

**Akron Children's Hospital
Masterplan and Energy Audit
Akron, Ohio
Completion Date: 2010**



Dynamix Engineering assessed Akron Children's Hospital 1 million SF campus. The master plan included a facility, site and capacity assessment. The master plan evaluated the hospital's HVAC, plumbing, fire protection, electrical, technology and security systems. The assessment evaluated the age, useful life of each system and components, general conditions, future growth capabilities, and potential opportunities for sustainable and green design. Dynamix reviewed the current facilities systems and determined how they would support the program requirements and the projected growth of the facility. The campus is served by a city owned steam plant which we assessed to determine its capabilities, energy costs and risk to the hospital.

BWK was commissioned to study the energy consumption of Akron Children's Hospital Campus, including the Main Hospital, the Considine Professional Building, the Locust Medical Office Buildings, and two parking decks. We recommend options for savings in the form of a Level II Energy Audit. The Audit began with an in-depth review of the campus's utilities to determine each facilities actual utility consumption, rate structure, and where/how the energy was being consumed. The results were used to benchmark the Hospital against comparable facilities and as a starting direction to find possible energy savings. We then proceeded into an extensive data collection period. Over a four month period, we placed temperature, humidity, CO2, and light level monitors in multiple locations throughout the campus to gain an accurate accounting of how the facility was operating. Additionally, meters were temporarily installed on pumps, fans, and chillers to monitor their actual consumption. The collected data was utilized as the basis for our calculations to ensure accuracy in our projected savings. The Energy Conservation Measures (ECMs) that were developed in the process were thoroughly analyzed and displayed in a summary report. Every assumption and calculation performed in the Audit was also provided in a Technical Reference Manual so all of our work could be reviewed and our calculations could be back-checked. In total, the Audit proposed ECMs projected to save 33% of the Hospital's utility costs for an installed cost that resulted in a 3.5 year payback.

Vision:

- Provide an overview of the existing infrastructure to assess their existing conditions and future conditions.
- Provide a "road map" for future growth and expansion of the hospital.
- Reduce hospital operating and energy costs.

