



EXECUTIVE SUMMARY

This final report discusses four analyses that will be performed for the University of Pittsburgh's Chevron Annex project. Background research was performed, as well as an examination of the potential solutions, expected outcome and the steps that were performed to achieve the technical analysis/research.

Analysis 1: Integration of Tablet PC's in the Field

The Chevron Annex did not utilize any new or unique methods of technology during construction. It is suggested that the project team implement different forms of technology in the field to increase the productivity of the workers. Tablet PC's are recommended to help control safety, coordinate commissioning, fill out punchlists and close out the project. Applications and programs applicable were also recommended. These programs will help increase the overall productivity of the project. It was discovered that the implementation of new and innovative technology in the field has a drastic effect on the overall cost and time savings for the Chevron Annex.

Analysis 2: Re-Design/Re-Sequence of the Façade

The installation and phasing of the exterior skin caused a number of problems during the construction of the Chevron Annex. A re-sequencing of the installation of the façade systems was completed and compared to the original plan in this analysis. Members of the project team were also interviewed to determine the problems and challenges faced during the installation of these systems. This comparison helped determine the most efficient and effective way to sequence the exterior façade construction, as well as point out any major concerns or problems with the original schedule.

Analysis 3: Commissioning of Laboratory Spaces

The Chevron Annex developed some complications when it came time to turn on the mechanical equipment for the testing and balancing of the systems. Throughout this analysis, the commissioning process was researched and analyzed to determine the most efficient way to commission. Additionally, a new schedule was created and compared to the original plan, determining the problematic areas. These areas were analyzed and solutions were developed to help with this process.

Analysis 4: Addition of a Green Roof

The Chevron Annex's roof was a typical TPO roof that did not use any innovative solutions to help increase the efficiency of the building. This roof was changed to a green roofing system, helping reduce the storm water runoff, the building's heat island effect and the mechanical loads imposed on the building. This analysis also includes structural and mechanical breadths that rely on knowledge that was gained in previous AE courses.

