

Update on

**EO562 Regulatory Review Stakeholder
Group
for Title 5 & Groundwater Discharge
Permits
&
Mass Test Center Virus Study**

March 3, 2021

310 CMR 15.000: Septic
Systems ("Title 5") |
Mass.gov

Title 5/GW Stakeholder Group

Stakeholder Group Meeting October 8, 2020

- Nitrogen Sensitive Area (NSA) Subcommittee

- Moldering Privy LUA Guidance

- Multi-residence occupancy data study

 - UMass Donahue Institute

- Groundwater Separation Virus Study

 - Scope of Work

 - Mass Test Center presentation

Nitrogen Sensitive Areas (NSA)

. Subcommittee met on September 3, 2020 and February 23, 2021 to discuss:

. Expansion of definition of NSA

. Embayments and subembayments

. Define how these areas will be determined

. Use TMDL, MEP Report, 303d list?

. Revise nitrogen requirements in certain NSA areas

. Require nitrogen enhanced removal in combination with loading restrictions

. Offer compliance options to those with a plan

. Watershed Permit, CWMP

. Implementation schedule for these new requirements

. New

. Existing

Moldering Privy



Moldering Privies

Designed and approved by the U.S. Forest Service

Utilized in the Green and White Mountain National Forests and Appalachian Trail

Described in: *Appalachian Trail Conservancy's (ATC) Backcountry Sanitation Manual* [2nd Edition, 2014]

- Conventional outhouse on a mesh-enclosed, above-ground box foundation

- Decomposition and treatment of the waste pile occurs through the slow collection of waste.

Moldering Privies

- Locations are inaccessible by vehicles

 - Hike-in/Paddle-in only camp sites

- Locations do not have plumbed water available

- Locations would not accommodate a full Title 5 system

- Composting toilets not practical for use at these sites

- Remote and inaccessible location of these sites renders the goal of full compliance physically impossible and economically infeasible

Moldering Privies

Guidance for Local Upgrade Approval (LUA):

May allow the use of moldering privies at existing hike in/paddle in only sites to upgrade sites with nonconforming pit privies and cat holes

Siting and construction specifications in Section 8 of the *ATC Backcountry Sanitation Manual*

Setback distances should comply with the provisions of 15.211(1) for a Soil Absorption System.

Moldering Privies

Guidance for Local upgrade Approval (LUA):

Four feet of separation between the bottom of the privy crib and high groundwater elevation at the site.

Size of cribs and number of cribs will be determined to provide sufficient storage to accommodate trail use

Disposal of composted solids to be done in a manner approved by LAA

Maintenance and signage for proper use required

T5 Design Flow for Multi-Residence buildings

15 Design Flow for Multi-residence Buildings



T5 Design Flow for Multi-Residence buildings

GW Separation and Virus Removal

Current regulation allows for a reduction in the required 4/5 foot separation from bottom of the SAS to groundwater for remedial situations utilizing I/A technologies.

The group questioned why MA does not allow less than 4 feet of separation when other states do and suggested that reductions should also be allowed for new construction with the use of I/A technology and/or pressure distribution or drip dispersal. Others said the reduction should be allowed in general, not just with I/A.

GW Separation and Virus Removal

Technical Evaluation for Title 5 (1991):

.4 foot separation is for pathogen removal.

.World Health Organization recommended 5 log removal (99.999%) of pathogens

.4 log (99.99%) removal of bacteria has been demonstrated in studies to occur by 4 feet of unsaturated separation and greater than 4 log at 5 feet.

.The unknown then and now is virus removal due to very few studies being conducted.

GW Separation and Virus Removal

- . March 2018 Stakeholder Group agreed that pursuit of a study on Virus removal would be beneficial
- . Study should examine both bacterial and virus removal at various depths with and without pressure distribution
- . MassDEP worked with the Mass Alternative System Test Center and Dr. Oscar Pancorbo of DEP's Wall Experiment Station to develop the Virus removal study
- . The study is funded through a combination of capital funds and 319 Grant funding