

North Dickinson County School District Installs Building Automation System and LED Lighting to Become More Energy Efficient



Customer Profile

North Dickinson County School District, in Felch, Michigan, offers grades Kindergarten through 12 and ranks in the top 50% of all 869 school districts in Michigan. There are currently 252 students in the school district.

The Challenge

The North Dickinson County School District had been operating with outdated fluorescent lighting, three air handling units with non-operational pneumatics controls, and HVAC fans running all day, every day without proper management. The school district noticed the adverse effect on the student and teachers' learning environment and higher than budgeted utility costs month after month.

Constellation and Automated Energy Solutions, Inc., an intelligent solution provider and channel partner, provided the school district with energy efficiency solutions, like LED lighting and a digital building automation system.

The Solution

Through Constellation's Efficiency Made Easy (EME) program, Constellation and Automated Energy Solutions were able to help fund the installation of the LED lighting and digital building automation system with no up-front capital from the school district. The school district now pays the project back as a monthly line item on its electric utility bill. The school district owns all the equipment and started benefiting from savings on day one of installation.

Automated Energy Solutions installed a Honeywell digital web-based HVAC controls system that controls the air handler units, allowing the fans to only run at full speed when necessary and be completely shut off as building occupancy allows. A retrofit of T5 fluorescent light fixtures for LED lighting was installed to achieve better lighting levels for the classroom environment and reduce electric utility consumption.

In addition to reducing energy costs and managing usage, the school district can balance its resources and budget in several ways:

- Deferred maintenance of the antiquated lighting fixtures
- Reduced running time and increased life expectancy for HVAC fans
- Alert notifications when conditions are abnormal
- Remote technical support from Automated Energy Solutions to troubleshoot and strategize
- Measurable improvement in system reliability and indoor air quality

Improve the environment, health, and safety (EHS) of your facility

Project Highlights

- The project was complete in August of 2020. A recent bill from February of 2021 shows a 37% decrease in electric utility spend.
- With HVAC fans being turned off during unoccupied times throughout the summer, the school district could realize additional savings.
- Estimated annual savings at time of contract: \$27,205.00
 - Lighting - \$8,120
 - HVAC Control - \$10,970
 - Utility Bill Demand Charge - \$2,415
 - Operating and Maintenance - \$5,700

Technical Highlights

- Retrofit of T5 fluorescent light fixtures to top tier, DesignLights Consortium (DLC) listed LED lamps
- Installation of Tridium Honeywell HVAC web-based control systems
- A dedicated server hardware system provides programming, dynamic full-color graphics, 3-D floorplans, trends, alarming, and scheduling
- Provided digital HVAC controls for air handling units
 - Dedicated Honeywell controls for each air handling unit

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