



# STAHLIN NON-METALLIC ENCLOSURES

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## Stahlin Non-Metallic Enclosures and other local Michigan companies help the city of Belding achieve an improved lighting system

### THE SITUATION

Belding, Michigan is a quiet but progressive community, with a tremendously rich history and a promising future, situated between orchards and cornfields along the Flat River. In 2009, the Michigan Department of Transportation (MDOT) awarded the City of Belding with a \$650,000 enhancement grant for sidewalks, pathway, decorative lights, and trees to improve M-44 within the City of Belding. M-44 is a 37.4-mile (60.2 km) highway that runs northward from the intersection of M-11, 28th street and M-37. The project included M-44 in Belding from Orchard Street to Hall Street. The total cost for the project was \$1.2 million and included sidewalks, 200 trees and 84 historic lamps.

The City of Belding was committed to support as many area companies and individuals as possible. For the lighting portion of this project, they were fortunate to have three local businesses awarded the contracts.

### THE CHALLENGE

With the overall project in the very capable hands of engineering firm Fleis & Vanderbrink Engineering, Inc., and the electrical installation overseen by the experienced team at Airport Lighting, the next challenge was selecting the proper electrical enclosures to protect the electrical connections and wiring used to achieve the desired lighting results. It was necessary that enclosures be large enough to house the controls upon which the lighting system functioned. They also required an enclosure manufacturer that could offer the capabilities to effectively produce a customized enclosure to meet their individualized performance needs. On top of all of this, they needed an enclosure that would, over the long-term, protect the enclosed system from corrosion and environmental forces that might otherwise damage and jeopardize the city's investment. Due to the large size requirements (48"x36"x16") of the enclosure, they knew that a steel enclosure would be very heavy to handle during installation and would cost more than their budget would allow.

### THE SOLUTION TO THE CHALLENGE

Fortunately, the engineers on the project knew that composite fiberglass materials might offer a significant advantage over metallic alternatives. Specifically, composites have improved flexural strength because they can withstand an impact without permanent deformation or denting. Composite fiberglass also offers an effective continuous service temperature ranges from -76°F to +274°F, meaning that enclosures molded from this material will withstand even the most difficult operating environments. Plus, fiberglass composite materials can be superior to metallics --- even stainless steel in specific environments --- for the purpose of beating the high cost of damage from corrosion. Lastly, the weight of fiberglass would be less than metal, making the overall installation easier and less costly. Consequently, the decision was made to go with non-metallic enclosures for the job. As luck would have it, Stahlin Non-Metallic Enclosures is located in Belding, Michigan!

At this point in the project, Fleis & Vanderbrink Engineering was able to contribute through its knowledge of enclosures manufactured by Stahlin and also of Stahlin's ModRight™ Program --- an in-house service that offers the capability of producing a unique custom design through a hand lay-up process. Stahlin offers years of experience building large custom enclosures and, as a result, they understood immediately what was required. Fleis & Vanderbrink Engineering provided the necessary specs to Stahlin's engineering team, enabling Stahlin to quickly expedite the customized order and deliver it to the City of Belding well within the required turnaround time. Plus, for this special project, Stahlin was able to produce the enclosures in a green color so they would blend into their new environment.



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## THE RESULTS ACCORDING TO THE CITY OF BELDING

“There are many contracting and manufacturing firms that will solicit/bid on state and city projects. They are not necessarily all local. Therefore, we were pleased when local companies won the bids for this project. All three of these Michigan firms proved that going local doesn’t mean we were getting firms with less experience or higher cost. They all proved that going local is a great way to help the State of Michigan stay competitive and offer its citizens a great and viable place to live. Now, due to the help of these local firms, our city has a safer more attractive community for our constituents to enjoy.”

**Randy DeBruine**  
*Belding, Michigan’s City Manager*



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