A typical hospital floor in a seven story building is composed of a 12" thick slab resting on steel floor beams (A = 96 in²) on 32' center-to-center that are simply connected to floor girders (A = 360 in²) on 96' center-to-center. A square pattern of columns are located every 96' by 96'. Girders to column connections are simple.

1. Draw the building floor beam, girder, and column layout given that each floor is 288' x 576' using AutoCADD or Microstation.

2. (a) Calculate the maximum dead and live loading on a floor beam.

   (b) Calculate the maximum dead and live loading on a floor girder.

   (c) Calculate the maximum column load.