V. CONSTRUCTION MANAGEMENT BREADTH

i. Construction Management Breadth Introduction

As the primary reason for selecting a different floor and lateral system is mainly cost driven, a comprehensible analysis of both will be performed and compared for the two systems. The cost analysis will include costs related to labor, equipment, and materials. A construction schedule comparison between the existing structure and the proposed will also be analyzed from time of the beginning of the start of foundation construction for the superstructure only.

ii. Cost Estimate Comparison

Cost estimates for both the existing steel structural system and the proposed concrete structural system were performed using a full structural take-off and R.S. Means 2007. For the existing steel structural system, welds for the moment connections were included in addition to another 20% increase for miscellaneous steel and other connection components. From the cost estimates, it was found from the table below that the proposed system saves $395,000 compare to the existing system.

	Material	Labor	Equipment	Total
Existing Steel Structural System	$1,530,000	$384,000	$140,000	$2,059,000
Proposed Concrete Structural System	$952,000	$611,000	$96,000	$1,664,000

For calculations and other assumptions; see Appendix C: pg.133-146.

iii. Schedule Estimate Comparison

Schedule estimates for both the existing steel structural system and the proposed concrete structural system were performed using the take-off from the cost estimates and R.S. Means 2007. Both the schedules were entered into Microsoft Project in order to calculate the finish dates based upon the used defined critical path. From the schedule estimates, it was found from the table on the next page that the proposed system increases the construction schedule by 6 months compared to the existing system.

	Start Date	Finish Date	Duration (months)
Existing Steel Structural System	Monday, June 2, 2003	Friday, December 24, 2004	18
Proposed Concrete Structural System	Monday, June 2, 2003	Wednesday, June 22, 2005	24

For calculations, other assumptions and full schedules; see Appendix C: pg.133, 147-152.

iv. Construction Management Breadth Conclusion

In terms of cost, the proposed concrete structural system is $395,000 cheaper than the existing steel structural system. This is balanced out however, with an increased duration of schedule of six months from the existing steel structural system to the proposed concrete structural system. Based upon the Owner's needs and desires, schedule is the most important deciding factor in the project and the decrease in cost is not significant enough, about 20% of the existing steel structural system cost, to recommend the proposed concrete structural system.