



Steven Farrah

Construction Option

General Data

Owner: Virtua Health
 CM: Turner Construction Company
 Architect: HGA Architects & Engineers
 MEP/Structural Engineer: HGA Architects & Engineers
 Delivery Method: CM@ Risk, GMP Contract
 Construction Costs: \$323 Million
 Dates of Construction: March 2008 - March 2011

Electrical/Lighting

1 Electrical service at 12,470 volts distributed to 6 substations where power is brought down to 480/277V 3 phase 4 wire.

Substations are paired to create redundancy if a substation should fail.

3 1,500KW diesel generators sized to provide 96 hours of backup. 900 KW rotary UPS to provide uninterrupted backup power.

Lighting primarily on 277V. Minimal use of incandescent lighting.

Mechanical

Building heating, domestic water heating and auxiliary steam is being provided by saturated steam boilers and condensing hot water boilers.

Chilled water will be generated by electric drive, water-cooled, centrifugal chillers. Cooling heat will be rejected through 4 induced cooling tower cells.

3 sets of AHUs
 AHU Sets 1&2 - 2 50,000 CFM VAV units each
 AHU Set 3 - 6 75,000 CFM VAV units

Architecture

675,000 square foot, replacement hospital providing inpatient and outpatient care.

Made up of an 8-story bed tower (370 beds), 9-story spine, 4 stories of ancillary spaces, a central utility plant and a loading dock.

Designed to promote healing and human interaction through the use of space.

Exterior facades include a massive aluminum and glass curtainwall system on the bed tower, stone veneer, insulated and composite metal panels and solid phenolic panels.



Structural

Almost 4,000 stone columns, about 45 feet deep were installed under the building footprint to allow the building to be supported by typical spread footings. (over 100 million lbs of stone)

Structure composed of composite steel framing for floors and non-composite for the roofs. Typical floor construction consists of 3 1/2" lightweight concrete on 3" x 18 gauge metal deck.

Typical bay sizes are 30'x32' in the bed tower and 31'-4"x29'-4" in the ancillary spaces. Lateral system consists of steel braced frames.