



## **Troubleshooting Septic System Malfunctions**

**Sara Heger, PhD, University of Minnesota**

**October 6, 2017, 8:00 a.m. – 3:30 p.m.**

**Acton, Mass.**

### **AGENDA**

#### **Welcome and Introductions**

#### **Challenging Wastewater Streams**

More septic systems are being negatively impacted by the use and disposal of varying chemicals, cleaners, medicines anti-bacterial products and chemicals of emerging concern (CEC). We will discuss what they are, how they can be removed and what we can do as an industry to limit their impact.

#### **Inspection and Troubleshooting of Septic Tanks**

The presentation will discuss methods and challenges when troubleshooting septic tanks. It will cover common problems you may need to identify and troubleshoot including locating tanks, roots, leakage, and corrosion. It will also discuss how septic systems of the 21<sup>st</sup> century often see additions of many types of wastewater that did not exist 20 or 30 years ago such as antibacterial soaps, pharmaceuticals and water treatment devices.

#### **Inspection and Troubleshooting of Pumps, Pump Tanks and Pretreatment Units**

The presentation will discuss methods and challenges when troubleshooting pump tanks and aerobic treatment Units and media filters. It will cover common problems you may need to identify including pump controls, system components and how changing wastewater streams can influence system performance

#### **Inspecting and Evaluating Soil Treatment Systems & Remediation**

This session will cover the process of evaluating and inspecting soil treatment systems including trenches, low-pressure pipe systems, mounds and sand filters. It will include a discussion of various distribution methods and the relating development of a biomat. Problems associated with hydraulic and organic overload will be highlighted. Remediation is the act or process of correcting a fault or deficiency without changing system structure or form and is a hot topic in the onsite industry although little research is available documenting success. Determining if a septic system could benefit from remediation along with which technologies are appropriate, where they are installed how they are monitored will be discussed.

#### **Case Studies of High Strength Waste**

Onsite systems used for non-residential high strength waste (HSW) applications which can encounter significantly different usage patterns, waste strength and waste stream characteristics. An overview of key design parameters will be discussed as well as potential design solutions. Then the presentation will discuss two recent research project as case studies of HSW: Adult foster homes and rest areas.

#### **Wrap Up/Question and Answer Session**