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Armstrong Hall Floor Joist and Slab Strengthening

Miami University, which is located in Oxford, Ohio underwent renovations on its campus in 2011. Armstrong Hall was among these renovations. The building was completely gutted and the existing floor system - a beam and joist structure - needed to be strengthened.

The work, mostly joist strengthening, also had a slab area to be reinforced along with a few beams. The design was completed by the engineer of record and no FRP design was initially included. Fyfe engineers determined that the initial design exceeded the properties of the products that had originally been specified, which allowed engineers to reduce the number of layers of the Fyfe® carbon fiber reinforced polymers.

Also included in this scope were crack injection and some concrete repairs. The general contractor removed some obstacles, including the corrugated steel pans that were used to form and pour the joists. Most of the work involved flexural strengthening and did not deal with the preparation on the corrugated surfaces. Amidst challenges with access and working with other trades, the work was successfully completed with multiple mobilizations.

