MINNESOTA POLLUTION CONTROL AGENCY

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January 2, 2026

Ken Neu
Environmental Health Products and Service
PO Box 101
Phillips, WI 54555

RE: **Product Renewal: Notice of Interim Conditional Product Registration for Proprietary Treatment Product Listing**

Description:	Sewage Treatment System, Moving Bed Biofilm Reactor
(MBBR) Manufacturer:	Environmental Health Products and Service
Product Name:	EHS SMART-Treat™ Onsite Wastewater Treatment System
Model Number:	No model numbers specified (sized for a range of facilities with design flows up to 10,000 gallons per day)
Product Listing:	Category B (high strength ewage)

Dear Ken Neu:

Thank you for your application for product renewal for EHS SMART-Treat Moving Bed Biofilm Reactor (MBBR) Wastewater Treatment System, which includes an engineered (customized) treatment system for each wastewater application. Treatment components consist of septic tank (and grease interceptor when needed), pump tank, aerobic reactor tankage, secondary solids operation, and effluent discharge to a subsurface soil treatment and dispersal system.

In accordance with Minn. R. ch. 7080 through 7083, the Minnesota Pollution Control Agency (MPCA) has reviewed Environmental Health Products and Service's submitted materials requesting registration for Category B (high strength sewage) treatment product listing of the EHS SMART-Treat Onsite Wastewater Treatment System in this application. Based on the submitted documentation, the MPCA finds that the EHS SMART-Treat Onsite Wastewater Treatment System is eligible for Interim Conditional Product Registration as meeting the following treatment level:

- **Treatment Level C** ($cBOD_5$ of 125 mg/L, TSS of 60 mg/L and Oil & Grease of 25 mg/L)

The design of each EHS Smart-Treat Onsite Wastewater Treatment System will include: 1) hydraulic and organic loading rates, 2) pretreatment tanks (septic tank and grease interceptor), 3) SMART-Treat MBBR component tank, air flow and biofilm carrier element volume, and 4) biological solids separation tank. The EHS SMART-Treat Onsite Wastewater Treatment System is registered for high strength wastewater applications with design flows up to 10,000 gallons per day.

Subject to this determination, the EHS SMART-Treat Onsite Wastewater Treatment System will be placed on the List of Registered Subsurface Sewage Treatment System (SSTS) Products for High Strength Wastewater. The product information listed in this Notice of Interim Conditional Product Registration for Proprietary Treatment Product Listing will be maintained on the MPCA website and may not be altered or misrepresented by the manufacturer or any other person without permission by the MPCA.

The registration of the treatment products in Minnesota is contingent upon compliance with the following conditions:

1. Products must be used in compliance with the MPCA rules, and the plans and design information provided during the period of initial product application. Any deviation from the plans and specifications shall not be permitted unless authorized by the MPCA for registered use.

2. The manufacturer shall have readily accessible information, specific to a product's registered use in Minnesota, for designers, regulators, installers, system owners, service providers and other interested parties for the following items: a) product manual; b) design instructions; c) installation instructions; d) information regarding operation and maintenance; e) owner instructions; and f) list of representatives and manufacturer-certified service providers, if any, as required by Minn. R. ch. 7083.4040(H).

3. The design organic loading for the EHS SMART-Treat Onsite Wastewater Treatment System is 1.44 lbs. BOD5 per 1000 ft2 per day. The manufacturer's designated representative(s) is required to review all designs provided by Advanced Designers (i.e., evaluation worksheets for high strength wastewaters) for treatment systems proposed to use the EHS Smart-Treat Wastewater Treatment System. Designers need to work directly with the manufacturer to ensure the wastewater is properly characterized and that EHS Smart-Treat Wastewater Treatment Systems, and other related components used in treatment train (i.e., septic tank, pump tank, and grease interceptor) are properly sized and compatible to meet designed performance requirements.

4. The manufacturer's designated Professional Engineer (P.E.) will sign a review letter to each Advanced Designer documenting: a) details of the manufacturer's review, and b) agreement that the product is an appropriate fit for the planned system at the facility.

5. Sewage tank capacity, tank geometry, burial depth, and other tank requirements shall meet the manufacturer's requirements. The manufacturer specified in the application that sewage tanks registered by the MPCA will be used. Sewage tank(s) shall be designed to withstand the pressures to which it will be subjected. Tanks and all pipe penetrations, risers, and other connections to tanks shall be watertight. The external grease interceptor (also known as external grease trap and grease tank) shall be sized according to the manufacturer's size requirements.

6. The EHS SMART-Treat Onsite Wastewater Treatment System may be designed to treat to a higher treatment level than Treatment Level C. If a system is designed to treat to a higher treatment level (Treatment Level A2 or Treatment Level B2), timed dosing and uniform distribution is required per Minn. R. ch. 7080.2350, subp. 2 Table XI.

7. Systems installed using EHS SMART-Treat Onsite Wastewater Treatment System shall be timed-dosed. Adequate storage capacity shall be provided in the surge tank to prevent nuisance high water conditions from occurring. An alarm is required on tanks in the event the pump malfunctions.

8. Each EHS Smart-Treat Onsite Wastewater Treatment System must be delivered with an installation manual and detailed operation and maintenance manual for each system. Each component must be installed in accordance with the manufacturer's installation manual.

9. To protect for potential system malfunction, all systems shall be designed and operated with (a) suitable alarm device(s).

10. The treatment products contained in this notice of product registration are considered a Minnesota-registered product for Type IV systems.

11. The EHS SMART-Treat Onsite Wastewater Treatment System is registered to be used in systems to achieve Treatment Level C. The effluent loading rates to the soil, method of distribution, and vertical separation requirements shall meet the minimum requirements contained in Minn. R. ch. 7080.2150 for flows less than 5,000 GPD. For flows greater than 5,000 GPD, final treatment and dispersal must also meet Minn. R. ch. 7081.0270.

12. All systems shall be designed and operated with a manufacturer approved effluent screen. All systems shall be designed and operated with a suitable alarm device(s) should the effluent screen malfunction.

13. Systems may only be designated as Type IV systems when designed and installed per the drawings submitted as part of the Application for Registration, received November 25, 2013, and subsequent documents submitted prior to this registration.

14. As a Type IV system, the system must be constructed and operated under the required local permits.

15. As specified in the Owner's Manual, limitations of the product are identified. The manufacturer is responsible to provide a listing of other known limitations, made available on the company's website or other means. The level of maintenance required for EHS SMART-Treat Onsite Wastewater Treatment System shall be as specified in the products Operation and Maintenance Manual.

16. Training shall be provided to MPCA-licensed Subsurface Sewage Treatment System practitioners before designing, installing, or providing service to EHS SMART-Treat Onsite Wastewater Treatment System registered for use in Minnesota.

17. At the time of product renewal during the year 2026 and according to the "Proprietary treatment technology registration guidance – high strength waste," manufacturers must submit data in accordance with the HSW verification protocol for each system installed under this protocol. If product manufacturers fail to submit data as outlined in the HSW verification protocol for each system installed their registration will be discontinued until submission of the required data. Renewal requirements as stated in this guidance will be communicated to manufacturers in a letter from the MPCA prior to their expiration deadline. Product manufacturers must submit renewal materials as specified in their renewal letters.

HSW verification protocol

An established set of requirements to verify product performance is necessary to set a consistent standard among all registered HSW treatment technologies. This protocol (table 1) requires quarterly sampling on every system installed after registration, in perpetuity, until such time that the TAP modifies, expands, alters, or cancels the protocol requirements.

Table 1. HSW verification protocol

Item	Description
Sample identification	Third-party sample reports must clearly indicate from which system/facility the samples were derived. Reports must also contain sample dates and times, sample location information, name of sampler, chain of custody information, sample collection method, and sample transportation information (time/container/temperature).
Sampling intervals	Four (4) sampling events (for both influent and effluent analysis as described below) must be taken quarterly each calendar year. The TAP will consider alternate intervals on seasonal use facilities to ensure required sampling events align with peak usage. Example: Q1: Jan – Mar, Q2: Apr – Jun, Q3: Jul – Sep, and Q4: Oct – Dec.
Influent Sampling	Influent BOD_5, TSS, and O&G composite/grab samples must be taken at the first location of sewage collection within the system and be representative of the waste being discharged from the facility. Each of these three constituents must be sampled at each sampling event per facility.
Influent waste characterization	For each set of influent data provided, the waste must be characterized as HSW in accordance with Minn. R. 7080.1550 Subp. 2 B (1). Raw sewage must exceed 300 mg/L BOD_5, 200 mg/L TSS, and/or 50 mg/L O&G in order be considered high strength waste.
Effluent sampling	Effluent $cBOD_5$ (or BOD_5), TSS, and O&G composite/grab samples must be taken after the treatment device and before discharge to the soil dispersal area. Each of these constituents must be sampled for each sampling event per facility.
Effluent waste results	In all cases, the effluent waste concentrations must meet, at a minimum, the outlined parameters for Treatment Level C: BOD_5 of 170mg/L (or $cBOD_5$ of 125mg/L), TSS of 60mg/L, and O&G of 25mg/L.
Flow measurements	Average daily flow for thirty (30) days prior to each sampling event must be provided.
Third-party testing	All sampling results must be submitted on original reports from third-party entities (e.g., certified laboratories).
O&M summary	Create an O&M summary specifying the maintenance performed throughout the test period, such as pumping events or adjustments made, and include a list of tasks necessary for the product to adequately perform within the specified parameters in all configurations. Tasks should be given a specific frequency for when each shall occur (e.g., every 6 months).
Mandatory reporting	For all systems/facilities requiring performance verification under this protocol, please submit the following: 1. SSTS HSW Protocol Data Entry Form – for each system 2. Original sampling results from third-party entities (e.g., certified laboratories) Combine the summary reports for each system/facility into one PDF document, and submit to the agency

18. During the period of product registration and as part of the renewal process, systems using registered treatment products are subject to an audit by the MPCA.

Please be advised that this registration expires December 31, 2026. Manufacturers desiring to continue product registration beyond this date must obtain MPCA renewal according to the requirements in Minn. R. ch.7083.4040 (E). If the product has changed or is retested according to the protocol required for registration, renewal shall be based on the most recent test results. If the MPCA finds the product has changed in any way that may affect performance, it may not be renewed and must meet the requirements for initial registration.

The MPCA is in no way endorsing these products or any advertising and is not responsible for any situation which may result from its use or misuse. The MPCA is not liable for any product failure and these statements are not intended and cannot be relied upon to establish any substantive or procedural rights with the state of Minnesota or the MPCA, either express or implied, that can be enforced in litigation or any administrative proceeding.

If you have any questions, please contact Wendy Chirpich at 507-344-5248 or by email at wendy.chirpich@state.mn.us.

Sincerely,

Wendy Chirpich

Wendy Chirpich
Environmental Specialist
Municipal Division

cc: File