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Mechanical Option

George W. Hays PK-8
Technical Assignment # 2



Executive Summary

This report is to analyze the George W. Hays PK-8 public school with respect to energy consumption and green design. Two major national standards that deal with these issues are the standards developed by The Leadership in Energy and Environmental Design (LEED), and American Society of Heating Air Conditioning and Refrigeration Engineers (ASHRAE) Standard 90.1. Along with comparison of the building with National Standards, a complete yearly energy analysis of the structure was created.

The building was checked for LEED certification potential in applications to the mechanical sections. LEED checks for the environmentally and socially friendliness of the building. The George W. Hays did not accumulate a sufficient number of points to obtain any LEED Certification.

The building did not comply with ASHRAE Standard 90.1 due to an excess lighting density. However, for mechanical sections where sufficient information was known about the system, the school passed Standard 90.1 requirements.

To complete the energy analysis of the building, a complete building simulation was created using Carrier's Hourly Analysis Program. This program returned estimations for a yearly energy consumption of the building.