

Credit Information

Pump Station Design, Construction, and Rehabilitation

This webinar is open to the public and is designed to qualify for 6.0 PDHs for professional engineers and 6.0 HSW continuing education hours for licensed architects in all states that allow this learning method. Please refer to specific state rules to determine eligibility.

HalfMoon Education is an approved continuing education sponsor for engineers in Florida (Provider License No: CEA362), Indiana (License No. CE21700059), Maryland, New Jersey (Approval No. 24GP00049300) and North Carolina (S-0130). 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 6.0 HSW LUs (Sponsor No. J885). Only full participation is reportable to the AIA/CES.

The International Code Council has approved this event for .6 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).

On-Demand Credits

The preceding credit information only applies to the live presentation. This course in an on-demand format is not pre-approved by any licensing boards and may not qualify for the same credits; please consult your licensing board(s) to ensure that a structured, asynchronous learning format is appropriate. The following pre-approvals may be available for the on-demand format upon request:

6.0 HSW LUs (AIA)

Highways and Roads: Design, Process and More

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 landscape architects in most states that allow this learning method. Please refer to specific state rules to determine eligibility.

HalfMoon Education is an approved continuing education sponsor for engineers in Florida (Provider License No: CEA362), Indiana (License No. CE21700059), Maryland, New Jersey (Approval No. 24GP00049300) and North Carolina (S-0130). HalfMoon Education is deemed an approved continuing education sponsor for New York engineers and landscape architects via its registration with the Landscape Architecture Continuing Education System (LA/CES).

The Landscape Architecture Continuing Education System has approved HalfMoon Education as a provider of continuing education. This course has been submitted for LA CES approval and is currently pending. Only full participation is reportable to the LA CES.

HalfMoon Education is an approved CM Provider with the American Planning Association. This course is registered for CM | 7 for Certified Planners.

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7.0 HSW PDHs (LA CES)

Live, Interactive Webinars

- Pump Station Design and Construction
- Highways and Roads: Design, Process and More

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Live, Interactive Webinars

Pump Station Design and Construction

- Tuesday, November 12, 2024 | 9:00 am - 4:00 pm CST

Highways and Roads: Design, Process and More

- Monday, December 9, 2024 | 9:00 am - 12:45 pm CST
- Tuesday, December 10, 2024 | 9:00 am - 12:45 pm CST

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Architects: 6.0 HSW CE Hours | AIA: 6.0 HSW LUs
International Code Council: .6 CEUs (Building)

Highways and Roads: Design, Process and More

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Tuesday, December 10, 2024 | 9:00 am - 12:45 pm CST
Credits: Professional Engineers: 7.0 PDHs
Landscape Architects: 7.0 HSW CE Hours
LA CES: 7.0 HSW PDHs | Certified Planners: CM | 7

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Pump Station Design and Construction

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Tuition: \$339 per registrant
\$237 per attendee for group registrations of two or more people registering at the same time for the same program. *That's a savings of 30 percent!*

Credits: Professional Engineers: 6.0 PDHs | Architects: 6.0 HSW CE Hours
AIA: 6.0 LU|HSW | International Code Council: .6 CEUs (Building)

Agenda:

Pump Station Overview

- Historic background of pump stations
- Why construct a pump station? Types of pumps and uses
- Pump station design standards, permits, governance
- Examples of pump applications
- Who pays for it?...and exactly what are we paying for?

Hydrology, Hydraulics, and Fundamentals of Fluid Flow

- Hydrologic balance, precipitation, hydrologic cycle, rational and NRCS curve number methods
- Hydraulics and open channel flow
- Closed channel/pressure flow/hydraulic grade line

Piping, Valves, Fittings, and Losses in Pumping Systems

- Minor losses
- Equivalent length
- Major losses

Arctic Utility Design and Construction

- Arctic and subarctic environments
- What exactly is permafrost?
- Piping locations – above or below ground?
- Arctic water sources
- Arctic structures

Drinking Water Distribution and Treatment

- Water distribution systems
- Determination of flows
- Water treatment process
- Water storage
- Taste and odor

Pump Selection in Wastewater Pumping Stations

- Pump types
- Pump curves and pump selection
- Wet well-mounted pump stations
- Series vs. parallel pumping
- Pumping system layouts
- Main pump station (PS) to discharge
- Grinder PS to discharge
- Grinder/PS combo to discharge

Wet Well Sizing for Sewer Pump Stations

- Variable vs. Constant speed pumps
- Detention times
- Volume calculation

Bypass Pumping

- When is bypass pumping needed?
- Bypass pumps and components
- Sanitary sewage overflows (SSO) procedures and responses

Electrical Systems, Motors and Controls

- Power supply and electrical power system data sheets
- Motor types
- Instrumentation and control systems
- Emergency backup power

Rehabilitation, Testing, and Commissioning

- Inspecting pump stations, gravity/combined sewers, and force mains
- Rehabilitation or replacement?
- Rehabilitation methods
- Testing and commissioning

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Highways and Roads: Design, Process and More

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Landscape Architects: 7.0 HSW CE Hours| LA CES: 7.0 HSW PDHs
Certified Planners: CM|7

Agenda Day One: Monday, December 9, 2024 | 9:00 am - 12:45 pm CST

Project Design Criteria

- Design speed
- Traffic volume
- Additional considerations

Designing Roadways

- Reviewing design guidance and standards
- Interstates, freeways and other four-lane highways
- Arterials
- Collectors and locals

Design Process

- Preliminary survey
- Schematic design
- Project planning, public involvement and environmental studies
- Determining right-of-way

Designing Typical Sections

- Pavement
- Shoulders
- Ditches
- Medians

Agenda Day Two: Tuesday, December 10, 2024 | 9:00 am - 12:45 pm CST

Horizontal and Vertical Alignment

- Sight distance
- Horizontal alignment
- Vertical alignment

Cross Sections and Earthwork

- Traveled way
- Shoulders, curbs, and retaining walls

Intersections

- Signal-controlled intersections, roundabouts and other types
- Design considerations

Hydraulic Design Considerations

- Hydrology and drainage
- Channels, culverts, bridges and storm drains

Pedestrian and Bicycle Facilities

- Dedicated facilities
- Shared spaces

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Faculty

Pump Station Design and Construction

Michael A. Gallo, P.E. Consulting Engineer, Greeley and Hansen

Mr. Gallo is a civil engineer with more than 20 years of experience in the areas of water, wastewater, and stormwater infrastructure design, rehabilitation, and construction. He has worked in both consulting and government and is currently a consulting engineer with Greeley and Hansen. He is skilled in the design of wastewater and storm water conveyance systems, USACE levee systems, combined sewer overflow design, water and sewer rehabilitation, construction, and contract management. He is a past NASSCO certified CIPP inspector, and he is a licensed professional engineer in the state of Virginia and in Washington, DC.

Highways and Roads: Design, Process and More

George Lueck, P.E.

Mr. Lueck is a retired engineer with over 17 years of experience with the Texas Department of Transportation (TxDOT). He started his career performing design and surveying for a variety of roadway projects ranging from farm-to-market roads, urban roadways and high design speed facilities in the Waco district. He later transferred to the construction division, where he provided oversight to statewide districts in the areas of construction project management, construction engineering, inspection and contract claims. After serving in this capacity for over 9 years, he transferred to the transportation planning division. As Assistant Director of Traffic Analysis, he oversaw transportation data collection and reporting, corridor-level plans, and travel demand modeling. He then served the City of Killeen for 11 years as Assistant City Engineer and Director of Transportation. He had oversight of all operations of the city's transportation system. He was also charged with ensuring that the city's transportation system was planned, constructed and maintained in a cost-effective manner to effectively address the region's growing safety, mobility and reliability needs.



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