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Hunting For Eco-Treasure at Staples Distribution Center Orlando, Florida

GreenTech recently participated in a General Electric “Eco Treasure Hunt,” (ETH) hosted by a Staples distribution center in Orlando, FL. This was one of over 250 EHT’s run by GE at corporate sites across the country, ranging from manufacturing plants to theme parks to office buildings. In these events, GE sends a team to the site to study the facility’s energy use and to identify and recommend energy savings opportunities. Included on these teams are GE employees as well as outside energy experts like GreenTech who have worked with the facility owner. In this case, GreenTech was brought onboard by Staples, since we had designed and installed a lighting upgrade at that site five years prior.



Thanks to the Treasure Hunt, GreenTech was able to design a new plan that captured a significant amount of additional energy savings. Not only had the technology improved in the years since the last retrofit, but some of the older lights were nearing the end of their warranty period and starting to incur higher maintenance costs. Older T5 high bay fixtures were relamped with new, lower-wattage T5s, and 32-watt T8s were relamped with 28-watt T8s. In the offices, T12 fluorescents were retrofit with T8s. On the building’s exterior, metal halide wall-packs were replaced with LED’s.

The Treasure Hunt also revealed a lack of uniformity in the lighting, due largely to the fact that a different company had retrofit half the building prior to GreenTech coming onboard. To correct that, 260 of the 540 lamps were removed, eliminating over-lighting and glare, and other fixtures were repositioned, creating uniformity throughout the facility. Sensors were also installed in areas that turned out to be unoccupied much of the time. The end result: \$87,226 in annual energy and operational savings.

Office area lighting levels were maintained between 55-65 footcandles. In the warehouse aisles, lighting was improved from an average of 15-22 to an average of 22-30. The overall warehouse lighting levels were maintained at an average of 20-30 footcandles throughout.



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| THE SAVINGS | |
|-----------------------|-----------|
| Total Program Costs | \$157,529 |
| KW Savings - interior | 27% |
| KW Savings – exterior | 42% |
| Energy Savings | \$82,500 |
| Operational Savings | \$4,726 |
| Total Annual Savings | \$87,226 |

| ENVIRONMENTAL IMPACT | |
|--------------------------------------|------------|
| Reduction in Carbon Dioxide (pounds) | 3,640,446 |
| Reduction in Sulfur Dioxide (grams) | 13,590,997 |
| Reduction in Nitrogen Oxide (grams) | 6,067,409 |



The photo on the right shows an aisle fully illuminated by T8 fluorescents. In the photo on the left, lights are going on in the distance as a forklift is driven down the aisle, activating the occupancy sensors. The skylights in the foreground are fitted with photo sensors so that lights will not turn on in that area when sufficient ambient light is available.