



Community College initiative addresses deferred maintenance & student expectations

Revenue-neutral facility improvements are possible

An hour outside of St. Louis, in the small community of Union, Missouri, East Central College (ECC) has been a beacon of higher education for half a century.

With buildings constructed largely in the 70s, however, ECC leadership recently found itself facing a challenge that is all too common among public institutions: Ensuring that its aging buildings remain comfortable and safe while minimizing the amount of energy and maintenance required to provide a quality environment.

"We're a fairly small community college but that doesn't lessen the need for the things that we have to do in order to keep the college floating," said Phil Pena, Vice President of Finance and Administration at ECC. "And it's very difficult to convince people to spend money on things they can't see, like infrastructure. So we were looking at all this equipment that was very close to the end of its useful life and asking, 'How could we pay for it?'"

The no-capital-needed option

Energy Performance Contracts (EPC) help put facility upgrades within financial reach. Under an EPC, facility and infrastructure retrofit costs are offset by guaranteed utility and operational savings over a fixed period of time. If the savings aren't realized, the energy services company (in this case, Johnson Controls) pays the difference.

The facilities director at the time, Mark Eaton, had prior experience with performance contracts but said he was often skeptical of the return-on investment estimates. This time, however, was different. The local JCI team had been servicing mechanical and controls equipment on campus for nearly two decades, which Eaton said put them in a unique position to realistically assess the infrastructure needs and develop a plan that would deliver guaranteed, measurable results.

"This was probably the closest thing to a true performance contract that I have ever been involved with because we were speaking about real numbers," he said. "We were backing up everything that we said and did with facts and real data. I can't tell you how valuable that is for a public institution."

Project AT-A-GLANCE:

Location:

East Central College
Union, MO

Scope:

Ten-year Master Plan Phase One

- Lighting Upgrades
- Controls Upgrades
- Water Fixture Upgrades
- Building Envelope Improvements

Results:

- Implementation Cost: \$1.26M
- Guaranteed Savings: \$1.65M over 15 years

EAST CENTRAL COLLEGE CASE STUDY

"It was amazing how much work went in to getting this done. Mike Baker and the team at Johnson Controls did an amazing job of engineering a solution that met our needs and would be revenue neutral. And now we've set a goal in our division that anytime we replace a piece of equipment, we're going to use the standards developed by Johnson Controls."

– Phil Pena
Vice President of Finance and Administration, East Central College



Perspective:

"Johnson Controls is helping us lower our infrastructure and operational costs, which means we can do more in terms of program development and supporting the work that's going on in the classroom."

– Jon Bauer
President, East Central College

Following its audit, the JCI team made a number of recommended improvements, which were rolled up into ECC's 10-year master plan. The first phase was executed in 2017 and included lighting, water fixture and controls upgrades, along with building envelope improvements. To date, the savings are exceeding the guarantees.

Area	Guaranteed Savings	Actual Savings Years 0+1
Lighting Upgrades	\$64,715	\$70,949
Water Fixture Upgrades	\$6,196	\$8,670
Building Envelope Improvements	\$1,644	\$2,054
Total Savings	\$72,555	\$81,673

The environmental impact

In addition to creating utility and operational savings, the improvements will help ECC reduce its carbon footprint. The combined initiatives will sequester (prevent from escaping into the atmosphere) the same amount of CO₂ that's sequestered by 18,342 tree seedlings grown for 10 years in an urban scenario. Or, put another way, the project will reduce the same amount of CO₂ emissions as if 137 passenger vehicles were taken off the road.

In all, Vice President of Finance and Administration, Phil Pena, said he is pleased with the results so far.

"The report that I got from the first year performance funding shows me that there was a lot of good, hard engineering work and a lot of good thought built into this first phase," said Pena. "At the executive level, I'm comfortable that I've got a partner at Johnson Controls."

Moving forward, the phase-one initiatives will continue to deliver benefits to East Central College:

- **Enhanced security:** The upgraded lighting, along with new surveillance cameras, will contribute to a safer environment on campus; a top priority for both the college and its students. "A couple of times during the process of putting the master plan together, we reached out to the students and asked them, 'What's most important to you?'" said Eaton. "To nobody's surprise, they were concerned about safety."
- **Efficient use of resources:** The upgraded *Metasys*[®] building automation system will give maintenance teams much more control over building environments and make it easier to troubleshoot issues when they do arise. "We don't have to go to each individual HVAC system or piece of equipment and manage it," said Eaton. "We can do it all from a console or from a phone."
- **Laying the groundwork for future planning.** "We're positioning the infrastructure so that it's possible to plug in new technologies that meet future expectations of students, such as distance learning," said Johnson Controls Performance Infrastructure Account™ Executive, Mike Baker. "And this technology backbone can also accommodate future enhancements to security systems."

For all its benefits, the project sponsors at East Central College said none of the improvements would have been possible without the guaranteed savings of performance contract delivered by a partner they trust.

"The Johnson Controls team really bent over backward to get this to where the board was happy, the president was happy and I was happy," said Pena. "They've shown that they're concerned about our environment and our cost savings and proposing the best solutions they can possibly propose."