

May 11, 2022

Joe Lucey, P.E.
Engineering Manager
Aero-Stream, LLC
W300N7706 Christine Lane
Hartland, WI 53029

RE: Product Registration – Notice of Initial Proprietary Treatment Product Listing

Description: Sewage Treatment System, Extended Aeration and Attached Growth
Manufacturer: Aero-Stream, LLC
Product Name: Aero-Stream Aerobic Treatment Unit (ATU)
Model Number: AS450-1, AS450-2, AS450-3, AS500-1, AS500-2, AS500-3, AS600-1, AS600-2,
AS600-3, AS750-1, AS750-2, AS750-3, AS1000-1, AS1000-2, AS1000-3, AS1500-1,
AS1500-2, AS1500-3
Product Listing: Category A (Residential Sewage)

Dear Joe Lucey:

Thank you for your application for product registration for the Aero-Stream ATU, which includes the following models: AS500-1, AS500-2, AS500-3, AS650-1, AS650-2, AS650-3, AS750-1, AS750-2, AS750-3, AS1000-1, AS1000-2, AS1000-3, AS1500-1, AS1500-2, AS1500-3.

In accordance with Minn. R. ch. 7080 through 7083, the Minnesota Pollution Control Agency (MPCA) has reviewed Aero-Stream's submitted materials requesting registration for Category A (residential) treatment product listing of the Aero-Stream ATU in this application. Based on the submitted documentation, the MPCA finds that the Aero-Stream ATU is eligible to be registered per Minn. R. ch. 7083.4030 as meeting the following treatment levels:

Aero-Stream AS450-1, AS500-1, AS600-1, AS750-1, AS1000-1, AS1500-1 models:

- **Treatment Level C** (cBOD₅ of 125 mg/L, TSS of 60 mg/L and Oil & Grease of 25 mg/L)

Aero-Stream AS450-2, AS450-3, AS500-2, AS500-3, AS600-2, AS600-3, AS750-2, AS750-3, AS1000-2, AS1000-3, AS1500-2, AS1500-3 models:

- **Treatment Level B2** (cBOD₅ of 25 mg/L, TSS of 30 mg/L)
- **Treatment Level C** (cBOD₅ of 125 mg/L, TSS of 60 mg/L and Oil & Grease of 25 mg/L)

The Aero-Stream ATU is registered with a design rated capacity of 450, 500, 600, 750, 1,000, and 1,500 gallons per day per unit, as shown in Table 1 and Table 2.

Subject to this determination, the Aero-Stream ATU, including models AS450-1, AS450-2, AS450-3, AS500-1, AS500-2, AS500-3, AS600-1, AS600-2, AS600-3, AS750-1, AS750-2, AS750-3, AS1000-1, AS1000-2, AS1000-3, AS1500-1, AS1500-2, and AS1500-3 will be placed on the List of Registered Subsurface Sewage Treatment System (SSTS) Products. The product information listed in this Notice of Proprietary

Product Listing will be maintained on the MPCA website and may not be altered by the manufacturer without permission by the MPCA.

Table 1. Aero-Stream Single Chamber Models

Product Name Model	Treatment Process	Design Flow (gpd)	BOD ₅ Removed (lbs/day)	Highest Treatment Level	Important Product Use Information
Aero-Stream Model AS450-1	Extended Aeration and Attached Growth	450	0.61	C	<ul style="list-style-type: none"> • Notice of Product Listing <ul style="list-style-type: none"> ○ MPCA Letter ○ Conditions of Registration ○ Expiration Date • Aero-Stream Manual <ul style="list-style-type: none"> ○ Submitted Drawings ○ Known Limitations ○ Installation ○ Operation & Maintenance ○ Owners Information ○ Regulators Checklist ○ Service Contract • Management Plan • Operating Permit Template
Aero-Stream Model AS500-1	Extended Aeration and Attached Growth	500	0.67	C	
Aero-Stream Model AS600-1	Extended Aeration and Attached Growth	600	0.81	C	
Aero-Stream Model AS750-1	Extended Aeration and Attached Growth	750	1.01	C	
Aero-Stream Model AS1000-1	Extended Aeration and Attached Growth	1000	1.36	C	
Aero-Stream Model AS1500-1	Extended Aeration and Attached Growth	1500	2.03	C	

Table 2. Aero-Stream Double Chamber Models

Product Name Model	Treatment Process	Design Flow (gpd)	BOD ₅ Removed (lbs/day)	Highest Treatment Level	Important Product Use Information
Aero-Stream Model AS450-2	Extended Aeration and Attached Growth	450	0.66	B2	<ul style="list-style-type: none"> • Notice of Product Listing <ul style="list-style-type: none"> ○ MPCA Letter ○ Conditions of Registration ○ Expiration Date • Aero-Stream Manual <ul style="list-style-type: none"> ○ Submitted Drawings ○ Known Limitations ○ Installation ○ Operation & Maintenance ○ Owners Information ○ Regulators Checklist ○ Service Contract
Aero-Stream Model AS500-2	Extended Aeration and Attached Growth	500	0.73	B2	
Aero-Stream Model AS600-2	Extended Aeration and Attached Growth	600	0.88	B2	
Aero-Stream Model AS750-2	Extended Aeration and Attached Growth	750	1.10	B2	

Aero-Stream Model AS1000-2	Extended Aeration and Attached Growth	1000	1.47	B2	<ul style="list-style-type: none"> • Management Plan • Operating Permit Template
Aero-Stream Model AS1500-2	Extended Aeration and Attached Growth	1500	2.20	B2	

Table 3. Aero-Stream Triple Chamber Models

Product Name Model	Treatment Process	Design Flow (gpd)	BOD ₅ Removed (lbs/day)	Highest Treatment Level	Important Product Use Information
Aero-Stream Model AS450-3	Extended Aeration and Attached Growth	450	0.67	B2	<ul style="list-style-type: none"> • Notice of Product Listing <ul style="list-style-type: none"> ○ MPCA Letter ○ Conditions of Registration ○ Expiration Date • Aero-Stream Manual <ul style="list-style-type: none"> ○ Submitted Drawings ○ Known Limitations ○ Installation ○ Operation & Maintenance ○ Owners Information ○ Regulators Checklist ○ Service Contract • Management Plan • Operating Permit Template
Aero-Stream Model AS500-3	Extended Aeration and Attached Growth	500	0.74	B2	
Aero-Stream Model AS600-3	Extended Aeration and Attached Growth	600	0.89	B2	
Aero-Stream Model AS750-3	Extended Aeration and Attached Growth	750	1.12	B2	
Aero-Stream Model AS1000-3	Extended Aeration and Attached Growth	1000	1.49	B2	
Aero-Stream Model AS1500-3	Extended Aeration and Attached Growth	1500	2.23	B2	

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 specifications provided. Any deviation from the plans and specifications shall not be permitted unless authorized by the National Sanitation Foundation (NSF) and, in writing, 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) homeowner instructions; and (f) a list of representatives and manufacturer-certified service providers, if any, as required by Minn. R. ch. 7083.4040 (H).

3. The design flows for the registered Aero-Stream ATU are as follows:
 - 450 gallons per day for the Aero-Stream ATU Models AS450-1/2/3
 - 500 gallons per day for the Aero-Stream ATU Models AS500-1/2/3
 - 600 gallons per day for the Aero-Stream ATU Models AS600-1/2/3
 - 750 gallons per day for the Aero-Stream ATU Models AS500-1/2/3
 - 1000 gallons per day for the Aero-Stream ATU Models AS500-1/2/3
 - 1500 gallons per day for the Aero-Stream ATU Models AS500-1/2/3
4. Septic tank capacity for dwellings shall meet the manufacturer's size requirements consistent with NSF Environmental Verification testing of the product and sewage tank requirements contained in Minn. R. ch. 7080.1900 through 7080.2020. Sewage tank(s) shall be designed to withstand the pressures to which it will be subject to. Tanks and all pipe penetrations, risers, and other connections to tanks shall be watertight.
5. Each system must be delivered with an installation manual and owner's manual for the Aero-Stream ATU used in the system. Each component must be installed in accordance with the manufacturer's installation manual.
6. All systems shall be designed and operated with (a) suitable alarm device(s) should the Aero-Stream ATU malfunction.
7. This treatment product is a Minnesota-registered product for Type IV systems. For Treatment Levels B2 and C, 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 thru 7080.2350. The effluent, following treatment in the Aero-Stream ATU, is required to be uniformly distributed to the soil for final treatment and dispersal.
8. Systems may only be designated as Type IV systems when designed and installed per the drawings submitted as part of the initial Application for Product Registration, dated April 1, 2021, and subsequent documents submitted prior to this registration.
9. As a Type IV system, the system must be constructed and operated under the required local permits.
10. The level of maintenance required for the Aero-Stream ATU shall be as specified in the products Operation and Maintenance Manual. This includes, but is not limited to, annual inspections and maintenance.
11. 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.

12. Training shall be provided to MPCA-licensed Subsurface Sewage Treatment System practitioners before designing, installing, or providing service to Aero-Stream ATU models registered for use in Minnesota.
13. 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, 2024. 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 Cody Robinson at 651-757-2535 or by email at cody.robinson@state.mn.us.

Sincerely,

Cody Robinson

This document has been electronically signed.

Cody Robinson
Soil Scientist
Municipal Division

CR:jg

cc: File