

THE ODYSSEY

ARLINGTON, VA

Aaron Snyder

Structural Option

Advisor: M. Kevin Parfitt, PE



Senior Thesis Proposal

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Breadth Work Executive Summary:

Construction Management

Redesigning the post-tensioned floor system will have construction implications regarding the project schedule and cost. A breadth study will investigate these implications associated with changing the floor system to a 2-way concrete flat plate. A construction schedule of the proposed system will be constructed and compared to information obtained through the construction manager regarding the current post-tensioned system. Also, a cost estimate of the proposed 2-way flat plate floor system will be created by referencing R.S. Means data and construction professionals. The data will include factors such as labor and material costs of the alternative design which will be compared to the post-tensioned design for any project cost alterations. This breadth study will show the efficiency of the flat plate design through the work schedule and cost savings of eliminating the post-tensioning.

Building Envelope

The initial envelope design of the Odyssey did not incorporate a series of glass curtain wall systems into sections of the eastern façade. Donohoe Construction, the construction managers of The Odyssey, suggested the alternative design with curtain walls replacing the standard brick façade with aluminum punch windows. A breadth study of the thermal and moisture efficiency of the curtain walls will be compared to the brick façade. Additionally, construction schedule and cost implications will be investigated to evaluate the value engineering of the building envelope redesign with glass curtain walls. The investigations will reveal that the curtain wall is a more efficient cladding system with a better aesthetic appeal for the luxury condominium.

