

Agenda

Presented by John Squerciati, PE, CFM

Reviewing National Flood Insurance Program (NFIP) Standards for Floodplain Development

Overview of the NFIP
Using the right maps and flood data
Determining what regulations are in effect for a property
Classifying structures
Determining which building codes apply
Identifying when permits are required

Reviewing National Flood Insurance Program (NFIP) Standards for Building Design

Technical Bulletin 1: openings in foundation walls and enclosure walls
Technical Bulletin 2: flood damage-resistant materials
Technical Bulletin 3: non-residential flood-proofing
Technical Bulletin 5: free-of-obstruction requirements
Technical Bulletin 7: wet flood-proofing
Technical Bulletin 9: breakaway walls
Other bulletins: elevators, below-grade parking, corrosion protection

Designing and Constructing Flood Resistant Buildings in Compliance with Codes and American Society of Civil Engineers (ASCE) 24

Flood-resistant design review
The NFIP and building code requirements
Understanding flood zones and classifying buildings
Complying with siting requirements
Using flood-damage resistant materials
Installing utilities and service equipment
ASCE 7-10: flood-resistant building design loads

Designing and Constructing Foundations for Flood-Resistant Performance

Overview: basic principles of flood-resistant design
Foundation types and styles
Complying with restrictions on soils and fill
Designing closed foundations and slabs-on-grade
Designing open foundations on piles
Complying with elevation requirements to use freeboard

Designing for Above-Grade Flood Resistance

Overview: basic principles of flood-resistant design
Design of walls
Location of mechanical and HVAC equipment
Design of decks, concrete pads and patios
Pool design
Limitations on dry flood-proofed, non-residential buildings

The Importance of Flood-Resistant Design and Construction

Reviewing flood-resistant design and construction benefits to clients:
• Reduced damages and losses, reduced service losses, reduced insurance costs, increased resiliency
References and additional resources

Designing and Constructing Flood-Resistant Buildings
Fairfax, VA - Tuesday, May 1, 2018

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Learning Objectives

You'll be able to:

Determine what regulations are in effect for a property and identify when permits are required.

Understand the many ways that flood-resistant design and construction benefits clients.

Discuss National Floodplain Insurance Program standards for building design.

Review American Society of Civil Engineers standards for flood-resistant design.

Design and construct foundations for flood resistance.

Apply design principles used for above-grade flood resistance.



Designing and Constructing Flood-Resistant Buildings

Fairfax, VA - Tuesday, May 1, 2018



Review the National Flood Insurance Program (NFIP) standards for floodplain development

Examine ASCE 24-14 Standards for Flood-Resistant Design and Construction

Learn how to design and construct foundations for flood-resistant performance

Explore the principles of design for above-grade flood resistance

Discuss how flood-resistant design and construction benefits clients

Continuing Education Credits

Professional Engineers
6.5 PDHs

Architects
6.5 HSW CEHPs/CE Hours
6.5 AIA HSW Learning Units

International Code Council
.65 CEUs (Building)

Certified Floodplain Managers
6.5 ASFPM CECs

Contractors
Non-Credit Continuing Ed.



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John Squerciati, PE, CFM

Mr. Squerciati is a senior associate at Dewberry Consultants LLC. He has nearly 20 years of post-disaster damage assessment and hazard mitigation experience under Dewberry’s Technical Assistance Contracts with the Federal Emergency Management Agency (FEMA). He has worked on numerous floods and other natural disasters as well as terrorist events. Mr. Squerciati has provided assistance in developing and updating several FEMA policy and technical documents including Protecting Building Utilities From Flood Damage (FEMA P-348), Mitigation Assessment Team Report: Hurricane Charley in Florida (FEMA 488), Mitigation Assessment Team Report: Hurricane Katrina in the Gulf Coast (FEMA 549), Flood Damage-Resistant Materials Requirements (NFIP Technical Bulletin 2), Protecting Manufactured Homes from Floods and Other Hazards (FEMA P-85), Homeowner’s Guide to Retrofitting (FEMA P-312), Engineering Principles and Practices for Retrofitting Flood Prone Residential Buildings (FEMA P-259), Hurricane Isaac in Louisiana Mitigation Assessment Team Report (FEMA P-938), Floodproofing Non-Residential Buildings (FEMA P-936) and Mitigation Assessment Team Report – Hurricane Sandy in New Jersey and New York: Building Performance Observations, Recommendations, and Technical Guidance (FEMA P-942). Following Hurricanes Irma and Maria in Puerto Rico, Mr. Squerciati led a team of subject matter experts investigating flood damage and mitigation considerations to residential structures and low-rise buildings for FEMA’s Mitigation Assessment Team (MAT).

Mr. Squerciati has developed course materials and served as an instructor for the following courses at FEMA’s Emergency Management Institute: Fundamentals of Building Science - Multi-Hazard Mitigation Design Concepts (E0312), Retrofitting Flood-Prone Residential Buildings (E0279), Benefit-Cost Analysis (E0276), Public Assistance Mitigation (E0239), Residential Coastal Construction (E0386) and Multi-Hazard Building Design Institute: Flood Protective Design (E0329). In addition, he assisted in the development of materials and been an instructor for numerous field training workshops and seminars for substantial damage estimation, structural flood-proofing, NFIP technical bulletins, coastal construction, protecting manufactured homes from flooding, and benefit-cost analysis for hazard mitigation grants. Mr. Squerciati received his undergraduate and graduate degrees in Civil Engineering from the Cooper Union with a major in Structural Engineering and a minor in Geotechnical Engineering. He has taken additional course work on engineering for extreme winds at Texas Tech University, and is a member of the committee responsible for updating and publishing ASCE/SEI Standard 24: Flood-Resistant Design and Construction. Mr. Squerciati is a licensed professional engineer in the Commonwealth of Virginia and the State of Louisiana, and he is a certified floodplain manager.

Seminar Information

Hilton Garden Inn Fairfax
3950 Fair Ridge Drive
Fairfax, VA 22033
(703) 385-7774

Registration
8:00 - 8:30 am
Morning Session
8:30 am - 12:15 pm
Lunch (on your own)
12:15 - 1:15 pm
Afternoon Session
1:15 - 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 PDHs to professional engineers and 6.5 HSW CEPHs/continuing education hours to architects in all states, excluding Florida architects. Educators and courses are not subject to preapproval in Texas.

The American Institute of Architects has approved this event 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, New York (NYSed Sponsor No. 35), North Carolina, and North Dakota.

The International Code Council has approved this event for .65 CEUs in the specialty area of Building.

The Association of State Floodplain Managers has approved this course for 6.5 CECs for certified floodplain managers.

This seminar offers contractors a non-credit continuing education opportunity. It has not been submitted to any state contractor licensing entity for continuing education approval.

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

March Webinar Series

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

Designing and Constructing Flood-Resistant Buildings

Fairfax, VA - Tuesday, May 1, 2018

How to Register		Registrant Information
Online: www.halfmoonseminars.org		Name: _____
		Company/Firm: _____
Phone: 715-835-5900		Address: _____
		City: _____ State: _____ Zip _____
Fax: 715-835-6066		Occupation: _____
		Email: _____
Mail: HalfMoon Education Inc., PO Box 278, Altoona, WI 54720-0278		Phone: _____
		Additional Registrants:
Complete the entire form. Attach duplicates if necessary.		Name: _____
		Occupation: _____
		Email: _____
		Phone: _____
		Name: _____
		Occupation: _____
		Email: _____
		Phone: _____
		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>
Credit Card Number: _____
Expiration Date: _____ CVV2 Code: _____
Cardholder Name: _____
Billing Address: _____
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Email: _____