PROJECT HIGHLIGHTS

McKenney's takes the lead for hospital mechanical systems

A large healthcare organization in the Southeast wanted to expand operations with the addition of an acute-care hospital with around-the-clock emergency services. The project stalled for two years until a team of contractors—including McKenney's—re-engaged and completed construction in about 10 months.

The building owner was extremely cost-conscious when negotiations were reopened. McKenney's conducted a comprehensive analysis to identify mechanical system components and work plan modifications to align with significant budget constraints.

McKenney's coordinated efforts with field leaders, other trade contractors and the general contractor to maximize resources and reduce labor costs. With short time-frames in mind, McKenney's needed to begin the Building Information Modeling (BIM) process early. Drawings, schematics and modeling were developed quickly while engineers and other team members coordinated extensive prefabrication in a 3D model offsite to accelerate construction.

The comprehensive prefabrication process required thousands of hours of work on drawings and schematics. Though the process cost approximately $1 million to complete, it was a sound investment as overall project costs were reduced by millions of dollars. Using positioning hardware and software, lasers and optics, the team was able to simulate the placement of every pipe and connection digitally via computer to ensure accuracy prior to installation. Because of its critical role with trade sequencing, McKenney's could control coordination throughout the BIM process to accurately regulate costs and timelines.

In addition to BIM work, a McKenney's local labor force spent countless hours fabricating duct systems along with med-gas, water, sanitary and underground piping. The in-house shops gave McKenney's virtually unlimited capacity to prefabricate and preassemble these system components to tight tolerances.

McKenney's also assisted with several initiatives in pursuit of LEED® certification. Efforts include a cold condensate harvesting/re-use system, energy recovery units, boiler stack heat recovery, heat exchangers for water-side economizer "free-cooling," vegetative roofs with plumbing infrastructure, variable frequency drives for major HVAC system motors and ultra-efficient steam boilers for heat, sterilization and humidity control.

McKenney's coordinated their entire effort, facilitating communication between team members to ensure schedules and budgets were met. The massive project included more than 75,000 hours dedicated to plumbing, nearly 50,000 hours for pipefitting and 41,000 hours for sheetmetal.

McKenney's Inc
Building A Higher Standard

Project Team

- Owner: Piedmont Newnan Hospital
- Contractor: KBR Building Group
- Architect: Perkins + Will
- Engineer: Hibble, Peters & Dawson

The Challenge

- Initial construction plans delayed for two years
- Restart stalled schedule
- Reduce costs to align with new budget constraints

The Solution

- Analyze original construction estimates to identify savings
- Manage the trade construction schedule to facilitate trade sequencing
- Use BIM to coordinate all prefabrication, regulate costs and maintain timelines
- Prefabricate piping in-house

The Results

- Construction of HVAC system, plumbing and automated controls completed in 10 months
- Adhered to revised budgets
- Supported LEED certification

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