



**Market Segment - HEALTHCARE**

**Queens Children Psychiatric Center**

The New York State Office of Mental Health (OMH) operates psychiatric centers across the State, and also regulates, certifies and oversees more than 2,500 programs, which are operated by local governments and nonprofit agencies. These programs include various inpatient and outpatient programs, emergency, community support, residential and family care programs.

The Queens Children's Psychiatric Center serves seriously emotionally disturbed children and adolescents from the ages of 5 through 18 in a range of programs including inpatient hospitalization, day treatment, outpatient clinic treatment, intensive care management, homemaker services and community education and consultation services.

**BACKGROUND**

**Project Type:**  
HVAC

**Location:**  
74-03 Commonwealth Blvd.  
Bellrose, NY

**Owner:**  
NYS Office of Mental Health

**Architect:**  
Architectural Resources

**Engineer:**  
Robson Woese, Inc.  
(Phase 1 & 2)  
M/E Engineering, PC  
(Phase 3)

**Project Size:**  
200,000 Sq. Ft.

**Facility Usage:**  
Healthcare

A campus wide redevelopment of the QCPC included extensive renovations to the inpatient facility including new utility infrastructure, an outdoor recreation area and a new 40,000 square foot Community Services Building. The new facilities provide long term flexible programming in a contemporary healing environment. Construction was phased and Thomas S. Brown Associates was contracted to do all three phases.

Work on Phase 1 began in 2003 on Buildings 'G' and 'H'. TSBA furnished and installed Staefa Raptor LON based controllers on four new constant volume air handling units equipped with economizer dampers and hot and chilled water coils. Staefa Predator LON terminal unit controllers were selected to control over fifty hot water reheats and finned tube radiators. A Staefa Talon Network Manager and Talon

Workstation were included under Phase1.

Work on Phase 2 began in late 2004. It included the renovation of Buildings A through F, and J.



Hot and chilled water for Phases 1, 2, and 3 are produced in Building 55's central plant - hot water is produced by three hydronic boilers. Primary hot water is circulated using three primary hot water constant speed pumps. Secondary water to the air handling unit coils is circulated by two 1050 variable speed pumps. Their speeds are controlled by a LON Raptor controller maintaining downstream differential pressure.

Each pump may be started and stopped by the Talon Building Management System. A run failure strategy in the Talon Raptor controller automatically starts the standby pump if the operating pump should fail. Alarm notification of a failed pump is also sent to the operator workstation. In addition, the system monitors the speed of the variable speed pumps and the fault condition of the variable speed drives.

Chilled water is produced by two centrifugal chillers. Chillers are enabled to run by the Talon system. Chilled water is circulated by two 500 gpm constant speed pumps. Two variable speed, 850 gpm secondary chilled water pumps circulate chilled water to the air handling unit coils. Their speed, like those of the secondary hot water pumps are regulated to maintain a downstream differential pressure. Chillers are started only after chilled water and condenser water flow has been established. Chilled water and condenser water pumps are started from the Talon workstation.

Condenser water to the chillers is cooled by two cooling towers. Condenser water between the cooling towers and

the chillers is circulated by two constant speed 750 gpm condenser water pumps controlled by the Talon system. Cooling tower fans are variable speed and their speeds are regulated by the Talon system to maintain the condenser water temperature at setpoint.

Eight AC units, controlled by individual direct digital controllers, provide conditioned air to the various spaces. Downstream zone reheat coils provide further conditioning of the air. Each reheat coil is controlled by a Talon direct digital controller.

A Talon Network Manager was installed to supervise the added controls under the Phase 2 work.

Work on Phase 3 began in early 2006 and covers the Community Services Building, also known as Building #57. Five rooftop air handling units with airside economizer and hot and chilled water coils are controlled by Talon Raptor controllers. Seventy-one variable air volume terminal units with hot water reheat coils are controlled by Talon Predator VAV controllers. A Talon Network Manager was also included under this phase of work.

All three Talon Network Managers and the Talon workstation are connected on the campus intranet. Color animated graphics at the Talon workstation along with scheduling, alarming, trending, and remote Web access were also provided.



For more information, Call  
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