

EXECUTIVE SUMMARY:

The building envelope of the Student Services Building at Howard Community College was evaluated using ASHRAE 90.1. The results of this evaluation are that the designed system meets and exceeds the envelope required by the ASHRAE 90 standard. The required U values for the wall and roof assemblies are below the maximum allowed for climate zone 4-A. Also the lighting power densities are also within the limits set by Standard 90.

The SSB was not intended to be a LEED certified building, therefore, it did not meet the requirements for certification. Even though it did not meet LEED certification good energy conservation techniques were implemented in the design of the controls for lighting and air handling units. The use of occupancy sensors allow for lighting and ventilation to be reduced when the spaces are not occupied. Also lighting level sensors are also in place to take advantage of natural day lighting and reduce the amount of artificial lighting.

For the building load estimates the TRACE 700 program was used to model the building spaces and associated loads. Some of the spaces modeled differ from the design documents due to assumptions made by the designers. Also this building houses the new food service for the campus, so there are many additional loads from kitchen equipment that needed to be accounted for in the thermal loads on the building.