



Missouri Smallflows Pre-Conference  
January 21, 2019  
Holiday Inn Executive Center, Columbia, MO

For the 2019 MSO Pre-Conference we will have two sessions, one in the morning and one in the afternoon. Please let me know if you require any further information.

Morning:

**Linear Loading Rates & At-Grade Treatment Systems**

**Speaker: Dennis Sievers, The Sewage Doctor LLC**

**8:30 AM – 9:15 AM: Lateral Flow & Linear Loading Rates**

Discussion of lateral flow issues in Missouri soils and how linear loading rates can be used to design onsite systems in difficult soils.

**9:15 AM – 10:00 AM: At-Grade Treatment Systems**

Discussion of the development of the At-Grade system at the University of Wisconsin, how it was adapted to Missouri soils, how to design the system and present some examples of past designs.

**Break: 10:00 AM – 10:30 AM**

**Mounds & At-grade Systems**

**Speaker: Tom Fritts, Residential Sewage Treatment Company**

**10:30 AM – 11:00 AM: Introduction to the History of Mounds:** The Mound System was first developed in North Dakota in the mid 1940's by the North Dakota University School of Agriculture and named the NODAK System. We will discuss why this "thinking out of the box" system was considered and developed. In 1976 the University of Wisconsin at Madison, under the direction of Dr. Jim Converse, realized this technology had a place in the developing onsite industry. We will go into detail covering the design and function of the Converse Mound. We will also discuss the shortcomings on this technology.

**11:00 AM – 11:30 AM: Why Would You Consider A Mound as The Onsite System?**

This is an expensive onsite system and most times the homeowner is surprised when hearing the cost and what the system will look like in the yard. We need to be able to describe why this system is recommended.

**11:30 AM – 12:00 PM: The New Mound**

The mound system has gone through several design changes since the 1940's. The advantage of using the mound is proven but it is also true that the mound system has a reputation of leaking on the down slope side. With the introduction of drip irrigation that technology has been combined with the mound system design to take advantage of an above grade system that reduces the issues of leaking in the toe of the mound.

Morning presentation time: 3.0 hours

Afternoon:

**High Strength Precondition**

Dr. Randy Miles and Allison Blodig, Infiltrator Water Technologies

Timeline:

**1:00-1:45 - Wastewater Overview**

**1:45-2:30-High Strength Wastewater Example Facilities**

Food preparation and cooking facilities, grocery stores, convenience stores, schools, wineries/breweries

**2:30-2:45 - Break**

**2:45 - 3:30 - Examples continued**

Dog Kennels; car wash/implement wash shops; RV campgrounds

**3:30 - 4:15 – High strength Treatment System Design**

**4:15 -4:30 questions**

Afternoon presentation time: 3 hours (3.25 with questions)

Grand Total: 6.0 hours