

Category 5: Best Building Project – Specialty Contractor (\$2-\$6 Million)

Contractor: RK Mechanical, Inc.

Project Name: 245 Columbine

The elite neighborhood of Cherry Creek North has welcomed its newest mixed-use structure located at 245 Columbine Street. This modern-meets-retro building offers an array of luxuries including an upscale hotel, two street-level restaurants, a rooftop restaurant, and the most exclusive bar in Denver.

TOP-RATED HOTEL BUILT FOR THE URBAN ADVENTURER

The Halcyon Hotel, a boutique luxury hotel, is the first hotel to open in the area in over a decade. Designed by Johnson Nathan Strohe, the interior and exterior design aimed to make guests feel important and comfortable as if they are visiting a close friend that has impeccable style with high hospitality standards.

The hotel features 154 finely appointed guest rooms and 11 suites; a rooftop pool deck with food and beverage service; 6,500 square feet of event space, including a ballroom that features floor to ceiling windows; a fitness center and two levels of sub-grade valet parking.

The hotel prides itself on its most unique amenity, the Gear Garage. Here, guests can borrow a variety of items including adventure packs with everything you'll need for a Rocky Mountain adventure or a day in the bustling city.

SNEAK INTO DENVER'S HOTTEST NEW RESTAURANTS

Located in the building's 5,900 square feet of street-level retail space are Quality Italian, a traditional Italian-American steakhouse owned by the Quality Branded group, and Sage Hospitality's newest eatery, Departure Restaurant + Lounge, an Asian-themed restaurant, featuring upscale crafty cocktails and modern designs. Departure Elevated is the building's third restaurant that services the rooftop area of the hotel.

The prohibition-themed cocktail lounge gives the hotel a mysterious edge. The entrance, an unmarked and unassuming door, sits around the back of the building with a single light positioned above an antique-style doorbell. After pressing the buzzer, a hostess welcomes guests to B&GC, the speakeasy hidden in the basement.

TOP-NOTCH LOCAL CONSTRUCTION TEAM

The 245 Columbine project team required Colorado's finest. The project owner, BMC Investments, hired an elite project team including the general contractor, Mortenson, one of the largest contractors in North America and Johnson Nathan Strohe, the award-winning Denver-based architecture and interior design firm. The project engineer, Cator, Ruma & Associates, is a design firm that is headquartered in Denver.

RK Mechanical was hired by Mortenson to perform the full mechanical scope of the project. We designed, fabricated and installed mechanical systems for the mixed-use building. Systems included installing fan coiling units with chillers and electric heat throughout the building. RK Mechanical provided preconstruction services with advanced estimating to establish the Guaranteed Maximum Price (GMP), as well as CAD and BIM services.

STREAMLINING THE CONSTRUCTION PROCESS

As a standard construction process, the project engineer supplies the approved and stamped contract drawings to subcontractors once they have been developed. For this project, RK Mechanical took on a design-build role. RK Mechanical's BIM department developed the contract drawings to streamline the bid process throughout the project.

In addition, RK Mechanical's preconstruction engineer was heavily involved throughout the preconstruction phase. As the contract changed and the design progressed, our team worked with the project engineer to produce the most economical and value-driven solutions to meet the owner's needs and expectations. This design-build approach required extensive communication and cooperation.

A CONGESTED SITE PUTS PRESSURE ON THE TEAM

The 245 Columbine project sits in one of Denver's most congested neighborhoods offering little-to-no laydown area for vehicles and construction materials. In addition, the owner wanted to maximize the use of the lot by building the hotel out to the very last inch, leaving no wiggle room. This challenged the team to create an error-free project schedule with tight deadlines for each trade.

As a proactive measure, RK Mechanical met with the general contractor and other trades teams weekly to ensure laydown and delivery schedules were accurate and allowed enough time for

material delivery and unloading. During preconstruction, our internal teams planned for the constrained project site and collaborated with our construction team to create a risk management plan. The plan included prefabricating as much equipment as possible in RK Mechanical's shop for just-in-time delivery and installation on site.

MINIMIZING COMMERCIAL IMPACT AND PROTECTING PEDESTRIAN SAFETY

Working alongside traffic and pedestrians meant that safety precautions and awareness of the site surroundings were of utmost importance. The team also needed to pay attention to deliveries to nearby businesses that were open during construction. Our team increased the frequency of our standard job site safety checks to ensure safety for pedestrians and passing vehicles.

Due to the project's location in the upscale neighborhood, noise levels were regularly monitored, and cleanliness and safety were an ever-present concern. The crew had to be conscious of people inside of the work area as well as what was going on directly outside the job site.

OVERCOMING WATER DAMAGE

During the early stages of construction, Colorado experienced a late spring snow that caused significant water damage to the building's insulation and drywall. Although the damage was not any fault of ours, RK Mechanical's team worked diligently to ensure that damaged equipment was properly fixed before resuming our portion of work. We also removed and replaced some of our previously undamaged, completed work to allow drywall and insulation to be replaced. Our team's tireless efforts helped avoid future issues for the facility management team and owner and got the project back on schedule. RK Mechanical showed great leadership in identifying and correcting damages and pushing other trade partners to do the same.

ACCELERATING THE SCHEDULE

Due to the other trades having to repair their damaged work and last minute changes, the mechanical scope was delayed. To make up time, our team worked on a heavily accelerated schedule and developed a collaborative partnership between the owner, designers and entire project team. We arranged periodic planning meetings and increased manpower to accelerate our work and meet the aggressive schedule. RK Mechanical also created a strategic plan with our fabrication shop to ensure all products and materials could be prefabricated in our shops prior to

delivery on site. Our prefabrication approach and capabilities allowed our team to exceed delivery and installation expectations.

VALUE ENGINEERING SAVES HALF A MILLION DOLLARS

During the preconstruction phase, RK Mechanical assisted with the contract designs. We provided value engineering options that helped to save the owner a combined total of \$517,000 while maintaining design and quality expectations. Some of these included:

- Revising the cast iron piping below the garage slab to schedule 40 PVC instead.
- Installing PVC for all pipes less than two inches in diameter and under cast iron risers to water closets.
- Installing two pipe-fan coil units with electric heat in all of the guest rooms and common areas.

SUCCESS ON A POST-TENSION SLAB

This project was unique in that it was built on a post-tension slab—meaning, a tension cable was incorporated into the slab instead of traditional rebar. Post-tension requires fewer support beams and allows for more head clearance from floor to ceiling, which aids in creating visually appealing structures.

Working with the post-tension slab tested our team when placing the sleeves inside the deck. Since post-tensioning places an active load on the structure, extreme care must be taken in making sure the cable locations accurately match the drawing. Our team had to be extremely precise to avoid having to go back and drill through the concrete to correct any errors.

UNMATCHED SAFETY AND QUALITY

As an ISO 9001:2015, ASME and AISC certified contractor, RK Mechanical is rooted in tested processes designed to deliver predictable results. Systematic audits throughout the duration of the project helped to ensure that the team stayed on schedule and produced and installed superior mechanical systems with the appropriately trained and certified personnel.

In addition to the site-specific safety and quality plans that were developed, and regular on-site toolbox talks, our team underwent site-specific training to understand the intricacies required for working with post-tension slabs and to ensure the highest quality outcome.

TECHNOLOGY ADVANCEMENTS

As another quality measure, RK Mechanical utilized iAuditor software on this project. This application automates our quality control (QC) rough-in and final processes and also makes them paperless. Every RK Mechanical foreman and quality control manager was equipped with an iPad containing the iAuditor app, making QC information easily accessible and seamless to manage.

RK Mechanical utilized advanced BIM by integrating Autodesk® Fabrication® software and our own 3D modeling platform to digitally layout our building systems and coordinate the design with architectural and structural models.

Using Fabrication CADmep, we virtually tested layouts and mechanical systems. This improved our ability to make informed decisions and avoid interferences — helping minimize field rework and delays.

AWARD-WINNING PROJECT

245 Columbine was a recipient of the 2016 Mayor's Design Award, which honored 17 Denver projects for their excellence in architecture, design and place-making. RK Mechanical is proud to add this unique building to our resume.









