

May 1, 2000

**GMP # 105**

To: District Environmental Health Managers  
District Health Directors  
OEHS Field Staff

Through: Donald J. Alexander, Director  
Division of Onsite Sewage and Water Services

From: Anish R. Jantrania, Ph.D., P.E.  
Technical Services Engineer

Subject: Experimental Protocol for Aquarobic Filter Bed System on Sloping Sites  
with Fill Material

The Department has completed a review of the Aquarobic Filter Bed system installation on sloping sites using fill material. This GMP is similar to GMP # 85 and is intended to provide guidance on how to process applications for the Aquarobic Filter Bed Systems on sloping sites. The approval granted in GMP #85 does not address sloping sites and the use of fill material. The purpose of this GMP is to incorporate a methodology for dealing with sloping sites with the prior approval for the filter bed. The site criteria are contained in the Experimental Protocol document. The concepts contained in GMP #85 are incorporated in this document and therefore GMP #85 is rescinded concurrent with the issuance of this document.

This protocol is intended to allow demonstration of the Aquarobic Mini-Plant Filter Bed System with or without fill material. The purpose is to determine whether the system can overcome soil and site limitations that would prohibit the use of a conventional septic system where percolation rates exceed 120 MPI, or the required stand-off distance to water table cannot be met, or both.

Aquarobic International Inc. applied for a variance from §12 VAC 5-610-370.A.2 of the *Sewage Handling and Disposal Regulations* for GMP #85. The request for the variance was approved on February 14, 1997 and the backup requirements have been modified. In essence, a 100% repair area meeting the same site and size requirements of the original Aquarobic Mini-Plant and Filter Bed System will be an acceptable backup

for the sites that do not meet the requirements for a conventional system. The same approval will be used for this GMP. Please refer to the variance that describes the backup requirements and the justification for granting this variance and required conditions of the variance.

The Department's approval of this protocol is granted only for The Aquarobic Mini-Plant and Filter Bed System and is not transferable to any other product. Applications for products other than Aquarobic Mini-Plant and Filter Bed System, or for sites that exceed the scope of this waiver, are subject to the provisions of §12 VAC 5-610-370.

The process to obtain a construction permit for Aquarobic Mini-Plant and Filter Bed System begins with filing an application. Applications may be made to review a new site, to modify a previously issued permit, or to convert a 415-certification letter to a construction permit to allow an Aquarobic Filter Bed System. Please note that experimental systems cannot be converted to an approval letter and that experimental construction permits cannot be valid beyond the completion of the experiment. All permits issued under this protocol must be recorded with a copy of the variance in the same manner that conditional permits are recorded. Please refer to Section IX-E of the protocol that addresses some practical matters related to experimental permits.

The waiver defines the Aquarobic Filter Bed System on sloping site with fill material as an experimental system. Mr. Daniel E. Pavon, the President of the company prepared the experimental protocol submitted by Aquarobic, and all testing associated with the protocol will be conducted under the auspices of a professional engineer. Local health departments may, at their discretion, require either formal or informal plans and specifications, as deemed appropriate for the proposed use and site conditions, prior to issuing a permit. All provisions of §12 VAC 5-610-370 except the requirements for a backup site apply when issuing a permit. A backup site meeting the requirements of February 14, 1997 variance is required prior to permitting any site. Individual permits shall be issued by the local health department and a copy of the permit and site conditions sent to the Division of Onsite Sewage and Water Services.

When a new application is made for a construction permit and it specifically requests an Aquarobic Filter Bed System, an application fee shall be charged and the site shall be evaluated in the same manner as any application for a conventional septic system except that the site and soil conditions contained in the Experimental Protocol may be used. If the site and soil conditions meet these criteria, the site shall be deemed suitable for an Aquarobic Filter Bed System.

Applications to convert a 415-certification letter to an Aquarobic Filter Bed system, shall follow the same general process, including collecting a fee; however, no soil evaluation is specifically required. A site evaluation (as opposed to soil evaluation) may be necessary to assure that conditions have not substantially changed since the letter was issued. If the site and soil conditions are unchanged and meet, the criteria contained

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in the Experimental Protocol the site shall be deemed suitable for an Aquarobic Filter Bed system.

When an application is made to convert an existing Type I or II permit to an Aquarobic Filter Bed system, no application fee shall be charged, as no site evaluation should be necessary. If the documented site and soil conditions indicate the site meets the criteria in the Experimental Protocol, the site shall be deemed suitable for an Aquarobic Filter Bed system.

System design, installation, and operation shall comply with the requirements described in the Experimental Protocol, Aquarobic design, construction and installation literature, the *Sewage Handling and Disposal Regulations* and standard engineering practices.

Attachments:

Aquarobic Filter Bed System on Sloping Sites with Fill Material – Experimental Protocol