

Mechanical Breadth, Analysis III:

MEP Coordination/Resizing for the Alternative Structural Systems

Problem: Charles Commons is a state-of-the-art student housing complex, hence the MEP infrastructure is complex and a very tight fit with the partially post-tensioned structure.

Since the previous analysis deals with using alternate structural systems to remedy this, it would be prudent to investigate the tight plenum region and the slab imbeds. The mechanical systems were extremely restricted in the post-tensioned design since the floor could not be breached as other systems.

Value Engineering: A series of duct resizings and relocations will free space for the ceiling, which may be compromised due to larger slab/beam thicknesses. This redesign may produce less ductwork and losses, saving money for JHU.

Constructability Review: MEP Coordination in itself is a constructability review of fitting ductwork into a complicated labyrinth above a drop ceiling. This will be analyzed using 3D and 4D CAD to lessen conflicts or mistakes.