

PROPOSAL

BRIDGESIDE POINT II

PITTSBURGH, PA



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Structural Option

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EXECUTIVE SUMMARY

The Bridgeside Point II project consists of five above grade stories with a combination of office and laboratory space. It is located in the Pittsburgh Technology Center, which is just east of downtown Pittsburgh, Pennsylvania. The building is approximately 150,000 square feet and reaches a height of 75 feet above grade, and consists of 5 concentric and eccentric braced frames.

The ultimate goal of this thesis will involve two structural studies: an alternate lateral framing system and an additional floor with a redesigned lateral system. The alternate lateral framing system will be designed and compared to the existing lateral framing system. The intent is for drift optimization and reduced member sizes. The second main study will be an additional floor being placed onto the building. The study will involve a complete lateral framing system redesign, as well as relocation of the mechanical room. The breadth studies will focus on façade performance per new connection criteria, sound isolation, and new building demand loads. The culmination of all this work will allow for a complete cost and feasibility analysis. In the end system recommendations will be presented.

BREADTH SUMMARY

Along with the main structural study, a minimum of two breadth studies will also be performed. The first study will look at Bridgeside Point II's cladding system, more explicitly, how it behaves under the current building drift conditions. This study will emphasize installation, performance, and inspection. The second study will focus on the implications of an additional floor to the structure. This will include an analysis of the new heating/cooling and lighting demand loads as well as sound isolation for new mechanical room now located within the building.

The façade study will focus on the performance and installation of the precast and metal panels. Most of the issues associated with facades are lack of performance and poor weatherproofing, which are sometimes only evident after the building completion. This study will look at the new standard put forth by AISC for 2008, *Façade Attachments to Steel Buildings* to ensure that connections are designed and installed properly. The materials selected to clad the building will also be analyzed so that they too meet this new criteria. Upon conclusion, recommendations will be presented.

The second breadth study will focus mainly on sound isolation; however, if time permits, calculation and design of new heating/cooling and lighting systems will be performed. This study will look at reducing transmission of noise from the mechanical room to the rest of the building as well as ensuring the building is not experiencing any unwanted vibrations from said room. Upon conclusion, cost savings will be presented