

Donna Kent  
Structural Option  
Building: Vickroy Hall  
Location: Duquesne University  
Pittsburgh, PA 15282  
Date: December 15, 2006  
Title of Report: Thesis Proposal - Breadth  
Faculty Consultant: Dr. Boothby



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## Executive Summary

Two breadth topics will be investigated.

The first breadth topic is an in depth cost efficiency comparison with take-offs from the new system which will then be compared to the cost of the original system. Structural elements and materials will be considered. It is not yet determined if labor costs will be included in the cost estimate.

The second breadth topic will be to investigate whether the mechanical system is impacted greatly and if the system could be improved by new means of routing ducts, etc. The floor system is changing with deeper beams and a new material. The mechanical system may have to be routed in a new direction to compensate for the new structural system. On the other hand, rerouting the mechanical system could prove to be cost effective if an easier way of routing was determined.

The new building system will be evaluated with not only the structural changes, but also the impact on the other major engineering options. In this sense, the building will be analyzed as a community of options instead of only structures to determine if the new system could effectively stand in for the original system.