

## BELVIDERE SCHOOL DISTRICT BELVIDERE, NEW JERSEY

GreenTech Energy Services did a retrofit of the lighting at Belvidere School District in two stages. The first stage entailed replacing all the old T12 fluorescent lamps throughout the district with new T8 lamps. Using funds from a limited-time-only New Jersey Clean Energy Program, GreenTech was able to upgrade approximately one thousand fixtures free of charge to the district. The results were an improvement in the aesthetics of the buildings, and elimination of obsolete technology that no longer meets Federal energy efficiency standards and is costly to maintain. In the second phase, GreenTech upgraded the lighting in the school district's gyms. High pressure sodium and metal halide high bays were replaced by new 2x4 fixtures with T5 fluorescent lamps, reflectors and cages. Fixtures with 60- and 100-watt incandescent lamps were retrofit with 15- and 20-watt compact fluorescent lamps, and incandescent exit signs were replaced by LED. This phase of the project also improved aesthetics and significantly cut energy consumption and costs, as detailed below:

### COSTS AND SAVINGS

- Program Cost-----\$123,380
- Utility Rebate-----\$12,560
- Payback Period----- 3.1
- KW Saved-----32
- KWH Saved-----122,298
- Energy Cost Savings---\$22,014
- Operational Savings---\$3,701
- Total Savings-----\$25,715



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### ENVIRONMENTAL IMPACT

- Reduction in Carbon Dioxide (pounds)----- 183,447
- Reduction in Sulfur Dioxide (grams)----- 684,869
- Reduction in Nitrogen Oxide (grams)----- 305,745

"GreenTech did the installation while school was in session and it went very smoothly. When they left an area, we couldn't even tell they had been there. They had to work around some other projects, and they were very cooperative and responsive. As for the lighting itself, the biggest complaint right after the installation was that it was too bright! Everyone was so used to working in dim, gloomy surroundings that the new lights took a while to get used to. Now we all love it. The schools' appearances have really improved – they even look roomier. And I think the new lights have actually improved morale. When you sit in gloomy rooms, you start to feel that way but if you brighten things up, your mood picks up too."

— **Jim Barrick, Facilities Manager**