

MiBiz Design + Build

ON THE WEB
visit www.mibiz.com
and click on "design & build"

Design-build by the book

Wolverine Building, Post Associates ensure Kentwood District Library overcomes site challenges to serve community needs

By Joe Boomgaard | MiBiz
jboomgaard@mibiz.com

KENTWOOD — When problems arose with an existing library facility on Kalamazoo Ave., officials with the city of Kentwood had to decide whether it was worth spending hundreds of thousands of dollars just to bring the building up to working condition or start over with a brand new facility that would ideally last for decades into the future.

Stephen Kepley, director of engineering and inspections for Kentwood, said the city opted for a new facility built on land adjacent to city hall partly because repairs alone would have cost \$600,000 and partly because the former library was just too small to accommodate the more than 1,000 people per day that visited it. Based on a past study, the city knew it would need to nearly triple the size of the facility to make it work.

"One of the best things we did, before we hired Wolverine, was the Kent District Library and myself went out and looked at existing libraries to get an idea of what we liked and didn't like, what worked and didn't work, in our opinion. We learned from other successes and failures, and we nailed it," Kepley told *MiBiz*.

The city hired **Wolverine Building Group** for the design-build project, and Wolverine in turn brought on board architecture firm **Post Associates**. While the city had a good idea for the design of the facility, the project came with perhaps more than its fair share of challenges because of the site's proximity to existing infrastructure, utility lines and a decades-old capped landfill.

"We had to put it in with a shoehorn and grease," said Dulane Coval, project manager at Wolverine Building Group.

Because of the site's challenges, the project had a significant portion of its budget

FYI

Kentwood District Library

- 43,000 square feet, new construction
- \$8 million
- Contractor: Wolverine Building Group
- Architect: Post Associates
- Interior Design: ROI Design
- Furnishings: Custer Office Interiors

dedicated to site preparation. The building was built on the edge of what was once a ravine that was filled in as the site gradually became used as a landfill, and setting the foundation had to accommodate for soft soil as well as seeping methane gas from the landfill. Crews were further challenged because the site included an old section of road, as well as a host of utility lines — two water mains, thousands of pairs of telecommunications wires, a gas line and fiber optic cable — that were underneath it.

Given that the structure was going up on top of fill, the team had to get innovative in how it set the foundation for the building. Eventually, they determined the most cost-effective technique would be boring into the soil about 25 feet and using a system of funnels and chutes to put stone columns in place. Coval said the technique is only rarely used in construction projects in West Michigan.

Andrew McLeod, architect at Post Associates, said the design also had to focus on installing a methane barrier so that none of the gases could ever seep into the building.

"Because we had the methane migration issue, we ended up with a barrier that sits like an upside down bathtub and sucks the gases out of the ground," Coval said, noting the design also incorporates a positive pressure system in the building itself. "There are three levels of (measures) we took to ensure there would be no gas issues in the building."



Dulane Coval, Stephen Kepley and Andrew McLeod formed a close-knit team to deliver the Kentwood District Library project, which was executed as a design-build project.

PHOTO: JOE BOOMGAARD

The initial design of the facility took into account the ideal square footage to accommodate a number of uses, including study areas, a community history room, a community gathering space and a dedicated business room for outreach from **Michigan Small Business and Technology Development Center** sponsored by the Kentwood Economic Development Corp. As well, the design focused on more efficiently handling the movement of people throughout the facility.

"We spent a lot of time studying how best to effectively and efficiently move people through," McLeod told *MiBiz*.

Moreover, McLeod wanted to incorporate the great views afforded by the site's elevation — the Gerald R. Ford International Airport control tower is visible from the library — so he opened up the east-facing wall to include as much glass as possible. On a recent visit, patrons were sitting in comfortable chairs reading and enjoying the sights as planes flew into and out of the nearby airport. In warmer months, patrons will be able to do so from a second-story patio or a ground-level courtyard.

"We wanted to make it comfortable with smaller, comfy spaces and have people feel at home, even while in a 46,000-square-foot building," he said, noting breakout rooms and a fireplace help set the mood for the building. Curved walls inside and outside add a dynamic to what could have been just a square box. "We did a very nice job of spending the money appropriately. We spent it on materials that will make this last and look nice for a long time."

The exterior features real limestone and brick, as well as granite panels around the base of the building.

"A lot of those materials you just don't see anymore. They're traditional materials," Coval said.

McLeod said the site was designed with LEED principles in mind — including energy recovery units, glazing, wall insulation, a white roof and occupancy sensors — but the city isn't likely to pursue certification.

Kepley said the new library has proven to be a popular addition to the community. Monthly numbers from November show about a 20-percent increase in traffic in 2010 compared to 2009. **MiBiz**