## Agenda

## Presented by Tom Fritts

Introduction to Onsite Wastewater Treatment Systems
Three main sources of wastewater
Common contaminants in wastewater
Blackwater vs greywater
Aerobic and anaerobic conditions
Federal, state and local regulations
Current state and future of onsite wastewater
Septic Tanks
Function of septic tanks
Septic tank appurtenances
Material and quality of tanks
Soil and Site Evaluation
Soil classification
Landscape position
Long tewarm acceptance rate (LTAR) of soil
Linear loading rate (LLR) of soil
Aerobic Treatment Units (ATU)
History of residential ATU's
How residential ATU's function
Hydraulic and organic sizing
Different types of ATU's
Choosing the Correct System to Fit the Site
Review gravity flow options
Review pressure flow options
Educate the customer
Learn the "Onsite Café Menu"
Wastewater Drip Irrigation
History of drip irrigation
Drip irrigation benefits
Components
Sizing a drip irrigation system

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Recordings of this webinar are available for purchase. See registration panel for more information and please refer to specific state licensing rules or certification requirements to determine if this learning method is eligible for continuing
education credit.


## Learning Objectives

## You'll be able to:

Identify the three primary sources of wastewater and discuss common contaminants in wastewater

Describe how septic tanks function, identify septic tank appurtenances, and evaluate the quality of tanks.
Explain the reasons for conducting soil and site evaluations before siting and selecting onsite treatment systems.

Explore the function and benefits of residential aerobic treatment units (ATU's), and compare different types of ATU's.
Identify the benefits of wastewater drip irrigation, and get tips on sizing drip irrigation systems.

HalfMoon Education Online Learning

## Wastewater Collection and Treatment System Design

Live, Interactive Webinar - Monday, November 16, 2020


## Faculty

Tom Fritts Vice President Residential Sewage Treatment Company (RSTC)
Mr. Fritts is vice-president of Residential Sewage Treatment Company, Inc., in Grandview, Missouri, where they design, sell and service alternative onsite wastewater systems. He is past president of the Missouri Smallflows Organization (MSO), the Kansas Small Flows Association (KSFA) and the National Onsite Wastewater Recycling Association (NOWRA). He is an approved instructor for NOWRA, the Consortium of Institutes for Decentralized Wastewater Treatment, and for several states across the country. Mr. Fritts is the 2016 recipient of the NOWRA "Dick Otis Industry Achievement Award" and the 2015 Kansas Small Flows Association "Raymond Peat Industry Achievement Award."

## Additional Learning

Soils in Construction
International Building Code 2018 Mon., October 26, 2020 9:00 am - 5:30 pm CDT
Tues., October 20, 2020 | 11:00 am - 3:00 pm CDT
Designing for Accessibility
Designing for Accessibility
under ADA Standards and IBC

- Wed., October 21, 2020 | 8:30 am - $4: 30$ pm CDT
Stormwater Best Management Practices - Wed., October 21, 2020| 8:30 am - 5:00 pm CDT

2018 International Residential Code:
Non-Structural Design

- Fri., October 23, 2020 | 11:00 am - 3:30 pm CDT


## How to Navigate the New Federal

Navigable Waters Protection Rule
-Fri., October 23, 2020 | 12:00-2:00 pm CDT
How to Navigate the New Federal Navigable Waters Protection Rule - Fri., October 23, 2020 | 12:00-2:00 pm CDT

Passive House: Planning and Design

- Tues., October 27, 2020 | 8:30 am - 4:30 pm CDT


## Aerial Mapping:

Technologies and Procedure

- Tues., October 27, 2020 | 8:30 am - 12:00 pm CDT
introduction to the International Green Construction Code (IgCC) Wed., October 28, 2020 | $11: 00$ am - 2:15 pm CDT Thurs., October 29, 2020 | 11:00 am -2:15 pm CDT Special Inspections under the 2018 International Building Code Chapter 17 - Thurs., October 29, 2020 | 9:30 am - 4:20 pm CDT For more information
nd other online learning opportunities visit www.halfmoonseminars.org/webinars/



## Continuing Education Credit Information

This webinar offers 6.5 PDHs to professional engineers and 6.5 HSW continuing education hours to architects licensed in all states.
HalfMoon Education is an approved continuing education sponsor for engineers in Florida (Provider No. 0004647), Indiana (License No. CE21700059), Maryland, New Jersey (Approval No. 24GP00000700), North Carolina (s-0130), and North Dakota. Halfmoon Education is deemed an approved continuing education sponsor for New York engineers and architects via its registration with the American Institute of Architects Continuing Education System (Regulations of the Commissioner $\$ 68.14(i)(2)$ and $\$ 69.6(i)(2))$. Other states do not preapprove continuing education providers or courses.
The American Institute of Architects Continuing Education System has approved this course for 6.5 LU|HSW (Sponsor No. J885). Only full participation is reportable to the AIA/CES.
The International Code Council has approved this event for . 65 CEUs in the specialty area of Sitework (Preferred Provider No. 1232).
Completion certificates will be awarded to participants who complete this event and earn a passing score ( $80 \%$ ) on the quiz that follows the presentation (multiple attempts allowed).

## Registration

Wastewater Collection and Treatment System Design

| How to Register |  | Registrant Information <br> Name: <br> Company/Firm: <br> Address: <br> City: $\qquad$ State: $\qquad$ Zip <br> Occupation: $\qquad$ <br> Email: $\qquad$ <br> Phone: $\qquad$ <br> Additional Registrants: <br> Name: $\qquad$ <br> Occupation: $\qquad$ <br> Email: $\qquad$ <br> Phone: $\qquad$ <br> Name: $\qquad$ <br> Occupation: $\qquad$ <br> Email: $\qquad$ <br> Email address is required for credit card receipt, program changes, and notification of upcoming seminars and products. Your email will not be sold or transferred. <br> ( ) E.l need special accommodations. Please contact me. |
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## Tuition

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registrants from the same company registering at the same time - $\mathbf{\$ 1 9 9 . 0 0}$ each.
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