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complex in downtown Miami.

Miami nice

Comprehensive BIM modeling sets the path for massive mixed-use complex.

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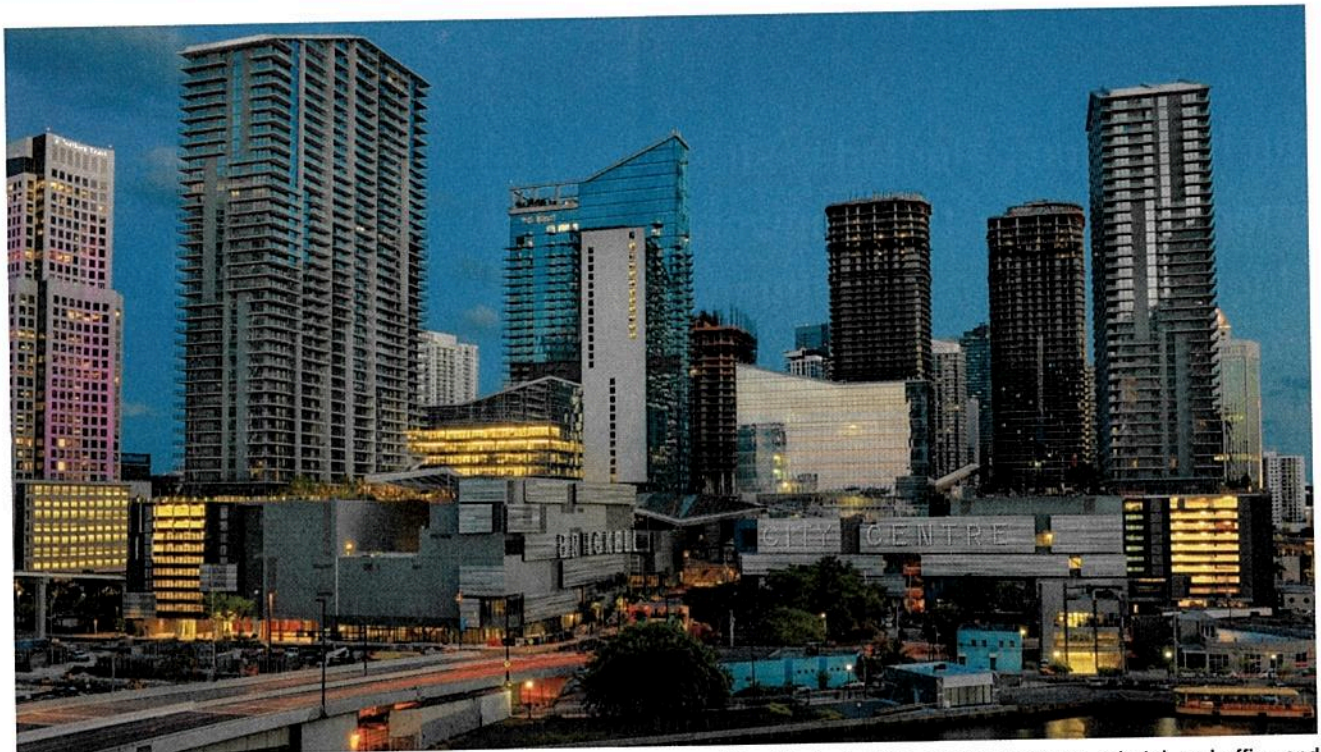


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Comprehensive BIM modeling sets the path to creation of massive mixed-use complex.



The Brickell City Centre is a massive mixed-use complex in downtown Miami featuring two condo high-rises, a hotel, and office and retail space.

The Brickell City Centre currently engulfs three full city blocks in the Brickell District in downtown Miami. The \$1.05 billion immense-in-size mixed-use facility could expand when the opportunity presents itself and **Larry Maurer** and his team will be ready to get back on the job if and when that occurs.

Maurer and his Fort Lauderdale, Fla.-headquartered HVAC design-build firm Thermal Concepts have been consumed by the Brickell City Centre project since coming on board in 2013.

"We had probably more than 250 men on the payroll directly on the Brickell job at its peak," Maurer states. "It is

the largest single project we have completed to date."

Thermal Concepts, Maurer notes, has completed many projects in the corridor of Miami where the Brickell City Centre towers over. The company has worked on and with the Miami Art Museum, the Port Miami Tunnel and the Brickell Heights high-rise condo facility, which is across the street from the City Centre.

The Brickell City Centre project was a feather in the cap for Maurer and Thermal Concepts. "We are proud of the job at Brickell City Centre," Maurer states. "There were a lot of people that were happy we got the job to take us off the street for a little while. It was a great learning experience."

Making modifications

On the mechanical side of the Rise, Reach and East Miami towers, Maurer worked with Miami-based manufacturers rep JASCKO Corp., and Bosch to create a specialized heat pump that would fit the needs of Brickell City Centre. **Arthur Kunz**, a Bosch commercial sales manager for the Miami region, was Bosch's point person and worked alongside Maurer at the complex.

"We were involved from the very beginning," Kunz states. "Maurer had certain requirements that had to be met. We designed the unit to meet those specifics."

The team developed a modified Bosch/Florida Heat Pump LV model water-source

Photo courtesy of Brickell City Centre.

heat pump. The units are single-stage and range from 1/2- to 6-ton capacities. All the units installed exceed ASHRAE 90.1 efficiency ratings.

"We never had a single-point power unit prior to Brickell City Centre," Kunz notes.

Since the Bosch LVs are water-sourced, there is no need for outside condensing air, allowing for Maurer and his team to easily install units in enclosed spaces. Additionally, the modified LVs at Brickell City Centre are metered separately for utility bills. The units are equipped for single-point electric heat permitting for a simple integration with the facility's building management system.

The owners and developers of the Brickell City Centre – Swire Properties – valued the need for a whisper-quiet unit while in operation, something Maurer was pleased Bosch/FHP was able to provide with the modified LVs.

"Noise was an important criterion for them," he says. "We did a mock up and they liked the unit and that is how we ended up with them."

The ECM motors the LVs utilize offer a "point of efficiency," according to Kunz.

"Depending on the water temperatures, these units can operate anywhere between 15 and 17 SEER," he adds.

Coming together

The Brickell City Centre project was broken up into multiple portions because of the overwhelming size and scope. There are two 47-story luxury condo buildings (named Rise and Reach, respectively) and 2 million sq. ft. of space for luxury retail anchored by a Saks Fifth Avenue high-end fashion store and a nearly 36,000-sq.-ft. Cinemex movie theater. Other retail stores expected at Brickell in the future include an Apple store, fashionable athletic wear shop Lululemon, designer handbag store Coach and much more.

Additionally, Brickell features two 15-story office buildings, three blocks of subterranean parking and East Miami, a 40-story hotel that is scheduled to open by the end of the year.

"Throughout the bidding phase we developed the project and they were ready to make a decision," Maurer says. "They wanted to break it up into a couple of mechanicals, electrical and the plumbing because they did not think any company was big enough to handle the job.



Photo courtesy of Bosch/Florida Heat Pump.

The Brickell City Centre uses modified Bosch/Florida LV model water-source heat pumps that exceed ASHRAE 90.1 efficiency ratings.

"Everything from soup to nuts, we perform. We had a competitive price. They wanted to give a certain portion to us and another contractor another portion. I told them I was not interested in doing the portion they wanted to give me. If they wanted us to do the job,

we would do the whole thing and they were going to save a bunch. I sort of forced their hand and they took the chance."

BIM modeling was a major element of Thermal Concepts' work at Brickell City Centre. Maurer states the company had six people exclusively designing the BIM models. The designers utilized Revit models to best keep the project streamlined.

"It was a high-tech requirement," Maurer says.

When Thermal Concepts came onto the Brickell City Centre project in 2013, they worked on the BIM and CAD drawings on the hotel for the complex.

"That was the first building coming out of the ground," Maurer says. "We wanted to identify any conflicts early on."

There were some early struggles for Maurer and Thermal Concepts as it decided which products it wanted to spec and install.

"Early on, we were dealing with an incomplete model," Maurer recalls. "It was not a real good model. We were coordinating with the electrical and plumbing contractors that were doing the same thing at the same time. We were able to get back online. The owners wanted to get to market quickly, so it became designing on the job as we went along."

The chiller plants at Brickell City Centre also required some fine-tuning from Maurer and his Thermal Concepts team.



Fort Lauderdale, Fla.-based HVAC design-build firm Thermal Concepts had six people working exclusively on the BIM modeling for Brickell City Centre.

Miami nice



Brickell City Centre is a \$1.05 billion complex that covers three blocks of downtown Miami with opportunities to expand.

"We redesigned the chiller plants to streamline them better," he explains.

Brickell City Centre is aiming for a LEED Gold certification from the U.S. Green Building Council — it features rainwater harvesting and a "climate ribbon" that shades all the walkways around the complex.

undertaking for the firm and it came out a bright shining star of downtown Miami in the end.

"There were a lot of naysayers, a lot of people out in the industry hoping we would fail," he says. "We opened a Brickell office that had about 15 people in it. We had four or

**"There were a lot of people that were happy we got the job to take us off the street for a little while."
—Thermal Concepts' Larry Maurer**

There is a two-floor kitchen area for the hotel that Maurer was able to finesse into a tight area. The kitchen included grease scrubbers as well. Each of the residences at Brickell City Centre feature Duravit's Senso-wash shower-toilets in the master bathrooms, providing the complex with water-saving 1.6-/0.8-gpf options. "Everything required a lot of coordination," Maurer states.

Maurer says he and his Thermal Concepts team proved a lot of people wrong on the Brickell City Centre project. It was a gigantic

five safety people on each one of the blocks. It was a lot of project management."

Finally, Maurer hopes they will be back to work at the Brickell City Centre once again in the near future if the complex continues to evolve and expand.

"We developed a great relationship with Swire Properties and its owner," he notes. "All in all, it was a good win for everybody. They gained a lot of confidence in us and we gained a lot of confidence in our ability going forward." **pme**

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