BREADTH TOPICS

The following topics involve a more detailed analysis in distinct technical disciplines within the major. Each topic contributes to one of the previously mentioned analyses, which are identified accordingly.

STRUCTURAL BREADTH: Contributes to Technical Analysis #4

The proposed façade is currently a combination of many different materials including brick, stone, a curtain wall, and metal panels: white and stainless steel. The details for all of these connections are very time consuming and difficult to comprehends. Simplifying the façade to just one system would allow for less details and more consistency allowing the construction to run more smoothly. The materials would need to be researched to see if there are alternatives that have easier connections. The materials also need to have similar properties to perform the same. Precast masonry is also a possibility to decrease construction time and site congestion.

This analysis will be including a portion of the structural breadth by analyzing and designing additional supports and connections. The current façade is hand-laid masonry, but since the structural is Steel beams and columns and there are problems with site congestion already, precast masonry might be a viable option. A structural analysis will be constructed to size the beam sizes to hold the precast panels.

MECHANICAL BREADTH: Contributes to Technical Analysis #5

There are many considerations in the design and construction or renovation of the health care facility. The environment must cultivate a safe, caring, healing environment for patients and their loved ones, while also being efficient, functional and safe for staff. Improperly designed and maintained environments pose numerous risks for patients, including hazards from fires, chemical exposures, or contaminated air, water or environmental surfaces. The goal of this analysis is to develop an ICRA plan for the hospital to keep a safe and clean condition for the patients.

In the ICRA plan, it calls for the hospital to be positively pressured. My mechanical breadth analysis will be checking the mechanical capabilities of the air handing system to make sure the hospital's system could be positively pressurize to prevent dust infiltration and health hazards.