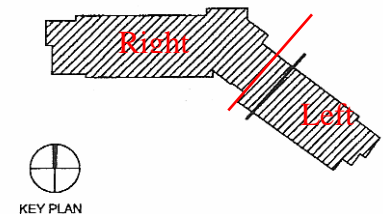




Executive Summary

The University of Pittsburgh is currently constructing a dormitory facility on its upper campus. This building is approximately 161,600sf and 9 stories above grade plus one ground level. The Upper Campus Housing Project will house approximately 500 students. It is located on Stadium Drive, not far from The Peterson Events Center. The building can be broken down into two separate buildings for analysis along the expansion joint located at Column Line 3 (displayed with a red line). For the purposes of this assignment right and left sides of the expansion joint have been designated as shown in the diagram. The main entrance to the building is on the South side. Here, a large staircase leads into the Lobby/Café area. The building façade consists of brick curtain wall containing windows of tempered insulated spandrel and vision glass. The brick façade consists of different shades of light brown, complimenting surrounding structures.



Construction on the Upper Campus Housing Project began in May of 2005 and is expected to end in July of 2006. The overall cost of the dormitory building is approximately 33 million dollars.

This report explores the structural concepts of the building as well as the existing conditions. In addition to a description of the building systems (floor, lateral, and foundation), an analysis of the floor loads and lateral loads was completed. Using the PCI Design Handbook this report demonstrates that for a typical bay the 8" plank with 2 ½" topping is sufficient to carry dormitory floor loads. Also, an analysis of the lateral system and a spot check of a shear wall conclude that it is sufficient to carry the wind loads applied to the structure.

The model building code used to design and analyze this building was IBC 2003.