

The Regent

950 N. Glebe Road
Arlington, VA



Architect: Cooper Carry Architects

Structural Technical Report 1 Executive Summary

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Option:	Structural
Date:	October 5, 2005
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Executive Summary

This report includes a detailed description and preliminary structural analysis of The Regent, which is currently under construction in Arlington, VA. The Regent is a 12-story office building which has retail space on the first level and a 3-story parking garage below grade.

The scope of this report includes providing a detailed description of the existing structural system and completing a preliminary structural analysis based on calculated design loads developed from model codes and design standards.

This report includes the identification of design codes and standards, identification of live loads and dead loads, the development of lateral loads and their distribution to the lateral load resisting elements, and a detailed description of the structural system above and below grade. In addition, structural members were spot checked for comparison between the existing design and the preliminary structural analysis design. This report summarizes the results of the lateral load analysis and lateral load distribution as well as the results from the spot checked members. The Appendix includes all of the detailed calculations and the framing plans.

After completing a preliminary investigation and analysis of the structure, it has been determined that the existing structural systems, design loads, and member sizes are in the ballpark of the calculated design loads and member sizes selected as a result of the preliminary structural analysis done in this report. In the case of the composite beam design, the moment capacity of the existing design significantly exceeded the calculated design load. Therefore, in this case, the existing design was determined to be conservative or some other analysis may have controlled the design, which resulted in the conservative design. In the case of the Plaza slab, it was determined to be under-reinforced for the midspan column strip, but not significantly. The slab reinforcement was adequate for the interior support column and middle strips and the midspan middle strip. In the case of the lateral element diagonal member, the calculated loads were equal to or greater than the loads listed in the structural plans, but the existing design of the lateral member was significantly more conservative than required by the analysis done in this report.

Technical Reports 2 and 3 will go into further detail and analysis of all of the loads on the structure, including loads out of the scope of this report, and a more accurate lateral distribution will be performed taking into account actual building and lateral framing characteristics and the foundation systems. Once these more in-depth investigations and analyses of the structural system are completed for Technical Reports 2 and 3, it is anticipated that the existing design should better coincide with the design resulting from the more detailed analyses.