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August 11, 2025

VIA EMAIL
Dominique Dispirito
Solid Materials Management Unit
Remediation and Waste Management Unit

Email: Dominique.Dispirito@maine.gov

Subject: Demonstration PFAS Treatment System #2 Proposal
Juniper Ridge Landfill Old Town, Maine

Dear Dominique,

At the request of NEWSME Landfill Operations (NEWSME), Sevee & Maher Engineers, Inc. (SME) is providing this letter describing the second proposed demonstration treatment system (System #2) for perfluoroalkyl and polyfluoroalkyl substances (PFAS) at the Juniper Ridge Landfill (JRL) in Old Town, Maine.

Leachate from JRL is subject to a condition of approval in the Public Benefit Determination (PBD), requiring the design and installation of a Maine Department of Environmental Protection (MEDEP)-approved system for the treatment of leachate for PFAS prior to Expansion II operations.

Before submitting the final design of a leachate PFAS treatment system, a demonstration PFAS leachate treatment system (Demonstration System) must be installed to evaluate treatment processes on a smaller scale before full-scale implementation. Casella installed and operated one Demonstration System in June 2025 and is proposing to evaluate a second treatment system in mid-August 2025. The second treatment system will be supplied by StreamGo.

This letter provides the information needed to gain MEDEP approval for Demonstration System construction and operation. It describes leachate supply, treatment system configuration, spill prevention, spill containment, leachate discharge, concentrate disposal, and the general operating conditions anticipated for the Demonstration System.

LEACHATE SUPPLY

Leachate from the existing leachate tank will serve as the source for the Demonstration System, as it represents a mixture of leachate from the site's active and closed landfill cells and reflects the chemical composition expected during full-scale operations.

A submersible pump will be installed in the existing leachate storage tank, using single-walled HDPE piping that extends through the tank's access hatch (on top of the tank), down its exterior, and to the influent end of the Demonstration System. Level controls located at the influent end of the system will activate the pump based on treatment system flow demands.

NEWSME will install appropriate devices (air/vacuum valves, etc.) within the leachate storage tank at or near the highest point of the leachate transport pipe (the top of the tank) to act as an air release and prevent siphoning or unintended leakage in case of pipe damage. Supply piping will be secured to the exterior tank ladder cage on the north side of the leachate tank. Piping details, such as size and thickness, will be determined later based on required system flow rates, currently anticipated to be up to 34,000 gallons per day (gpd), (approximately 25 gallons per minute on average).

TREATMENT SYSTEM CONFIGURATION

NEWSME has chosen the StreamGo system as the second Demonstration System for the site. This Demonstration System uses nano-fractionation to treat leachate at rates of up to 34,000 gpd. A document summarizing the system is attached.

The proposed Demonstration System will be delivered on a flatbed and two cargo trailers. The system will include primary and secondary treatment in surface-activated foam fractionation (SAFF) units. The treatment unit will discharge treated water to the leachate loading rack pump station (where it will be returned to the existing leachate tank) and foamate will be treated in a closed loop reduction process.

SPILL PREVENTION

Site piping, storage tank, and treatment unit will be inspected daily while the Demonstration System is operating. Any damage or leakage will prompt an immediate system shutdown for necessary repairs.

SPILL CONTAINMENT

The existing leachate tank's secondary containment area includes the following materials (from top to bottom):

- 4 inches of drainage stone;
- 6-ounce nonwoven geotextile;
- 8 inches of drainage sand;
- Geosynthetic clay liner; and
- 6 inches of compacted impervious borrow.

Liquid collected in the leachate tank secondary containment area will be tested for specific conductance before discharge. Liquid measuring at or above 500 µmhos/cm will be discharged to the loading rack pump station, while liquid below this threshold is discharged outside the containment.

The Demonstration System treatment unit will be installed within its own secondary containment that is supplied with the equipment. Liquid collected within the vendor supplied secondary containment will be pumped to the existing leachate loading rack pump station.

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LEACHATE DISCHARGE

Treated leachate from the Demonstration System will be discharged through HDPE piping to the existing loading rack pump station, which discharges to the existing leachate storage tank. All piping outside the existing leachate storage tank secondary containment area will include secondary containment.

CONCENTRATE DISPOSAL

Concentrate will be discharged back into the leachate storage tank through the loading rack pump station.

OPERATING TIMES

The Demonstration System will operate only when a representative of StreamGo and/or a dedicated operator of NEWSME is on-site to monitor system operation and during non-freezing conditions.

CLOSING

NEWSME will pursue other approvals necessary for this demonstration project and may conduct other demonstration projects in the future.

Prompt installation of the Demonstration System is critical to allow sufficient evaluation of treatment effectiveness.

Feel free to contact me if you require additional information or have any questions regarding this proposal.

Sincerely,

SEVEE & MAHER ENGINEERS, INC.

Brian D. Pierce, P.E.
Principal/Chief Engineer

Attachments: Figure 1
StreamGo System Documentation

cc: Wayne Boyd, NEWSME
Jeffrey Pelletier, NEWSME
Kathy Tarbuck, MEDEP

NOTES:
ALL LOCATIONS ARE APPROXIMATE.

ASSUMPTIONS:
1. DEMONSTRATION SYSTEM ONLY OPERATES DURING LANDFILL OPERATING HOURS OR UNDER DIRECTOR SUPERVISION.
2. SYSTEM WILL NOT BE OPERATED DURING FREEZING TEMPERATURES.
3. STORMWATER COLLECTED IN THE DEMONSTRATION TREATMENT UNIT CONTAINMENT WILL BE PUMPED TO THE LOADOUT RACK DRAIN OR LEACHATE STORAGE TANK.

LOADOUT RACK DRAIN
EXISTING HDPE LOADING RACK PUMP STATION
HDPE EFFLUENT DISCHARGE PIPING TO STORAGE TANK
POTABLE WATER
TRAILER
DEMONSTRATION TREATMENT SYSTEM
SECONDARY CONTAINMENT
GENERATOR
EXISTING LEACHATE STORAGE TANK
AIR VACUUM BREAK
HDPE LEACHATE SUPPLY LINE FROM STORAGE TANK
LEACHATE TANK AND LOADOUT RACK ELECTRICAL BUILDING
EXISTING PUMP STATION DISCHARGE TO LEACHATE TANK
LIMIT OF EXISTING LEACHATE STORAGE CONTAINMENT AREA
8"GS
8"FM
2"FM
24"LFG
OHU

20 0 40 FEET

FIGURE 1
DEMONSTRATION PFAS TREATMENT AREA
PHASE II EXPANSION
NEWSME LANDFILL OPERATIONS LLC
JUNIPER RIDGE LANDFILL
OLD TOWN, MAINE

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DWG: PFAS-DEMONSTRATION LMN: C2 CTB: SME-STD.CTB JOB#: 250094 REV: 8/11/2025

About StreamGo

StreamGo is a full-service water company whose mission is to provide safe, unlimited and economical water without impact to the environment.

We offer complete water treatment solutions with guaranteed results. Our unique, custom-suited solutions feature leading edge construction, treatment, and monitoring technologies. The result is efficient, reliable, and environmentally sound treatment systems with reduced capital costs and lower long-term operational costs. StreamGo employs engineering, manufacturing, construction, plant operations and maintenance groups all in-house. With our in-house teams and manufacturing facilities, StreamGo delivers projects in less time with reduced fees and provides clients with a single point of responsibility.

UNIQUE OFFERINGS

Turn-key Solutions

Latest Technologies

Industry Leading PFAS Treatment

Next Generation Membranes

Technology Agnostic

Artificial Intelligence Integration

Reliability

Low OpEx/CapEx Solutions

Performance Guaranteed

Scope of Proposal

The scope of this proposal is to demonstrate StreamGo's technology for the removal and deconstruction of harmful PFAS compounds at the Juniper, Maine landfill.

StreamGo will complete the delivery, site mechanical installation, operation as needed over a one-month period, along with chemicals, testing and reporting.

The final report will summarize removal and deconstruction results, flow rates, concentrations, energy and chemical usage. From the gathered data, full scale design recommendations and forecasted capital and operation costs will be presented for the final application.

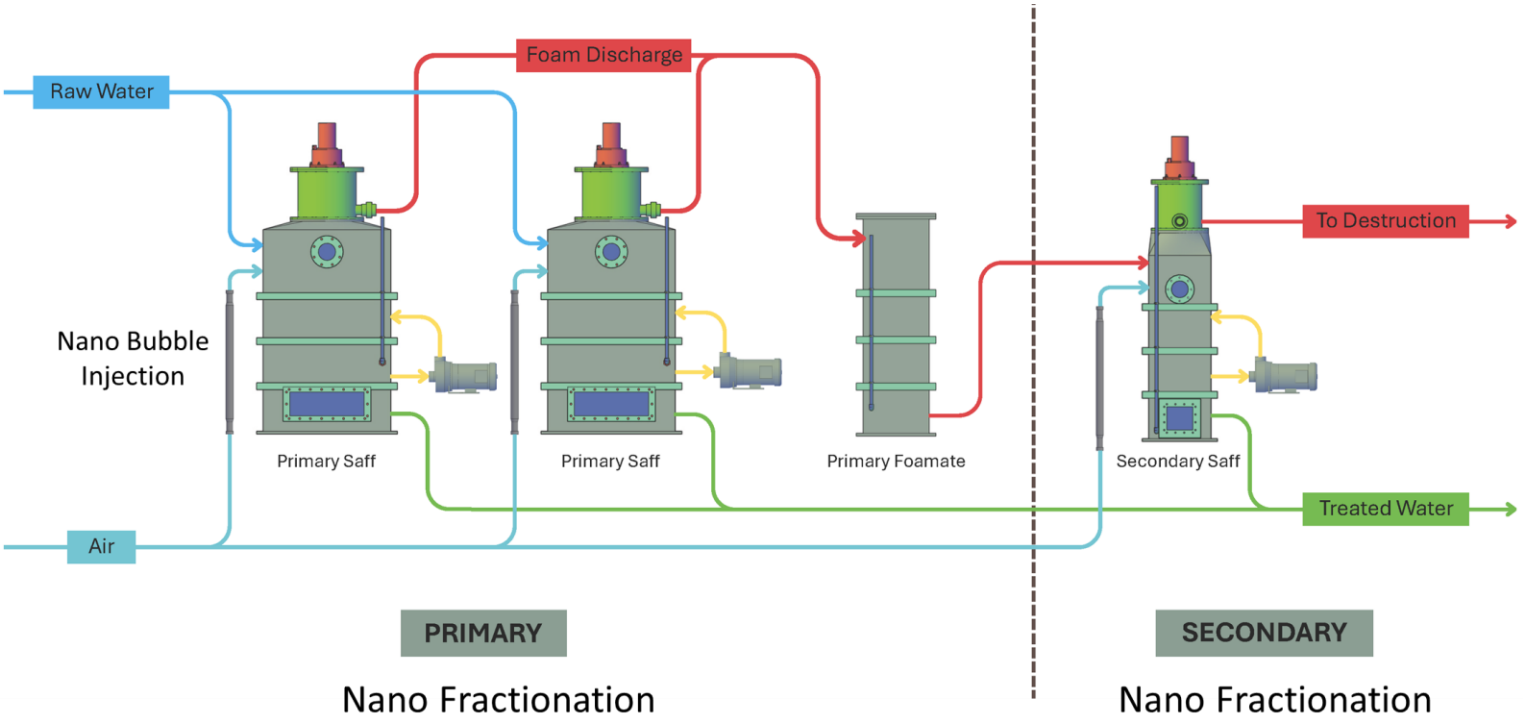
The owner will provide on-site power connections to a (200A, 480V) power supply and disconnections (if available). Otherwise, StreamGo will provide a generator and bill the site for the additional cost.

Treatment Technologies

Removal & Concentration

The focus of this demonstartion is to show the performance of StreamGo's PFAS removal and deconstruction process. In particular, StreamGo will demonstrate the unique advantages of our Nano-Fractionation for effective and efficient PFAS removal and concentration, followed by an advanced reductive process that deconstructs the PFAS concentrate.

StreamGo personnel have extensive experience with all PFAS removal technologies currently being offered on the market. StreamGo's proprietary technology will demonstrate and highlight the most efficient and cost-effective removal technique for treating PFAS from drinking water, then deconstruct using a closed loop advanced reduction process (ARP).



Treatment Technologies

Destruction

StreamGo uses an operator friendly sealed recirculating system to breakdown PFAS to safe compounds for disposal back to the front of the system. The PFAS concentrate captured from the Nano Fractionation process is processed through an advanced membrane filter removing collected solids and compounds impacting the UV reduction process. Following filtration the consolidate is further conditioned with electro-oxidation to improve transmittance for the UV reduction process.

Once the concentrate is ready for destruction a catalyst is injected to promote the reduction process. The conditioned concentrate is then passed through a UV lamp system activating the catalyst through induced energy. Instabilities within the compound electrons as a result of this process promotes the separation of the elements allowing them to reform in their natural states including water, carbon dioxide, and fluoride.