

# HIGHLAND SCHOOL DISTRICT



## CASE STUDY

The Highland School District is located in central Illinois and is comprised of two primary schools, two elementary schools, a middle school and high school. The District serves 2,900 students in the surrounding communities. The middle school has 675 students.



### The Challenge:

Built in 1999, Highland Middle School is the newest building within the Highland School District. With an annual cost of utilities at \$1.12/ft<sup>2</sup> (65.1 KBTU/sq. ft), this building had the highest utility costs within the District.

### Process & Solution:

In 2017, the District was looking to replace the original HVAC systems within the Middle School, as they had exceeded their useful life. Initially, the District went through the Illinois RFP process and received proposals from three companies. Of the three companies, GRP was selected as the District's performance contracting partner. The Board of Education entered into a contract with GRP for \$2.9 million.

GRP suggested the District take a holistic approach to their Middle School project by combining several Facility Improvement Measures all at once. The District moved forward with GRP's suggestions for the building, and reduced the overall cooling tonnage by over 100 tons required by the original building's HVAC design.



## Facility Improvement Measures:



- High efficiency, custom RTU installation
- High efficiency VAV design implementation
- Installed 96% high efficiency boiler systems
- Installed new wind vented roof with R-30 insulation
- Interior/exterior LED lighting systems upgrade
- Building envelope improvements
- Expanded/upgraded DDC control system

## Reduced Carbon Footprint



**279,014 pounds of greenhouse gas emissions (annually)**



**149 acres saved (annually)**



**14,241 gallons of gasoline saved (annually)**

Reduced gas usage by 55% (23,870 Therm reduction). The electric usage was reduced by 41% (364,800 KWH reduction). The total energy reduction achieved an annual utility savings of \$62,690 for the District. Additionally, in 2017/2018 the fully air conditioned facility was now operating at \$0.58/ft<sup>2</sup> (33.2 KBTU/sq. ft) resulting in a 49% reduction in annual utility costs.

### Energy Usage Comparisons

