JEFF SUTTERLIN
STRUCTURAL OPTION

JANUARY 16, 2006
ADVISOR: PROF. PARFITT
AE 481 W

BREADTH STUDIES PROPOSAL

EXECUTIVE SUMMARY

The focus of this thesis project deals with the investigation of Memorial Sloan Kettering's overall structural system if the 88,000 square foot Outpatient Addition was to be built vertically above the existing four stories rather than to the building's north side. In addition, the healthcare facility's infrastructure will be converted entirely to steel, altering the structure below grade. These proposed changes will modify the length of the addition's construction schedule as well as change the overall cost of this project.

Construction Management:

This breadth topic will focus on the construction management aspect of the Outpatient Addition. Both a detailed cost estimate and schedule estimate will be completed by using the R.S. Means cost estimating guide. Because the addition is still currently in its design stage, there are no existing time tables or price estimates to compare these values to. However since this addition will be tremendously similar to the first four floors of MSK, it may be possible to compare the schedule and cost created from this breadth study to that of the first four floors.

MEP Redesign:

The second breadth study for this thesis will involve the redesign of Memorial Sloan-Kettering's MEP system in order to support the five-story addition. Currently, MSK's mechanical equipment is located both in the basement and on the roof. Due to five stories being added vertically to the infrastructure, it is necessary to move the existing roof mechanical system elsewhere in the building. Furthermore, an MEP system must be designed for the top five-stories. Because the addition is roughly the same square footage as the existing building, it could be assumed that the amount of MEP equipment will need to be doubled in order to adequately support Memorial Sloan Kettering. It will be a challenge to determine how much of this additional equipment can be added in the basement, and how much must be added after the addition is finally constructed.