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## Paseo Caribe Condominium Tower and Parking Garage Breath Topic 1

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### Breadth Analysis 1: General and Total Cost Saving Impact on Project

The objective of this breath analysis is to determine whether the pre-cast concrete structural system will be more viable than the designed post-tensioned system. Both systems are considered to be high cost compared to conventional concrete construction. However, their reduced structural depth, lower floor-to-floor height capabilities, reduced area of curtain wall and building volume loads for mechanical systems along with good vibration and noise control make these systems very attractive.

By comparing materials, labor, cost, and speed it is evident that there is a trade-off from one system to the other. Post tensioning requires special equipment and high demand of skilled labor making it a time consuming and expensive operation. On the other hand, pre cast concrete systems have a higher initial material cost, require a crane, detailed planning of erection sequence, and lead time for prefabrication; but, there is a reduction in required onsite labor and it is faster to erect.

From the point of economy, research shows that little or no saving are obtained in post tensioned systems by using relatively small quantities of high strands that are with less than a minimum compression level of 125 and 150 psi. The current post-tensioned system is at the 125 psi threshold making a comparison to the alternate pre-cast system preliminary viable.

Through this breath analysis the feasibility of one system over the other will be determined through constructability reviews, schedule variances, and cost-impact. Ultimately, an overall cost impact as a percentage of the overall project cost will be determined. The overall cost impact will consider actual changes in budgeted costs and cost associated with saving from impacts on schedule and general conditions.