

9.0 Breadth Areas:

The two main breadth analysis areas proposed of South Jefferson High School were chosen because of the effect the analyses have on one another. The results of improving some of the lighting systems will directly affect the mechanical systems by decreasing cooling loads. Also, the redesign of the mechanical systems at South Jefferson High School will have effects on some of the building's cost and scheduling concerns.

-Lighting

A significant amount (25%) of the annual energy consumption is conditioning of lighting. If a lower watt per square foot values were maintained for lighting the energy savings from reducing cooling loads would considerably help annual energy costs. A summary of the total lighting fixture wattage calculation is provided in Appendix B. The lower watt per square foot lighting values will be incorporated into the Trane Trace inputs, therefore, becoming included in life cycle cost analyses.

-Construction Management

Adding chillers and ground source heat pumps will directly affect the cost and scheduling for the projects construction manager. Construction costs for installing chillers and ground source heat pumps will be generated using the RSMeans Costworks software, while scheduling will be generated by the Primavera software package.

10.0 Project Method:

Various methods could be used to analyze the proposed redesign of South Jefferson High School. Most of the data for the redesign will be generated through the use of software. The major software packages that will be used are either accessible from Penn State or H.F. Lenz Company's available software collection.