



Towers Crescent Building B
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Thesis Proposal / Breadth Topics

Executive Summary:

Towers Crescent Building B is a 9 story, composite steel building located in Vienna, Virginia. The first level is comprised of retail stores, while the other 8 levels are for office use.

The current structural system in Building B is of a composite steel design. Each floor is comprised of two typical bays. The outside bays are 30' x 40', and the inside bays are 30' x 30'. The floor itself consists of 2" metal decking, with a 3.25" thick concrete slab. Shear studs connect the floor to the steel frame in order to transfer the loads.

This thesis project will investigate and discuss a complete change to the entire structure of Building B. In place of the existing composite steel design, a flat slab with drop panels will be investigated and compared to the existing structure. Also, concrete shear walls will be used instead of the steel braced frame. Through in depth analysis, the proposed structure will be compared to the existing structure to check its feasibility.

The first breadth analysis investigated is an in depth cost analysis of the structure. RS – Means and possibly Primavera software will be used to acquire a precise cost of construction. This will then be compared to the original cost of construction.

The second breadth analysis is an investigation of the history of Towers Crescent building B. Building B was designed based off an existing building, designed by Phillip Johnson, which was built in the 1980's. Also, how all the buildings in the site interconnect will be investigated.