

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

Contractor: Murphy Company

Project Name: Platte Fifteen

Look at that beautiful duct! That statement is almost unheard of in our industry as the mechanical scope is usually covered up per the owner's or architect's choice; but that was not the case for Platte Fifteen. This unique and one-of-its-kind project not only allowed Murphy Company's fabrication and installation craft to rise to the occasion and impress, but was welcomed by the architect, OZ Architecture and delivered by Murphy and general contractor, Adolfson & Peterson (A&P). For once, an HVAC system could shine in a space and become part of the tenant's experience and not hidden behind ceiling tiles. Utilizing exhaustive BIM efforts, just-in-time delivery, value engineering, and meticulous handling procedures to protect exposed systems, Murphy was able to assist in delivering an aesthetically-pleasing, mechanical design to go along with a new, sustainable construction technique, and present Denver its first Cross Laminated Timber (CLT) building at the intersection of Platte Street and 15th Street.

Named after its location, Platte Fifteen is an immaculate building that commands attention at its corner. Standing at five stories tall, 150,418-square-feet, this building is a mixed-use development that will house retail and office space for its tenants. It has 16,000-square-feet of ground-level retail/restaurant space, four floors of office space (covering approximately 136,000-square-feet), two levels of underground parking below, and a 7,000-square-foot rooftop recreational patio space with unobstructed views of the Denver skyline and Colorado's beautiful mountains. The structural elements included conventional reinforced concrete for the two parking levels and retail floor with CLT construction extending four floors above the retail space. Once the structure was up, our mechanical scope of work included extensive storm water retention, hydronic snowmelt and heating, and forced air conditioning systems. Our scope within the core facilities include bathroom groups and supporting mechanical systems to service high-end tenant spaces.

This project used the innovative and sustainable construction technique of CLT, which allowed for a sleek, yet cozy aesthetic especially as the light beams through the floor-to-ceiling windows. As a design-assist partner with Encore Electric and A&P, our input was valued from the start. From day one, we were there to support the preconstruction planning and engineering efforts.

A&P set the design and construction team up for success by fostering a team approach in the coordination effort. Meetings were both frequent and effective. A&P, 2020 Engineering, OZ Architecture, Murphy, Encore, and Western States Fire Protection truly succeeded in delivering a model that was accurate and constructible while minimizing the amount of collisions and rework on the project. Even the owner, Crescent Real Estate Partners, was very hands-on during the design and construction process.

We also had a huge value engineering effort on this project. The first direction we received from the owner was to maximize the value of the mechanical system. For the next three months, we spent some time evaluating 50 different cost options. The result was that we were able to eliminate all the non-essential scope and add in the scope items that were a priority to Crescent Real Estate.

With design remaining to be complete at contract award, the BIM coordination and final sign-off schedule and effort was critical to maintain the required delivery date of the CLT structure. CLT penetrations for mechanical and electrical systems were incorporated into the design of the wood structure and required openings were made during the fabrication of the CLT system by Nordic Structures of Quebec. To stay on the CLT delivery schedule, we got our underground permits first to get the ball rolling and would pull our above ground permits separately.

While above CLT structure design was finalized, the below grade parking structures were being constructed. The below grade structure was constructed on a mat slab foundation and not your typical pier style foundation. Using this technique, we came across some challenges for the underground piping. With the garage requiring multiple drains, we had to manage the sequencing of the drainpipe installation with the slab pours while maintaining clearances for the finished parking spaces.

Working on a busy intersection in downtown Denver posed its own challenges. Onsite storage was non-existent, with the only solution being to ship fabricated assemblies just-in-time from Murphy's shop. Our shop and logistics team excelled in the staging and delivery of fabricated piping racks, ductwork, and skids along with the three large RTUs to minimize disruption to the jobsite.

The use of BIM along with our strong design-build team also allowed for our systems to be seamlessly incorporated in OZ and 2020 Engineering's designs. Both teams had an excellent design and with the help of our BIM team, we were able to create an accurate BIM model and a level of detail that allowed us to align our model to the site for an easy installation process. With an accurate model to construct from, the project build was seamless. The model accurately represented the installation to a degree not seen on many projects. This accuracy proved to provide great levels of success in use of Trimble for concrete embedment, pipe and duct layout, and overall expedited installations throughout the construction of the project.

We also were valuable partners in coming up with a cost-effective duct design to match the visual aesthetics of the structure. With our ductwork being exposed and not hidden, we had to focus on quality and workmanship of our rectangular duct mains that is on display throughout the facility. Our main goal was to create an HVAC system that becomes part of the tenant's experience. Murphy's tradesmen really shined on this project. The Pipefitters, Plumbers, and Sheetmetal trades excelled in attention to detail for shop fabricated assemblies through final installation. Duct and other exposed final finish mechanical systems were handled with the utmost care knowing that the architect's vision was to showcase the systems as architectural features of the build.

What's more is Murphy's safety record on Platte Fifteen. Our craftsmen had zero injuries on this project over a 20-month build to round out an overall successful project!—Patrick Allen, Murphy's Senior Project Manager for this project, stated, "This was a really good-looking job throughout construction. It was a pleasure to work on a good-looking job with a historic purpose with a high performing project team." All of ductwork and exposed mechanical systems looked like they were created to live in conjunction with the smooth and bright timber and the large windows.

Slowly, but surely, tenants are starting to move into their spaces, and we continue to have a presence on site, completing specific tenant finish projects for the new occupants of this facility. Murphy Company is proud to have worked on Denver's *first* CLT building! We already are starting to see, and even work on, other projects that are utilizing this building material and following Platte Fifteen's lead. We are happy to be looking to sustainable building practices and helping Colorado build with a "green" vision.











