



The use of DIRT glass and aluminum wall systems throughout the project saved valuable time and budget. Photo by Massery Photography.

## PROJECT PROFILE

### UNIVERSITY OF PITTSBURGH SCHOOL OF SOCIAL WORK, CATHEDRAL OF LEARNING 22ND AND 23RD FLOORS

**W**hile the University of Pittsburgh was planning a multi-billion dollar capital program that will transform the campus over the next 10-15 years, there have been smaller, but equally important, projects undertaken to update some of Pitt's oldest buildings. One such project is the multi-phased renovation to the School of Social Work, which had spread out on parts of seven floors in the Cathedral. During the winter of 2018, Pitt undertook the first phase of a plan to consolidate the School of Social Work into four floors, beginning with its office and classroom space on the 22nd and 23rd floors.

"We recognized that we were very fragmented," says Matthew Rendulic, project manager at the time for the university. "We had done quite a few floors in the Cathedral. These two were in the middle of the stacking program. It was really just a realignment for Social Work. It was legacy space and in some areas their space hadn't been renovated for 20 years. We needed to get them upgraded."

The project involved renovations to 17,000 square feet of classroom and office space. The \$4.2 million renovation was programmed for two main phases, the first of which was going to have to be accomplished during the break between

commencement and the start of classes in the fall. Pitt hired Pieper O'Brien Herr Architects to design the space. The Pieper O'Brien team consisted of Project Architect Scott Maritzer, Principal Loren Wright and Heather Dice as interior designer.

Renovating the two floors during the School of Social Work's downtime was going to require successfully managing a compressed and rigid schedule. Pitt issued a request for proposal (RFP) to a handful of construction managers early in the design process. Among the factors that would be considered, the ability to demonstrate that it could deliver the project within the narrow time constraints was the one that proved successful for the winning contractor, AIMS Construction.

"AIMS really stepped up in its initial presentation to us about the ability to handle the compressed schedule. Their level of understanding and coordination from day one was what sold us on this particular project," says Rendulic. "We knew they needed to hit the ground running and they pitched how they were going to ramp up to get ahead of the schedule, so that if we had any hiccups we would have some float in the middle of the schedule to deal with them."



Existing elevator lobbies served only as secured access points. Photo by Pieper O'Brien & Herr Architects.

"During the RFP process we showed how we use a submittal tracker to ensure everything gets to the site on time. Pitt had a lot of concerns about how we were going to ensure that so during the interview process we detailed our submittal tracking process," recalls Alicia Densmore, project manager for AIMS. "We identify the very last date that something has to get to the job site and then work backwards. We estimate the longest time for each step in the submittal process and then work backwards to plug that into the schedule."

Rendulic says that AIMS gave them comfort that it could handle the swing management process that would be needed to complete the schedule. The project staging was going to be self-contained within the two floors and temporary walls and conditions had to be built and deconstructed in a well-coordinated sequence. Pitt felt that the construction manager that could best articulate a plan for accomplishing that would be the most successful. AIMS also put forward a team whose strengths matched the critical needs of the project.

"We think through our teams during the proposal for the project," says Densmore. "Our superintendent, Brent Guenther, is fantastic. His planning abilities and scheduling abilities really played into this project because it has such a tight timeline."

AIMS also had experience working with the DIRT wall system, which was a critical component of the project's design, and a key factor in meeting budget and schedule.

DIRT is a prefabricated wall system that integrates the building's systems into an interior demising wall that includes the door and trim and is installed fully assembled rather than built on site. For

the School of Social Work, the walls were aluminum and glass, which maximized the amount of natural light that could flood the offices and classrooms with the DIRT walls. Workscape/Construct provided and installed the DIRT systems, working with Pieper O'Brien and AIMS during the design stage to provide detail and estimates.

"We worked with them from day one of the design process, so that when we hit the construction phase, we had figured out a lot of the pieces. The submittal for the DIRT system alone was about 1,000 pages," says Maritzer "We were challenged to prove that demountable walls would actually be the more affordable way to go and it ended up being that. Once you factor in labor, electrical, data in such a small footprint, it was a significant savings. To be able to have one person come in for two weeks and install 50 percent of the walls saved a lot of effort."

"The DIRT wall system was a big help with the schedule because we just had to get flooring and ceilings in and they could come in and install the walls," agrees Densmore. "I think the biggest benefit was the doors. If we had to wait for standard doors for every door in the offices on the 23rd floor, I don't think we would have hit the schedule. We only had five or six standard doors on that floor, and we had to really push to get them here by the completion date."

Another complicated part of the project was the mechanical work, which made up roughly one-third of the budget. Part of the scope of work as the Cathedral is being re-stacked is a conversion from its steam heating system to a forced-air, four-pipe HVAC system. The work involved removing the radiators on each floor and connecting the steam system to new heat exchangers,



After renovation, drab elevator lobbies (see opposite page 38) were converted into public spaces where students could gather and collaborate between classes. Photo by Massery Photography.

from which the hydronic piping would emanate. Fin tubes were installed on the perimeter and 24-inch and 36-inch ductwork was installed for the forced air. In a hundred-year-old building, there were risks at every turn.

"We don't really have great as-built drawings in those areas and the conditions don't allow the architects and engineers to field verify the conditions," says Rendulic. "We can't do selective demolition to get up and see what is above the ceiling. It took a team effort to really design that in the field."

The structure of the Cathedral of Learning and the wide variance in the floor-to-floor heights made the mechanical work more challenging. Ongoing renovations at the Cathedral were sequenced according to the needs of the users, rather than phased as a systemic updating. On some of the floors, the steam converters fed floors above and others served floors below. On the 23rd floor, the floor-to-floor height was 14 feet, but the structure didn't allow consistent clearance.

"It was difficult working mechanical systems in two floors that were never intended to have duct work," says Densmore. "Matthew gave us a heads up so we knew it was going to be tight. There are some major concrete beams that go out from the elevator lobby and, unfortunately, that is where all the big duct work had to go. We were still able to achieve 8' 6" ceilings in most of the areas."

A lot of the project's budget was going to be going behind the walls and above the ceilings, so the finishes were more institutional than monumental, but there were still plenty of contributions to the aesthetics of the space that the design team was able to

make. Maritzer notes that the Pieper O'Brien team took the time to walk all of the Cathedral's floors when they competed for the project, to get a sense of what they liked and disliked about the spaces. Several of those observations became key elements of the design of the new space for the College of Social Work.

"Some floors, when you get off the elevator it was literally just card access. That's not very inviting," Maritzer notes. "You didn't see any windows. You didn't see any signage. You're just stopped unless you have authority to go beyond that point. That was the case at the School of Social Work. What we saw on some floors that we liked was that students literally took tables and pushed them together to have small study corrals, making do with what they had. We wanted that to be intentional."

"We also tried to use the materials to give a sense of direction," he continues. "When you get out of the elevator, the flooring has a herringbone pattern that gives you the sense that this is the center of the Cathedral of Learning and everything emanates out from there."

One disadvantage of the iconic architecture of the Cathedral of Learning is that the interiors are darker than most of Pitt's newer buildings and the tracery windows – although architecturally significant – don't allow the occupants to get the views that would be expected in a high-rise located on an elevated part of the city. Several of the windows were also divided by demising walls that were built to create offices or classroom space. Pieper O'Brien steered the palette and material choices to offset that disadvantage.





Photo by Massery Photography.

“We went a little bit against the grain in finishes in that a lot of previous projects in the Cathedral went with dark colors,” says Maritzer. “We wanted the space to be lighter and more refreshed, which is why we liked the clear anodized aluminum and lighter color palette. There are all these magical views up there. We tried to celebrate that rather than hide it.”

With AIMS coming on board in February, the team worked through the design details for about a month, putting construction documents out to bid to the subcontractors in late March. The construction manager and Matthew Rendulic evaluated bids and completed scope reviews so that AIMS could proceed on April 29, 2018. The clock began ticking towards completion on August 15.

The tight schedule was compounded by the vagaries of summer work at the Cathedral of Learning. Densmore recalls that they discovered that there was inconsistency in the status of hazardous materials from floor-to-floor. She says that an unexpected layer of nine-by-nine floor tile (which is typical for vinyl asbestos tile) was discovered during demolition. The tile turned out to be free of asbestos but several days were lost in the demolition. There were other logistical challenges as well.

“Working in the Cathedral itself is a bit of a challenge. The building has its own quirks about it,” Densmore chuckles. “There

were also five other construction projects going on that summer in the Cathedral of Learning. There is only one loading dock that serves the whole building, so we had to coordinate with food services and other building services, along with the other contractors. There was only one dumpster and it had to be pulled by 6:00 a.m. and could not be brought in until 6:00 p.m. because of all the deliveries coming in-and-out through the day.”

Rendulic developed his own schedule for access to the loading dock. It was distributed to the superintendents on all projects and they were responsible for coordinating the dock access for the subcontractors on each project.

Construction on the two floors did not go off without a hitch but, as might be expected with the level of preconstruction coordination, the team was prepared to manage the potential disruptions without losing control of the schedule. The new offices and two classrooms on the 23rd floor were turned over in mid-August. AIMS then rolled its team to the 22nd floor, which was completed during the Christmas break. The participants make a point of crediting their peers for the project’s success.

“It was a good match of cultures,” says Mike Tarle, vice president of operations for AIMS Pittsburgh office. “With Piper O’Brien, Loren and I are friends. Brent was all about the team. Everyone was looking out for each other and no one threw anybody under

the bus. Matt was one of the rare owners who gave us a clue about mistakes made on other floors. It was so helpful. He had lived the lessons learned and shared those so that the project was more successful.”

Scott Maritzer appreciates the level of coordination and professional courtesy that was shown throughout the project. He points out that Alicia Densmore and Mike Tarle are both degreed architects, which he feels facilitated communication.

“We were very happy with the process and the project,” Maritzer says. “I think their having an architectural background meant that our conversations could be a little quicker and more direct. They understood my perspective and I understood theirs, and we were just trying to come up with a solution as quickly as possible.”

Densmore echoed Maritzer’s point about the focus on solutions,

noting that any field issue was met with a response by Matthew Rendulic and the relevant member of the design team, in person at the site.

For his part, Rendulic commended Brent Guenther for his commitment, noting that the superintendent worked every weekend from April through July to get the 23rd floor done.

“On any project teamwork is truly critical. AIMS and the entire team worked very well together. They pitched that from day one and both floors were delivered ready and waiting, versus being what I usually called ‘done enough,’” says Rendulic. “They delivered a first-class project for the School of Social Work. I know from numerous conversations with the end users, it really was a home run. They are absolutely ecstatic and appreciative of all the hard work.” **BG**

## PROJECT TEAM

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AIMS Construction .....	Construction Manager
University of Pittsburgh .....	Owner
Pieper O’Brien Herr Architects .....	Architect
Tower Engineering .....	MEP Engineer
Greer Tile Co. ....	Tile
L. Cannon Communications .....	Tele Data
T. F. Coran Co. ....	Accessories
Steinberger Floors .....	Flooring
Graphics 22 Signs, Inc.....	Signage
Ruthrauff Sauer .....	HVAC & Plumbing
V. O. George Group .....	Wall Protection
Workscape/Construkt .....	Demountable Walls
HOFF Enterprises.....	Casework
M & J Electrical Contracting .....	Electrical
Preferred Fire Protection.....	Fire Protection
Modany Falcone, Inc.....	Concrete
Pittsburgh Interior Systems .....	Demolition & Carpentry
BLT Contracting, Inc. ....	Abatement
Zottola Steel Corp. ....	Metals
The A.G. Mauro Co.....	Doors
Allegheny Installations .....	Epoxy Flooring
Caldwell’s Windoware.....	Window Shades