

Executive Summary

Tower 'B' of The Towers at Greenville Place is a 180,000 square foot mid-rise apartment building. The 7-story is part of an upscale residential complex with 3 virtually identical towers. The existing structure is essentially made up of 8-inch load bearing CMU block and 8 inch precast hollow plank. The building proves to be very heavy, causing seismic to be the controlling lateral force. A lightweight structural system, known as *Infinity*, has been proposed in order to reduce the critical lateral load.

The Infinity Structural System uses lightweight metal stud construction and an economical slab on deck floor system. After extensive research, this proves to be a feasible, lightweight alternative to the heavy masonry construction of the existing structure.

Additionally a breath study was performed to investigate the options for making Tower 'B' more sustainable. It is not always easy to alleviate the environmental and economical stress that a building of this nature can cause. A rainwater collection system is discussed to uncover what benefits it can have when incorporated in a setting such as this apartment building. Also, the benefits of an extensive green roof are discussed.

Lastly, two very common questions are addressed in the construction management breadth. The cost and construction timeline of the existing and proposed structural systems are researched and compared. While it may appear as a win/lose situation on paper, it can be seen that the benefits of faster construction may outweigh the increased cost of an alternative system.