



COMMONWEALTH OF MASSACHUSETTS  
EXECUTIVE OFFICE OF ENERGY & ENVIRONMENTAL AFFAIRS  
**DEPARTMENT OF ENVIRONMENTAL PROTECTION**

ONE WINTER STREET, BOSTON, MA 02108 617-292-5500

DEVAL L. PATRICK  
Governor

TIMOTHY P. MURRAY  
Lieutenant Governor

IAN A. BOWLES  
Secretary

LAURIE BURT  
Commissioner

**REVISED CERTIFICATION FOR GENERAL USE**

Pursuant to Title 5, 310 CMR 15.000

Name and Address of Applicant:

American Manufacturing Company, Inc.  
PO Box 549  
Manassas, VA 20108

Trade name of technology and model: **PERC-RITE Drip Dispersal System, Models QM, ASD-15, ASD-25 & ASD-40** (hereinafter called the "System"). A schematic drawing of a typical System, a Design/Installation Manual and a technology checklist are attached and are a part of this Approval.

Transmittal Number: W084035  
Date of Issuance: March 15, 2007, revised December 4, 2009  
Expiration Date: March 15, 2012

**Authority for Issuance**

Pursuant to Title 5 of the State Environmental Code, 310 CMR 15.000, the Department of Environmental Protection hereby issues this Certification for General Use to: American Manufacturing Company, Inc., PO Box 549, Manassas, VA 20108 (Hereinafter "the Company"), for the System described herein. Sale and use of the System are conditioned on and subject to compliance by the Company and the System owner with the terms and conditions set forth below. Any noncompliance with the terms or conditions of this Certification constitutes a violation of 310 CMR 15.000.

Glenn Haas, Acting Assistant Commissioner  
Bureau of Resource Protection

December 4, 2009  
Date

**I. Purpose**

1. The purpose of this Certification is to allow the use of the System in Massachusetts on a General Use basis.
2. With the necessary permits and approvals required by 310 CMR 15.000, this Certification authorizes the use of the System in Massachusetts.
3. The System may be installed on all facilities where a system in compliance with 310 CMR 15.000 exists on site or could be built and for which a site evaluation in compliance with 310 CMR 15.000 has been approved by the local approving authority; or by DEP if DEP approval is required by 310 CMR 15.000. The System is used for disposal of wastewater from a Title 5 septic tank designed in accordance with 310 CMR 15.223 to 310 CMR 15.229 or from a treatment system which has General Use Approval.
4. The System is approved for use at facilities with a design flow less than 10,000 gallons per day (GPD).

**II. Design Standards**

1. The System is a pressure distributed subsurface wastewater drip dispersal (disposal) system that replaces a soil absorption system (SAS) designed in accordance with 310 CMR 15.000. The System is designed to distribute septic tank or secondary effluent and pressure discharge it at a depth of at least 6 inches below finished grade. The System includes a pump chamber, a filter module/hydraulic unit and drip dispersal zone(s) with drip tubing incorporating discharge emitters. The dispersal zone(s) include small diameter flexible polyethylene tubing with pressure compensating emitters. The emitters are located at two foot spacing within the tubing. They operate on a pressure differential across the emitter, with wastewater discharged in small doses. Dispersal field dosing is timed and controlled electronically to provide pre-programmed volumes of effluent for discharge to each dispersal zone(s). The System includes two-stage (the ASD models) automatic backwashing disc filters within the filter module. The system allows periodic backwashing of the filtration system and forward-flushing of the dispersal tubing with the dirty effluent conveyed by return line to the septic tank. All drip tubing and shallow manifolds shall be designed to drain into the soil upon completion of the pump cycle. The System may include single (the QM model) or two-stage (the ASD models) automatic backwashing disc filters within the filter module and air vents in each dispersal zone. Each zone shall have air release valves at the high points of manifolds and check valves on each return manifold.
2. The System may be installed in the A, B or C soil horizon at a depth of at least 6 inches below the finished grade, or in fill material meeting the specifications at 310 CMR 15.255(3).
3. All access ports and manhole covers shall be installed and maintained at grade to allow for maintenance of the System.

4. The control panel including alarms and controls shall be mounted in a location always accessible to the System operator. System unit malfunction and high water alarms shall each be connected to an independent power source from the operating pump(s) run from the main power source of the facility
5. The System may be installed in soils with a percolation rate of up to 60 minutes per inch (MPI). The System shall not be installed in Class IV soils as defined in 310 CMR 15.243.
6. Systems shall not be designed and constructed with less than 400 linear feet of drip tubing with a minimum spacing of 12 inches. SAS area will be determined by the required linear feet and spacing of drip tubing.
7. The System is equivalent to a pressure distribution system designed in accordance with the Department's Pressure Distribution Guidance.
8. The System does not require a five foot over dig as indicated at 310 CMR 15.255(5).
9. System control units, valve boxes, drip dispersal lines, conveyance lines and other System appurtenances shall be designed and installed to prevent freezing per Company recommendations.
10. When distributing septic tank effluent, the System design, installation and operation including design loading rates shall be in accordance with the Department's, Guidance for Design, Installation and Operation of Subsurface Drip Distribution Systems as a Replacement for Conventional Title 5 Soil Absorption Systems for Disposal of Septic Tank Effluent, dated October 27, 2006 as revised below:
  - a. Drip tubing may be installed with a vibratory plow, a static plow, a narrow trencher (<6" width), by hand trenching, or by scarifying the surface and bedding the drip tubing in clean sand meeting the requirements for fill material in Title 5 at 310 CMR 15.255(3) with cover consisting of sand and topsoil meeting the 6 to 12 inch depth requirement. Vegetative cover must be replaced for installations where it is removed or buried during installation.
  - b. The drip tubing may be installed at no less than 12 inch spacing and as wide a spacing as may be suitable for site conditions.
  - c. When the reserve area is proposed between primary drip lines, the primary drip lines must be spaced a minimum of 24 inches apart.
  - d. Effluent tee filters shall be a requirement for septic tanks.
11. When distributing secondary treated effluent, the following conditions will apply:
  - a. Drip tubing may be installed with a vibratory plow, a static plow, a narrow trencher (<6" width), by hand trenching, or by scarifying the surface and bedding the drip tubing in clean sand meeting the requirements for fill material in Title 5 at 310 CMR 15.255(3) with cover consisting of sand and topsoil meeting the 6 to 12 inch depth requirement. Vegetative cover must be replaced for installations where it is removed or buried during installation.

- b. The drip tubing may be installed at no less than 12 inch spacing and as wide a spacing as may be suitable for site conditions.
  - c. When the reserve area is proposed between primary drip lines, the primary drip lines must be spaced a minimum of 24 inches apart.
  - d. A General Use approved alternative treatment system must be used.
  - e. Any reduction in System design shall be based on the allowable design, siting, and installation requirements for the alternative treatment system that precedes the System.
  - f. Title 5 LTAR will be used to calculate linear feet of drip tubing in System.
12. Dosing chambers and pumps shall be designed in accordance with 310 CMR 15.231. Timed dosing with multiple small doses of the drip tubing shall be required for these systems. The dosing chamber between the septic tank and the drip dispersal system, shall be sized and equipped so as to permit timed dosing of the daily sewage flow. The wastewater tanks shall have a 24 hour reserve storage capacity for system malfunctions.
  13. The System shall be equipped with a control panel to regulate dosing frequency/volume, record the number doses, field flushing events and other pertinent information.
  14. The System shall be designed to meet the minimum setback requirements of 310 CMR 15.211 from private water supply wells and suction lines.
  15. The system may be designed to allow for irrigation of plantings, less than the 20 foot limit in 310 CMR 15.211 but no less than five feet to a building cellar wall. Irrigation systems shall not be allowed in areas where drip tubing is installed.
  16. Systems shall not receive credit for nitrogen or phosphorous reduction in the soil profile.
  17. The system shall be equipped with a flow meter and a tubing flushing system, capable of providing a flushing velocity of greater than 2 feet per second that shall be automatically activated no less than the minimum frequency required by the Company to prevent solids buildup in the tubing.
  18. The System's filtration unit shall be backwashed automatically per the Company's recommendations with any backwash returned to the head of the septic tank. The volume of backwash shall not to exceed the hydraulic capacity of the septic tank.
  19. The System's filtration units shall be installed in a readily accessible location. The housing for the filters shall be insulated unless the system drains between dosing periods. All access ports and manholes shall be installed and maintained at grade to allow for ease of access. The system shall have free access to verify pressures and check any change in head loss through the system.
  20. Air vents in a dispersal zone shall be placed at a higher elevation than the drip tubing in that zone but below the ground surface. Air vents shall be accessible from finished grade and insulated to protect from freezing.

21. The dispersal area shall not be installed under a paved surface.
22. No change in existing surface slope over the dispersal field is required to comply with 310 CMR 15.240(10).
23. For Systems with a design flow of 2,000 GPD or greater, the System shall be equipped to provide a flow meter and automatic remote telemetric notification to the operation and maintenance (O&M) provider.

### **III. General Conditions**

1. All provisions of 310 CMR 15.000 are applicable to the use of the System, except those that specifically have been varied by the terms of this Certification.
2. The facility served by the System, and the System itself, shall be open to inspection and sampling by the Department and the local approving authority at all reasonable times.
3. In accordance with applicable law, the Department and the local approving authority may require the owner of the System to cease use of the System and/or to take any other action as it deems necessary to protect public health, safety, welfare or the environment.
4. The Department has not determined that the performance of the System will provide a level of protection to the environment that is at least equivalent to that of a sewer. Accordingly, no new System shall be constructed, and no System shall be upgraded or expanded, if it is feasible to connect the facility to a sanitary sewer, unless as allowed by 310 CMR 15.004.
5. Design, installation and use of the System shall be in strict conformance with the Company's DEP approved plans and specifications and 310 CMR 15.000, subject to this Certification.

### **IV. Conditions Applicable to the System Owner**

1. The System is approved for the disposal of sanitary sewage only. Any wastes that are non-sanitary sewage generated or used at the facility served by the System shall not be introduced into the System and shall be lawfully disposed.
2. The System owner shall have the Company or its designee conduct an intended use review of the System prior to the sale of any System receiving nonresidential flow or any System with a design flow of 2,000 gpd or greater to ensure that the proposed use of the System is consistent with the unit's capabilities.
3. Operation and Maintenance Agreement:
  - A. Throughout its life, the System owner shall operate and maintain the System in accordance with this Approval, the designer's operation and maintenance requirements, and the Company's approved procedures and protocols. To ensure

proper operation and maintenance (O&M), the System owner shall enter into an O&M agreement. No O&M agreement shall be for less than one year.

- B. No System shall be used until an O&M agreement is submitted to the approving authority which:
- i. Provides for the contracting of a person or firm competent in providing services, trained by the Company as provided in Section V(6), to operate and maintain the System consistent with the System's specifications and the operation and maintenance requirements specified by the designer and any specified by the Department;
  - ii. Contains procedures for notification to the Department and the local board of health within five days of knowledge of a System failure or alarm event and for corrective measures to be taken immediately;
  - iii. Provides the name of an operator, which must be a Massachusetts certified operator if one is required by 257 CMR 2.00, that will operate and monitor the System. The operator must operate and inspect Systems installed at single family homes every six months and anytime there is an alarm event and all other Systems at least every three months and anytime there is an alarm event.
4. The System owner shall at all times have the System properly operated and maintained in accordance with this Approval, the designer's operation and maintenance requirements and the Company's approved procedures and protocols. The System owner shall notify the Department and the local approving authority in writing within seven days of a change in the operator.
5. The System owner shall provide a copy of this Approval, prior to signing of a purchase and sales agreement for the facility served by the System or any portion thereof, to the proposed owner. Any and all instruments of transfer and any leases or rental agreements shall include as an exhibit attached thereto and made a part thereof a copy of this Approval for the System. The System owner shall send a copy of such written notification(s) to the local approving authority within 10 days of such notice being given.
6. By February 15<sup>th</sup> of each year for the previous year, the System owner shall submit to the approving authority all data collected in accordance with item 4, above, and an O&M checklist and a technology checklist, completed by the System operator for each inspection performed during the previous calendar year. A Copy of the System checklist is attached to this approval.

**V. Conditions Applicable to the Company**

1. By February 15<sup>th</sup> of each year, the Company shall submit to the Department a report, signed by a corporate officer, general partner, or Company owner that contains information on the System for the previous calendar year. The report shall state: the number of units of the System sold for use in Massachusetts during the reporting year; and for all systems installed since the first issuance of Certification for the

- System, all known failures, malfunctions, and corrective actions taken and the address of each such event.
2. The Company shall notify the Department's Director of Watershed Permitting at least 30 days in advance of any proposed transfer of ownership of the technology for which this Certification is issued. Said notification shall include the name and address of the proposed new owner and a written agreement between the existing and proposed new owner containing a specific date for transfer of ownership, responsibility, coverage and liability between them. All provisions of this Certification applicable to the Company shall be applicable to successors and assigns of the Company, unless the Department determines otherwise.
  3. The Company shall develop and submit to the Department: an operating manual, including information on substances that should not be discharged to the System and a recommended schedule for maintenance of the System essential to consistent successful performance of the installed Systems within 60 days of the effective date of this Approval.
  4. Company shall make available, in print and electronic format, the referenced procedures in paragraphs 3 above to owners, operators, designers and installers of the System.
  5. The Company shall provide a design review procedure for systems with design flow of 2000 GPD or greater.
  6. The Company shall institute and maintain a training course for designers, installers and inspectors. The course shall be offered at least annually. It shall include design and installation examples for various sized systems with varying soil conditions and a discussion of soil conditions and their impact on drip systems. The soils portion of the course shall include a discussion of the types of soils testing required to evaluate the A and B layers, and installation procedures that are required to avoid disturbing the soil matrix. The Company shall certify that installers and inspectors have completed the Company's training class, maintain a list of certified installers and inspectors, submit a copy to the Department, and update the list annually. Updated lists shall be forwarded to the Department.
  7. The Company shall provide the Department with an installation checklist and technology operation and maintenance checklist required for the System that shall become a part of the approval.
  8. The Company shall furnish the Department any information that the Department requests regarding the System, within 21 days of the receipt of that request.
  9. The Company shall include copies of this Approval and the procedures in Section V (3) with each System that is sold. In any contract executed by the Company for distribution or re-sale of the System, the Company shall require the distributor or reseller to provide each purchaser of the System with copies of this Approval and the procedures described in Section V (3).
  10. The Company shall comply with 310 CMR 15.000 and all Department policies and guidance that apply and as they may be amended from time to time.

11. If the Company wishes to continue this Approval after its expiration date, the Company shall apply for and obtain a renewal of this Approval. The Company shall submit a renewal application at least 180 days before the expiration date of this Approval, unless written the Department has granted permission for a later date in writing. This approval shall continue in force until the Department has acted on the renewal application.

**VI. Conditions Applicable to Installers of the System**

1. Each Installer shall install the System in accordance with Company training on the installation of the System and the conditions of this Certification.
2. No Installer shall install the System unless the Company has trained the Installer on the installation of the System, or a Company representative(s) oversees the installation.

**VII. Reporting**

1. All submittals of notices and documents to the Department required by this Certification shall be submitted to:

Director  
Wastewater Management Program  
Department of Environmental Protection  
One Winter Street - 5th floor  
Boston, Massachusetts 02108

**VIII. Rights of the Department**

1. The Department may suspend, modify or revoke this Certification for cause, including, but not limited to, non-compliance with the terms of this Certification, non-payment of an annual compliance assurance fee, for obtaining the Certification by misrepresentation or failure to disclose fully all relevant facts or any change in or discovery of conditions that would constitute grounds for discontinuance of the Certification, or as necessary for the protection of public health, safety, welfare or the environment, and as authorized by applicable law. The Department reserves its rights to take any enforcement action authorized by law with respect to this Certification, the System, the owner, or operator of the System and the Company.

**IX. Expiration Date**

1. Notwithstanding the expiration date of this Certification, any System installed prior to the expiration date of this Certification, and approved, installed and maintained in compliance with this Certification (as it may be modified) and 310 CMR 15.000, may remain in use unless the Department, the local approving authority, or a court requires the System to be modified or removed, or requires discharges to the System to cease.