



**Making Boys Town Even Better:
Efficiency And Energy Savings**



Honeywell Web Enabled Building Solution

INTEGRATES, STREAMLINES, SAVES

Boys Town is a beacon of hope for America's children and families through its life-changing youth care and health care programs across the United States. For over 90 years, the Village of Boys Town — a 128-building, 640-acre campus located in west Omaha — has served as its national headquarters.

Engineered Controls was retained to start an integration process to bring several different HVAC control systems into one centralized front-end workstation.



"The Honeywell WEBs-AX™ system, built on the Niagara® Framework™, provides Boys Town an incredibly cost-effective solution," said Pat Killeen, President, Engineered Controls. By linking all the existing control systems into WEBs-AX, the firm continues to help Boys Town streamline building operations and reduce energy costs.

THE GOALS

- Integrate disparate HVAC control systems into a centralized facility management system
- Begin process to integrate buildings into the facility management system
- Improve efficiency
- Reduce energy costs

HONEYWELL PRODUCTS INSTALLED

- WEBs Controllers
- WEBStation-AX™
- Spyder® Controllers
- Variable Frequency Drives (VFD)
- TrueSTEAM™ Humidification System
- UV lights
- Zio™ LCD wall modules
- A full range of other Honeywell field devices, including valves, dampers, actuators, and temperature, humidity, and pressure sensors

THE RESULTS

- The Honeywell building management system incorporates 62 WEBs controllers monitoring and/or controlling more than 60,000 points, which helps Boys Town staff be more proactive and efficient.
- The WEBs system is accessible anywhere authorized staff have the use of a computer with Internet access.
- Boys Town reports that it has cut electrical energy costs by 35 percent and reduced kWh consumption 32 percent. The organization reduced gas costs by 13 percent and gas consumption by 16 percent.

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A Village Of Unique Challenges

Boys Town is a village in itself, one that grew over the decades with acquired buildings and new construction to a one-of-a-kind campus of 128 buildings. It includes buildings and mechanical systems dating from the 1930s through present day, a steam plant, chiller, central utility plant, 41 youth homes (called “cottages”), three schools, a field house, administrative buildings and IT departments. Boys Town also has its own post office, fire department and police department. And all have been updated with new Honeywell digital controls.

In 2005, Boys Town found itself with a montage of older building control technologies. Control systems from six different manufacturers had been installed over the previous 15 years. “There were lots of pneumatics, several outdated control systems, and more,” said Pat Killeen, president, Engineered Controls. “Back in those days, there was no vision for a unified system to manage them all.”

Dealing with multiple, outdated control systems proved inefficient and complicated. Boys Town facility staff had to use three different computers to log in. Each control system used a distinctly different method of alarming, so there was a lack of uniformity. “When problems appeared that warranted outside help, Boys Town needed to call any of six different manufacturers — and still may not be able to get a technician in to look at the problems,” said Frank Hron, HVAC Manager, Boys Town.

Hron notes that Boys Town facility management staff spent an inordinate amount of time responding to temperature comfort problems — complaints of no heat, too hot or too cold. Facility staff frequently resorted to doling out space heaters and fans to offer a quick solution. Meanwhile, staffers were kept busy around the clock repairing valves, fans and pumps.

“Our primary objective was a centralized management system,” said Hron. “We also wanted to improve efficiency and save energy.”

Engineered Controls was selected from among the firms who vied for the Boys Town project. Engineered Controls, under the leadership of Killeen, had met several times with different teams from Boys Town. “We spent most of the time listening,” said Killeen. “It was essential to thoroughly understand Boys Town, and the pitfalls and problems with existing vendors and systems. Most of all, we needed to have a clear vision of what Boys Town wanted to achieve.”

The Transformation Begins

Engineered Controls worked with Boys Town to install Honeywell WEBS, an integrated open communications building control system. WEBS is a Web-enabled control system that integrates heating, ventilation and air conditioning (HVAC), security, access control, lighting and power metering. “We knew that WEBS would give Boys Town a bigger bang for the buck,” said Killeen.

The work began with replacing the infrastructure in roughly 20 administration and educational buildings and integrating them into WEBS. Next, the 41 youth homes were retrofitted with LON controllers and integrated with the WEBS system.

During the process, some systems were replaced and some were optimized. Others were migrated forward and integrated into WEBS.

The national headquarters building underwent a complete energy renovation in association with Omaha Public Power District, the local electrical power company. “We were spending so much money on electricity. We needed to do something,” said Hron.

Working with Boys Town, Engineered Controls has integrated into the WEBS system a building in downtown Omaha acquired by Boys Town, a hospital, a medical building, an office building and others.

Results

- **Centralized facility management.** The Honeywell facility management system installed incorporates 62 WEBS controllers monitoring and/or controlling more than 60,000 points.
- **Integrated ease.** Previously, Boys Town facility staff had to use three different computers to log in. Now it's all integrated into the WEBS system, which is accessible anywhere authorized staff have the use of a computer with Internet access. Currently, 75 percent of the village's 128 buildings are integrated into WEBS, which greatly simplifies operations.
- **Efficiency.** Manpower. Streamlined operations. Call it what you will. Hron believes that the controls transformation of Boys Town with Engineered Controls and Honeywell means that facility staff are now able to be proactive, keeping the facilities in top condition and addressing issues before they escalate into problems.
- **Big energy savings.** In measuring usage pre-construction and post-construction, Boys Town reports that it has cut electrical energy costs by 35 percent and reduced kWh consumption by 32 percent. The organization reduced gas costs by 13 percent and gas consumption by 16 percent. As a result, Boys Town leaves less of a carbon footprint and is able to directly reinvest the savings toward its mission: helping youths in need.
- **One-call support.** Control system problems beyond the scope of Boys Town staff used to mean calls to any of six manufacturers, though there was no assurance of getting a technician in to solve the problem. Now, Boys Town calls Engineered Controls and help is on the way.
- **VFD payback.** Boys Town staff knew it could save more energy. After Boys Town and Engineered Controls installed Honeywell VFDs in the junior high, the savings were immediate. “We saved tons of energy,” said Hron. “We saw less than a two-year payback on that building alone.”
- **Indoor comfort and optimized energy use.** In the administrative buildings, which are used during conventional office hours, use of heating and air-conditioning is now programmed for maximum comfort and energy savings.
- **Monitoring and alarming.** Monitoring and alarming are critical functions to ensure smooth day-to-day operations. The WEBS system enables Boys Town staff (and Engineered Controls) to monitor and evaluate systems 24/7 and set up critical alarms. The alarming function lets Boys Town staff take immediate action or print reports for later. A wide range of systems are monitored 24/7 from equipment at the power plant to air handlers in the office buildings to freezers in the school cafeterias. Boys Town staff can be much more proactive, instead of needing to react to calls for service or other problems. And they can tackle equipment situations early on, before they escalate and turn into costly problems.



Going Forward

Engineered Controls provides services to maintain, repair, upgrade and optimize every aspect of the campus building systems. "Working with a campus of buildings with the age diversity of Boys Town is challenging," said Killeen. Older buildings in Boys Town use dual-duct and multi-zone constant volume systems, unit ventilators, fan coil units, blower coils and pneumatic control systems. Many newer buildings utilize variable volume control systems with air-terminal units and fan-powered boxes.

Current projects include renovating aging buildings that have older inefficient pneumatic control systems, outdated mechanical system designs, updating economizer controllers, improving indoor air quality, incorporating lighting control, and implementing a Honeywell WEBs-AX Security system across the Boys Town campus.

Find out more

For more information, please contact your Honeywell sales representative, call us at **1-800-466-3993** or visit us online at **customer.honeywell.com**.

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