

APPENDIX E

STORMWATER MANAGEMENT

The following is a brief summary of information relevant to mosquito control found in the three state publications:

Stormwater Management. Volume One: Stormwater Policy Handbook. (March 1997)

Stormwater Management. Volume Two: Stormwater Technical Handbook. (March 1997)

Both prepared by the Massachusetts Department of Environmental Protection and the Office of Coastal Zone Management.

Massachusetts Erosion and Sediment Control Guidelines for Urban and Suburban Areas.

Prepared by the Franklin, Hampden and Hampshire Conservation Districts and available through the Department of Environmental Protection.

These documents should be referenced directly for more detailed information.

The two concerns addressed by these publications are water quality (pollutants) and water quantity (flood control). They are primarily concerned with preventing pollutants from flowing into waterways and wetland systems, and with controlling runoff from developed sites. For mosquito control, therefore, the regulations are generally not directly applicable (except in rare cases of new construction) but come into play when MCPs are asked to conduct mosquito control within these constructed systems. This results in the odd situation where Best Management Practices for stormwater management are not evaluated for their mosquito-breeding potential. However, failing to address mosquito control in the design phase may result in a larger-than-necessary number of stormwater management systems that contribute to mosquito problems. In endemic eastern equine encephalitis areas, creating additional breeding habitat for bridge (bird-to-human) vectors such as *Cq. perturbans* or *Ae. vexans* is unwise. Wet (Retention) Basins and Constructed [Stormwater] Wetlands may do precisely that.

A significant limitation of the handbooks for mosquito control is that they discuss new construction of manmade systems only. Maintenance of existing and/or natural systems is not discussed. The Erosion and Sediment Control Guidelines should be referred to for information about working in and around existing drainage though even here the issue of maintenance within the existing channel is not discussed.

Four issues regarding stormwater management exist for MCPs and are addressed in order of importance (most important first).

1. The expectation that MCPs will maintain drainage systems even when MCP actions did not cause the problem (road sand into a stream).

Standard #9 of the “Stormwater Management Form” (page 1-11 of the Policy Handbook), relates to the Operation/maintenance plan for control designs. Although this particular form is optional, the requirement for a maintenance plan should not be. Where MCPs will be expected to monitor for mosquito breeding, they should have access to the maintenance plan for the stormwater system in question and should be able to request maintenance on-site where mosquito breeding is caused by a breakdown in the system’s operation. Suggested maintenance requirements for each BMP are given in the Technical Handbook. MCPs should also be able to request system alterations in the event a system is continually breeding mosquitoes.

Where maintenance responsibility is clear-cut, maintenance work should be done by the responsible party. Unfortunately, the vast majority of drainage channels have no official maintenance plan and MCPs have routinely assumed or been assigned responsibility for maintenance. In these cases, MCPs should, wherever possible, adhere to the maintenance requirements as given for the BMP that most closely describes the system in question. In most cases this will be the Drainage Channel.

2. The erosion and sediment control standards relating to (exempted) maintenance work done by MCPs.

Despite the fact that MCP maintenance work is exempted from the Wetlands Protection Act, the best interests of the MCPs are served by minimizing disruption during maintenance work. Temporary erosion and sediment controls should be used when necessary. Vegetation bordering the channels should be left as undisturbed as possible. Again BMPs for maintenance in existing systems should be developed.

3. System design and the extent to which mosquito breeding is considered prior to construction.

BMPs for stormwater management in urban and suburban areas must include some consideration of mosquito-breeding potential. That the current publication does not is an indication of the need to improve communication between mosquito control and other agencies involved in stormwater management. The best place to practice mosquito control in manmade drainage systems is in the design phase. Clearly there is cause for concern over the BMP Constructed [Stormwater] Wetlands, where pools ranging from 6 to 18 inches deep are desired.

4. New construction by MCPs.

New drainage construction is not exempted from the Wetlands Protection Act and MCPs should refer to the policy and technical handbooks when designing any new work.