

Department of Legislative Services
Maryland General Assembly
2001 Session

FISCAL NOTE

House Bill 321 (Delegate Morhaim)
Environmental Matters

Environment - Water Resources - Nitrogen Removal Technology Required

This bill addresses “areas of special concern” with respect to nutrient pollution from on-site sewage disposal systems. It also provides for the adoption of regulations by the Maryland Department of the Environment (MDE) to require nitrogen removal technologies for the installation of on-site sewage disposal systems for new construction projects in areas of special concern.

Fiscal Summary

State Effect: The bill’s requirements could be handled with existing budgeted resources.

Local Effect: The bill could result in a significant increase in expenditures for local jurisdictions related to the identification of areas of special concern and, beginning FY 2003, for permitting and enforcement of new construction projects containing nitrogen removal technology. **This bill imposes a mandate on a unit of local government.**

Small Business Effect: Meaningful.

Analysis

Bill Summary: The bill requires counties, beginning on or before October 1, 2002, to indicate in their county plans “areas of special concern” in which nitrogen removal technology is required for the installation of a new individual sewerage system for a new construction project, and the installation of a new multiuse sewerage system or a new shared facility providing sewerage service for a new construction project. “Areas of special concern” are defined as: (1) areas of failing on-site sewage disposal systems; (2) drinking water supply areas, including wellhead protection areas, reservoir protection

areas, and aquifer recharge areas; (3) Chesapeake Bay critical areas; (4) soils with a high potential to transport nitrogen; (5) karst or carbonate geologic areas; (6) coastal bays watersheds; (7) areas of groundwater and surface water with documented contamination from nitrogen; and (8) any other areas identified and documented scientifically by local officials as requiring the use of nitrogen removal technology. Designation of areas of special concern will not take effect prior to October 1, 2002.

The bill requires MDE to adopt rules and regulations to require nitrogen removal technology in areas of special concern. MDE may not require nitrogen removal technology on a renovation or reconstruction project with an existing on-site sewage disposal system.

Current Law: Local health departments implement State regulations regarding septic systems through delegation agreements with MDE. Counties must submit to MDE plans for adequately providing sewerage systems and any revisions or amendments to those plans. Local health officers are authorized to institute fee structures as necessary to implement delegated activities.

Background: Current initiatives addressing water pollution from nonpoint sources concentrate on pollution from wastewater treatment plants, urban stormwater runoff, and agricultural operations. Industrial sources are controlled by permits, major sewage plants are voluntarily reducing nitrogen through the State's biological nutrient removal program, and agricultural wastes are being addressed through the Water Quality Improvement Act of 1998.

However, current initiatives do not address the reduction of nutrient pollution from septic systems which are used to dispose of wastewater from development that is not served by public sewer. Currently, there are approximately 400,000 septic systems in Maryland; approximately one in five households in Maryland has a septic system. Current septic systems are designed to provide primary removal of solids before disposal through various types of soil absorption systems. They are not designed to remove nutrients, the major threat to the health of the Chesapeake Bay and the State's other water resources. The U.S. Environmental Protection Agency's Chesapeake Bay Program reports that approximately 6% of the nitrogen reaching the bay originates from septic systems. MDE estimates that septic systems discharge approximately nine pounds of nitrogen per person annually, while wastewater treatment plants discharge approximately 2 to 4.5 pounds of nitrogen per person annually.

As rural areas continue to develop, there is great concern that the total loading of nitrogen to ground and surface water will increase. Estimated increases in wastewater nitrogen from projected population growth could vary from 2 million pounds per year (if all growth is developed on central sewer) to 9 million pounds per year (if all growth is developed with conventional septic systems).

In August 1999 the Governor created the Septic System Advisory Committee to address concerns relating to nutrient pollution from septic systems. The committee was charged with defining and developing recommendations for an “areas of concern” approach to reducing nutrient pollution from septic systems. Specifically, the committee was asked to: (1) examine the recommendations of the Tributary Team On-site Sewage Disposal System Task Force and the State Water Quality Advisory Committee and develop policy recommendations to further those suggestions and examine the other environmental impacts of septic systems; (2) examine options for reducing nitrogen from septic systems as part of the nonpoint source contributions to surface water; (3) explore methods to delineate local areas of special concern where nitrogen reduction and related measures should be implemented; and (4) recommend strategies to link nutrient reduction initiatives to management of new growth and development.

The committee, in its report to the Governor issued in January 2000, provided several recommendations, including: (1) in areas of special concern, nitrogen removal technology should be required for all new septic systems and upon repair, replacement, or change in the use of existing septic systems; (2) MDE’s on-site sewage disposal regulations should be amended to establish basic criteria for utilizing re-circulating sand filters and denitrifying biological treatment units for nitrogen removal; (3) MDE should develop standard maintenance requirements; (4) MDE’s septic system regulations should be amended to include inspection of all septic systems once every three years; (5) shared on-site sewage disposal systems should be addressed; and (6) financial assistance in the form of a tax credit should be provided to owners to install nitrogen removal technology. Legislation addressing those recommendations was introduced during the 2000 session as SB 210 / HB 283. The Senate Economic and Environmental Affairs Committee and the House Environmental Matters Committee held hearings on the bills, but no further action was taken.

Some states have established “areas of special concern” for other programs and have applied them to their septic system programs. Massachusetts’s septic program, for example, requires community inspection plans to prioritize areas to be inspected based on several factors, including high system failure rates, high density of private wells, high groundwater levels, and poor soils.

Local Expenditures: The bill’s requirement to identify areas of special concern could impose a significant burden on some local jurisdictions depending on the types of analyses that would have to be conducted. For example, the Maryland Association of Counties reports that some studies relating to soil types can cost several hundred thousand dollars. Beginning in fiscal 2003, the bill could also result in an increase in local expenditures for permitting and enforcement of systems for which nitrogen removal technology will be required. Because the bill relates to future construction and because the bill’s requirement will apply in areas that have not yet been identified, a precise

estimate of any such increase cannot be made at this time. However, it is anticipated that most local health departments would attempt to increase permit fees to offset at least a portion of the costs resulting from the bill. It is also assumed that MDE will provide technical guidance and training to local jurisdictions.

Small Business Effect: MDE reports that an estimated 7,000 new housing units are constructed with septic systems annually. Although the number of those units, as well as the number of new commercial units that will be required to contain nitrogen removal technology on septic systems is unknown, the committee's report estimates that the capital cost of systems achieving 50% nitrogen removal vary from \$3,000 to \$7,000, with an average cost of approximately \$4,500. Annual operating and maintenance costs for nitrogen removal technology systems are estimated at \$150 to \$250. Presumably any increase in costs to developers would ultimately be borne by the individuals and businesses purchasing the new construction. To the extent that the bill increases the demand for businesses involved in the design, installation, inspection, and maintenance of on-site sewage disposal systems, the bill could result in an increase in revenue for those entities.

Additional Information

Prior Introductions: Similar legislation was introduced during the 2000 session as SB 210 / HB 283. The Senate Economic and Environmental Affairs Committee and the House Environmental Matters Committee held hearings on the bills. No further action was taken.

Cross File: None.

Information Source(s): Maryland Department of the Environment, Septic System Advisory Committee, Maryland Association of Counties, Montgomery and Prince George's counties, Department of Legislative Services

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