Category: 10 – Best Building Project – General Contractor (Under $10 Million)

Contractor: Haselden Construction

Project Name: University of Colorado Boulder Electrical, Computer and Energy Engineering (ECEE)

Project Overview — Electrical and computer engineering is quickly becoming the cornerstone of technology, for today and the future, across all industries. From construction to health care to cybersecurity, technological advancements are being made at lightning-speed thanks to highly skilled training facilities and educational programs that up-and-coming engineers have access to.

The University of Colorado Boulder's College of Engineering and Applied Science is one of the top-ranked engineering schools in the nation. Within the College is the Electrical, Computer and Energy Engineering (ECEE) department, which incorporates traditional and hands-on learning curriculums to prepare students for careers in design, production, testing, consulting, research, teaching and management within the computer, wireless communications, biomedical, aerospace, energy, materials, and semiconductor industries. To maintain its status as a leading institution, the College of Engineering and Applied Science needed to address the limited mechanical systems within the 114,000 square foot ECEE wing of the building, which were hindering future lab, facility, and workspace improvements.

Haselden Construction's tenured experience in higher education construction allowed us to complete the ECEE's complex $5.6 million renovation project collaboratively and efficiently in just 10 months.

Solutions of Special Projects — The ECEE renovation work began in February 2020 right before the campus switched to virtual learning because of COVID-19. With very few students or faculty on campus, Haselden did not encounter the safety challenges usually found on active higher education campuses. However, as a precaution safety barriers were still established around the construction site and all deliveries were made to the building's secure loading dock. The absence of students on campus also allowed Haselden to efficiently and safely erect the cranes necessary to hoist the HVAC equipment and ductwork to the building's roof. While cranes were in use, safety spotters were stationed around the crate and inside the building in case a rogue student or faculty member passed by. Less activity on campus also allowed for an

accelerated timeline and the project was completed in December 2020, before snow and harsh winter conditions arrived and impacted the job site.

Excellence in Project Execution and Management/Team Approach — Higher education construction requires a skilled GC and architect team with forethought and vision to design and build facilities that match the sophistication and technology-driven nature of today's students. Buildings must integrate with and support the experiential learning techniques that are widely used by universities while being able to withstand physical or technological advancements that may come in future years. Haselden collaborated with the University of Colorado's facilities management staff, US Engineering, and Encore Electric to ascertain existing building requirements and design a replacement system for all primary HVAC components.

Construction Innovations/State-of-the-Art Advancement — The ECEE renovation project had a lean timeline and budget, but Haselden's partners at US Engineering were able to employ Light Detection and Ranging (LiDAR) to produce plans for the made-to-fit HVAC units. Because of unknown field conditions and existing sizing constraints, a hybrid of on and off-site prefabrication was used for the HVAC units while nearly all the gas piping, ductwork, and electrical components had to be built on-site.

Ultimately, the building received all new air handlers and energy recovery systems and the associated electrical, piping, pumps, and motors. In addition, numerous structural modifications were completed to accommodate the new air handlers, including removal of stair sections, floor infilling, and chase walls throughout the building.

Environmental/Safety — The ECEE renovation project began around the same time as COVID-19, and the Haselden team prioritized worker safety and job site cleaning as a top priority. All Haselden employees, subcontractors, and partners followed formal OSHA COVID Safety Orientation Procedures and Boulder County health mandates. QR codes were used to conduct daily health screenings and track team members on the job site, while common spaces, bathroom, and frequently touched surfaces were disinfected on an ongoing basis. Regular but socially distanced meetings were held with employees, subcontractors, and the University's facilities management team to mitigate potential hazards. Ultimately, over 33,000 worker hours were logged, with a zero lost time accident rate.

Excellence in Client Service — The HVAC systems renovation of the Electrical, Computer and Energy Engineering (ECEE) facilities was critical to the University of Colorado Boulder's future success as a one of the leading, most innovative engineering schools in the country. Now that these critical systems are in place, the ECEE department can update its labs, training centers, and workspaces to accommodate for the five to ten percent undergraduate student growth the program is anticipating.

The Haselden ECEE team received the company's 2020 Purpose Recognition and Achievement Award for being the outstanding team that demonstrated extraordinary teamwork and received perfect customer satisfaction scores. Haselden's relationship with the University of Colorado and exemplary customer service led Haselden to already secure its next project with the University's ECEE department.


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