

Agenda

Presented by William Fenner, Jr., P.E.

Overview of Onsite Wastewater Treatment System Components

Source	Collection
Treatment	Dispersal

Onsite Wastewater Treatment System Regulations, Rules and Permitting

Overview of federal, state and local rules and jurisdictions
Discharging vs subsurface
Permitting regulations
 North Carolina
 South Carolina
Onsite wastewater treatment system permitting differences
 Surface discharges
 Sub-surface discharges

On-site/Decentralized/Distributed

EPA report	Advantages/disadvantages
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Traditional Septic System

Description and function
Levels of treatment for wastewater treatment systems
 Primary
 Secondary
 Tertiary

Advanced Treatment System Overview

Extended aeration
Recirculating sand filters
Aerobic filters
 Peat
 Packed bed trickling filters
Sequencing batch reactors (SBR)
Moving bed biological reactors (MBBR)
Fixed film reactors
Membrane biological reactors (MBR)
Vegetated & constructed wetlands

Nitrogen Cycle, Nutrient Removal and Soils Analysis and Dispersal

Sources	Concentrations
Treatment processes	Nitrogen issues
Denitrification process	Anoxic reactors
Soil testing	The “perc test”
Options for subsurface disposal	Conventional
Alternatives	Low pressure pipe (LPP)
Aerobic drip	Anaerobic drip

Managing, Monitoring On-site Wastewater Systems and System Failures

Maintenance schedules	Maintenance issues
Remote monitoring	Failing system
What constitutes a failure?	Why do systems fail?
How to repair a failing system	

Septic System Design, Construction and Maintenance
Charlotte, NC - Thursday, September 27, 2018

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Learning Objectives

You'll be able to:

Identify components of onsite wastewater treatment systems.

Discuss regulations and permitting of onsite wastewater treatment systems.

Explore the three levels of wastewater treatment: primary, secondary and tertiary.

Learn about advanced treatment system technologies, such as aerobic filters, sequencing batch reactors and fixed film reactors.

Examine reasons why onsite wastewater systems fail, and get tips on system repair.



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Examine the components of onsite wastewater systems

Discuss onsite wastewater treatment system regulations

Review advantages and disadvantages of decentralized and distributed septic systems

Explore advanced treatment system technologies, including extended aeration, aerobic filters and sand filters

Learn to manage and monitor onsite wastewater systems

Continuing Education Credits

Professional Engineers
6.5 PDHs

Contractors
Non-Credit Continuing Ed.

Architects
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6.5 AIA HSW Learning Units



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Faculty



William Fenner, Jr., P.E. *Regional Sales Engineer, AquaPoint LLC, New Bedford, Massachusetts*

Mr. Fenner is a professional engineer licensed in North Carolina. He is a graduate of North Carolina State University in Raleigh, with a BS degree in Civil Engineering. Mr. Fenner has a varied working career including serving in the 82nd Airborne Division as a sergeant/demolition specialist, a field engineer in South America/Middle East for a French firm in the oil and gas exploration industry, a project engineer for NCDOT in the roadway design and traffic engineering branches, and a professional engineer on the North Carolina Outer Banks preparing plans, specifications and construction inspection services for real estate development projects. Since 2001, he has been focused on providing wastewater treatment approaches for small flow systems (less than 1.0 MGD) in the community distributed sewer approach and on-site treatment systems for schools campuses, shopping centers, mixed use developments, breweries, restaurants and other high-strength applications throughout the southeastern United States.

Seminar Information

Charlotte Marriott South Park
2200 Rexford Road
Charlotte, NC 28211
(704) 364-8220

Tuition

\$279 for individual registration
\$259 for three or more registrations.

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Continuing Education Credit Information

This seminar is open to the public and offers 6.5 PDHs to professional engineers and 6.5 HSW contact hours to architects in all states, excluding Florida architects. HalfMoon Education is an approved continuing education provider for North Carolina engineers.

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This event offers a non-credit continuing education opportunity to construction contractors.

Attendance will be monitored, and attendance certificates will be available after the seminar for most individuals who complete the entire event. Attendance certificates not available at the seminar will be mailed to participants within fifteen business days.

Additional Learning

Webinar Series

Foundation Damage and Repair

- **Structure Loads, Soil Mechanics, Bearing Capacity and Geo-Environmental Hazards**
Wed., Aug. 15, 2018, 11:00 AM - 12:30 PM CDT
- **Foundation-Wall Design and Construction**
Wed., Aug. 15, 2018, 1:00 - 2:30 PM CDT
- **Assessment of Foundation-Slab Damage & Repair Alternatives**
Thurs., Aug. 16, 2018, 11:00 AM - 12:30 PM CDT
- **Assessment of Foundation-Retaining Wall Damage & Repair Alternatives**
Thurs., Aug. 16, 2018, 1:00 - 2:30 PM CDT

Retaining Structures

- **Earth Pressures and Surcharges**
Thurs., Aug. 23, 2018, 11:00 AM - 12:30 PM CDT
- **Cantilever & Apparent Earth Pressures**
Thurs., Aug. 23, 2018, 1:00 - 2:30 PM CDT
- **Apparent Earth Pressures**
Fri., Aug. 24, 2018, 11:00 AM - 12:30 PM CDT

Community Solar and Rooftop Solar

- **Community Solar**
Wed., Sept. 5, 2018, 11:00 AM - 2:15 PM CDT
- **Design Your Solar Roof**
Thurs., Sept. 6, 2018, 11:00 AM - 2:15 PM CDT

Seismic Design and Construction

- **Seismology and Building Codes**
Wed., Sept. 12, 2018, 11:00 AM - 3:30 PM CDT
- **Seismic Design of Building Structures**
Thurs., Sept. 13, 2018, 11:00 AM - 3:30 PM CDT

Small Wind Energy Systems

- **Small Wind Energy System Components**
Thurs., Sept. 20, 2018, 11:00 AM - 1:00 PM CDT
- **Small Wind Energy Siting and Sizing**
Fri., Sept. 21, 2018, 11:00 AM - 1:00 PM CDT

For more information visit:
www.halfmoonseminars.org/webinars/

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An audio recording of this seminar is available for \$289 (including shipping). Allow five weeks from the seminar date for delivery. Please refer to specific state licensing rules or certification requirements to determine if this learning method is eligible for continuing education credit.

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Complete the entire form. Attach duplicates if necessary.	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.
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Tuition

() **I will be attending the live seminar.** Single Registrant - **\$279.00**. Three or more registrants from the same company registering at the same time - **\$259.00** each.

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