



Charles W. McDowell Rehabilitation Center

- Located in Louisville, KY and part of the Kentucky office for the Blind
- Purpose is to empower visually impaired individuals to achieve greater education outcomes.
- Classrooms, administrative offices, 14 residential rooms, one apartment, common rooms, laundry and cafeteria.

Major Issues

- Need for Energy Savings
- Outdated Equipment
- Increased Comfort

Solution

- Trane Guaranteed Energy Savings Performance Contract
- \$599,785 contract / 14 year guarantee term
- \$44,810 of annual energy and \$7,491 operational savings guaranteed





Project Scope

- Lighting Retrofits
- HVAC Controls – Mechanical Room and VAV Boxes
- Replacement of all existing pneumatic controls with new DDC controls on all of the major HVAC equipment located in the main mechanical room and on all VAV Boxes
- Web-based front end computer interface. A new computer workstation
- Added 18 kW electric duct heater to ventilation unit serving dorm area
- All control valves replaced with new valve with DDC actuators
- Variable Frequency Drive added to VAV AHU's #1 and #2 Supply Fans.
- Two new condensing boilers added to new Building Automation System
- Replaced two-pipe fan coils in dorm area
- Factory mounted controls on new fan coils tied into web based front end interface



Project Scope

- Two new high-efficiency 90% plus condensing boilers
- Furnish and install boiler controls including flow switch, supply water temperature sensor and outdoor air temperature sensor
- New boiler in-line pumps and dedicated pump for VAV Box hot water loop
- New hot water heaters and new recirculation pumps
- New hybrid instantaneous 140-degree hot water heater and new domestic hot water heater
- New vent-less dishwasher
- Replace existing 4" water meter with 2" water meter and replace existing >5000 cf/hr gas meter with <5000 cf/hr gas meters



Environmental Overview

Reduced Greenhouse Gas Emissions

- 423 metric tons CO₂ / 2 metric tons Sulfur Dioxide / 1 metric ton Nitrous Oxide

Equivalent Reductions

- Removing 136 cars from the road each year
- Preserving 5 acres of trees annually
- Eliminating 80 household electricity use for one year
- Contract #: CT2-785-1200000151

