

# PALMER PARK BANDSHELL DETROIT, MI

Project Completion: 2024

Structural EOR: JDH Engineering

Steel Fabricator: Ross Structural Steel, Inc.

General Contractor: LLP Construction Services



## CASE STUDY

# CUSTOM TRUSSES TAKE CENTER STAGE IN PRESERVING A DETROIT LANDMARK

It began with a question: could a nearly century-old disintegrating wood framed bandshell transform into a durable steel structure without losing its historic charm? The answer, thanks to Vulcraft's expertise and teamwork with Ross Structural Steel and JDH Engineering, was a resounding yes, leading to the restoration and preservation of a local landmark for generations to come.

## BACKGROUND

The old Michigan State Fairgrounds located in Detroit was home to an historic bandshell that had served to entertain the surrounding community for generations. This wood framed structure had hosted performances from 1939 to 2009, including The Jackson 5, Duke Ellington, The Temptations, Alice Cooper, and Bob Dylan.

The fair was ended in 2009 due to declining attendance, and the fairground buildings, including this local icon, were slated for demolition. In response, a citizens' group, the People for Palmer Park, and Councilman Roy McCalister, Jr., arranged for the historic bandshell structure to be saved and relocated to nearby Palmer Park. Thus began a unique engineering project that would blend historical preservation with modern structural steel design.

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**Andy Mieler**  
Sales Engineer - Nucor Vulcraft

## DESIGNING OUTSIDE OF STANDARD PARAMETERS

The transformation from a wooden load-bearing structure to a predominantly steel one presented unique engineering challenges. The team had to balance preserving the bandshell's historic character while ensuring cost-effective structural integrity that would help the bandshell last another century. The design called for eight custom steel trusses, each with progressively smaller radii, requiring a unique solution beyond that of standard manufacturing parameters.

Roland Bokma of JDH Engineering called Vulcraft because he wasn't sure if this could even be realistically done. "I asked them, can you actually fabricate these things? They're radius trusses that are a unique shape."

"It's like building half an ice cream cone out of steel," explains Andy Mieler, Sales Engineer at Vulcraft. "It was one of the more unique engineering challenges my team

has ever faced. The Palmer Park Bandshell project wasn't just about replacing wood with steel, it meant designing eight progressively smaller radius trusses that fell outside standard design parameters, creating a complex conical shape that would preserve the original structure's iconic silhouette while ensuring its survival for future generations."

Beyond uniquely shaped and sized trusses, the project also demanded specialized solutions for the anchor bolt placement, the connection points, and also a conical decking layout that challenged conventional design approaches.

Courtney Fuller, Project Manager at Vulcraft, said the Vulcraft team relied on their past experience to problem solve and get the job done. "Once we got into it, we learned that our detailing programs didn't work; they weren't set up for this kind of design. We had to do a lot of hand detailing work that got us out of the norm of automation."



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This job fit like a glove. We were expecting field issues, but because of all the coordination that happened, that was virtually minimized.

**Charles L. Buhagiar**  
Vice President - Ross Steel

## TECHNICAL EXCELLENCE THROUGH EARLY COLLABORATION

Vulcraft's approach centered on extensive pre-planning and fast problem-solving. The team developed custom detailing processes when standard automation couldn't handle the unique barrel joist designs. Andy Mieler, Sales Engineer at Vulcraft, emphasizes their commitment: "We brought in the entire Vulcraft team just to make sure that we can fabricate this stuff, provide a quality product, and do it all safely."

JDH Engineering's Roland Bokma often relies on the Vulcraft team, saying, "Whenever we have a question about joists, we just give them a call and find out what we're able to do. It's just a good relationship that we have with them".

The partnership with Ross Structural Steel also proved key for optimizing the design for smooth installation. Charles L. Buhagiar, VP of Ross Steel (and PM for this project), notes, "Between our erector, our detailer, and coordinating between them, us and the design team, we came up with a deck layout that really helped out, that really worked out well, with the installation."

## JOBSITE EFFICIENCY

Emphasis on a collaborative approach yielded significant efficiency gains. Ross Steel reported approximately two weeks saved in installation time through the comprehensive upfront coordination. The precision in prefabrication and the inherent precision of steel work virtually eliminated field errors, as Ross Steel project PM Charles L. Buhagiar confirms: "This job fit like a glove. We were expecting field issues, but because of all the coordination that happened, that was virtually minimized."



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It's going to be a cool project visually — being able to see the preserved wood truss, with the back support that's this steel structure as a backdrop. I think it's going to be a point of pride for the community and for Detroit.

**Roland Bokma**  
Principal - JDH Engineering

## PROBLEM SOLVING FOR COMMUNITY IMPACT

The restored bandshell at Palmer Park embodies cultural continuity through the preservation of a community landmark and a piece of Detroit's soul for decades to come. Roland Bokma, Principal at JDH Engineering, looks forward to the public enjoying the completed bandshell: "It's going to be a cool project visually — being able to see the preserved wood truss, with the back support that's this steel structure as a backdrop. I think it's going to be a point of pride for the community and for Detroit."

This unique project may have challenged the standard design process, but early collaboration led to ease of construction and a finished structure everyone can be proud of. Courtney Fuller, Project Manager at Vulcraft, shared his thoughts on the experience: "This is definitely a project that proves that whatever challenges your project may have, our team can handle it for you."



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