Executive Summary

This final report documents the research and analyses that were performed on the Department of Interor Cafeteria Modernization Project. The core of this investigation evaluates critical industry issues, value engineering decisions, reviews of constructability, and opportunities to reduce the project schedule. The three analyses are as followed:

Technical Analysis I *Critical Industry Issue: Using Tablet PCs for Quality Control*

Analysis I will research the use of Tablet PCs in the field to specifically aid in the quality control process. By being able to access the BIM Model and other construction documents in the field, many of the errors in the quality control process can be remediated. The cafeteria project is a prime candidate for this technology due to the lack of quality control throughout the project.

Technical Analysis II *Historic Preservation*

This analysis breaks down each of the historic preservation decisions on a cost, schedule, and architectural basis. This section also contains an architectural breadth which will propose an alternative design without the historic preservations. The proposed design is then compared to the original design based on cost, schedule, and aesthetics.

Technical Analysis III *Advanced Lighting System*

This analysis combines the use of advanced lighting controls, a proposed PV system, and a DC power supply to provide and energy and cost savings for the dining room lighting system. This section includes a lighting/electrical breadth to look into the design of these systems.