



Small private college takes big steps to improve facilities without raising costs

The challenge: Improve aging buildings and infrastructure without raising tuition

Founded in 1909, Carroll College is a small, private Catholic institution with a history of quality education and winning football teams. With a century of tradition comes aging infrastructure, and many of the College's buildings as well as much of its equipment needed substantial improvement. Carroll College's difficulties were compounded by the fact that it is located in Helena, Montana where winters are harsh and water can be in short supply due to periodic drought conditions. The College had an unreliable heating system and outdated plumbing. However, there was no capital budget to address replacement, and costs were rising. Carroll College leaders needed a way to make their campus more modern, efficient, comfortable and sustainable while keeping tuition affordable.

“I have the sense that we've taken on something much deeper here. It's not just a project; it's a deep set of values that a company believes in. And I've been impressed with Johnson Controls' interest in values that are deeper than just that organization.”

– Tom Trebon
PhD, President of Carroll College

The solution: Retrofits, renovations and upgrades producing savings to offset much-needed improvements

Carroll College partnered with Johnson Controls on a performance contract project designed to reduce annual utility costs by 20 percent with minimal impact on the environment, and make adding new equipment – including a reliable power supply – affordable. The project included replacing boilers – some as dated as fifty years old – and installing new building controls.

Johnson Controls also upgraded lighting throughout the campus, replacing incandescent bulbs with more efficient compact fluorescent (CFL) lamps and replacing metal halide bulbs in the College's Physical Education Center with high-output T-5 fluorescent fixtures to provide brighter lighting while saving energy. In addition, with new zone switches – instead of one switch for all the lights – the Center now only has to illuminate spaces that are actually in use.

The College also had a back-up propane fuel system installed to reduce peak demand for natural gas, which represented 60 percent of Carroll's utility costs. As a result, not only does Carroll College reduce natural gas consumption and costs, but it qualifies for a lower rate from its gas utility company.

Water-saving toilets, urinals and shower valves were installed to conserve water and reduce their impact on the environment.

Finally, in keeping with its concern for the environment, Carroll College is making use of training provided to the facilities staff by Johnson Controls on the operation of energy-efficient equipment, and the staff in turn is making students and faculty more aware of what they can do to keep Carroll College green.



Results and benefits

Carroll College had been spending \$1 million a year on utility costs. Now it is projected to reduce its annual utility bill by \$200,000 and realize \$3.9 million in total savings over the life of the 15-year performance contract with Johnson Controls – as a result of energy savings and reduced maintenance costs. These figures include a savings of over \$40,000 a year on water and sewer charges, due to water conservation measures. Students, faculty and staff have become more involved in making the College more efficient and sustainable by shutting off lights and computers when not in use and taking other simple but effective actions.