



PROJECT HIGHLIGHT SERIES: LITTLE CAESAR'S ARENA

Detroit, MI

by Tom Campbell

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Little Caesar's Arena Nears Completion

DETROIT, MI - Little Caesars Arena, the soon-to-be home for the Detroit Red Wings and Detroit Pistons, is nearing completion. Spectator seats are currently being installed, which visually makes the 19,600 seat, 785,000 square-foot building look nearly complete. Meanwhile, ice-making will commence on June 1, making it imperative for the building's heating, ventilation, air conditioning and plumbing systems to be fully operational at that time.

Instructed to make a state-of-the-art, modern facility with a throwback feel, HOK, the global design, architecture, engineering and planning firm came up with a "deconstructed" layout. Originally priced at \$627 million, the project has now exceeded the \$700 million mark.

Thanks to a lot of hard work by the team—Estimating Manager Doug Fecteau, LEDES Engineer Karl Stoolmiller, and Sr. Project Manager Aaron Cowell—Limbach joined the project in a design-assist manner in September of 2015, working on value engineering, estimating, helping to complete the drawings and BIM



coordination. Since that time, Colin John has taken over as the account manager and has been the main point of contact on this joint venture with MSL Mechanical. As the prime HVAC contractor, Limbach is earning roughly \$80 million of the \$100 million contract for performing some of the most critical work in this climate-specific building.

Limbach placed workers in the field beginning in March of 2016. Because of the grand scope of this project, the workforce includes eighteen subcontractors, many of whom are Detroit-based contractors. Limbach workers have logged over 200,000 man hours on the project thus far. Placing that work in such capable hands allowed the designers to move forward and concentrate on the bells and whistles that will impress the general population.

Inside, the main bowl will incorporate many of the same design ideas used in Montreal's Bell Centre, namely the vertical rise. Utilizing a higher percentage of seats in the lower level and such a steep seating incline will put more fans closer to the ice, creating better sight lines for the spectator and a much louder, more imposing environment for opposing teams.

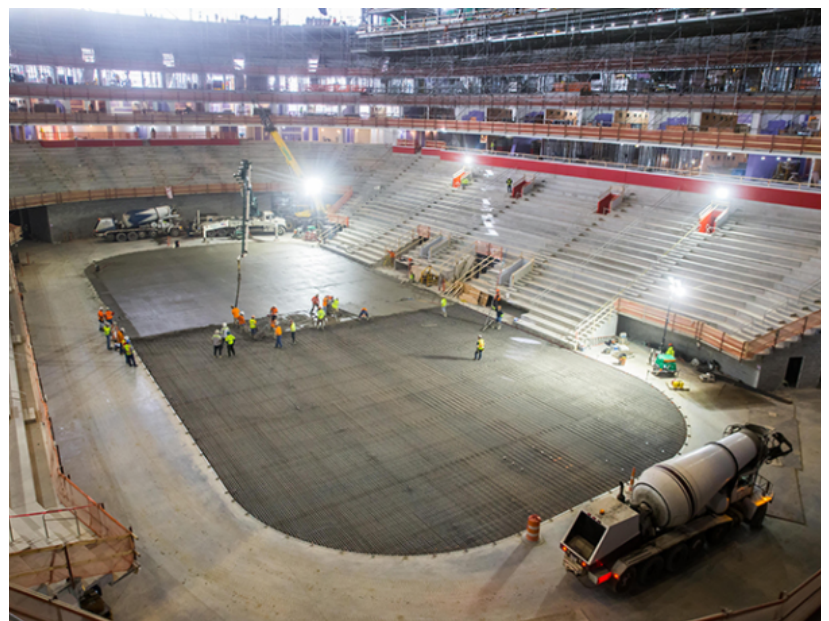
High above the ice, Little Caesars Arena will feature something very unique: "Gondola" seating will be available for the first time in an NHL arena. One of the two gondola arrangements will be used for media members. The other will be open to fans, sold as six-or-eight person mini-suites on the lower level of the gondola and group tickets for the "party deck" on the upper level.

"This is our version of Fenway Park's left field wall seats, giving you an opportunity to sit in a place you never thought you'd watch a hockey game from," says Tom Wilson, CEO of Olympia Entertainment, the owner of both the arena and the Red Wings. "A lot of what we are trying to do is provide a different experience."

A transparent roof will connect the main bowl and the adjacent buildings, with an area called the "Via" running in between. The Via will be opened year-round, allowing access to the team store, restaurants, and bars located in the outer buildings.

The structure itself is set nearly 40 feet (four stories) into the ground, which will keep the building's profile in line with that of the surrounding neighborhood. The underground concept also allowed for the building of an internal practice rink and approximately 24,000 square feet of training space, ensuring the arena will be the sole home base for the team throughout the season.

Controlling such drastic climate differences from area to area, many of which bump into one another with no dividing structure in between, such as the ice surface and seats in the stands, is no simple task. Further complicating matters, the Detroit Pistons were officially added into the project plan in





November 2016. Though these changes may have seemed more like a problem for the general contractor joint venture of Barton Malow and Hunt Construction, in association with White Construction, they also altered the plans for Limbach.

Doorways and ceilings would have to be raised to accommodate the NBA players, some of whom stand more than seven feet tall. These changes, among other things, meant that ductwork and plumbing would also have to be moved. In fact, with building already well underway, space constraints required some creative solutions by Limbach, such as placing the shower heads in the ceiling in the NBA locker rooms, as opposed to on the wall.

“With the Pistons being added to the project, we had to get creative,” explained Account Manager Colin John. “One example was finding a new location for the mechanical room for the Pistons scope of work. As a team, we were able to find a way to reuse existing air handling units instead of having to purchase a new one, saving time and money.”

With efficiency and safety being the name of the game, the utilization of prefabricated toilet rooms, prefabricated mechanical pipe and sub-assembly of ducts has saved time and extraneous effort. The Trimble unit, which takes hanger locations from the 3D model and locates them in the field so no manual measuring is needed, has also been a huge help, given that this is a radius building with no straight columns.

A Central Energy Plant in the parking garage houses the arena’s four water cooled chillers, four cell cooling towers on the roof, six boilers, and a domestic water heater. Prefabricated pump skids were utilized for the condenser water, chilled water, heating hot water, and includes a heat rejection system that will cool all the food service equipment such as coolers, refrigerators, ice makers and the beer coolers. It will also provide cooling for the ice plant chillers which makes the ice. Additional equipment in the arena is scattered throughout eleven mechanical rooms, four of which condition only the bowl. In all, 29 air handling units, over 400 fan coil units and over 100 exhaust fans have been installed by Limbach.

This is the third new sporting venue for the city of Detroit since 2000. Comerica Park, home of the Detroit Tigers (MLB), opened in 2000. Ford Field, which is currently under renovation (Limbach is part of that project as well), is the home of the Detroit Lions (NFL) and opened in 2002. Like those buildings, Little Caesars Arena is being paid for by a Public-Private-Partnership agreement. This venture, the largest in Michigan history, is a partnership between the city of Detroit and Olympia Entertainment. “To see our field team with a ton of experience mentor our younger team members is very gratifying,” said Branch Manager Ian Switalski.

The arena is set to open on September 12. Detroit’s own Kid Rock will be performing at the inaugural event. The Red Wings will take to the ice sometime in October. The 2017-18 NHL schedule has not yet been released.

