

UCHealth Steadman Hawkins Clinic Denver

Whether you're a kid on the soccer field, a professional athlete, or just need to improve your mobility, the new UCHealth Steadman Hawkins Clinic Denver [Pictures 1, 2] offers services beginning with diagnosis and following the patient through recovery and rehabilitation. This four-story, state-of-the-art facility comprises 100,000 SF of finished space, plus 50,000 SF of core and shell space for expansion. The open atriums and large wood feature walls with niches containing signed sports memorabilia from the clinic's patients who are professional athletes provide clients with welcoming and interesting waiting areas [Picture 3]. With features such as a sprint turf that begins inside the building and connects to exterior turf through large glass garage-style doors [Picture 4] and an integrated glass video wall by Sensory Technologies that provides patients with motion analysis, there are simply aspects of the rehabilitation center that cannot be found at most clinics. Six operating rooms round out the clinic's treatment capabilities [Picture 5]. Ample parking is provided in the three-story parking garage, a 162,000 SF structure constructed of cast-in-place, post-tensioned concrete and containing over 400 parking spots.

The biggest challenge on this project was the timeline, with an original schedule of 13.5 months. Several obstacles were presented by the AHJ that hampered this, namely in relation to the fire/smoke dampers and the fire alarm systems. The original plan called for fire dampers only; after these were installed, drywall complete, etc., the inspector changed the specification to fire/smoke dampers. This required opening the finished ceilings to replace the units and making the necessary repairs. A similar situation occurred regarding the fire alarm system. The original plan called for one connected system to be used for the clinic and parking garage, however after permitting and installation, the AHJ required these systems be separated. There were also changes by the owner, including the addition of photovoltaic panels on the parking garage. Due to the addition of approximately \$4M in scope, the schedule was extended. However, the project still completed in a mere 15 months.

Completing the project in this extremely tight timeframe was possible because of the level of teamwork and cooperation present between team members. The internal Haselden team assigned to the Steadman Hawkins Clinic Denver had worked on several UCHealth projects, various other medical projects, and multiple projects with one another, making them the ideal fit for this project. Haselden also brought on several of our key subcontractors early in the form of trade management partners, engaging their expertise to ensure all elements of the project

occurred as efficiently as possible. A successful example of this is when Puma Steel, our supplier/fabricator, recommended a better way to fabricate and erect the signature flying arch [Picture 6]. Their idea saved the project a considerable amount of money. By working with our trade partners, we were able to value engineer \$5M out of the budget without losing any scope or key feature design elements. Haselden met with the subcontractors on a weekly basis to discuss coordination of the exterior envelope in order to ensure a quick dry-in and stay on schedule. Utilizing the Lean construction technique of pull planning was an effective means of keeping the project on track. Additionally, the architect had an on-site construction administrator and the owner had an on-site project manager, both of which contributed to the success of the project by enabling quick decision making.

Prefabrication was another important factor in constructing this complex facility in such a short time. Prefabricating the exterior skin allowed us to dry-in the building faster, accelerating the timeline to begin on interior finishes. JR Butler assembled the unitized curtainwall system off-site, then installed in panels. Exterior wall panels—including metal stud framing, Thermax insulation, and miscellaneous steel for window openings—were also prefabricated in a controlled setting, then flown into place. Several trades, such as MEP, also prefabricated portions of their work. Miscellaneous metal items such as jams, sills, lintels, etc. were also prefabricated. In addition to expediting the schedule, prefab also led to a safer jobsite because much of the work was done on the ground as opposed to having workers doing the same tasks at elevation.

Utilizing advancing computer technology also played a crucial role in achieving a timely completion. Weekly BIM meetings were held to update dimensions and run clash detection on the federated model prior to fabricating any elements. This helped ensure any issues were found early and avoided costly and timely rework. This project also employed the use of HoloLens, mixed reality goggles that allowed us to superimpose the virtual environment with the physical. We loaded our virtual model into HoloLens and overlaid that onto the physical building. This allowed us to verify which systems were being installed according to the coordinated system drawings, as well as compare the construction schedule and MEP rough-in dates to determine if we were staying on schedule.

The challenge of the fast-track timeline was compounded by the relatively tight site and the proximity to I25 (seen in foreground) [Picture 7]. There were a notable number of exterior components and the west façade—which abutted I25—only had about 25' to work within.

Setting up the site efficiently with a flow that aided in coordination was an important aspect of the logistics that contributed to the success of the project.

While not LEED registered, many green building techniques were utilized on this project. The prefabrication contributed to this effort as the process allows for more precise material measurement which minimizes waste. The jobsite also recycled materials and the project design itself had several ecofriendly elements. The parking garage includes electric car charging stations, and the top floor of the parking garage utilizes photovoltaic panels which also serve as sunshades.

Haselden developed a project and site-specific safety plan immediately upon being awarded the contract. We then met with the team when the project started to establish requirements, expectations, reporting needs, and lines of communication. Our dedicated site safety manager provided direct oversight of all safety and health related guidelines and training processes—including several specialty training programs such as on-site manlift and forklift training. Weekly safety meetings and site walks ensured that our team members stayed safe. Haselden’s “I Got Your 6” program, which rewards both our employees and subcontractor employees for catching and correcting behavior that could be done in a safer manner, was active throughout the project. We also utilized a “Why I Work Safe” board where team members post pictures of their families, pets, etc – anything that reminds them to take that extra step for themselves and others to make sure everyone goes home safely. With 82,654 hours worked, Haselden had no lost time incidents on this project.

The UCHHealth Steadman Hawkins Clinic Denver offers the community unparalleled access to diagnose and address musculoskeletal issues. The new, world-class facility dramatically increases the number of patients the clinic can see, utilizes the latest medical equipment technology, and the extraordinary indoor/outdoor rehabilitation facility [Picture 8] offers unique opportunities for recovery. UCHHealth recognized Haselden’s success on this project in a substantial manner. Earlier this year we were awarded UCHHealth Tower 3, a \$250M project on the Anschutz Campus.









