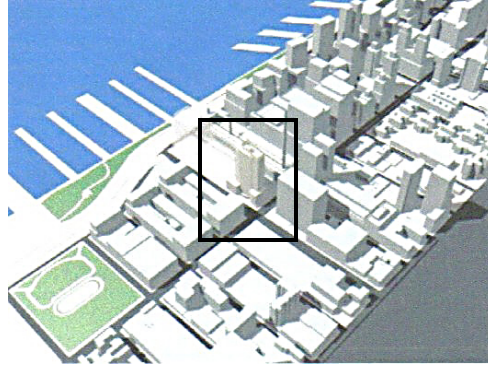


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Pictures courtesy of Fox & Fowle Architects

Lateral System Analysis and Confirmation Design

Executive Summary

This document provides a summary of the lateral bracing system used in The Helena as well as an analysis of that system. The walls are composed of reinforced concrete which is to be designed to the strength of the columns on the same level. There are seven shear walls total, six of which run for the entire height of the building. Some of these have sections which support both directions that were taken into account. From running the analysis of the drift for the walls, it is noticed that the shear walls for this building are not the only lateral resisting elements. The placement of the columns and the use of the flat plate slab as a rigid diaphragm show that these elements will aid in the resistance of the lateral force placed on the building. For the area surrounding the building core featuring the elevator lobby, the foundation is aided by the use of rock anchors which shows that the walls in that area will transfer an overturning moment into the foundation. The placement of the shear walls and columns around the core gives the impression that they could be working together as a frame to help resist the lateral force and reduce the amount of deflection per member of the frame.