



PROJECT

Convenience stores in Frankford and Manalapan, New Jersey, USA

FACTS

The client opened two new 24/7 convenience stores in New Jersey – one in Frankford in December 2018, and another in Manalapan in February 2019. The stores sell fuel, basic groceries, snack foods, and non-prescription pharmacy products.

Neither location is connected to a municipal sewer system, so the client needed a solution to treat wastewater coming from the stores.

CHALLENGES

The project presented several challenges, including:

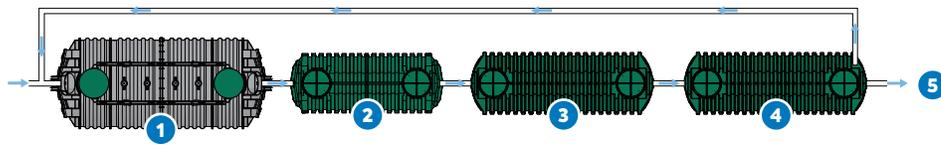
- flow fluctuations between periods of peak use and low use
- wastewater strength fluctuations
 - high NH_4 during peak use
 - high BOD_5 and FOG from food preparation
 - high BOD_5 and pH imbalance from coffee preparation
- open-design lots that require discreet wastewater treatment solutions

SOLUTION

With technologies and support from Premier Tech, Maser Consulting P.A., the engineering firm in charge of the projects, designed a discreet treatment train for each location. The trains include simple and effective Rewatec moving bed biofilm reactors (MBBRs).

Technology	Volumetric Capacity (per Train)	Features
Primary treatment tank 1	4,000 US gal/d	<ul style="list-style-type: none"> captures suspended solids trash screening and sludge reprocessing
Equalization tank 2	2,000 US gal/d	<ul style="list-style-type: none"> provides metered dose to secondary treatment tank controls aerator operating time (when there is no water at the tributary, the blowers stop)
Rewatec MBBR 3	1,500 US gal/d	<ul style="list-style-type: none"> fixed-film media keep bacteria and treatment activity inside the tank aeration moves and self-cleans the bacterial support (increasing surface area and improving performance)
Clarification tank 4	1,500 US gal/d	<ul style="list-style-type: none"> separates solids from liquids in sludge and scum resulting from the treatment process
Leaching field 5	—	<ul style="list-style-type: none"> time-dosed soil-based absorption system

From design to installation, Premier Tech's product partner, Tri-State Pump & Septic Supply, acted as a bridge between the engineering firm, contractor, and client to ensure the job was done right.



REWATEC™

Rewatec MBBR is the clear-cut treatment solution for projects with fluctuations in flow and strength. This modular system is designed to reduce high loads of BOD₅ and NH₄ and is ideal for:

- convenience stores with food preparation
- fast food chains
- truck stops, hotels, and campgrounds
- breweries and wineries
- projects where space is limited

RESULTS

The Frankford and Manalapan systems were commissioned in December 2018 and February 2019, respectively. Both systems have performed well in the field, as demonstrated by the following results.

Parameter	Primary Treatment Tank Influent Concentration	Clarification Tank Effluent Concentration
BOD ₅	1,000 mg/L	≤ 155 mg/L
TSS	500 mg/L	≤ 155 mg/L

"I will definitely keep you guys in mind for future projects. The hands-on support and responsiveness are always appreciated - aside from the good product."

Vincent Keely
Senior Engineer
Maser Consulting P.A.

CONTACT US

Ask our experts about this and other wastewater treatment solutions available from Premier Tech. Whether your project is big or small, we have technologies to make a difference.



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