

Appendix A: Breadth Areas

Deep Foundation System

Structural Breadth

The current deep foundation system, 150 caissons under the three bed towers, has multiple constructability issues. I will demonstrate breadth in the structural option by the following:

- Analyze alternate systems based on constructability directly related to the site conditions.
- Design a new foundation system under the bed towers to accommodate the complexities of the site while maintaining the specifications and designing to the building loads.

Precast Panel Units

Mechanical Breadth

This topic includes an analysis of a precast wall unit in lieu of the traditional masonry cavity wall unit that exists on portions of the building. I will demonstrate breadth in the mechanical option by the following:

- Analyze the wall system to achieve the best thermal properties with a slight cost restraint and a consideration of the cavity wall system.
- Determine the thermal efficiency of the wall system.
- Calculate new loads in the areas with the precast wall units and determine if the air handling units can be resized accordingly.