

2018 AGC ACE Awards Submission

Project: The Elizabeth Hotel

Category: 10 – Best Building Project – General Contractor (\$40-\$70 Million)

Company: Hensel Phelps Construction Co.

Project Overview

A designer's dream project and a general contractor's feat to build, the 4-star Elizabeth Hotel nestled in the heart of Fort Collins set the standards for constructing a landmark project within the community. A cast-in-place concrete structure with more than 100 30' deep piers on dynamic compaction means that this hotel will remain a recognizably local icon for decades to come. The new 5-story hotel has exterior skin consisting of zinc panels and brick with 164 rooms, an expansive lobby with a grand staircase, large outdoor patio, four conference rooms covering 3,500 SF, and three unique restaurants. With a musical inspiration in mind, the hotel provides a record player and vinyls in each room, as well as rents out musical instruments, and there are themed suites. The parking structure is a 3-story precast structure that includes 363 parking spaces, and retail space along the alley. The luxury hotel is owned by the Bohemian Company with McWhinney as the Developer and Sage Hospitality as the Hotel Operator.

Solutions of Special Projects

In keeping with the team's mission to fulfill the designer's landmark project, Hensel Phelps took initiative when faced with particular obstacles during the project.

Custom Spiral Staircase

The vision for the hotel could not be complete without the focal point of the lobby, which is the Grand Stair. Initially, because the stair was not a code-driven egress pathway, the Grand Stair was an easy target for value engineering to reduce cost and ease construction. A simple egress could have been accomplished through a typical stair shaft all while meeting brand standards and operations. Instead of taking the easy path of eliminating the Grand Stair from the project, Hensel Phelps found a solution that could meet budget, and schedule while still providing design excellence. After finding the sole vendor in Minnesota, Hensel Phelps worked through the details of constructing this iconic piece and the feasibility of fabrication and installation. Through careful coordination with the vendor and trade partners, the custom spiral staircase was fabricated,

shipped, and installed in three different sections. Hensel Phelps had the entire stair assembled in the plant, inserted the stair's laser scan into the project 3D virtual model, and then constructed the elevations to an exact fit.

Magnitude of Materials

There was an extensive amount of materials used to construct this high-end project. Completing just a single room was a significant achievement, there were more than 85 different sources of tile and carpet; 112 varying wood species; 720 custom interior light fixtures; and more than 70 paint and wall covering types. To add another degree of difficulty, the music themed aesthetics required audio performance throughout the hotel. All rooms achieved an STC54 acoustical rating, and the Lobby ceiling and Sunset Lounge incorporated a Baswaphon product to further the audio experience. We used our 3D model to coordinate all elements for acoustics, while ensuring complete coordination with interior finish elements. The result was providing the acoustics of a rock studio in the middle of a 4-star hotel.

Excellence in Project Execution and Management/Team Approach

The construction team met the challenge of constructing this landmark building to achieve the vision of the designers and propel the growth and add to the cultural heritage of the Fort Collins community. Managing the sheer magnitude of different materials for the various spaces within the hotel while maintaining the schedule and budget showcased Hensel Phelps' ability to successfully deliver a complex project.

Value Engineering

When there was a real possibility that the Elizabeth Hotel would not be constructed, Hensel Phelps was brought on to provide value engineering. Hensel Phelps presented more than \$7.1M worth of value engineering options to the Owner and thereby provided a path to the desired budget. Hensel Phelps targeted items that would not affect the character of the design. Examples include:

- **Plumbing Fixtures:** The design documents included sole source plumbing fixtures that had to be assembled onsite rather than a typical out-of-the box fixture. Hensel Phelps was able to find an equivalent fixture that reduced the labor and material to save the project \$1M.

- Over-Excavation: The geotech report required over 10' to be over excavated beneath the site. Hensel Phelps proposed to use high energy (dynamic) compaction instead. This modification provided more than \$125k in savings and reduced the schedule by 3 weeks.

Construction Innovations/State-of-the-Art Advancement

Quality was paramount on this project, particularly because the Elizabeth Hotel involved so many specific design details that were unique to each room. For example, Hensel Phelps had to coordinate the location of 130 original works of art and collaborate with multiple designers to select more than 455+ distinctive interior materials. To maintain the schedule and cost, Hensel Phelps implemented an innovative trend log. The team also implemented the use of Virtual Design and Construction (VDC) in the field to ensure construction was proceeding in conjunction with the model.

Trend Log

When the project was on the verge of not being constructed due to increased costs by a competitor, the Developer approached Hensel Phelps to become the GC and make the project a reality. And that's exactly what Hensel Phelps did by integrating into the design and development team to address difficult budget and schedule issues. Hensel Phelps proposed and established an Initial GMP to allow construction to start earlier than expected. The team used our proprietary trend log to track all modifications to design and all value management ideas and their accompanying budget implications on a line item basis during the design process. Hensel Phelps reviewed every detail from an architectural handle vs. pull on a casework to the finishes of the bathroom partitions to ensure the GMP was maintained. The stakeholders (architects, trade partners, owners) were able to understand the effect changes to scope, material, and manpower had on cost because of the trend log.

Real-Time VDC

Complementing the trend log, our VDC onsite team laser scanned placement of the decks prior to the concrete pour. Tying to our 6-step quality control program, the use of laser scanning checked the decks pre-pour to examine the installation of embedded items such as sleeves, blockouts, slab

edges, and depressions to confirm their accuracy against the VDC model. After overlaying the scan with the model, Hensel Phelps was able to correct and adjust any clash detections prior to the concrete pour to save time and money. Our laser scan experience drives our decision on what level of scanning is required, and, most importantly, when the scanning needs to occur. This process has a major impact on managing costs of the existing conditions documentation process while providing real-time information to the field. The project placed over 100,000 SF of concrete without a single sleeve in the wrong location.

Environmental/Safety

Safety is the top priority for Hensel Phelps when planning and executing any construction operation. The project superintendent, Jeremy Spooner, implemented the program at the Elizabeth Hotel. He leads by example that safety is priority for everyone. The project had 384,979 total manhours and Hensel Phelps had no lost time for self-performed work. Furthermore, upper management reviewed and acknowledged the Elizabeth Hotel for an excellent safety culture and consistent observations based on our proprietary SAFE program. The SAFE program is a comprehensive safety training and observation system that enforces Hensel Phelps' zero accident culture by holding every individual accountable for safety. The reinforcement from upper management to the entire team affirms the priority and high-level of concern Hensel Phelps places on safety on the jobsite. The backbone of the SAFE program was a continuous safety presence in the field and regular daily safety audits performed by jobsite staff.

Excellence in Client Service and/or Contribution to Community

One Project, Multiple Visions

Although on paper the Elizabeth Hotel was one contract, in reality the project was seven projects intertwined into one. This included:

1. Guestrooms
2. Meeting Rooms
3. Parking Garage Old Fire House Alley
4. The Emporium Kitchen and Wine Market
5. The Bowerbird Coffee Shop
6. Magic Rat
7. Sunset Rooftop Bar

There was a stakeholder and designer for each project to develop the details of the building from all aspects of design. Hensel Phelps coordinated all stakeholders, managing them within their single project while maintaining the overall goal of maintaining cost and schedule of the hotel. Examples include the Hotel guestroom stakeholders were SAGE Hospitality, Marriott Autograph, and the Bohemian Group, and the designers were 4240 Architecture and the DLR group. The Emporium Kitchen and Wine Market stakeholders were led by Sage Restaurant Group and the design was provided by a concept from Dash and transferred to DLR for final design. Each stakeholder had individual specifications, interior finish legends, brand standards, and budget constraints. The Elizabeth Hotel provides a community hub for Fort Collins with the addition of lodging that was missing in the vibrant downtown and Hensel Phelps provided assurance to each stakeholder that their specific project was allowed to maintain its individuality, while still ensuring it was delivered on time and within budget.









