



Wilkes-Barre/Scranton International Airport

Avoca, PA

Executive Summary

The following is the culmination of a student driven research of building analysis as well as an up coming technology in the construction industry. This report will show the students ability to critically analyze issues in and out of their own field. There will be a main focus on construction with a breadth in the structural and mechanical side of their major.

The main focus will be on 4D modeling and its use in the construction community and industry today. This will detail how it's used in preconstruction, why it is or is not being used in construction and the community's response to this technology. 4D modeling will also be applied to the Wilkes-Barre/Scranton International Airport to analyze the steel erection sequence. A comparison to the developed schedule and a SIPS schedule will be reviewed and the SIPS schedule will be applied to the building via 4D model.

For the breadths, structural and mechanical elements of the building have been evaluated and studied. The structural analysis will consist of beam analysis and the affect of punches through the web and the mechanical analysis will cover the transfer of partial loads from one rooftop to another and it's affect on the overall system.