

*How do you turn an old, contaminated college building into a glammed-up, 21<sup>st</sup> century student facility while it's occupied and serving food? You pre-plan the heck out of it.*

*Tired, old, ineffective, and second-rate*, Brian Laartz thought as he walked Regis University's sixty year-old Student Center in 2017. Laartz, GTC's Principal-in-Charge, was helming the design-build renovation. He wasn't optimistic. Besides the outdated aesthetic and hodgepodge, compartmentalized layout, he knew the Student Center, which had had countless additions and renos since 1958, would contain asbestos, mold, lead paint, and most likely also contaminated groundwater. "It almost should've been torn down," Laartz said.

Sentiment on Regis's Student Panel echoed Laartz's feelings. They'd had better facilities in high school than they did in college, the students said. Unfortunately, the cost to build new would've exceeded the University's budget. Regis needed to not only make the building look better, they needed it to last another twenty years. The Student Center's first floor was central dining for campus-residents, serving 1,300 students per day. Offices on the second floor handled governance and behavioral issues of the residence program. The project had to allow the Student Center to continue to operate 24/7. So, the team got down to business: a 38,650sf renovation, and 1,790sf addition. Everything was going to depend on careful planning and a meticulous master schedule.

### **Solutions of Special Projects**

GTC and Soderstrom Architects—along with the interior designer, MEP, and civil engineer—sat down with Regis. The team addressed expected issues of asbestos, mold, lead-based paint, and contaminated groundwater. With almost no as-builts, they anticipated where each hazard might lurk, based on previous Regis experience. They prescheduled abatement for everything, just in case.

"GTC was picked out of eight companies because of their history of performing in a way of service that no one else ever does," Mike Redmond, Regis University's Associate Vice President of the Physical Plant, said.

The first layer of flooring tested negative for asbestos; the team removed it. The unexpected next layer was “hot.” The abatement crew safely extracted it. That left the team with another unexpected find: multiple areas of terrazzo inlay. Removing and replacing the terrazzo with an inlay to stay the planned-course of polished concrete would kill both the schedule and budget. The team came up with the cost-effective alternate of heavy-traffic luxury vinyl tile (LVT).

The team mitigated mold and lead-based paint as they encountered them. They dealt with the confusing, old electrical system over four phases, to avoid interrupting the building’s customers. Structural integrity was reinforced during installation of the mechanical equipment RTUs. But the preplanning was paying off, with only a few surprises. In the middle of Phase 1 the team had to reroute plumbing around an undocumented, buried, concrete stairwell. They also had to dig a hole in the plaza for an 800-gallon, 6'-long grease interceptor—a late-add by the building department. The interceptor had to be installed below an existing concrete canopy, adjacent to one of Regis’s special trees. “This made the pick something of a gymnastic feat,” Nicole Wempe, GTC Senior Project Manager, said.

The team also had to underpin and shore to dig a new elevator pit, and the soils report indicated they might hit groundwater. They did. The soil had high lead content, so the contaminated water was pumped out and properly removed. Since the elevator was now exposed to the water table, the team used sheet waterproofing and, for a second layer of protection, used Xypex to fill the capillary voids of the concrete. “Essentially, we created a porcelain bathtub sixteen feet underground,” said Brett Sorensen, GTC Project Manager.

There were other water problems: the old sewer pipes had eroded, and wastewater leaked beneath the building. The team sawcut a 50' trench through the terrazzo to reach the sewer line. Then, since an excavator wouldn’t fit in the building, they worked with a pre-contracted hydrovac company to remove the sanitary line without causing damage, as well as remove all contaminated soils. All of this happened over a one-week break on campus.

### **Excellence in Project Execution and Management/Team Approach**

Despite the building’s hazards and unknowns, the most challenging aspect was keeping the building open for residence programs and foodservice. In the end, GTC managed the project entirely around Regis’s schedule.

“The CPM that GTC put together was pretty impressive,” Redmond said. “Evaluating how we were going to do things was critical. We had to simultaneously work and do the asbestos removal, and students also had to be in the building. And GTC never closed the building.”

The old building lacked adequate fire sprinklers. To bring it to code without affecting occupied offices, the team worked those areas at night.

The building also had only three, effective exits. GTC scheduled to ensure two exits were always accessible.

“The project would have been nearly impossible without using the design/build approach, due to the time constraints, sequencing requirements, and the many unknowns involved,” Jeff Bringenberg, Project Manager for Soderstrom, said.

The team also coordinated the new aesthetic. This involved responding to Regis’s Student Panel, who wanted sustainable materials, preferably from Colorado, with a long lifecycle. And they wanted it to look good. The interior designer worked with GTC, Soderstrom, the students, and with a food specialist the team brought onboard. “This collaborative approach brought a more efficient approach overall,” said designer Shannon McNutt of Mesher Shing McNutt.

### **Construction Innovations/State-of-the-Art Advancement**

The new HVAC, lighting, and controls had to interface with Regis’s campus-wide energy control system, which allows control of lights and temperature from afar, as well as security notifications. “The lighting was state-of-the-art,” Redmond said. “GTC had to install the power with drivers to support it because everything is controlled via a central area. This was achieved by multiple companies working together.”

Since Regis is committed to technology, wireless hotspots permeate the dining area. Dining chairs contain charging strips with outlets and USB ports.

### **Environmental/Safety**

Regis University’s campus is a Level II Accredited Arboretum with over 1,300 trees, including nine champions. It is both unique and a construction challenge. Five varieties of oaks surround the Student Center. GTC used special “ribbed” mats to protect roots from construction traffic and smaller equipment to be able to safely clear branches. When GTC expanded the plaza, they hydrovacked trenches around trees, rather than digging, to safely install new lighting and

power without cutting tree roots. They also used pervious pavers for the new patio. The old, undulated, concrete canopies were removed in Phase 3, since the trees provide natural shade, and a two-story glass curtain wall replaced a large section of the building's front.

The project did not pursue certification but was still held to a high sustainability level. "The team had to build to LEED Silver standard," Redmond said. The floor coverings were all recycled materials. The beetle-kill wood was sourced locally. The build received low-VOC paints, Energy Star-rated kitchen appliances, and all-LED lighting. The plumbing system is new-and-improved, and the new elevator makes the basement ADA accessible.

To keep students safe, GTC created hard barriers. "We didn't have a lot of space on the exterior," Kevin Loson, GTC Superintendent, said. "The excavation for the elevator pit went into the parking lot, and there were people driving right up to the barricades."

Inside, GTC separated construction, asbestos removal, and occupied space into three separate areas. Every worker had two-hour asbestos training. The team anticipated uncontrollable negatives, like flooring epoxy off-gassing, and Regis notified students ahead of time.

Additionally, GTC made sure the kitchen and foodservice areas always remained under negative air to avoid construction dust contamination.

"We had zero OSHA complaints," Redmond noted. There were also zero safety incidents.

### **Excellence in Client Service and/or Contribution to Community**

The primary users love their new space. "The students are getting a facility that's beyond anything they've seen," Redmond said. "But it's not just them. Other Catholic universities have come in and are wowed by the new Student Center."

Instead of a patchwork of separate rooms, students now have an open, inviting space with amenities to rival any high-end hospitality digs. An open-flame pizzeria, a pub with pool table and darts. Booths and chairs lit by pendant lamps. Four distinct, gleaming counters: Asian food, classic fare, deli/salads, and a dessert rotunda. An espresso lounge with a fireplace. A glass-enclosed private dining room that overlooks the whole scene—perhaps where the Pope will dine on a future Colorado visit.

"In the end, it was really all about the forethought and foresight that GTC and the design team put into it, so we wouldn't get hindered in the construction process and schedule," Laartz said.

“This project brought tremendous swings to the Student Center and transformed it into an open, inclusive environment that supports all our students at the University,” Redmond said. “Previously the Student Center supported 1,300 residents. Now it also supports commuter students, meaning it will serve up to 7,400 people on a given day.”

Not bad, for a 2-year project in a building that never shut down.















