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STRUCTURAL OPTION
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AE 481W
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555 12TH STREET
OAKLAND, CALIFORNIA

THESIS PROPOSAL

Executive Summary

BUILDING DESCRIPTION

555 12TH Street is a 21 Story, 487,000 square foot complex that features class-A office space, retail space, and dining in one location. The majority of framing is structural steel W-shapes with a composite metal deck. The lateral system is a combination of eccentric braced frames at the core, and special moment resisting frames on the perimeter. This is a dual system acting in both major axes directions.

PROPOSAL

The gravity systems and lateral systems were looked at previously and determined to be excellent choices given the buildings location, size, and required floor plan. Because of this I propose to redesign a dual lateral system for 555 12th Street. This will allow the open floor plan to be kept, and for seismic base shear to be reduced because of the high response modification factor of 8 for a dual system.

SOLUTION

Several alternatives of lateral system will be investigated, to find an efficient system that satisfies strength and drift criteria. Removal of moment frames and eccentric braced frames will be investigated, as well as different bracing configuration within the braced frames. Other designs that surface during investigation will be looked at as well. ETABS and RAM Advanse will be used to model the building, along with the guidelines from ASCE7-05.

BREADTH TOPICS

An investigation to the impact on overall cost, schedule, and constructability of each alternative will accompany the depth worth. Also, a lighting design of a typical office floor layout, or exterior LED's will be performed.

*This proposal is subject to change