Proposal Executive Summary

Four topics, related to the Sears Centre were identified as key areas of investigations. Analysis and recommendations for each topic will be used to form the research scope for the construction management breadth study. Listed below are the topics that will be used to validate research.

Analysis (1): Design-Build-Operate-Maintain Project Delivery System

- Depth research will focus on analyzing the PDS most suitable for large scale arena developments. Topics will include strategy for highlighting project constraints and contract types that warrant this selection. Information included will be gathered from (5) to (7) projects of similar demand and use. The goal of the analysis is to produce a general PDS selection guideline from several costs and time sensitive projects.

Analysis (2): The effects of union labor on material selection and installation for primary structural elements (Pre-cast vs. CIP)

- Depth research will focus results on determining the cost difference associated with Union erected/ Non-union manufactured pre-cast concrete cost against Union installed cast-in-place concrete cost. Local market (Chicago, IL) union rates have attributed to the lower cost of pre-cast concrete when a non-union manufacturer is used. Focus will be attributed to re-capturing pre-cast procurement and manufacturing cost in cast-in-place concrete with associated formwork.

Analysis (3): Revised Building Enclosure system composed of pre-manufactured masonry panels

- Breadth focus will include use of pre-manufactured masonry panels on envelope mid-spans which currently uses light weight steel sandwich panels.

Goal of analysis:

- Increase Building weight to alleviate over turning occurrence in foundation system
- Reduce pre-cast foundation cost by minimize the need for 100 kip, 55'-0" tiebacks

Analysis (4): Ice floor construction/ Waste Recovery

- Breadth focus will investigate the current installation procedures for the Sears Centre ice-rink. "Best practices will be evaluated to determine the installation method that maximizes production and minimizes congestion for ice system installation. Waste reduction and recovery measures will be evaluated as an effort to improve performance and extend the life span of the system.