

Agenda

Presented by Scott Mitchell and Robert A. Rubin

Overview of Onsite Wastewater Treatment Technologies

Technology and operation of conventional wastewater treatment systems
Problems with conventional onsite systems
Recent scientific and technical advances
Performance-based management of systems

Evaluating Sites and Setting Treatment Goals

System boundaries and loadings
Analyzing the receiving environment
Evaluating landscape and soil types
Nitrogen and pathogen removal
Treatment/removal of phosphorus and other pollutants
Mapping the site

Conventional Treatment System Selection and Design

Factors for selecting and sizing systems
Design considerations
Initial system design

System performance

Alternative and Sustainable Treatment Technologies

Aerobic treatment systems
Peat biofilter wastewater treatment systems
Drip dispersal wastewater disposal systems
Fixed-activated sludge treatment
Recirculating sand filters
Sequencing batch reactors
Vegetated submerged beds
Enhanced nutrient removal
Stabilization ponds and constructed wetlands

Trickling filters

Evapotranspiration

Regulation, Permitting and Sustainability of Onsite Wastewater Treatment Systems

Federal, state and local regulation of systems
Coordinating system regulation with surface and groundwater regulations
Treatment of systems under LEED certification systems
Permit requirements and procedures
Permitting procedures

Management Program for Onsite Wastewater Treatment Systems

Monitoring of systems
Inspection procedures

Developing maintenance plans
Repair options

Septic System Design, Construction and Maintenance
Richmond, VA - Wednesday, March 21, 2018

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Learning Objectives

You'll be able to:

Explore the technology and operation of conventional wastewater treatment systems.

Coordinate system regulation with surface and groundwater regulations.

Examine factors for selecting and sizing systems.

Discuss treatment/removal of phosphorus and other pollutants.

Consider alternative and sustainable treatment technologies.

Practice a management program for onsite wastewater treatment systems.



Septic System Design, Construction and Maintenance

Richmond, VA - Wednesday, March 21, 2018



Get an overview of onsite wastewater treatment technologies

Learn about regulation, permitting and sustainability of onsite wastewater treatment systems

Evaluate sites and set treatment goals

Discuss conventional treatment system selection and design

Investigate alternative and sustainable treatment technologies

Continuing Education Credits

Professional Engineer

6.5 Continuing Ed. Hours

Architects

6.5 Continuing Ed. Hours (HSW)

6.5 AIA HSW Learning Units

Contractors

Non-Credit Continuing Ed.



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Faculty

Scott Mitchell, PE, LSS
President at Mitchell Environmental, PA, in Fuquay-Varina, NC
Mr. Mitchell is the founder and president of Mitchell Environmental, PA, a multidisciplinary consulting firm specializing in septic systems, wetlands, and stormwater, through an effective merger of soil science, engineering, and environmental sciences. With over 20 years of experience in land development, he is an expert in land use consulting and specializes in advanced onsite wastewater systems, stormwater BMPs, wetland and surface water identification, delineation, impact permitting, and Phase I environmental site assessments. Mr. Mitchell is a licensed professional engineer and soil scientist and an active member of the Soil Science Society of North Carolina, the Virginia On Site Water Recycling Association (VOWRA), the National On Site Water Recycling Association (NOWRA), and the North Carolina Irrigation Society.

Robert A. Rubin
A.R. Rubin and Associates in Pittsboro, North Carolina
Dr. Rubin is an emeritus professor in the Biological and Agricultural Engineering Department at North Carolina State University. He has published in scientific journals and popular press on issues related to wastewater and biosolids treatment, solid waste management, stormwater management and ISO 14000 environmental management systems addressing the animal industry. Dr. Rubin was a visiting scientist at the U.S. Environmental Protection Agency (EPA) in Washington D.C. from 1999 through 2005. He was active in development of guidelines for wastewater and biosolids management at USEPA. Dr. Rubin is currently president of A.R. Rubin and Associates, a consulting firm dedicated to evaluation and assessment of sustainable resource management and recovery solutions.

Seminar Information

Hyatt Place Richmond/Arboretum
201 Arboretum Place
Richmond, VA 23236
(804) 560-1566

Registration
8:00 - 8:30 am
Morning Session
8:30 am - 12:00 pm
Lunch (on your own)
12:00 - 1:00 pm
Afternoon Session
1:00 - 4:30 pm

Tuition
\$279 for individual registration
\$259 for three or more registrations.
Each registration includes a complimentary continental breakfast and printed seminar manual.
Receive a reduced tuition rate of \$101 by registering to be our on-site coordinator for the day. For availability and job description, please visit www.halfmoonseminars.org.

How to Register

- Visit us online at www.halfmoonseminars.org
- Mail-in or fax the attached form to 715-835-6066
- Call customer service at 715-835-5900

Cancellations: Cancel at least 48 hours before the start of the seminar, and receive a full tuition refund, minus a \$39 service charge for each registrant. Cancellations within 48 hours will receive a credit toward another seminar or the CD/manual package. You may also send another person to take your place.

Continuing Education Credit Information

This seminar is open to the public and offers 6.5 continuing education hours to professional engineers and architects (HSW) in all states, except for Florida architects. Educators and courses are not subject to preapproval in Virginia.

This event has been approved by the American Institute of Architects for 6.5 HSW Learning Units (Sponsor No. J885). Only full attendance can be reported to the AIA/CES.

HalfMoon Education is deemed an approved architect continuing education sponsor in New York. HalfMoon Education is an approved continuing education sponsor for engineers in Florida, Indiana, Louisiana, Maryland, New Jersey (Approval No. 24GP00000700), New York (NYSED Sponsor No. 35), North Carolina, and North Dakota.

This seminar offers a non-credit continuing education opportunity to construction contractors; it has not been approved by any state contractor licensing entity for continuing education purposes.

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

Additional Learning

March Webinar Series

Solar Photovoltaic Project Design and Development

- **Solar Photovoltaic Project Design and Development, Part I**
Wed., Mar. 7, 2018, 11:00 AM - 2:15 PM CST
- **Solar Photovoltaic Project Design and Development, Part II**
Thurs., Mar. 8, 2018, 11:00 AM - 2:15 PM CST

Deep Excavations

- **Introduction to Deep Excavations**
Thurs., Mar. 15, 2018, 11:00 AM - 1:00 PM CDT
- **Soil Mechanics, Cantilever Walls and Anchored Sheet Pile Walls**
Thurs., Mar. 15, 2018, 1:30 - 3:00 PM CDT
- **Braced Excavation Design**
Fri., Mar. 16, 2018, 11:00 AM - 12:30 PM CDT
- **ASD and LRFD Design**
Fri., Mar. 16, 2018, 1:00 - 2:30 PM CDT

HEC-RAS

- **Hydraulic Principles and Applications**
Thurs., Mar. 22, 2018, 11:00 AM - 1:00 PM CDT
- **Working with the HEC-RAS User Interface**
Thurs., Mar. 22, 2018, 1:30 - 3:00 PM CDT
- **Water Surface Profiling**
Fri., Mar. 23, 2018, 11:00 AM - 1:00 PM CDT
- **Steady Flow Surface Profile Demonstrations**
Fri., Mar. 23, 2018, 1:30 - 3:30 PM CDT

Commercial Energy Conservation Code

- **Commercial Energy Conservation Code and COMcheck Introduction**
Weds., Mar. 28, 2018, 11:00 AM - 1:00 PM CDT
- **Building Envelope Energy Efficiency**
Weds., Mar. 28, 2018, 1:30 - 3:30 PM CDT
- **Heating, Ventilation and Air Conditioning Systems**
Thurs., Mar. 29, 2018, 11:00 AM - 1:00 PM CDT
- **Service Water Heating, Power and Lighting**
Thurs., Mar. 29, 2018, 1:30 - 3:00 PM CDT

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

Can't Attend? Order the CD/Manual Package:
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.

Registration

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How to Register		Registrant Information
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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.

() I need special accommodations. Please contact me.

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.
() I am not attending. Please send me the CD manual package for \$289.00 . (S&H included. Please allow five weeks from seminar date for delivery)
Checks: Make payable to HalfMoon Education Inc.
Credit Card: <i>Mastercard, Visa, American Express, or Discover</i>
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