

# The Case for CMU

## MIM Converts Food Bank and 20 Other Projects to CMU with Direct Design Software

Direct Design Software can help provide the kind of quick response needed to get masonry specified over other wall systems.

The Greater Lansing Food Bank, Bath, MI, is one of some 20 projects that the Masonry Institute of Michigan (MIM) has converted to load-bearing concrete masonry unit (CMU) construction over the past two years using NCMA's innovative Direct Design Software, according to Philippe Ledent, P.E., S.E., MIM's executive director.

The food bank provides 8–9 million meals annually to families in the region, along with some 40,000 vegetable plant “starts” and a wide variety of other services. The new CMU structure is allowing the organization to expand operations to serve the growing needs of the community.



Food bank converted to CMU with Direct Design Software.

### FEATURED PROJECT

#### Greater Lansing Food Bank Bath, MI

MASON CONTRACTOR	Xtreme Mason Contractors Lansing, MI
CMU SUPPLIER	Consumers Concrete Kalamazoo, MI
MASONRY ACCESSORIES	MASONPRO Northville, MI
WALL BRACING ENGINEER	Dailey Engineering Onsted, MI
CEMENT SUPPLIER	LafargeHolcim Detroit, MI

### Software Helps Demonstrate Cost Savings

“Saving money was a priority for the food bank, as it is for many projects. Originally, the entire building was going to be a steel structure or precast tilt-up concrete panels,” said Ledent, who joined MIM in 2020 and is also an adjunct professor in the Construction Engineering Technology department at the University of Toledo. Ledent worked with MIM member Xtreme Mason Contractors to convert the project to block.

“Xtreme is passionate about taking projects initially designed using steel, wood frame, precast, or tilt-up wall construction, and converting them to masonry,” Ledent said. “They, like all of our members, work hard

to demonstrate that masonry is affordable, resilient and one of the most sustainable products around.”



The Greater Lansing Food Bank provides 8–9 million meals per year in seven mid-Michigan counties.

Xtreme budgeted for the use of decorative splitface CMU in the office area, eliminated all of the building’s steel lintels, and converted the warehouse from poured walls to decorative CMU.

The CMU was supplied by Consumers Concrete, Kalamazoo, MI—a member of both MIM and NCMA. Melissa Kline, sales manager for manufactured and resale products at Consumers said, “We’re always very excited to see projects converted from other building systems to CMU. The whole industry is benefitting from the work that groups like MIM and NCMA are doing to tell the story of the benefits of masonry. We’re also very happy to see our product in a building like a food bank that’s going to help so many people in the community.”

“MIM used Direct Design Software to perform a preliminary structural design on the food bank that highlighted the economy of masonry, and also worked with the architect to meet the Michigan Energy Code using COMcheck (a program that makes it easy to determine whether structures meet the requirements of the IECC and ASHRAE Standard 90.1). CMU wound up being more economical than precast, and both the general contractor and the food bank agreed that masonry was the way to go,” Ledent said.

Jim Conklin, operations manager at Xtreme, said the client was very pleased with the outcome of the project. “They wholeheartedly agree that masonry was the better choice thanks to the ease of construction, elimination of the steel lintels and creation of a more attractive finished product compared to poured or tilt-up walls.”

### Using the Software Is Quick and Easy

The food bank project shows how Direct Design Software can help provide the kind of quick response needed to get masonry specified over other wall systems, Ledent said.

“Direct Design Software is very simple and easy to use. All you have to do is enter some basic information about window and door openings, sizes, etc., wind speed, and a few other parameters, and the program does the work. We’ve been able to be very responsive to the needs of our members and the design and building community.”

“We can react very quickly, sometimes in a couple of hours,” Ledent said, adding that when it comes to trying to convert a building from another system to masonry, time is often of the essence and the difference between masonry being specified or not.

### Built on TMS Direct Design Protocol

NCMA’s Direct Design Software is built using the protocols of The Masonry Society’s (TMS) *Direct Design Handbook for Masonry Structures* (TMS 403).

The software makes it easy to provide draftsmen and contractors with fully-detailed wall elevation drawings, up to the latest consensus standards. It fully automates the Direct Design approach and provides detailing of every block and reinforcing bar.

The program is also transparent—providing users with the detailed calculations that produced the design. When compared with other software packages, this transparency can help put engineers at ease that they are applying the applicable code provisions correctly. The latest version of Direct Design Software even enables users to import building models from Autodesk Revit and export structural schedules back.

➤ NCMA is offering a FREE 30-day trial of Direct Design Software. To find out more, and for links to a YouTube video and a webinar about the software, visit [ncma.org/software/direct-design/](https://ncma.org/software/direct-design/).