

**Michael Sandretto**

**Structural Option**

**Technical Assignment #1**

**Faculty Advisor: Dr. Memari**



## **American Eagle Outfitters Quantum II Corporate Headquarters**

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### **Executive Summary**

The Quantum II office building was built as a part of the commercial development The Southside Works in Pittsburgh Pennsylvania. The 6 story 186,000 square foot office suite was later purchased, and is currently being fitted-out by the American Eagle Outfitters Corporation. Being that the structure was built without a contracted tenant the designers took steps to make it versatile and attractive to business. The building is conveniently located just outside the confusion of the city where there is more space and parking. The structure has a contemporary shape and look utilizing a brick and glass curtain wall. The building fits in well with its other modern neighbors in the new district. The engineers strived to keep as many options for fit-out as open as possible. To achieve this they utilized composite slab floor decks, large bays, and moment frame connections.

This report gives a look at conditions and criteria of design, as well as a review of structural concepts. The report contains outlines of loads live, dead, snow and lateral. It describes foundations, framing, flooring, and lateral load resistance. A brief analysis of existing structural systems is also provided to express that current design is adequate.