
Executive Summary

In December of 2007, Geisinger Health System put out a Request For Proposal (RFP) to several construction managers regarding a new project planned for the Bloomsburg, PA, area. Due to Geisinger's increasing size as the leading healthcare provider in northeastern Pennsylvania, Geisinger began to draft plans for a new medical office building to take over the electronic document management process as well as serve as a place for patients to dispute and file claims. The job was planned as a design-bid-build and was proposed as a Guaranteed Maximum Price (GMP) for a CM-At-Risk. Alexander Building Construction was placed on a short list due to their previous work with Geisinger, which included the newly completed LEED Gold Certified Gray's Woods project located just outside of State College, PA. Alexander proposed a GMP of \$11.7 million and won the contract. Alexander quickly brought a project team together and had the first CM kickoff meeting on January 15, 2008.

The theme of this thesis will show how Building Information Modeling can be realistically implemented into the design and construction processes through various outlets. The Buckhorn Medical Office Building project was designed, estimated, and constructed using traditional construction practices; however, Geisinger requested that a "BIM model" be turned over as part of the as-built documents. Alexander met this demand by starting a new in-house initiative called the BIM Taskforce. BIM software, such as Revit Architecture and MEP, were purchased to help facilitate the construction of a 3D model. Alexander did not use this model for any construction purposes.

This thesis will show how design and construction companies can begin to implement the uses of Building Information Modeling through the design, preconstruction, and construction phases of a project. Currently, this is a big topic of discussion within the construction industry. This thesis will focus on using BIM for architectural design, solar analysis, estimating practices, and schedule review. It will demonstrate several ways that time and money can be saved by implementing BIM into a traditional project workflow.