

Ivinson Memorial Hospital Medical Office Building 3rd Floor Addition

Working in an occupied building is always a challenge. Working *on top* of an occupied building brings in a new layer of difficulty—both literally and figuratively. At the Ivinson Memorial Hospital Medical Office Building 3rd Floor Addition [Picture 1], the complexities were compounded by the building's location on an active hospital campus—patients and staff needed nearly constant access to the both the MOB and surrounding buildings. Despite these obstacles, the Haselden team was able to keep the 1st floor parking garage and 2nd floor MOB fully functional, keep the jobsite and public safe, and turn the project over to the owner nearly a month early.

The story of this project begins in 2017 when Haselden completed the original medical office building. The hospital always intended to add the 3rd story at some point, however the timeline was escalated due to the needs of the community and patients. The 3rd floor addition would include attaching the frame to the existing structure, as well as raising the elevator and stair cores—all while keeping the existing parking garage and offices located below the addition in operation. Another caveat was that access to the neighboring hospital buildings and parking lots could not be compromised. Keeping these access points open meant that, other than the actual third floor and a very few intermittent spots for laydown and deliveries, the jobsite could not be permanently fenced off [Picture 2]. In September of 2018 Haselden was awarded the 3rd story addition project and a mere six weeks later we had devised a budget and released the structural steel package.

When you're performing work on three sides of a building that sees approximately 180 patients each day, keeping everyone safe while keeping the project progressing smoothly is paramount. An example of an associated complication relates to loading and unloading materials. All loading and unloading of materials had to be done by a forklift in the fire lane on the east side of the building. However, because the building was occupied, the fire lane could not be closed down completely—a measured off section of the fire lane had to remain clear and accessible at all times. To accommodate this safety measure, Haselden enacted a policy wherein we required forklift drivers to have spotters at ALL times in order to assure they did not cross into the cordoned off section of the fire lane. The construction trailer had a whiteboard to coordinate this, allowing people to reserve time slots and indicate who their spotter would be.

Using this method successfully organized material deliveries to the third floor as well as ensuring there was always a spotter for the forklift.

Because the building below had to remain fully functional, one of the challenges was keeping one elevator and stairwell active throughout the project, while at the same time adding a level to both. Haselden accomplished this by leaving the concrete slab that was on top of the cores intact and building the extension on top of them [Picture 3]. This allowed the hospital to continue using the elevator and stairwell, even as an additional stop was added to the elevator and a floor was added to the staircase. Once the new level was complete, we punched through the concrete slab that separated the two floors and made the final connections.

Providing access to the extended shear walls [Picture 4] also proved exacting. Once the concrete was poured, we constructed a scaffolding system [Picture 5] that allowed the steel erectors, then monocoaters, waterproofers, and masons to safely carry out their trade.

Teamwork shined on this project as Haselden, KL&A (structural engineer), and LPR (steel erector) combined their collective knowledge to determine the safest plan to erect the steel on the 3rd floor. The team—including project managers, superintendents, foremen, etc.—worked closely with Haselden's Safety Department, meeting multiple times to formulate the best plan of action. Ultimately, the team decided to only perform steel erection on nights and weekends. However, after several snowstorms hit the area, the team had to reevaluate as the job would fall behind schedule if they kept to nights/weekends only. While OSHA regulations allowed for steel erection during work hours because we were working over a 6" concrete deck, our team still wanted to maximize safety. We went to a system where only horizontal beams were installed during work hours (7:30am to 5:30pm, Monday through Friday) and these beams traversed the area at 6" above deck with a dual sling [Picture 6]. While no slippage was expected, this system ensured minimal damage should a drop occur. All columns were placed after work hours or on weekends because of their vertical stance and the possibility of penetration if one were to fall.

Another team effort came in the form of a value engineering exercise. Haselden's superintendent recognized that by clustering the sink drains in the new exam rooms, we could eliminate approximately 40% of the core holes required between levels two and three. He brought the idea to BCER who made his idea a reality. Not only did this make the design more efficient, but it was highly beneficial to the client: because there were less holes being bored, less exam rooms on the 2nd floor MOB had to be temporarily closed, therefore allowing doctors to

schedule more patients. When performing these penetrations to the 2nd floor, ICRA standards were in place. Haselden brought in ASHRAE to provide a Managing Infection Prevention During Construction and Operation of Healthcare Facilities class to construction personnel and some Iverson staff.

Understanding from the beginning that this would be a difficult project, Haselden met these challenges head-on. We began with our team, bringing in the superintendent who built the original medical office building we were adding onto. We then retained as many of the subcontractors from the original building as possible. This team's knowledge of the original structure and history working together proved invaluable and allowed us to draw on lessons learned while constructing the first building. The lean construction process of pull planning played a major part in keeping our schedule on track. Ensuring our client remained happy while construction took place directly overhead was, of course, a consideration. Each day the Iverson MOB staff would have a morning coordination meeting; Haselden's superintendent would sit in on that meeting—every day—and keep them up to date on the progress of the project and what would be happening that day. He worked with their schedules and sometimes rearranged a construction activity to better accommodate them (for example, he might reschedule core drilling if they had a sensitive procedure scheduled). The superintendent would also give them that day's "noise scale"—using a 1 to 10 rating similar to a medical pain scale—to identify the level of noise they could anticipate for the day's construction activities. The next day, he would discuss the scale with them to see if his perception matched theirs so he could adjust his if necessary. Working so closely with the Iverson staff and keeping them informed in a timely and honest manner strengthened the already healthy relationship Haselden enjoyed with the hospital. The constant communication helped ensure the successful completion of this project.

Our rigorous and comprehensive safety policy addressed safety at every level, holding the safety of our client and team members paramount. The superintendent crafted a safety policy specific to the 3rd floor addition at the Iverson MOB project before construction began, detailing safety training for all subcontractors and Haselden team members. Before any employee arrived on site, they had received at least 10 hours of safety and health training to prepare them for proper hazard recognition and reporting abatement techniques commonly practiced in the field. Team members received site orientation covering site-specific safety programs, emergency action plans, and owner policy. Weekly safety and health training meetings were conducted for

all Haselden and subcontractor team members. Additionally, newly hired employees wore red hardhats so field managers knew who to closely mentor. Haselden logged 16,042 hours on this project with zero recordable incidents.

The new 3rd floor at the Iverson Memorial Hospital Medical Office Building [Picture 7] was a complex addition with numerous challenging aspects. Thanks to a stellar team atmosphere and safety-conscious crew that remained totally dedicated to keeping the site clean and the public safe throughout the project, this addition finished early and now provides the community with a diverse range of healthcare professionals [Pictures 8, 9]. As the only hospital in the area, having a broad spectrum of specialties in one location is a key element for successful healthcare management in the community. The stunning finishes tie in seamlessly to the original building and the hospital [Picture 10] and will serve the community for many years to come.













