CM3
BUILDING SOLUTIONS

Performance Contracting
Project: Wallingford-Swarthmore School District

A comprehensive lighting renovation combined with extensive HVAC and building controls upgrades enabled a project to be funded entirely from operational and energy savings.

Background

Located in Southeastern Pennsylvania, Wallingford Swarthmore School District serves 3700 students from grades K-12.

With one high school, one middle school, an administration building, and three elementary schools, the district had several facilities which required modernization.

In particular, the district wanted to prioritize lighting, security, and energy efficiency as key goals in the initial infrastructure improvement plan.

Services Provided

Lighting

Access Control

Video Surveillance

Building Automation Systems

Water Conservation

Mechanical Upgrades

Project Overview

Cost: $3.1 Million

Financing: Bond

Project Savings: $260K/YR

Contract Terms: 20 Years

Number of Buildings: 6

Square Footage of Project: 750,000

Duration: 18 Months

Results

After an extensive site review, it was clear that the school district could achieve significant operational and energy savings through an interior and exterior lighting renovation combined with several heating, ventilation and air conditioning modifications.

The $2.9M lighting, controls and HVAC project was funded entirely from energy and operational savings. The district also elected to simultaneously implement a $200K security project with CM3 through COSTARS.

HVAC Systems

Energy Savings

» Old, inefficient equipment that was at or beyond its useful life including a chiller, cooling tower and heat pumps was replaced.

» Variable speed drives were added on chilled water circulating pumps and on hot water pumps to reduce electricity consumption, extend pump life and improve humidity control.

» A new shoulder boiler was added. This enabled the district to use the smaller boiler and to valve off some areas in summer, thus saving energy.

Wallingford Elementary School

Building Automation

» The District had been using several legacy systems that were no longer supported by the manufacturer. These systems were cumbersome and difficult to both operate and schedule. CM3 installed a single-seat, easy-to-operate building automation system which could serve the entire district.

» Several outdated and failing field controllers were replaced which eliminated operational challenges and improved overall comfort while reducing costs.

» Where possible in an effort to protect existing investments, some operational controllers and field devices were kept, while several legacy controls were upgraded to a modern platform.

Nether Providence Elementary School

Strath Haven Middle School

Lighting

» Occupancy sensors were installed in classrooms, bathrooms, private offices and open offices to enable automatic on/off functioning of lighting, thus saving energy.

» Lighting controls in common areas were integrated with the building automation system, so lights could be scheduled to turn on when a building is occupied and turn off when a building is unoccupied.

» Gymnasium lighting was standardized. Previously, there were multiple LED retrofits and existing Metal Halide which provided inconsistent and varying light levels.

Security Systems

Since the Premisys access control system and ExacqVision camera software were already in use, the cost-effective solution was to deploy that solution to the remaining schools. This streamlined operations and ease-of-use.

CM3 also integrated the access control with the video surveillance system to deliver a more proactive solution. The integration enabled activity at the card reader doors to be automatically associated with video clips.

» Door alarms launch video clips, which are sent to administrators and security personnel.

» Alarms include "door forced open", "invalid card reads", and "door propped open".

» Normal card reads are stored with video clips for record-keeping.

Swarthmore-Rutledge School