



Executive Summary

Federated Department Stores is constructing a new Bloomingdales in Chevy Chase, Maryland. It is 180,000 square feet of retail space. The project is being delivered as a design-bid-build of 18.86 million in 21 months, from November 2005 to August 2007.

After the project is studied I have decided to complete research in two areas, and complete analysis in two areas helping to add value to the project. The research was completed regarding a mid construction redesign and building respect issues that seemed to be lacking between two general contractors. The first study was completed to analyze whether Ultraviolet Germicidal Irradiation systems would be beneficial to the HVAC system. The final analysis was used to establish a more efficient building envelope system.

When analyzing the use of UVGI systems, several sources were established to confirm credible information. Instillation cost and material costs were calculated and compared to an assumed financial savings of the addition of the UVGI systems. Although the initial investment is substantially for the installation and equipment, it will slowly pay for itself due to cost savings of employment absenteeism and reduced 'sick building syndrome' side effects.

Due to complex sequencing and minimal site space an alternative for the building envelope was analyzed. Originally, it was an analysis of a masonry system, but an Exterior Insulation Finishing System was chosen. The systems were both researched and a cost comparison was completed, followed more detailed by a energy saving analysis. The analysis showed a large energy savings, while reducing structural load substantially. This system has been found to be very beneficial to the value of the project.

In conclusion, the final recommendations are to construct the building envelope using a 4" EIF system and not the panel system; present the UVGI system utilization to the owner using forward communication to establish the fact, proceeding as approved. The following report presents the analyses in greater detail.