



CITY OF MONTPELIER

MONTPELIER, VT



PROJECT SIZE

\$16.7 million



PROJECT SCHEDULE

1/3/2019-10/28/2021



CONTRACT METHOD

ESPC



SAVINGS INFORMATION

Annual revenue and savings guarantee of \$550K



The City of Montpelier's Water Resource Recovery Facility (WRRF) is a 50-year-old facility that has undergone periodic partial upgrades over its lifetime. The facility had significant aging infrastructure in need of repair or replacement, including anaerobic digestion systems that no longer functioned properly. Operational issues included limited digester capacity and mixing performance, low biogas production, high sludge disposal volume, and limited organic waste receiving capacity. To solve these problems, ESG implemented an Aging Infrastructure/Organics-to-Energy project – a comprehensive upgrade of the WRRF's solids treatment train and related aging infrastructure.

SOLUTION

Over the long term, the project will enable the WRRF to produce more than enough biogas to meet its energy needs, setting the stage for it to become a green, net zero energy facility. Phase 1 of the project includes:

- Improved receiving stations to allow an increase in volume and diversity of hauled wastes.
- Development and guarantee of organic waste feedstock supplies including nationally recognized dairy producers, FOG, and food waste.
- The replacement of fuel oil with biogas to reduce energy costs.
- Upgrade to UV system to allow for automated operation to reduce power consumption.
- Upgraded dewatering and anaerobic digestion systems to increase capacity, enable the co-digestion of sludge and high strength organic waste streams, increase gas production, and reduce sludge disposal costs.
- Replacement of grit classifier, grit pumps and grit washer.
- Replacement of primary clarifier internals.
- Upgrades to SCADA system.

RESULTS

By enhancing the WRRF biosolids processing systems and increasing organics receiving capacity and biogas production, this project provides an opportunity for the City to improve the performance and reliability of the WRRF while simultaneously reducing the financial burden and carbon footprint of the facility. This allows the City to lower operating costs and increase tipping fee revenues through increased digester capacity and improved organic waste co-digestion.