

EXECUTIVE SUMMARY

The report focuses on the redesign of 1100 Broadway's structural system. The system was changed from a composite metal deck system supported by composite steel beams to a one-way mild steel reinforced concrete slab with post-tensioned beams. The original lateral system of steel moment and braced frames was changed to ordinary reinforced concrete shear walls.

The overall goals of the senior thesis project were met. Prestressed design was previously a very complicated concept to grasp and throughout the course of the project it has become much more clear.

With the redesign the total floor system depth was reduced from the existing system depth of 30.25" to 22" in most areas. In the end, the redesigned system is probably not an economically feasible option due to the significant increase in the building's weight but if there are restrictions on the floor to floor height it may be a desirable option.

Breadth studies were performed which focused on the aspects of a green roof design. An architectural breadth to produce a landscape design and planting plans for the roof was conducted and another breadth was performed that encompassed the building enclosure aspects of a green roof design.

As a result of the breadth studies, a complete green roof system was created. The studies began with a concept and through the design process ended with a space that could be enjoyable for building occupants to relax and socialize.