



# STATE OF CONNECTICUT

## DEPARTMENT OF PUBLIC HEALTH

Date: January 4, 2010

To: CT Certified Concrete Pre-casters  
Proprietary Leaching System Manufacturers

From: Robert W. Scully, PE  
Supervising Sanitary Engineer  
Environmental Engineering Program

Re: Leaching System Ratings

The Department of Public Health's Environmental Engineering Program will be reconvening our Code Advisory Committee (CAC) in early 2010 to begin discussions on revisions to the Technical Standards for Subsurface Sewage Disposal Systems (Technical Standards), and leaching system effective leaching area ratings is one of the subjects on the agenda. Attached is a one-page document that explains the Technical Standards' revision process and our CAC involvement with that process. Also attached is Section VIII G Leaching System Product Approvals, ELA Ratings, Center to Center Spacing from the January 1, 2009 Technical Standards. Revisions to this subsection will be considered, and some revisions may affect leaching system ratings and approvals. Crediting limitations for competing bio-mats and internal interfaces, and rating protocols, will be discussed by the CAC. Internal leaching system storage requirements and product approval requirements will also be discussed. CAC meeting agendas are posted on the Environmental Engineering Program's website: [www.ct.gov/dph/subsurfacesewage](http://www.ct.gov/dph/subsurfacesewage). The entire Technical Standards document is also available on the website.

The attached Technical Standards' subsection stipulates that proprietary leaching system companies were required to submit certain documentation to this Department by July 1, 2009. The Department's product application/worksheet that was to be submitted has yet to be finalized, and as such, a new submission date will be established once that document and credit rating revisions are finalized. This Department will formally notify proprietary leaching system companies of the submission requirements at that time.

The purpose of this letter is to notify you that you can submit comments and supporting documentation on the leaching system credit rating subject matter. Program staff will review all comments submitted and our CAC will take the comments into consideration as part of the revision discussion process. Electronic submissions sent to my email address ([robert.scully@ct.gov](mailto:robert.scully@ct.gov)), with a hard copy mailed to my attention would be appreciated. This program requests that comments be submitted by March 1, 2010. Future CAC meeting(s) will be scheduled to allow concrete pre-caster and proprietary leaching system companies the opportunity to provide comments and recommendations to the CAC.

If you have any questions please contact Matthew Pawlik, Sean Merrigan or myself at 860 509-7296.

C: Code Advisory Committee

P/RWS/Leaching System Rating Ltr



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## **Revision process for the Technical Standards for Subsurface Sewage Disposal Systems**

Public Health Code (PHC) regulations that became effective in August of 1982 provide clear language that allows the Department of Public Health (DPH) to establish "Technical Standards for Subsurface Sewage Disposal Systems" (Technical Standards). Specifically, PHC Section 19-13-B103d (b) stipulates that subsurface sewage disposal systems (a.k.a., septic systems) within the scope of the regulation shall be designed, installed and operated in accordance with the Technical Standards that are published by DPH. The scope of the regulation as stipulated in PHC Sec. 19-13-B103a governs residential and small commercial subsurface sewage disposal systems with a capacity of 5,000 gallons per day or less. These systems represent more than 95% of all on-site sewage disposal systems in Connecticut, and they serve approximately 30% of the state's population. The PHC regulations stipulate that DPH shall review the Technical Standards annually and make changes available on January 1<sup>st</sup> of each year. The Technical Standards were first published in 1982, and revisions have been made to them nine times, most recently on January 1, 2009.

Prior to the publication of the original Technical Standards, the DPH convened a Code Advisory Committee (CAC) to assist in establishing the Technical Standards, and to ensure that there is a mechanism to solicit input from the various stakeholder organizations in future revisions. The first meeting of the CAC occurred in 1980 and CAC meetings have been held since to provide a forum for discussion of Technical Standards' revisions. In addition to DPH, the following organizations are represented on the CAC:

- CT Department of Environmental Protection
- CT Home Builders Association
- CT Environmental Health Association
- CT Association of Directors of Health
- CT Engineering Associations
- CT On-site Wastewater Recycling Association
- CT Soil Scientists

DPH also solicits feedback from other organizations and industries when proposed sewage disposal regulations or Technical Standards modifications may impact them. The DPH has worked with organizations and companies representing or involving Proprietary Leaching Systems, Concrete Pre-casters, Plastic Septic Tanks, Pump & Pipe Suppliers, WPCAs, Home Inspectors, Building Officials, Realtors, Family Campgrounds, Zoning Officials, Environmentalists and Town Clerks, among others.

The Technical Standards, which is a 50-page publication, is available on the following DPH web site: [www.ct.gov/dph/subsurfacesewage](http://www.ct.gov/dph/subsurfacesewage). CAC meeting notices and meeting agendas are also posted in advance on this web site. CAC members can request items/issues be placed on the agenda. CAC meeting notes are made available, and proposed Technical Standards' revisions are posted on the above website. Typically, the CAC is convened 10 months in advance of the January 1<sup>st</sup> proposed revision date, and at least 3 to 4 meetings are held to solicit feedback and comments from the stakeholder organizations. Comments and suggestions on revisions to the Technical Standards can be provided to DPH from any interested party.

When the PHC regulations were passed to allow for DPH to establish Technical Standards, it was recognized that a streamlined and efficient process was needed to allow state of the art technology and science to be incorporated into on-site sewage disposal codes. The PHC regulations associated with the Technical Standards provide the administrative framework for the approval and permitting of sewage disposal systems. The regulations establish minimum suitability criterion for new construction, and define areas of concerns that require additional design considerations. The Technical Standards provide a mechanism for DPH to approve stone aggregate, select fill, leaching systems, piping, septic tanks, effluent filters and filter fabric. It is noted that many new proprietary leaching systems were first approved in Connecticut, mainly because of the Technical Standards revision process. There are currently a dozen or so Connecticut companies that have approved products listed in the Technical Standards.



## **G. Leaching System Product Approvals, ELA Ratings, Center to Center Spacing**

All approved leaching system products are assigned an effective leaching area (ELA) rating in square feet per linear foot (SF/LF) of product except leaching pits (See Section VIII C). Approved leaching systems with assigned ELA ratings are listed in the various subsections of Section VIII, or in a leaching system product approval issued by the Commissioner of Public Health. Proprietary leaching system companies shall submit new product approval requests to the Commissioner of Public Health along with product specifications, drawings, cross-sections, dated installation instructions, and a completed product application/measurement worksheet provided by the Commissioner of Public Health. Proprietary leaching system companies that have products listed in the January 1, 2009 revision of the Technical Standards shall submit to the Commissioner of Public Health, by July 1, 2009, the following information and documentation on all currently approved products: Product specifications, drawings, cross-sections, product marking information, dated installation instructions, internal storage capacities and a completed product application/measurement worksheet provided by the Commissioner of Public Health.

All approved leaching systems are assigned an ELA rating that is calculated in accordance with crediting criterion that takes into account several factors including the type of leaching system interface on which the biologically active layer (bio-mat) forms upon the routine application of septic tank effluent. For the purpose of the ELA ratings, the factors noted for stone are used also for two (2) inch nominal tire chip aggregate, an approved aggregate/stone substitute. Interface Factors for different leaching system interfaces are as follows:

Open:	2.0	Note: Factor reduced by % obstructed.
Filter Fabric (No Stone):	1.5	
Stone:	1.0	
Filter Fabric & Stone:	0.75	

The filter fabric interface factors also apply to cardboard and cardboard/filter fabric interfaces. Three types of leaching system interfaces are credited: sidewall interfaces, bottom interfaces, and internal interfaces. Sidewall interfaces discharge wastewater that does not pass through the product footprint area. Bottom interfaces discharge wastewater from the bottom of the product. Internal interfaces are non-bottom leaching surfaces that discharge wastewater from within and through the product footprint area. No credit is given for bottom interfaces that include cardboard. Horizontal measurements are used for bottom interfaces, except for corrugated pipes. Vertical measurements are utilized for sidewall and internal leaching interfaces, except for corrugated pipes. Corrugated pipes have measurements taken along the perimeter of the pipe. Sidewall and internal interfaces are credited up to the leaching unit's pipe invert unless otherwise established by the Commissioner of Public Health.

The Commissioner of Public Health shall establish crediting limitations that are applicable to competing bio-mats (overlapping bio-mats of specified thickness), and internal interfaces based on the cross-sectional area of the product footprint, which is the horizontal area within a rectangular boundary around the outermost perimeter of the leaching system interface. The Commissioner of Public Health shall also establish minimum internal storage requirements for leaching system products.

Leaching system center to center minimum spacing, except for leaching pits (See Section VIII C), is determined based on the following:

- Products with ELA ratings of 5.0 SF/LF or less: Seven (7) feet minimum, however at least four (4) feet side edge to side edge must be provided.
- Products with ELA ratings of 5.1 to 10.0 SF/LF: Nine (9) feet minimum, however at least six (6) feet side edge to side edge must be provided.
- Products with ELA ratings exceeding 10.0 SF/LF: Twelve (12) feet minimum, however at least eight (8) feet side edge to side edge must be provided.

Further center to center reductions will be considered at the time leaching system minimum storage requirements and leaching system crediting criterion for internal interfaces and competing bio-mats are established. Reduced spacing will only be considered if it is satisfactorily demonstrated that the particular leaching product can be reasonably installed by the licensed installer without compromising the installation.