



CASE STUDY
City of Baltimore
Energy Efficiency Upgrades



PROJECT OVERVIEW

The City of Baltimore is committed to improving energy efficiency in government owned buildings and public spaces. As part of the Baltimore Energy Initiative Program, this project was issued to address energy efficiency challenges in selected buildings in the city which have deteriorated over the years.

This project is part of various renovation works at Baltimore's water filtration plants, the Maryland Zoo and 1200 E. Fayette Street. Scope of the project included energy audits, lighting upgrade, lighting sensor installations and other energy retrofits for 5 facilities across the City. All these projects have generated great energy savings, improved energy security and reduced Green House Gas (GHG) emissions in the City of Baltimore.



CUSTOMER NEEDS

RIFE International in collaboration with Johnson controls executed energy efficiency and conservation measures under this project at the various locations:

- Ashburton Filtration Plant
- Montebello Filtration Plant I & II
- Maryland Zoo
- 1200 E. Fayette St.

ASHBURTON FILTRATION PLANT is one of three water filtration plants in Baltimore City. It is located at 3001 Druid Park Drive. The plant has been in operation for close to 65 years since 1956 serving residence in the City of Baltimore. The plant has a capacity of about 165 million gallons per day (MGD). The plant includes four flocculators, four sedimentation basins, and 20 rapid sand filters.

MONTEBELLO FILTRATION PLANT NO. 1 is located at 3900 Hillen Road and has a capacity of 128 million gallons per day (MGD). This plant has been in service since 1915.

MONTEBELLO FILTRATION PLANT NO. 2 is located on the West Side of Hillen Road opposite of Plant No. 1. This facility began operation in 1928 and can treat up to 112 million gallons per day of water.

The **MARYLAND ZOO** is a 135-plus acre property housing over 200 animal species including birds, mammals, amphibians, and reptiles. In 2019, the Zoo completed a historic renovation and expansion of the lion, giraffe, and elephant habitats in African Journey, marking a stunning transformation of its largest exhibit area.

A facility at **1200 E. Fayette Street** was renovated to accommodate Baltimore City Health Department's **Eastern Health Clinic**. The purpose of the renovation project was to enable the Health Department to expand clinical and health/wellness services and increase the number of individuals served both through direct services and through a new Wellness Center.

RIFE SOLUTIONS

Our scope of work for this project included replacement of lighting, lighting fixtures and installation of lighting occupancy sensors at the various locations. A total of 6949 lighting and fixtures were upgraded to LED energy saving lights and 310 sensors were installed across all the facilities.

The project was completed on schedule and within budget to the client's satisfaction. Overall the client was able to meet their energy conservation goals. The environmental effects from the savings made on the project include the following:

- 2,108,147 kWh in energy savings
- 1,491 metric tons of CO2 (Greenhouse gas) reduction in a year
- 1,755 acres of trees planted in a year
- Powering 260 homes in a year

"The Team showed a great deal of flexibility moving from one building to another on a moments notice. I recognize that the chimp building was a real challenge having to work in close proximity to the animals and was not a "fun" experience for the team. I further appreciate your willingness to work with us on several offices(eg HR office) to come up with lighting alternatives to the standard fixtures. I can recommend your firm without hesitation. " Karl Kranz, COO/EVP for Animal Programs, Maryland Zoo in Baltimore

