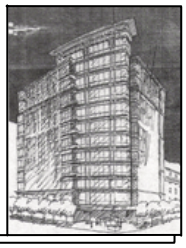
SENIOR THESIS PROPOSAL
EXECUTIVE TOWER

SEAN HOWARD
STRUCTURAL



BREADTH STUDIES EXECUTIVE SUMMARY

Due to regulation set by the Washington DC area, the Executive Tower was designed 8" short of it maximum building height, 130'. The Executive Tower was designed with a two-way concrete flat slab with drop panels to maximize the number of floor within in its limits. This proposal describes the uses of three methods to lower the building further under its current building to ultimately construct a 12th story. The depth work is an investigation of the framing system with the goal of using post tensioning to decrease floor thickness. The two breadths have similar goals of decreasing floor thicknesses and building height.

MECHANICAL

The mechanical systems for the Executive Tower will be analyzed to with the primary goal of adopting a system that can utilize duct work no larger than 9". The typical duct height in the Executive Tower now is 12". By subtract 3" or more per floor can save up to 2' – 9" of building height to be used to add the 12th floor.

ARCHITECTURAL

Like the mechanical study, an architectural redesign of the 1st floor will allow the building to be recess below the ground elevation used to calculate its building height. The North corner of the building is approximately 5' – 6" higher than the south side, meaning the buildings north end could potentially be recessed up to 5' – 6" to be use in the future construction of an additional floor.