

# Executive Summary

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The intent of this report is to introduce the proposed thesis for the building under investigation, The Edward L Kelly Leadership Center. This report outlines proposed problems and solutions to the design of the structure. Structurally, it is proposed to reduce vibrations and overall depth by replacing the joist fillers and non-composite beams and deck with an entirely steel beam composite system. In addition, the lateral system changes will begin with a study of reducing the fixed connections or adding a new lateral system (braced framing, shear walls). The project manager indicated, in early design phases, anticipation for additional space in the future. For a breadth study, architecture will be investigated to add potentially needed additional gross square footage to the building. Lastly, with the many changes to the building program, a study will be performed on the construction management of the building. This involves a new cost study analysis as well as identifying major scheduling impacts.

## Breadth Topics

### *Breadth Study 1: Architecture*

The architect has indicated that an expansion to the building may be necessary to make room for future employees. Therefore, to accommodate for future expansion, an architectural breadth study will be conducted. A look at multiple configurations will be considered. Based on the site plan, expanding the building is possible horizontally. In addition, a vertical expansion is possible with the addition of floors to the main three-story wings. A further investigation will be made on the necessity of the one-story wing. The functions currently housed in this part of the building could potentially be absorbed into the main building. This increase in building volume will have an effect on the mechanical and electrical systems and preliminary studies will be made in regard of the changes.

### *Breadth Study 2: Construction*

A second breadth study will be conducted on the construction process. Because the architectural plans will be expanded and the structural system will be revised, scheduling will become an issue. A cost analysis will be conducted on the new floor system and compared to the previous system. An in-depth scheduling investigation will be conducted and solutions will be compiled to fully compare the existing building with the new design. RSMeans Building Construction Data will be used to generate costs per square foot estimates. Scheduling times will also be estimated using appropriate RSMeans reference texts.