Reference for Michigan Projects)
CA Hull
Phone: 810.217.0453 Mobile
Office Phone: 248.694.8030
Email: jreed@cahull.com

Scott Miller, Vice President, Davis Construction (Reference for Michigan and Texas Projects)
Phone: (517) 322-3800 Ext. 18
Mobile: (517) 712-1160
scott@davisconstruction.us
<http://www.davisconstruction.us/>

Letter of Recommendation

Dec 7, 2010
Subject: Letter of Recommendation

To whom it may concern:

I have worked with Nels Raynor on numerous Michigan Department of Transportation projects. He has shown that he has an excellent working knowledge of structural steel, particularly in the preservation of historic bridges. He has disassembled, repaired, and reassembled multiple historic bridges for the Department of Transportation with a superb quality of workmanship which is hard to find. He is a craftsman in the sense of having the ability to restore antique components with modern equipment meeting today's standards and specifications. He has an unlimited all position

welding qualification with the Michigan Department of Transportation and has shown an expertise in all the tools required for this type of construction including torch and saw cutting, rivet removal and installation, and repair of section loss. He has my recommendation for any type of structural steel work which you may require. If you have any questions feel free to contact me at the number listed below or by E-mail at: klopfb@michigan.gov My working title is "Steel Fabrication Specialist".

Thank you;
Brion Klopf
Bridge Operations
(517) 204-6701

Contact Information

Nels Raynor, Owner and President

Address:

Bach Ornamental and Structural Steel Inc.
508 North Mead Street
St. Johns, MI, 48879-1328

Phone: 517-581-6243

Email: nels@bachsteel.com

Website: www.bachsteel.com

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