

Learning *From the Past*



By David R. Miller,
Associate Editor

Photos by Justen Dippel,
Gunn Levine Architects

Most of America's big cities are struggling with the slow pace of economic recovery, but Detroit faces a unique set of challenges. It is easy to forget that the automotive industry, which now receives much of the blame for the city's woes, was once heralded for a unique blend of ingenuity and determination that still exists today. Detroit is and always will be

the Motor City, and the early days of the industry that defined the city can provide valuable insights on how to turn it around.

The educational opportunities that the Thompson Educational Foundation is providing for Detroit students bear striking similarities to the early years of the domestic automotive industry. The foundation has developed a

successful programming model with GunnLevine Architects, Detroit, for a three-story school building and has replicated this model throughout the city with the sure precision of an assembly line – yet each facility has its own personality and character. By adapting existing structures to fit this model, the foundation is exhibiting the practicality that marked the earliest



The existing structure had many points in its favor, including an orientation that allowed for ample daylighting, and a solid concrete structure that would accommodate almost any conceivable floorplan.

days of the automotive industry. The recently completed University Preparatory Elementary School II – Mark Murray Campus, might best reflect the early automotive genius that permeates the foundation's efforts, as the structure itself is a transformed parking garage. GunnLevine Architects and The Monahan Co., Eastpointe, led the process by which the existing

facility was transformed to fit the new educational model.

ENVISIONING THE MODEL

The parking garage that was transformed by the project team was originally designed by Albert Kahn and was used by General Motors until recent years. The New Center location near the

Lodge Freeway and I-94 was ideal, and the three-level design was well suited to an elementary school model that accommodates kindergarten through fifth grade by putting two grades on each floor. Each floor is designed as a self-sustaining village with its own food service and common spaces. An adjacent alley and parking lot were removed to create space for a student drop

off/pick up area, playground, and a gymnasium addition that brought the total square footage of the facility up to 60,000 square feet. Though the existing structure had many points in its favor, including an orientation that allowed for ample daylighting and a solid concrete structure that would accommodate almost any conceivable interior floorplan, there were also some issues that needed to be addressed.

"The challenge and the opportunity was in taking a parking structure and converting it into a school," said Francis Resendes, director of design and project principal for GunnLevine Architects. "We not only had to work with column spacing and density, but also with the car ramps that led from one level to the next. Ultimately, we were able to utilize a lot of that area for mechanical, electrical and plumbing systems."

The ramps provided room for building infrastructure, but they could not simply be left as is. A couple of large concrete ramps on the west side of the building needed to be removed to accommodate egress stairs. Since the ramps took up about 20 percent of the floor area, traversed all three floors, and were 10 ½ inches thick, this was a sizable undertaking that needed to take place within a finite time window.

"We had to integrate that into our schedule, because you can't change the end date on a school," said Dan Monahan, project director for the Monahan Co. "We built in other areas of the building until the drawings for that section were done and approved. We were painting in one portion of the building while putting up structural steel in the other, but everything came together in time for school in the end. I don't know how we did it, but we did."

The building was ready for the start of the school year in September, even though the building permit was not issued until April of that same year, yet the hurried schedule is never reflected in the quality of the design or workmanship. The bright, spacious interior celebrates the industrial history of the building with distinctive columns that are exposed instead of buried. Cleaning these architectural gems up to display standards is one of many challenges that the team met in bringing this project to fruition.



Third floor, looking east.

BUILDING THE MODEL

Building in an urban area like Detroit often entails having limited room in which to work. Renovating a parking deck provided a few advantages that are rarely experienced inside the city limits.

"Since it was a parking garage, there was a lot of empty space in the building where we could bring materials in," said Monahan. "The building has large common areas in the middle with classrooms along the outside walls, so we were always able to stage materials in those center floor areas and work outwards. We were also able to use the gymnasium as a large staging room."

Space was abundant above ground, but a little harder to come by below grade. In addition to a wide range of infrastructure that was currently in use, the project team also regularly encountered obstacles that no longer served a purpose, including abandoned railroad tracks, trolley tracks, and foundations. Much of the debris was removed, but the task of threading foundations through what remained was further complicated by unstable clay soils with limited bearing capacity.

"Abandoning the alley and building over it was one of the biggest challenges from a construction and design standpoint," said Resendes. "We had AT&T fiber optics, water mains, and storm and sanitary sewers running through the alley – you name it and we had it, and that's where all the foundations for the new elevator and addition had to go. Multiple solutions were needed to figure out what we could do with the space."

Micropiles were a key part of the overall strategy. They have a narrower profile than the caissons that were originally considered, which gave the project team sufficient room to thread them through the many underground obstacles, but they provide the same resistance because of their deeper depth. The micropiles are deeply rooted in the fabric of Detroit, much like the building they support. Both are steeped in the innovative spirit that defined the industry and people of the Motor City – and both can play a role in its rebirth. ♦



First floor, main entrance.