

# SOUTH ROME BOYS & GIRLS CLUB

211 East Main Street, Rome, GA 30161

## ENERGY & WATER EFFICIENCY PROGRAM OVERVIEW

September 2015



### Project Overview

The South Rome Club's heating and air conditioning systems (HVAC) were designed for peak occupancy, but normal occupancy is generally lower than peak. This resulted in systems that were oversized for most daily attendance levels. EWEP staff worked with the facility's mechanical and controls contractors to install variable-speed motor drives, CO<sub>2</sub> sensors, and upgrade programming of the building automation system to allow the fan systems to slow down when practical. This reduces energy use and fan noise. The CO<sub>2</sub> sensors control fresh air supply, delivering the right amount of air based on the number of occupants present. Additionally, the computer-based building automation controls were upgraded to provide online access to optimize scheduling of HVAC to minimize operation during unoccupied periods.

Other improvements include LED lighting, an ENERGY STAR refrigerator, adding a rain barrel to collect and store rainwater for the garden, vending machine controls, and replacing standard plumbing fixtures with low-flow fixtures.

### Site Details

- Average daily attendance of 175
- 22,600 square feet
- Constructed in 2009

### Energy & Water Benchmarks

- \$43,374 in baseline utilities cost
- 5 million Btu of energy per member per year
- 582 gallons of water per member per year

### Improvements

- Invested \$76,200, or \$3.37 per sq. ft.
- Predicted return on investment (ROI) of 13%
- Actual savings – after only 8 months – of over \$6,000, 25% energy savings, & 32% water savings

### Club Management Comments

*"By saving money through this program with our energy efficiency, we're serving about 36 additional kids each year, at no cost to them, to experience the Boys and Girls Club. Thank you all for your help with this project! It won't just impact our organization. It will also impact real kids with real needs. What else is more important?"*

Walter "J.R." Davis, Executive Director  
Boys & Girls Clubs of Northwest Georgia

Projects Implemented	Predicted Annual Savings					Project Cost	Projected Return on Investment
	Water (CCF)	Costs	Million Btu (Site)	Million Btu (Source)	CO <sub>2</sub> Emissions (tonnes)		
Install selected high-performance LED lighting and controls	-	\$3,543	101	318	14.4	\$41,678	9%
Convert to seasonal gas rate	-	\$1,415	-	-	-	\$0	
Replace refrigerator with ENERGY STAR	-	\$280	6	20	0.9	\$997	28%
Upgrade building automation system	-	\$6,560	232	516	23.6	\$26,350	25%
Install vending machine controls on snack & drink machines	-	\$532	12	37	1.7	\$750	71%
Install rainwater harvesting system for the garden	-	-	-	-	-	\$1,800	
Replace standard plumbing fixtures with low-flow	25	\$508	-	-	-	\$4,625	11%
<b>Projected Total Savings, Cost, &amp; ROI</b>	<b>13%</b>	<b>24%</b>	<b>16%</b>	<b>21%</b>	<b>21%</b>	<b>\$76,200</b>	<b>13%</b>



**About the Boys & Girls Clubs of America Energy & Water Efficiency Grant Program (BGCA EWEP):** The Southeast Region of BGCA was selected to participate in an important pilot program to demonstrate the economic and environmental benefits of high-impact energy and water efficiency improvements in club facilities. Funded by The JPB Foundation, the program's ultimate goals were to reduce club utility expenses by 20 percent annually and to improve conditions in existing facilities, so they may be better used in support of BGCA's mission.

## Project Highlights



**Figure 1: Board Approval of Projects**

Southface presented findings of the energy and water assessment to the board of directors who approved the recommended projects.



**Figure 2: LED Lighting**

Existing 400W metal halide gymnasium fixtures were replaced with 240W LED fixtures with dimming and occupancy controls. Additionally, office and multipurpose room fluorescent fixtures were upgraded to LED. Outdoor fixtures were converted from metal halide to LED, and were equipped with bi-level controls to dim the lighting to minimum levels when no one is nearby, and photocells to turn the lights off during the daytime.



**Figure 3: Rainwater Harvesting System**

A 500-gallon rain barrel (above) was installed to collect and store rainwater from the roof to water the club's vegetable garden (below).



**Figure 4: Existing Garden**



**Figure 5: Happy Club Member**

Savings from the energy and water efficiency program enable the South Rome club to direct more funds to its mission of serving its club members.