

MAGIC ON THE DELAWARE

A MID-CONSTRUCTION CASE STUDY

THE BATTERY
Philadelphia, PA





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Chris Kenney, AIA, LEED AP, CSI

+ MAGIC ON THE DELAWARE

Architect Chris Kenney calls it “a marvelous, neo-classical historic structure.” Bill Wilder, Graham Architectural Products’ director of technical sales, calls it, “a beast.”

“It” is the former Delaware Power Station of the Philadelphia Electric Company (PECO) on the west bank of the Delaware River. It is an adaptive reuse megaproject which, according to Fastrack Construction Inc. Project Manager Kevin Kozlik, will eventually result in a wedding venue, flexible event space, hotel/micro-units, high-end apartments, a fitness center, flexible workspace and commercial space.

“It” will be called “The Battery,” and Kozlik says, “It’s going to be the next best thing.”

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Construction of the Delaware Station began in September of 1917, but was halted due to the war. When construction resumed, wartime-induced shortages led the architect, John T. Windrim, to redraw plans using reinforced concrete. The structure was completed in 1923.

The power station, consisting of two boiler rooms, a turbine hall, and a switch house, was designed to be imposing – a monument to electricity and the nobility of PECO’s mission.

However, while it was once referred to by Scientific American as “the last word in power houses,” it eventually became obsolete. As a Philadelphia area real estate website put it, it became “a blighted, abandoned building that has been fenced off for years.”

+ PROJECT SNAPSHOT

Architect

Christopher Kenney, AIA, LEED AP, CSI, Strada, LLC

Installer

Reilly Glazing Inc.

Product

SR6700 Steel Replica Windows

General Contractor

Fastrack Construction, Inc

+ CHALLENGE

Delivering thermal performance and stability, while matching the sightlines of the steel windows that originally filled this coal-fired power station’s 40-foot openings.

Kozlik elaborates, saying, “You’ve got to be able to achieve that finished detail, with all the new engineering criteria put in place, by integrating steel in the window. Those steel facets allow them to perform, but they have to look exactly like the steel windows did 100 years ago.”

Mark Hiscock, Graham’s national sales manager, noted an additional complicating factor: “We had to match the sightlines, not only of the window, but there was a surround condition – concrete block trim – that we had to match, as well.”

Kozlik suggested removing the concrete surround and having Graham find a way to replicate it. Although not in the original window scope, Wilder took the challenge back to Graham’s York, PA, headquarters, and sat down with Chief Operating Officer Michael DeRosa. DeRosa suggested incorporating Graham’s unitized receptor system. Then DeRosa and the Graham design team created a method of replicating the concrete surround detail as part of a receptor subframe system that would also enhance water management and improve the method of installation.

Marc Ferrante, Graham’s sales rep in the area, picks up the story, saying, “Basically, what we did is, we split the 40-foot openings into four and in some cases five smaller openings. Then we stacked our unitized receptors on top of each other. And we used a steel bracket on the jambs to support each receptor as we stacked them. Engineering did a great job of figuring out how to support our windows over such a large span without increasing the sightlines.”

He adds, “In most historic jobs, we aren’t able to get away with using the receptor, because it adds to the sightline of the window. But Fastrack removed the concrete trim, and we replicated it with aluminum, which allowed us to use the receptor while maintaining sightlines.”

The unitized receptors added value in many ways. One, they were factory assembled and sealed, and then delivered ready to install, reducing field labor and liability. Two, the receptor acted as a kind of picture frame: Once secured, window units were simply placed in the openings and perimeter sealed from the inside.

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The job has gone really well and collaboration has been key. “I think the most important part is it really has been a team effort,” Hiscock says. “From the owner, to the architect, to the contractor, to Graham – everybody has been onboard with a positive, can-do attitude.”

“Whenever the architect had a question, Graham had an answer,” Kozlik said, adding, “I don’t cause problems, I create solutions. And Graham’s very much like that.”

Kenney concurred, saying, “Graham’s been great. No question. Historic windows are what they do and their knowledge of that field is absolutely top-shelf, so it made it very easy to work with them.”

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When completed, likely by fall of 2022, The Battery will also include restaurants, a performing arts space, a marina and a concert barge. The waterfront stretch will feature a walking path, bike trails, plenty of green space and other amenities. “If you live here, you won’t ever have to leave,” Kozlik says.

Kenney adds, “This project will be absolutely transformative for the Philadelphia Delaware River edge. Philadelphia has a long and storied history of doing terrible things along their edge of the river, but this is going to be something really wonderful, which is great, and I’m really excited about it.”

He concludes, “Just for its scale, its historical significance, what it’s going to mean to the city, what it’s going to mean for the Delaware River edge, for any number of reasons, it’s an absolute privilege to work on this project. These things don’t walk in the door every day. It’s magic.”

Nevertheless, the real estate investment firm Lupert Adler saw this striking structure and imagined all the things it could become. Soon a team was formed, and Graham was at the table.

Kenney says old power plants had “an incredible need to dissipate heat.” This particular power plant met that need in two ways: with conduits that discharged heated water into the Delaware River and though “a tremendous number of windows that were absolutely enormous.”

Lupert Adler was seeking historic tax credits, which required approvals from historic review boards. That would depend in part on new windows that matched the originals.

Kozlik, who worked with Graham on previous projects, says, “The ability of Graham to push stuff through historic (review boards) is very important to me, the fund, and the owner of my company, Chris McElwee.”

According to Kenney, Kozlik wasn’t alone in pushing for Graham to be on the project. Bob Powers, the historic consultant from Powers & Co., did likewise.

If Kenney had any doubts, a single phone call chased them away. “Kudos to Bill Wilder,” he says. “I talked to him and, boy, he sold the job to me in about 30 minutes of conversation. He was so incredibly knowledgeable. It was like, ‘OK, we’re done here.’”

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The Battery was a tough window job. The timeline was aggressive and the openings were enormous. Further, as Kenney explains, “If everything is single-pane glass, and it’s hot-rolled steel, you end up with super-skinny muntins and mullions, and those are really tough to reproduce in aluminum.”



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