Revolutionizing Decentralized Wastewater Treatment at Neville Mobile Home Park with QUA's EnviQ® MBR Technology

QUA®

Pure Technology

Client: Pennsylvania, United States
Plant Capacity: 10,000 GPD (38 m^3/d)

Challenges:

- Addressing regulatory compliance issues for a treatment system that exceeded its lifecycle capability.
- Overcoming the failure of previous upgrade efforts to improve the existing on-site treatment system.
- Meeting specific water quality requirements mandated by the Pennsylvania Department of Environmental Protection to avoid closure and regulatory fines.
- Ensuring sustainability and high performance in water management practices.

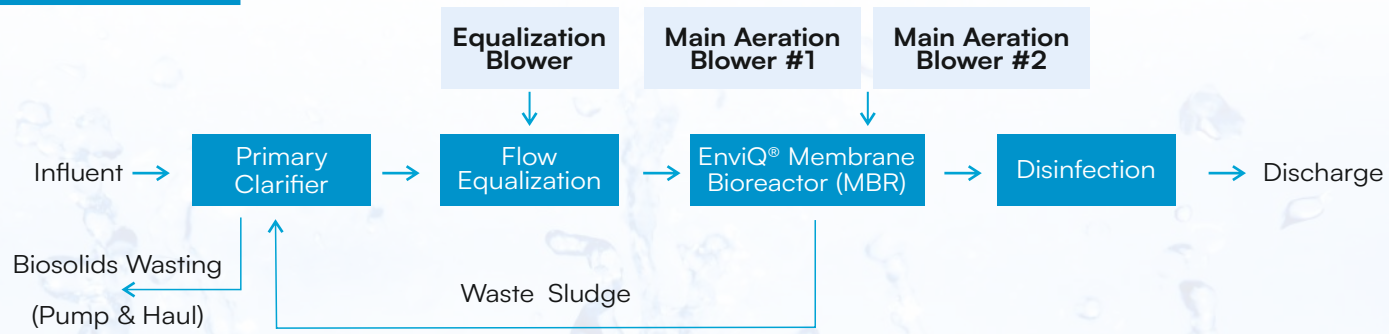
QUA's Solution:

QUA's EnviQ® submerged membrane bioreactor (MBR) technology was seamlessly integrated into decentralized treatment system. This integration has allowed the decentralized water system to achieve exceptional performance and sustainability standards, revolutionizing water management practices in the Neville Mobile Home Park.

Decentralized wastewater treatment applications overcome many of the challenges large central utilities face. These systems provide flexible, efficient, and scalable solutions, ensuring that even smaller communities like Neville Mobile Home Park can achieve high-quality water treatment standards without relying on extensive central infrastructure.

QUA's EnviQ® membranes are engineered to enhance the operational efficiency and maintenance of MBR facilities. They ensure reliable and consistent production of ultrafiltration quality effluent with <1 NTU turbidity and ~5-6 log reduction of bacteria. EnviQ®'s cutting-edge design incorporates a robust PVDF flat sheet membrane and a proprietary diffuser system, guaranteeing exceptional durability and performance.

Flow Diagram:



	Influent Water Concentrations	Product Water
Biological Oxygen Demand (BOD)	350 mg/l	< 5 mg/l
Total Suspended Solids (TSS)	350 mg/l	< 5 mg/l
Total Kjeldahl Nitrogen (TKN)	50 mg/l	-
Coliforms	-	<1 mg/l
Ammonia	-	< 0.5 mg/l
Coliforms	-	< 1 N/100 ml

Results:

Since its installation, the system has met the product water requirements of the Neville Mobile Home Park and allows for safe discharge directly to the local water stream. The system solved Neville Mobile Home Park's problems, allowing it to reach water levels beyond requirements and avoid serious penalties and closure. This decentralized water system has set new standards for performance and sustainability, revolutionizing water management practices by utilizing our cutting-edge membrane technology. This project highlights the potential for decentralized systems to provide high-quality water treatment solutions, even for smaller communities.