

151 First Side

Executive Summary
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Structural Option

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Executive Summary

Report Summary:

The purpose of this final report is to document the findings of the year long thesis project. Throughout the year 151 First Side was analyzed from the ground up. After initial comparisons, 2 changes in structural systems were proposed. In addition, acoustical changes were also proposed.

The structural breadth includes an analysis of the floor system, as well as the lateral system. A composite beam system was found to be a suitable alternative to the Hambro composite joist system originally used. While three lateral systems were analyzed, none were found to be suitable alternatives.

The floor system proposed was checked for its acoustical qualities. It was found to equal or better all of those found in the original floor system. The mechanical system was also explored to see if the sound level on the penthouse terrace could be reduced. It was found that by moving the roof top unit to the opposite side of the mechanical room, the sound level could be drastically reduced to below the accepted level.

The cost and scheduling of each proposed system was also considered. The proposed floor system was able to reduce cost and labor time, though it was not able to reduce the length of the critical path. The proposed acoustical changes were found to have no effect on scheduling and a negligent effect on cost.

