

# Agenda

## Overview of Alaska Private Water Wells

- Defining private water systems
- Overview of groundwater rights in Alaska
- State of Alaska Division of Environmental Health regulations
- Local regulations
- Water well planning and construction
- Water quality testing
- Well maintenance and decommissioning

## 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

## Regulation, Permitting and Sustainability of Onsite Wastewater Treatment Systems

- Federal, Alaska and local regulation of systems
- Working with the Alaska Department of Environmental Conservation and local municipalities
- Coordinating system regulation with surface and groundwater regulations
- Permit requirements and procedures

## 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
- System performance
- Initial system design

## 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
- Trickling filters
- Sequencing batch reactors
- Vegetated submerged beds
- Evapotranspiration
- Enhanced nutrient removal
- Stabilization ponds and constructed wetlands

## Management Program for Onsite Wastewater Treatment Systems

- Monitoring of systems
- Developing maintenance plans
- Inspection procedures
- Repair options

# Alaska Private Wells and Onsite Wastewater Treatment Systems

Live, Interactive Webinar - Monday, April 8, 2024

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HalfMoon Education Inc.  
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Altoona, WI 54720-0278



# Learning Objectives

*You'll be able to:*

**Comply** with regulations governing water well planning and construction.

**Comply** with Alaska state and local regulations for onsite wastewater treatment.

**Evaluate** wastewater treatment system sites and discuss possible system technologies.

**Review** the operation of conventional onsite wastewater treatment systems.

**Explore** new technologies, including aerobic treatment, peat biofilter treatment and drip dispersal systems.

**Set up** onsite wastewater treatment system monitoring and inspection procedures.



## HalfMoon Education Live Webinars

# Alaska Private Wells and Onsite Wastewater Treatment Systems

Live, Interactive Webinar - Monday, April 8, 2024



**Comply** with Alaska private water well regulations

**Discuss** the regulation and permitting of onsite wastewater treatment systems

**Evaluate** sites for onsite wastewater treatment

**Get tips on** conventional treatment system design

**Explore** alternative and sustainable wastewater treatment technologies

## Continuing Education Credits

**Professional Engineers**  
7.0 PDHs

**International Code Council**  
.7 CEUs (Building)

**Architects**  
7.0 HSW CE Hours  
7.0 AIA LU | HSW

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# Webinar Information

<b>Log into Webinar</b> 8:00 - 8:30 am AKDT	<b>Break</b> 12:00 - 12:30 pm AKDT
<b>Morning Session</b> 8:30 am - 12:00 pm AKDT	<b>Afternoon Session</b> 12:30 - 4:30 pm AKDT

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# Faculty

**Steven R. Pannone, P.E.**  
*Principal of Pannone Engineering Services LLC, in Anchorage, AK*  
Mr. Pannone is a registered civil engineer specializing in the planning, design and construction of sanitation facilities. He is a lifelong Alaskan with more than 30 years of engineering and construction experience. Mr. Pannone's background includes experience in survey, design, construction, testing and monitoring of engineered projects. He has worked all over the state of Alaska, including extensive time in the arctic and remote regions. Mr. Pannone takes a practical approach to design, taking into account who is going to be doing the construction and how it will be done. He has hands-on experience in the construction of water and wastewater systems, buildings and large earth works projects. Mr. Pannone is a certified ADEC water/wastewater designer and sanitary surveyor. He is the founder of Pannone Engineering Services LLC. This privately-owned company was founded in February of 1991. The company has specialized in the design, testing and installation of on-site water and wastewater systems. Pannone Engineering Services (PES) has performed engineering designs, analysis and evaluations of water and wastewater systems throughout Alaska. The types of systems have ranged from small single-family septic systems to large commercial systems serving greater than 100 people daily. PES typically tests between 90 and 150 septic systems a year and designs approximately 50 to 75 new or upgraded systems. PES has an excellent working relationship with the Municipality of Anchorage and the State Department of Environmental Conservation.

**Joseph Lawendowski, P.E.**  
*Civil Engineer with Pannone Engineering Services LLC, in Anchorage, AK*  
Mr. Lawendowski specializes in residential structural design and water/ wastewater systems, and he is a residential building inspector. He is a longtime Alaskan who retired from the military after more than 23 years of service and has more than five years of engineering and construction experience. Mr. Lawendowski's background includes experience in design, construction, testing and monitoring of engineered projects. He has worked all over the state of Alaska, including extensive time in the arctic and remote regions. Mr. Lawendowski takes a practical and economical approach to design, taking into account who is going to be doing the construction and how it will be done. He has hands-on experience in the construction of water and wastewater systems, the construction and renovation of buildings and large earth works projects.

# Credit Information

This webinar is open to the public and is designed to qualify for 7.0 PDHs for professional engineers and 7.0 HSW continuing education hours for licensed architects in Alaska. Continuing education activities are not subject to pre-approval in Alaska.

The American Institute of Architects Continuing Education System has approved this course for 7.0 HSW LUs (Sponsor No. J885). Only full participation is reportable to the AIA/CES.

The International Code Council has approved this event for .7 CEUs in the specialty area of Building (Preferred Provider No. 1232).

Attendance will be monitored, and attendance certificates will be available after the webinar for those who attend the entire course and score a minimum 80% on the quiz that follows the course (multiple attempts allowed).

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7.0 HSW LUs (AIA)

# Additional Learning

**Pumping and Piping Systems**  
- Thursday, February 29, 2024 | 8:00 - 11:15 am AKST  
- Friday, March 1, 2024 | 8:00 - 11:15 am AKST

**2021 International Residential Code: Mechanical Systems**  
- Tuesday, March 5, 2024 | 9:00 am - 1:30 pm AKST

**2021 International Residential Code: Plumbing Systems**  
- Tuesday, March 19, 2024 | 9:00 am - 1:30 pm AKDT

**Cold Climate Residential Design**  
- Wednesday, March 20, 2024 | 6:00 am - 1:00 pm AKDT

**Designing and Constructing Spread Footing Foundations**  
- Tuesday, March 26, 2024 | 8:00 am - 1:00 pm CDT

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