



# Project: Restoration of the St. Joseph Lights and Catwalk

Project Completed: 2016

Bach Steel was subcontracted to provide the steel-related restoration work needed for the historic St. Joseph Lights and Catwalks, which includes two riveted steel lights and a long elevated catwalk of riveted construction. This in-kind restoration was focused on repairing deterioration, while also returning the structures to their original appearance. This included the replication of original elements that had been lost or replaced over the years including riveted steel doors and a riveted steel chimney. The work included a wide range of skills including general steel fabrication and welded repairs, pneumatic pack rust removal, historically correct hot metal riveting, and historic replication. At Bach Steel's suggestion, the amount of original catwalk material specified for replacement was reduced, with pack rust removal procedures instead making the repair of original materials possible. The owner chose to invest this substantial cost savings right back into the project to cover additional work elsewhere on the lighthouse. This project was awarded the 2016 Governor's Award for Historic Preservation by the State of Michigan.

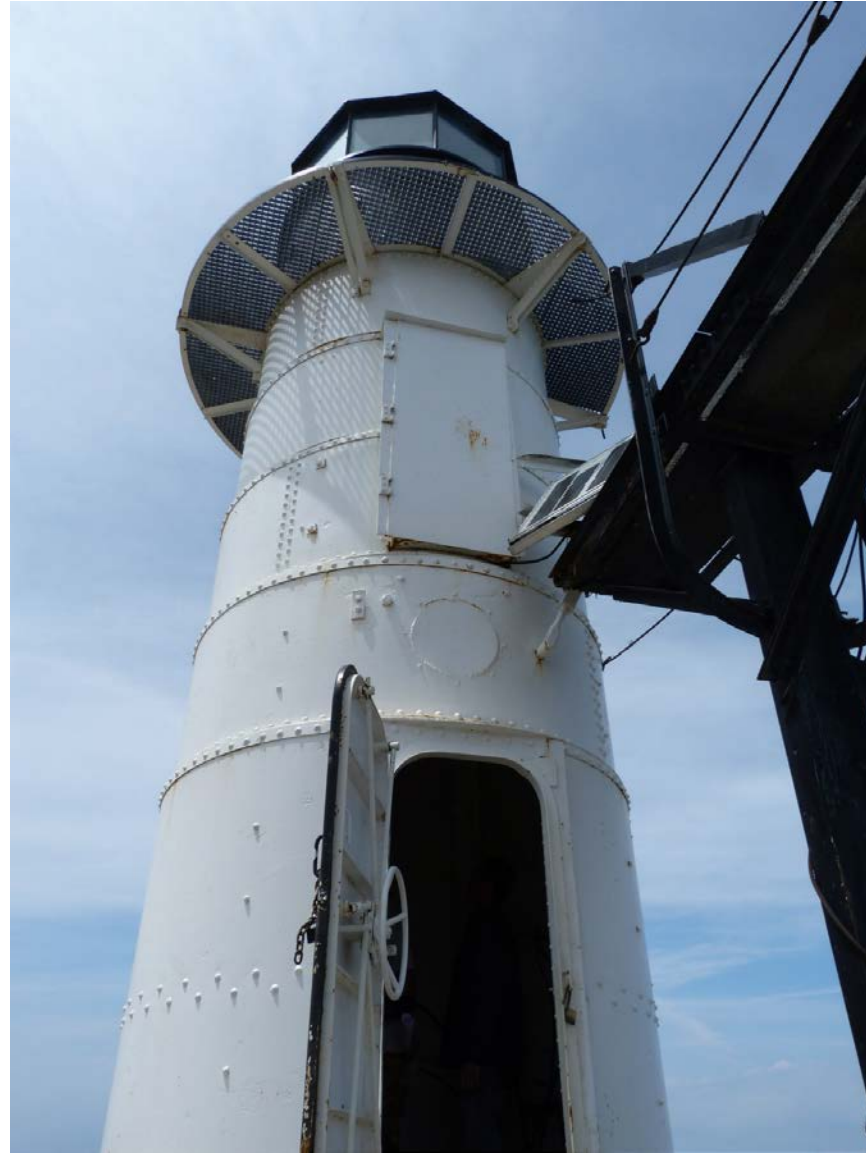


Lighthouse and Catwalks Before Project

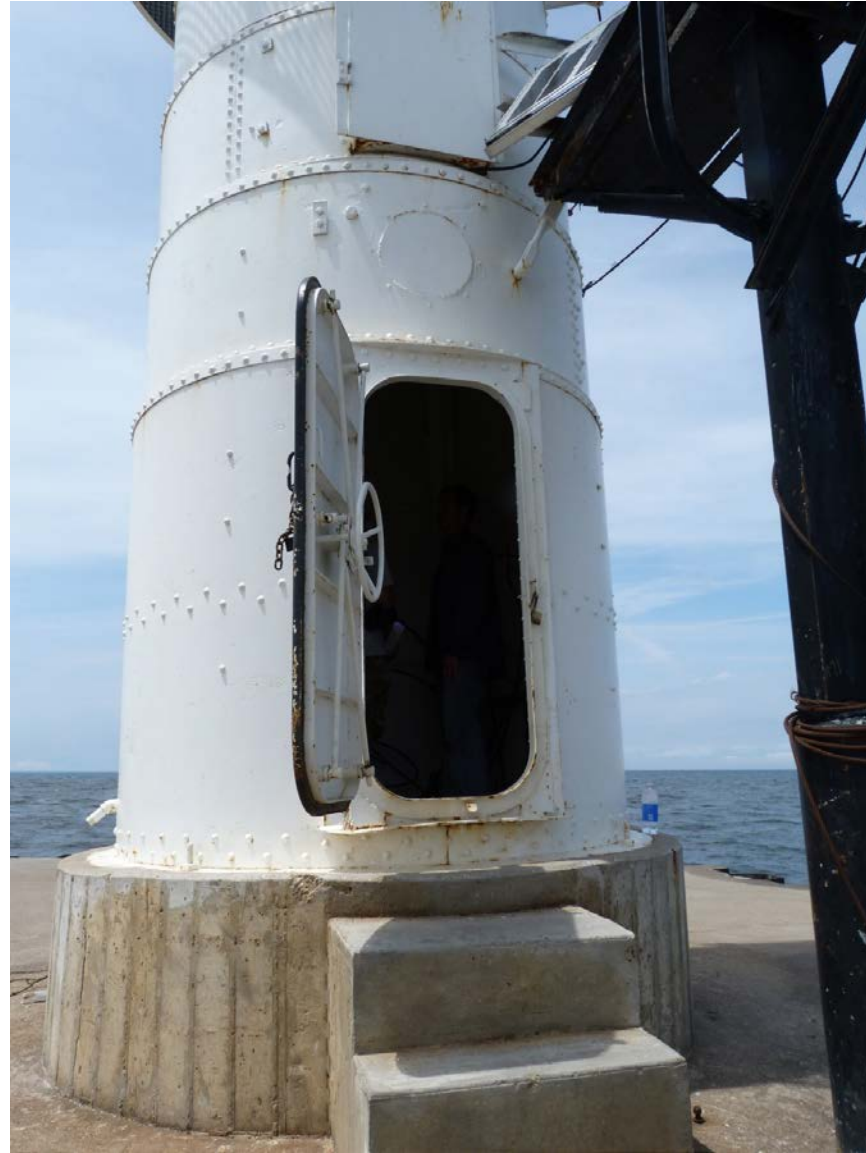


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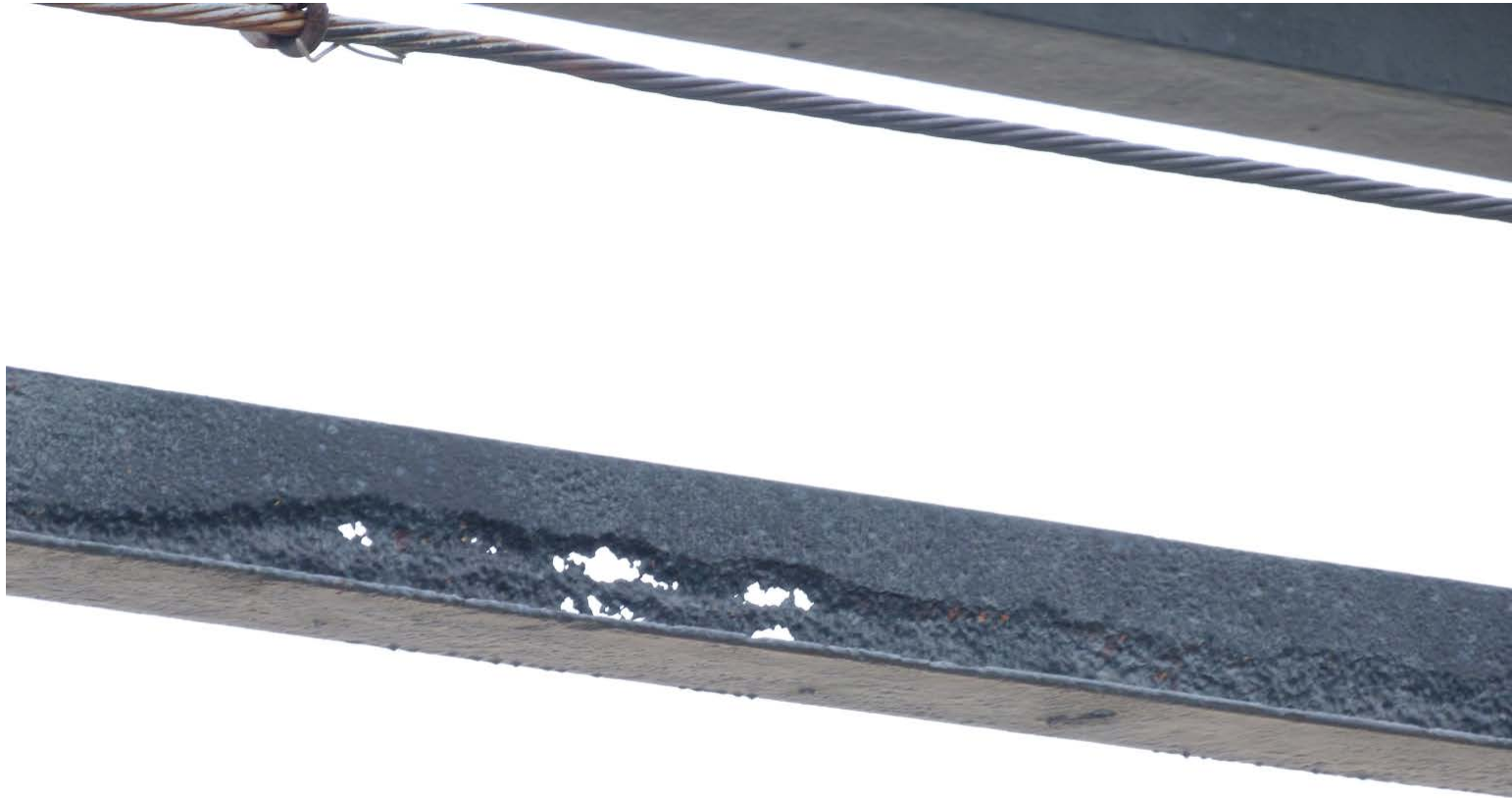


Lighthouse and Catwalks Before Project



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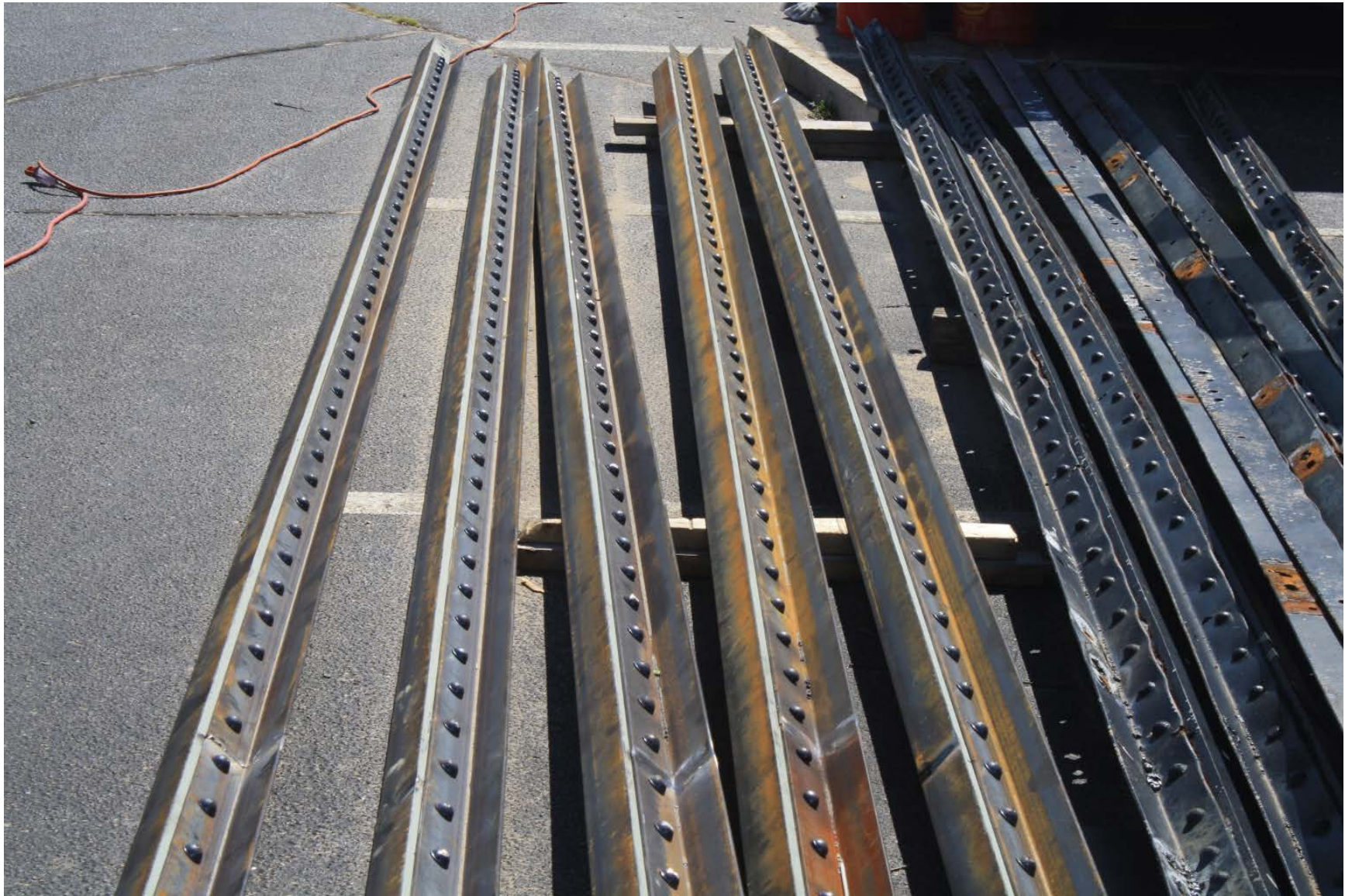
Field assembly of new deck section.



Field riveting  
catwalk structure.







Field riveting catwalk structure.



Installed replica  
catwalk section. Note  
rivets.



Removing and  
replacing  
deteriorated  
lighthouse  
structural  
elements.







Removing and replacing deteriorated lighthouse structural elements.

Removing and  
replacing deteriorated  
lighthouse structural  
elements.





Removing and  
replacing deteriorated  
lighthouse structural  
elements.





Shop riveting.





Shop riveting.



Shop fabrication and riveting of replica doors.





Shop fabrication and riveting of replica doors.



Shop fabrication and riveting of replica doors.





Shop fabrication and riveting of replica doors.



Shop fabrication and riveting of replica doors.



Shop fabrication  
and riveting of  
replica doors.





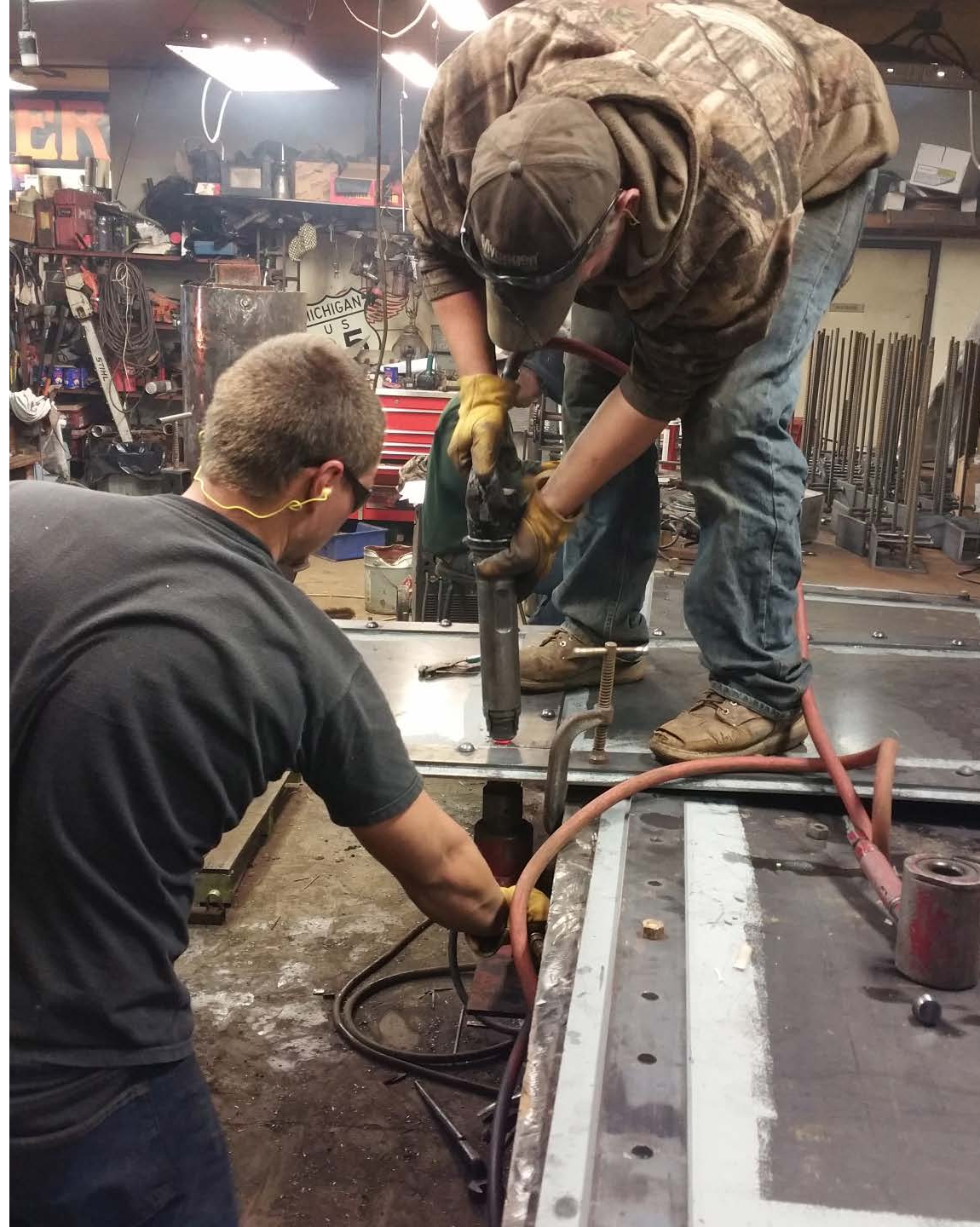
Shop fabrication and riveting of replica doors.





Shop fabrication and riveting of replica doors.

Shop  
fabrication and  
riveting of  
replica doors.







Shop fabrication and riveting of replica doors.



Shop fabrication and riveting of replica doors.





Pack rust removal on catwalks.



Pack rust removal on catwalks.



Straightening dent  
in leg.





Deteriorated leg prior to work.



Extent of pack rust  
prior to work on  
catwalk legs.



Extent of pack rust prior to  
work on catwalk legs.





Extent of pack rust  
prior to work on  
catwalk legs.





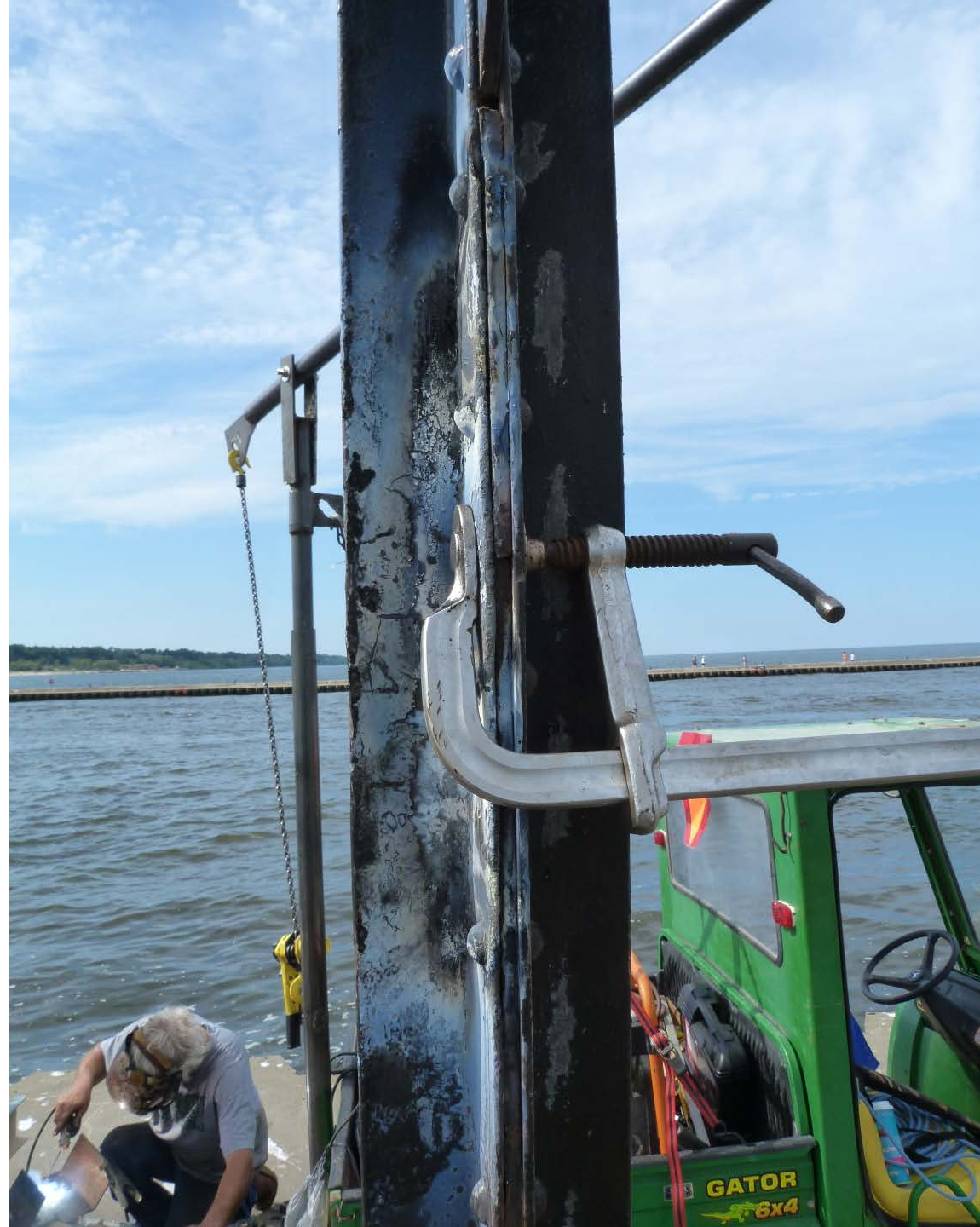
Pack rust removal completed, before bringing the bent plates back together.



Pack rust removal completed, process of bringing the bent plates back together in progress.



Pack rust removal completed, process of bringing the bent plates back together in progress (nearly complete in this photo).





Extent of pack rust  
prior to work on  
catwalk legs.



Pack Rust  
Removal In  
Progress





Pack rust removal  
complete.





Fabrication of replica chimney cap.





Fabrication of replica chimney cap.



Fabrication of replica chimney cap.





Fabrication of replica chimney cap.



Fabrication of replica chimney cap.





Fabrication of replica chimney cap.

Catwalk after  
repair/restoration.  
Primer coat of paint in  
place.





Catwalk after  
repair/restoration.  
Primer coat of paint  
in place.





Replicated, hot-riveted doors installed.





Replicated, hot-riveted doors installed, after painting.



Replicated, hot-riveted doors installed, after painting.





Installation of replica chimney. Lighthouse restoration mostly complete.



Installation of replica chimney. Lighthouse restoration mostly complete.





Outer light after restoration.