

Category 2: Meeting the Challenge of a Difficult Job – Specialty Contractor

Specialty Contractor: Weifield Group Contracting

Project Name: City of Denver Confidential Emergency Services Project

When the City & County of Denver had a need for a new emergency services building – one that would house an expanding emergency services staff and equipment while also providing additional capacity for future growth – it decided to revisit the past. One of the City’s existing buildings was formerly a private company’s call center before it was converted to a homeless shelter; the City acquired it and allowed the Homeless Coalition to use it while planning for the building was underway. It was the City’s goal to ultimately convert the building back to its original emergency services capability in order to meet its new mission-critical facility requirements and achieve LEED Gold eligibility.

At the time, the City believed that remodeling the existing 46,000 sq. ft. building would help facilitate a smoother transition to a new emergency services capability; however, that proved to be challenging – as design and construction hurdles began to appear that made retrofitting the facility extremely difficult from a structural and electrical standpoint.

“We had to bring in redundancy and capacities in a way that was extremely secure,” said Scott Wightman, Project Manager for the City & County of Denver.

Part of ensuring highly secure operations involved deciding whether or not to officially classify the facility under Article 708 of the National Electrical Code book as a Critical Operations Power Systems (or COPS) facility – requiring continuous operation of power systems for public safety, emergency management, national security, or business continuity purposes. Ultimately, it was decided the facility would not be classified as such – but the City did wish to incorporate as many COPS elements as possible into the building design. Weifield won this project with FCI Constructors (General Contractor) due to our knowledge of NEC Article 708 and COPS facilities and how to incorporate these design elements while maintaining the budget.

Continuously evolving needs from various City user groups made keeping to the schedule akin to (appropriate for this emergency services project) – ‘drinking through a fire hose.’ Despite the hurdles, ultimately, this new facility brought several hundred jobs to a less prosperous neighborhood of Denver and provided a solid emergency services foundation from which the City could grow.

Solutions of Special Projects

Weifield’s team remodeled the existing infrastructure and incorporated a hybrid COPS solution to make the facility as resilient as possible, including key COPS elements such as moving the switchgear indoors and building a cinderblock wall around the external generator. Weifield provided all-new electrical and telecommunications infrastructure, moving all electrical components inside or behind small arms fire-resistant walls and our electrical service entrance cables, underground.

Extraordinary provisions were made for this critical facility, including 72 hours of runtime on the backup generator and the addition of a 120-foot communications tower. This facility’s power infrastructure had a critical backup capability with a denser-than-normal electrical load – comprised of a 3,000-amp, three-phase 480/277-volt system supplied by Xcel, and a 2,500kVA transformer backed up by a 1250KW/1560kVA on-site generator with a connection cabinet that allowed for portable generation. The building solution included office and technical space for nearly 60 staff.

“Before the Homeless Coalition could vacate the building, the City wanted to provide another shelter to accommodate their needs. The Coalition’s move-out date was later than anticipated and the project schedule became compressed, despite a hard open date,” said Wightman.

Due to the building’s structural foundation proving to be less robust than originally thought, everything in the building - with the exception of one wall and a generator - ended up being gutted.

The hardest aspects of the project were centered around the design process; there were multiple City & County of Denver user groups involved in project decisions, starting early on – each bringing their own ideas to the table with respect to technical capabilities and building preferences. Because the changes were technical in nature and critical to operations or overall functionality, when a user group decided a change was needed, it was typically authorized. These continual changes demanded comprehensive design team coordination, often before updated information could be fully disseminated – and needed to be accommodated within the set schedule.

Said Nathaniel Sperry, FCI Senior Project Manager: “It was the most complicated system of users in a facility, all under one roof with different requirements.”

During the design process, it was discovered there was a need to totally replace the building’s entire roofing system – adding new lighting scope to the project that Weifield didn’t anticipate.

“The design was always behind the current phase – which added layers of complication,” said Heath Schreiner, FCI Superintendent. “It was a snowball effect...one issue affected the next, which affected the next. Weifield was proactive and had a trusting relationship with us – they helped us to clear those hurdles as they arose.”

Said Wightman: “Later in the project, we ended up taking more of a design-build approach to openly vet ideas between design and construction, simultaneously, and work collaboratively. Weifield shined in that regard, using their design-build experience to help achieve our goals.”

When the project was nearly complete, the vital tasks that remained – such as commissioning, startup, special systems, etc. – had to be compressed into the remaining schedule. Weifield sat down with FCI to establish a detailed schedule for the last 12 weeks.

Excellence in Project Execution and Management / Team Approach

Weifield performed a total of 26,562 man hours on the project – and kept communication flowing to the internal and holistic teams through daily work huddles, weekly GC and safety

meetings, design team meetings, separate technical/low voltage meetings, and myriad calls and emails on a continuous basis.

To help with the crunch during the last 12 weeks – Weifield kept their regular core team working on pre-planned contract tasks – while a separate small crew focused solely on changes.

“A big part of our success was getting into the weeds of understanding what the user groups wanted, early on – and staying on top of the information all the way through,” said Weifield Construction Manager, Bob Watkins. “We translated the user group input to the City and FCI, so everyone would have the latest information.”

“Weifield helped in making the numerous change decisions more efficient,” said Wightman. “They always detailed what the change would mean from a cost and usability standpoint – we would routinely use Weifield’s design recommendation for changes.”

Weifield noticed some user group changes didn’t tie to the structure or infrastructure –so we provided various options and solutions to their varying requirements, particularly around technical components and power requirements.

“There was nothing on this project that we didn’t value-engineer,” said Watkins.

Construction Innovations / State-of-the-Art Advancement

Weifield utilized our in-house BIM team to produce electrical drawings and created detailed Methods of Procedure (MOP’s) to handle critical tasks such as replacing an existing transformer. When we began consulting on the engineering components, as well, it helped to speed the process – as we ensured there would not be a delay between design and execution.

Said Sperry: “Almost everything we did on this job involved pricing and designing without full information – and correcting everything as we went. Weifield deserves a huge pat on the back for catching things before they got a lot worse.”

“Weifield went above and beyond – because their performance was so reliable, I knew that even with our time constraints, I didn’t have to fear the user group changes wouldn’t be done, or done well. Weifield came up with a solution and just did it,” said Wightman.

Environmental / Safety

Weifield utilized our project-specific safety plan which outlined all safety and health requirements and performed over 260 safety hours on the project, in total. We reviewed hazard plans in daily work huddles and weekly job site safety meetings, developed comprehensive lockout / tagout safety procedures for all power equipment, and made sure everyone was trained on silica standards and other dangers.

Weifield experienced no major injuries or fatalities on the project as a result of the project-specific safety procedures our team members performed, throughout.

Excellence in Client Service and/or Contribution to the Community

In addition to bringing several hundred more jobs to an underserved neighborhood of Denver, the City had a MWBE participation goal of 24% for this project, and Weifield achieved 26.46% due to our utilization of MWBE suppliers for furnishing of specific packages and labor.

As a result of this project, the City has expressed they want to make Weifield a certified contractor for future work.

Added Sperry: “It took a lot of additional effort from the professionals at Weifield to get the understanding thoroughly passed through from the owner and architect to the designer, and back into the drawings – they went way above and beyond, providing expert opinions and VE suggestions for items not included in the drawings. This was an extremely complex project and to overcome all of that was something very unique to Weifield.”

“It all came down to, ‘Can we get this done the way our users need it to be done?’ I always had the assurance that Weifield was ever-present, available, and engaged – and would absolutely get it done,” said Wightman.









