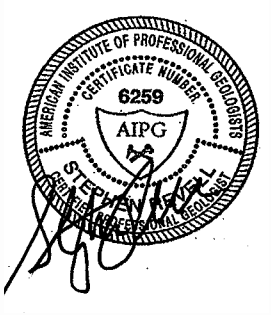
Site Specific Effluent Mounding Analysis
Peyser Property-Lot A
Mt. Philo Rd, Charlotte, VT.

In order to support the proposed performance based mound-type disposal system design and show that the soils can accommodate the design flow rate associated with a year-round four-bedroom residence, a site specific hydrogeologic analysis using Darcy's Law was conducted. The following formula was used to determine the ability of the soil to accept the proposed amount of wastewater and determine its impact on the shallow seasonal ground water system.

Using the equation:

$Q = k \cdot i \cdot h \cdot l$ Where: Q= Volume= 490 gallons/ day = 65.5 ft^3/ day;
k= Hydraulic Conductivity = 30 ft./ day (approved k value for loam with moderate to strong blocky structure);
i= Gradient = 8% = 0.08ft/ft;
h= 0.5' effluent mound height;
l= solve for mound length

When solving this equation for l, an effluent mound of 0.50' was assumed. Since evidence of a seasonal high ground water system was identified at 15" or 1.25' with an induced mound of 0.50', 0.75' of unsaturated soil will remain. To maintain the required 3' separation to the induced mound, 3' – 0.75' or 2.25' of state approved mound sand is required beneath the application area.



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