Howard County General Hospital

Patient Tower Addition

Columbia, MD

Project Team:

Owner – John Hopkins Medicine
Architect – Wilmot Sanz, Inc.
CM – Whiting-Turner
Structural – Rathgeber & Goss Assoc.
MEP – Leach Wallace Assoc., Inc.
Civil – Joyce Engineering Corp.

Architecture

- Façade composed of precast concrete, glass and metal panels
- Curtain wall on east side of addition to match existing hospital exterior
- Careful layout of patient rooms including stall-less showers and handrails

Structural

- Square and Rectangular spread footings under all columns
- 3 ¼" LW concrete on 2" metal deck at all floors and main roof/penthouse floor
- 1 ½" metal roof deck at penthouse roof
- Variety of W12 and W14 column sections
- 29 by 29 foot typical column bays
- 19 moment frames @ each floor
- Depressed slab at upper floors for stall-less showers

Building Statistics

Size – 114,261 SF addition
No. of Stories – Partially below grade basement, 4 stories, penthouse
Dates of Construction – April 07 to Present
Cost – Approx. $36.4 Million
Project Delivery – CM @ Risk

Mechanical

- Typical patient room require 6 minimum total air changes per hour (2 of which must be outside air changes)
- 2 new 70,000 CFM AHUs to accommodate required 140,000 CFM airflow
- Four additional boilers and one chiller to accommodate new PPH loads
- Radiant ceiling panels in patient rooms

Lighting/Electrical

- Anticipated 860 kW normal power and 1074 kW for new mechanical equipment
- 480Y/277 Volt Distribution
- Served by Baltimore Gas & Electric via 13.2 kV underground conductors
- Minimum 75 footcandle illuminance required for patient rooms
- T-8 fluorescent lamps with electronic ballast and 3500K CCT for typical lighting

Kelly Dooley – Structural Option

http://www.engr.psu.edu/ae/thesis/portfolios/2008/kmd293/