



Barshinger Life Science & Philosophy Building

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Structural Option
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Thesis Proposal Improving Design Efficiency

Executive Summary

The Barshinger Life Science and Philosophy Building will be the largest construction project in the long history of Lancaster, Pennsylvania's Franklin and Marshall College. At a total cost of \$45 million, the 102,000 square-foot building will include state-of-the-art classrooms and laboratories, a greenhouse, a multi-story atrium, a 125-seat lecture hall, a commons for meetings and gatherings, and a vivarium for the study of primates and rodents.

This Thesis Proposal distinguishes the specific tasks that I hope to accomplish during the spring 2006 semester. The analyses previously completed for Technical Reports 1 • 3 identified specific aspects of the Barshinger Life Science and Philosophy Building at Franklin and Marshall College for further in-depth investigations. The overriding goal of the investigations can be characterized as "improving design efficiency."

Due to the relative simplicity of the structure, my depth topic will encompass both the lateral and foundation systems. Whereas the lateral system will be made more efficient within the existing concentrically-braced frame design, the foundation system will be investigated for a potential change from shallow spread footings to concrete caissons.

The breadth work focuses on two topics: constructability analyses of the altered systems from the depth topic and acoustic design evaluation for the large lecture hall.

This proposal includes the following categories:

- § Building Program Overview
- § Structural System Overview
- § Depth Topic
- § Breadth Topics (2)
- § Prospective Research Topics
- § Task Breakdown & Methodology
- § Schedule