



City of Royal Oak

Royal Oak Historical Society and Museum

Objective: Upgrade the inefficient cooling system to improve visitor comfort and reduce high energy costs during summer months.



Solutions

- **HVAC Replacement:** Replaced three aging window units with a single Comfort Aire 13,500 BTU portable air conditioner, which includes a heat pump feature
- **Capacity Consolidation:** Streamlined three individual 5,000 BTU units into one high-capacity Perfect Aire 18,000 BTU window unit
- **Energy Efficiency:** New AC units feature automated energy-saving modes
- **Behavior Change:** Winter months behavior change - lowered central boiler thermostat



Results

- Realized a 22% reduction in Weather Normalized Source Energy Use Intensity (EUI) from 2024 to 2025
- Successfully stabilized temperatures in the upper floor and main gallery, areas that were previously difficult to occupy during mid-summer
- By utilizing the portable heat pump and electric space heaters, the museum significantly reduced its reliance on the main boiler during low-occupancy periods
- Awarded in the 2025 Michigan Battle of the Buildings competition



Financials

- Funded entirely through the organization's existing capital
- \$1,500 projected Annual Savings

Project Highlights

- 5,800 square feet
- Non-profit organization
- Strategic HVAC consolidation
- Dual-season efficiency
- Improved occupant comfort



“Winning the 2025 Michigan Battle of the Buildings award in the Assembly & Gathering category highlights how small, volunteer-led organizations can achieve massive energy milestones through smart, incremental changes.”