

Inova Fairfax Hospital South Patient Tower

Construction

The Inova Fairfax Hospital South Patient Tower will be connected to the existing hospital building. The South Patient Tower includes 174 private intensive care and medical/surgical patient rooms for a total of 236,000 square feet, which will allow the hospital to meet future inpatient needs and provide flexibility in the event of a disaster. The cost of the project is \$76 million.

Since the existing building has really tight ceiling height, it is one of the biggest challenges for the project. Another concern for the project is the consideration of the normal operation of the existing building.

Structure

Cagley & Associates is the structural engineering company for the South Patient Tower. The main structure system for the building is reinforced concrete with shear walls. 5,000PSI concrete is used from ground to fourth floor. 4,000PSI concrete is used from sixth to twelfth floor. The typical floors are using 9 1/2" two-way flat slab with bottom and top steel reinforcement. Since the fifth floor is the main mechanical system floor, the thickness is added from 9 1/2" to 10 1/2".

Mechanical

The main mechanical system room is located on the fifth floor of the building. The system includes totally six air handling units and piping system, which provide oxygen, medical air and medical vacuum. System type distribution. The fire suppression system in place is a wet sprinkler pipe system. In new sprinkler zone assemblies, water flow switches and valve tampers are furnished and installed. The patient elevator machine room in the penthouse, which is located on the roof of the building has three geared elevator machines. Escalator will be installed from the ground floor to the 1st floor.

Electrical

Dominion Virginia Power is in charge to set the South Patient Tower transformers and pulled the primary feeders into the Existing Tower Building vault. The six transformers are located outside the west side of the building. Truland Service was able to pull the feeders from the Transformers into the Switchgear in preparation for Permanent Power and continue to construct the Main Electrical Switchgear room. The building's electrical loads are fed by two 2,000 kVA transformers located to the west of the building. There is a 2,000kW emergency generator to serve the South Patient Tower.

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Lighting

The main lighting fixture for the South Patient Tower are the T5 and T8 fluorescent and LED lights. The typical lights for the patient rooms are the 24watt double dulux tube down lights and the 40watt TT5 bulbs. For the common area, the main lighting fixtures are the 24watt DDT lamps and linear fluorescent lights.