



Ulster County 2021 Climate Smart Communities Recertification Documentation

PE7 Action: Design Flood Elevation & Flood Maps

2 POINTS DOCUMENTED

Background: Ulster County Department of the Environment staff participates in and facilitates various trainings on the most recent NYS sea-level rise projections, guidance, mapping tools, and other resources as part of the County's participation in the Ashokan Watershed Stream Management Program (AWSMP).

Staff also participates in AWSMP's Flood Hazard Mitigation Working Group, which was formed in 2014 to bring local officials and flood advisory committee members together to learn about flooding and flood mitigation topics, and to network with peers in adjacent towns.

The AWSMP partnership is fully documented in the County's 2021 CSC recertification materials under the CSC action "PE1: Partnerships with Other Entities", and is a joint effort between Cornell Cooperative Extension of Ulster County, the Ulster County Soil and Water Conservation District, and the New York City Department of Environmental Protection. The three agencies work collaboratively to maintain the health of streams in the Ashokan Reservoir Watershed. The program aims to improve stream stability and reduce erosion threats to water quality and infrastructure, mitigate potential damage from flooding, and enhance aquatic and riparian habitat. AWSMP works to educate and inform the community about stream stewardship best management practices and coordinates stream management activities in the watershed. Stream management plans — comprehensive evaluations of stream characteristics with recommendations and strategies for improvement — provide the basis for the program's activities.

Documentation:

- AWSMP "About the Program" webpage: <https://ashokanstreams.org/about-the-program/>
- AWSMP Flood Hazard Mitigation Working Group webpage: <https://ashokanstreams.org/about-the-program/committees-working-groups/flood/>
- Agendas and relevant course outlines are included for the following sessions, which County Department of the Environment Staff participated in as part of the AWSMP partnership over the last five years:
 - Community Rating System Training Workshop – AWSMP (September 15, 2015)
 - Elevation Certificate Training – AWSMP (October 17, 2016)
 - HEC-RAS Training Workshop for Modeling Bridges & Culverts - Cornell Cooperative Extension of Ulster County (August 12 – 14, 2019)
 - Floodway Encroachment And No-Rise Workshop (February 2021)
 - Session 1 - Floodway Encroachment Requirements
 - Session 2 - Reviewing No-Rise Certifications
 - Session 3 - Performing and Documenting No-Rise Certifications

CRS Training Workshop
Ashokan Watershed Stream Management Program
September 15, 2015

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Section 6	Reference Materials
	FEMA F776 Community Assistance Visits
	NYS Uniform Minimum Credit
	NYS CRS Profile
	CRS Self-Evaluation Tool
	Sample Administrative Procedure –Development Review within Floodplains
	CD including presentation, exercises, and handouts

Flood Insurance Basics General Outline

***Note this presentation does not reflect Risk Rating 2.0. Will need to be updated to reflect this**

- I. Why do we have flood insurance?
 - a. Brief history of National Flood Insurance Program
 - b. Legislative history
- II. Who's Involved/How it Works?
 - a. Write-Your-Own Program
 - b. Pre-FIRM vs Post-FIRM
 - c. Important terminology
 - d. 30-Day waiting period
 - e. Mandatory purchase requirement
- III. Coverage
 - a. Building vs Contents coverage
 - b. Basements
 - c. Enclosures
- IV. Rating Buildings
 - a. Limits of coverage
 - b. Elements of rating a policy (elevation above BFE, Pre-FIRM vs Post-FIRM, type of structure, etc.)
 - c. Elevation Certificates
- V. Private Flood Insurance
 - a. Understanding why private options are now available
 - b. How most private options are rated plus what they cover
- VI. Community Rating System
 - a. Explanation of premium reduction
 - b. Brief explanation of activities (required and optional) in the program
- VII. Coastal Barrier Resource Systems
 - a. What they are
 - b. How they are regulated
- VIII. Future of Flood Insurance
 - a. Upcoming issues with flood insurance

Flood Map Basics General Outline

- I. Why do we love water?
 - a. Appeal of being near water (recreation, aesthetics, etc.)
 - b. Natural and beneficial functions of floodplains
- II. Flooding
 - a. Definition of flood
 - i. NFIP Definition
 - b. Flood facts
 - i. Types of flooding (riverine, coastal, shallow)
 - ii. Types of flood damage (hydrodynamic, hydrostatic, soaking, sediment and contaminants)
 - c. Flood frequency
 - i. Discussion about meaning of "100-Year Flood"
- III. Flood Maps
 - a. What are they
 - i. Brief discussion of NFIP legislative history
 - ii. FEMA Map Service Center
 - b. Parts of a flood map
 - i. Special Flood Hazard Area, Floodway, Flood Fringe
 - c. How to read them
 - i. Map symbology
 - ii. Floodway Datatables and Flood Profiles
 - iii. Calculating BFE
- IV. Importance for Planning Boards/Zoning Boards of Appeals
 - a. Importance for site plan review
 - b. Importance for variance procedures

Elevation Certificate Training
Ashokan Watershed Stream Management Program

October 17, 2016
8:30 AM to 3:30 PM

Agenda

Today's Objective – Provide clear usable information on the following areas to support proper development of FEMA elevation certificates:

- **The National Flood Insurance program (NFIP)**
 - **The Community Rating System (CRS)**
 - **Flood Insurance reform**
 - **The FEMA elevation certificate (EC)**
 - **Elevation Certificate terminology**
 - **Proper Completion of the FEMA EC**
 - **Common issues**
 - **Helpful hints**
-

Registration and Coffee	8:30 AM
Welcome and Introductions	9:00 AM
<ul style="list-style-type: none"> • Instructor Introduction • Group Introductions • Review Agenda • Game Plan 	
Module 1: Overview of the National Floodplain Insurance Program (NFIP)	9:15 AM
<ul style="list-style-type: none"> • NFIP History • NFIP Participation Requirements • NFIP and the Community Rating System (CRS) • Flood Insurance Reform • Quiz #1 	
Module 2: The Elevation Certificate	9:40 AM
<ul style="list-style-type: none"> • Purpose • Basics • Vocabulary 	
Module 3: Completing the Elevation Certificate	10:00 AM
<ul style="list-style-type: none"> • The Form • Sections A through C 	
BREAK - 15 Minutes	10:15 AM
Module 4: Building Diagrams	10:30 AM
<ul style="list-style-type: none"> • Buildings with Slabs (#1A ad #1B) • Buildings with Basements (#2A, #2B, #3, and #4) 	
Lunch (1/2 hour)	12:00 PM

Module 5: Building Diagrams, continued <ul style="list-style-type: none">Elevated Buildings (#5 through #7)	12:30 PM
Module 6: Crawlspace Construction <ul style="list-style-type: none">Technical Bulletin 11-01Diagram Number #8 and #9Flood Damage Prevention Ordinance ConsiderationQuiz #2	1:30 PM
Module 7: Completing the Elevation Certificate, continued <ul style="list-style-type: none">Sections D through FFinal Exercise	2:00 PM
Break (15 Minutes)	2:30 PM
Conclusion: <ul style="list-style-type: none">Common EC ErrorsCorrectionsInspectionHints	2:45 PM
Adjourn	3:30 PM

Elevation Certificate Basics General Outline

- I. Current version/how to download a PDF copy
- II. What is an Elevation Certificate?
 - a. Document required for flood insurance rating purposes
 - b. Unofficially has become document for rating structure compliance
- III. Entities that call fill-out elevation certificates
 - a. Surveyor
 - b. Engineer
 - c. Architect
- IV. Review process and local building departments
 - a. Things to look for
- V. Review of Elevation Certificate Sections
 - a. What is needed to go into each section
 - b. Importance of putting N/A instead of leaving blank
 - c. Understanding "lowest floor"
- VI. Elevation Certificate Diagrams
 - a. Review of diagrams and their often-subtle differences
- VII. Common Errors and correction methods
 - a. Incorrect NFIP community data
 - b. Incorrect diagrams
 - c. Incorrect lowest floor
 - d. Sending back to surveyor or including memo for corrections
- VIII. Elevation Certificate Diagram Activity
 - a. Have participants pick out which is the appropriate building diagram from photos provided

Cornell Cooperative Extension of Ulster County
HEC-RAS Training Workshop for Modeling Bridges & Culverts
Emerson Resort & Spa, Mt. Tremper
August 12 – 14, 2019
AGENDA

Objective A course to provide the concepts of open-channel flow, applied hydrology, quantitative hydraulic techniques, and the capability of the HEC-RAS computer model for the assessment and design of bridges and culverts.

Day One (Classroom)

- 8:30 – 9:00 Breakfast (provided)
- 9:00 – 9:15 Introductions
- 9:15 – 9:45 Watershed/River Form and Processes
- 9:45 – 10:15 Channel Assessment and Geomorphic Classification
- 10:15 – 10:45 Applied Hydrology
- 10:45 – 11:00 Break
- 11:00 – 12:00 Concepts of Open Channel Flow, Energy Principles, Flow Resistance
- 12:00 – 1:00 Lunch (provided)
- 1:00 – 1:45 1D HEC-RAS Capabilities and Demonstration
- 1:45 – 2:15 1D Steady HEC-RAS Data Needs and Collection
- 2:15 – 2:30 Break
- 2:30 – 4:00 Class Exercise 1 – HEC-RAS Model Setup – Existing “Natural” Conditions

Day Two (Classroom and Field)

- 8:30 – 9:00 Breakfast (provided)
- 9:00 – 9:15 Definitions/Design Criteria/Regulatory Permitting Considerations
- 9:15 – 10:00 Hydraulics of Bridges and Culverts
- 10:00 – 10:15 Break
- 10:15 – 10:30 Overview of Field Work Data Needs
- 11:00 – 12:15 Travel and Lunch (brown bag lunch provided)

New York City DEP Stream Management Program
LEVEL 1 HEC-RAS TRAINING
AGENDA

- 12:15 – 2:45 Field Work: Collect Field Data (Fox Hollow Bridge on Esopus Creek)
- 2:45 – 4:00 Class Exercise 2 – HEC-RAS Setup – Adding Bridge/Culvert to Model

Day Three (Classroom)

- 8:30 – 9:00 Breakfast (provided)
- 9:00 – 11:00 Class Exercise 3 – Using HEC-RAS to Evaluate Structure Types
- 11:00 – 12:00 Interpreting Modeling Results
- 12:00 – 1:00 Lunch (provided)
- 1:00 – 1:45 FEMA Considerations, mapping, LOMRs
- 1:45 – 2:15 Class Exercise 4 – FEMA Floodplain Delineation
- 2:15 – 2:30 Steady versus Unsteady Flow
- 2:30 – 3:00 Introduction/Demonstration of HEC-RAS 2D modeling
- 3:00 – 3:15 Break
- 3:15 – 3:45 Sediment Transport Modeling Capabilities of HEC-RAS
- 3:45 – 4:00 Q & A, Evaluation Forms and Wrap-Up

Presented by:

James Woidt, PE

J.L. Woidt Engineering, PLLC

Bill Nechamen, CFM

Nechamen Consulting, LLC

Charles Woidt, PE, CFM

CFW Engineering, PLLC

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Cornell Cooperative Extension
Ulster County

FLOODWAY ENCROACHMENT AND NO-RISE WORKSHOP

Session 1

Floodway Encroachment Requirements

Training Series Overview

- Part 1 of 3-Part Series: Floodway Encroachment and No-rise Workshop
 - **Part 1: Floodway Encroachment Requirements**
 - Part 2: Reviewing No-Rise Certifications
 - Date: Wednesday, February 17, 2021 10:00 AM to noon
 - To register: <https://attendee.gotowebinar.com/register/7053537928658955020>
 - Part 3: Performing and Documenting a No-Rise Analysis
 - Date: Wednesday, February 24, 2021 8:00 AM to noon
 - To register: <https://attendee.gotowebinar.com/register/3258286572855472396>

Introductions

James Woidt, PE



- Bachelor of Science - Civil Engineering from University of New Hampshire
- Master of Science – Civil Engineering: Hydraulics, Stream Restoration, and River Mechanics from Colorado State University
- 9+ years experience in flood risk management and stream restoration in 20 states & 3 countries
 - Incl. No-Rise Certifications, CLOMR/LOMRs, levee mapping, coastal hazards, ice jam hazards, and mitigation projects
- Invited speaker for numerous presentations on flood risk management
- Independent reviewer for several contested floodplain delineations
- Principal Engineer, J.L. Woidt Engineering, PLLC





Introductions

Bill Nechamen, CFM

- MS, Geography, University of Massachusetts at Amherst
- 21 Years with the NYS DEC Floodplain Management Program; 16 of those years as Chief, Floodplain Management Section
- 10 Years with DEC's water resources bureau, focusing on water demand issues
- Former Chair, Association of State Floodplain Managers
- Founder and Board Member: New York State Floodplain and Stormwater Managers Association
- Principal, Nechamen Consulting, LLC, focusing on Floodplain and NFIP Consulting and Training



Introductions

Charles (Rick) Woidt, PE, CFM

- Bachelor of Science - Civil Engineering from New England College
- Master of Business Administration – Binghamton University
- 40+ years of water resources experience specializing in
 - Floodplain Management and Mitigation
 - Stormwater Management
 - Dam Safety
- Invited speaker for numerous presentations on floodplain mitigation and risk management
- Former President and Owner of Woidt Engineering and Consulting, PC
- Current President and Owner of CFW Engineering, PLLC

Session 1 Overview

- Intended for floodplain administrators, code enforcement officials, developers, engineers, and others that develop or oversee development in the floodplain
- Learning Goal: Understand requirements for development within a Floodway
- Learning Objectives:
 - Understand what qualifies as “Development”
 - Understand the difference between a Floodplain and Floodway
 - Understand how to find and interpret a Flood Insurance Rate Map
 - Understand local and state regulations for Development within a Floodway
 - Understand why preserving Floodways is a core component of the National Flood Insurance Program

Session 1 Schedule

- 10:00 – Introductions and Background
- 10:15 – Floodway Background and Concepts
- 10:45 – Floodway Encroachment Regulations and Requirements
- 11:15 – 5-minute break
- 11:20 – General Commentary for Code Enforcement Officials
- 11:50 – Concluding Remarks; Question and Answer; Course Survey

Presented by:

James Woidt, PE

J.L. Woidt Engineering, PLLC

Bill Nechamen, CFM

Nechamen Consulting, LLC

Charles (Rick) Woidt, PE, CFM

CFW Engineering, PLLC

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Ulster County

FLOODWAY ENCROACHMENT AND NO-RISE WORKSHOP

Session 2

Reviewing No-Rise Certifications

Session 2 Overview

- Intended for floodplain administrators, code enforcement officials, developers, engineers, and others that develop or oversee development in the floodplain
- Learning Goal: Be able to review No-Rise Certifications and approve/reject them
- Learning Objectives:
 - Understand roles and responsibilities for receiving a No-Rise Certificate
 - Understand what goes into a No-Rise Certification
 - Understand how to document a No-Rise Certification
 - Understand when Letters of Map Change may be needed instead

Session 2 Schedule

- 10:00 – Introductions and Background
- 10:15 – Session 1 Review and Overview of an Encroachment Analysis
- 10:30 – Reviewing an Encroachment Analysis / No-Rise Certification
- 11:15 – 5-minute break
- 11:20 – Letters of Map Change
- 11:50 – Concluding Remarks; Question and Answer; Course Survey

Session 2 Materials

1. *Guidance for Flood Risk Analysis and Mapping: Floodway Analysis and Mapping (FEMA, 2019)*
2. *FEMA 480: National Flood Insurance Program (NFIP) Floodplain Management Requirements, A Study Guide and Desk Reference for Local Officials (FEMA, 2005)*
3. *Sample Summary Memorandum for Floodplain Development Permit Application with No-Rise Certification*

Presented by:

James Woidt, PE

J.L. Woidt Engineering, PLLC

Bill Nechamen, CFM

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Charles (Rick) Woidt, PE, CFM

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Ulster County

FLOODWAY ENCROACHMENT AND NO-RISE WORKSHOP

Session 3

Performing and Documenting
No-Rise Certifications

Training Series Overview

- Part 3 of 3-Part Series: Floodway Encroachment and No-rise Workshop
 - *Part 1: Floodway Encroachment Requirements (already presented)*
 - *Part 2: Reviewing No-Rise Certifications (already presented)*
 - **Part 3: Performing and Documenting a No-Rise Analysis**

Part 3 Overview

- Intended for engineers that prepare No-Rise Certifications and community officials responsible for reviewing technical details of the No-Rise Certification
- Learning Goal: Perform Encroachment Analysis and prepare No-Rise Certifications
- Learning Objectives:
 - Understand minimum requirements for a No-Rise Certification
 - Understand how to develop hydraulic models for an Encroachment Analysis
 - Understand best practices for preparing a No-Rise Certification

Session 3 Schedule

- 8:00 – Introductions and Background
- 8:15 – Review of Session 1 and Session 2
- 8:30 – Developing Hydraulic Models for an Encroachment Analysis
- 10:00 – 15-minute break
- 10:15 – Best Practices for Documenting a No-Rise Certification
- 11:00 – Case Studies and Special Considerations
- 11:45 – Concluding Remarks; Question and Answer; Course Survey

Session 3 Materials

1. *Guidance for Flood Risk Analysis and Mapping: Floodway Analysis and Mapping (FEMA, 2019)*
2. *FEMA 480: National Flood Insurance Program (NFIP) Floodplain Management Requirements, A Study Guide and Desk Reference for Local Officials (FEMA, 2005)*
3. *Ulster County Flood Insurance Study and Flood Insurance Rate Maps (FEMA, 2016)*
4. *Sample Summary Memorandum for Floodplain Development Permit Application with No-Rise Certification*
5. *Sample HEC-RAS model to accompany Sample Summary Memorandum (not on GoToWebinar; should be available from link e-mailed at registration)*

Session 3 Definitions

- BFE = Base Flood Elevation (usually the 100-year / 1-percent annual chance event)
- FIRM = Flood Insurance Rate Map
- FIS = Flood Insurance Study
- LOMR = Letter of Map Revision
- NFIP = National Flood Insurance Program
- PE = Professional Engineer



PE7 Action: Design Flood Elevation & Flood Maps

2 — 14 Points

A. Why is this action important?

New York's communities are exposed to flooding along rivers, streams, coastlines, and lakefronts. The frequency of damaging floods is increasing as extreme precipitation events become more common and sea levels rise. Local governments can take a variety of action to adapt to changing floodplains, protect human health, and potentially save millions of dollars in flood-related damages. Under this Climate Smart Communities (CSC) action, local governments can train staff, increase their design flood elevation, and update local flood maps. Completing this action can help a municipality that participates in the National Flood Insurance Program (NFIP) Community Rating System earn points toward discounted flood insurance rate premiums.

This action can be completed in addition to, or in place of, [PE7 Action: Freeboard Policies](#). The most protective approach would be to implement a combination of actions to increase both the vertical elevation and horizontal extent of flood risk management areas. The New York State (NYS) Department of Environmental Conservation (DEC) recommends using a climate-informed science approach to updating flood maps whenever possible.

B. How to implement this action

The 1% annual chance (or "100-year") flood is known as the base flood. The water surface elevation of the base flood is known as the base flood elevation. FEMA's flood insurance rate maps (FIRMs) depict the areas inundated by the base flood as special flood hazard areas (SFHAs). Most municipal flood management programs regulate projects within SFHAs, but properties outside mapped SFHAs may also be at significant risk of flooding. In addition, FIRMs are based on historical data and are often outdated. Further, FIRMs do not account for sea-level rise or other factors related to climate change.

For help in understanding these issues and choosing the best policy options for your community, use the [Increasing Resilience to Flooding Flowchart](#). This CSC action focuses on training staff, increasing the local design flood elevation (DFE), and updating local flood maps.

Train municipal staff. Train staff to understand recent sea-level rise and flooding projections, state-provided guidance, and mapping resources. For some of the training sessions, consider inviting residents, businesses, and developers in and near the floodplain to educate them about increased flooding risks in your community, the importance of being prepared, and the need for resilient building standards. To help participants visualize and understand future flood risk, use the resources and illustrations in the [State Flood Risk Management Guidance \(SFRMG\)](#) and in NYSERDA [Considering Current and Future Inland Flood Risk: A Consumers' Guide to Flooding Tools for Communities in New York State](#). Also see the additional resources below in Section G.

Increase design flood elevation. To safeguard against uncertainties in flood mapping, the NYS Uniform Code requires two feet of freeboard between the lowest floor of a building and the base flood elevation (BFE) in SFHAs. Freeboard is the safety factor between the estimated 1% annual chance ("100-year") flood height and the lowest floor of a structure. The design flood elevation (DFE) is typically equal to the BFE, but municipalities may adopt a DFE that is higher than the BFE as a protective measure against flood damage. For example language refer to [Chapter 4.3.2 of the Model Local Laws to Increase Resilience](#). The Uniform Code of New York requires that design flood elevations be obtained from a federal, state or other source, or determined with accepted hydrologic and hydraulic engineering practices.

For points under this CSC action, amend the local flood damage prevention law (or other relevant zoning law) to define the DFE using one of the following two methods:

- Increase DFE to the elevation of the 0.2% annual chance (“500-year”) flood event within the mapped SFHA.
- Use climate-informed science projections to designate an increased DFE based on future flood projections. Municipalities will need to determine which projections to use based on the level of risk they want to plan for.
 - For tidal areas, refer to [6 NYCRR Part 490](#) for regional sea-level rise projections. By directly referencing Part 490, your community can benefit from future state updates to sea-level rise projections without needing to adjust its policy. NYS recommends the high sea-level rise projection for critical facilities and infrastructure and the medium projection for non-critical structures over the design life of the project.
 - For non-tidal areas, refer to the NYSERDA Considering Current and Future Inland Flood Risk guide for resources on estimating future floods. Table 3 in the SFRMG provides design flow multipliers to estimate future peak flows.

Update flood maps. Amend local flood hazard area maps to correspond to the increased DFE based on one of the following three methods:

- Use the 0.2% annual chance (“500-year”) floodplain. (This is available on many FEMA FIRMs.)
- Use climate-informed science projections to designate the floodplain area based on future flood projections. Municipalities will need to determine which projection to use based on the level of risk they want to plan for.
 - For tidal areas, refer to 6 NYCRR Part 490, as mentioned above (in relation to increasing DFE).
 - For non-tidal areas, refer to the NYSERDA Considering Current and Future Inland Flood Risk guide for resources on estimating future floods. Table 3 in the SFRMG provides design flow multipliers to estimate future peak flows.
- Use the area defined by extending horizontally the increased DFE (or BFE) plus freeboard to the ground.

As with any change in local laws and policies, please consult with the local government attorney for guidance on drafting and enacting the new legislation or policy. The NFIP Coordinating Office must review amendments to the Local Law for Flood Damage Prevention prior to their filing with the NYS Department of State (DOS).

C. Timeframe, project costs, and resources needed

This action contains both short-term and long-term strategies with varying degrees of implementation costs. In general, the local government can expect to make progress on the staff training element of this action within three to six months, while progress on the other components may take up to twelve months. To facilitate understanding of the policies, resources may be needed to support community education and engagement. As the policies are enforced, there may be costs to some residents, but these costs may be balanced by savings from the prevention of future flood damages. Consider reducing implementation costs by applying for FEMA grant funding to accomplish building elevation and floodproofing.

D. Which local governments implement this action? Which departments within the local governments are most likely to have responsibility for this action?

This action is applicable to all cities, towns and villages with the authority to update the local DFE. The departments or people responsible for building and planning, and the designated local floodplain administrator, are most appropriate to lead this effort. Cross-department involvement and support are recommended. Municipal committees, such as CSC task forces, conservation advisory councils, or environmental conservation committees may also be involved.

E. How to obtain points for this action

Points for this action are tiered based on completion of the components listed below.

	<i>POSSIBLE POINTS</i>
Train municipal staff on the most recent NYS sea-level rise projections, guidance, mapping tools, and other resources.	2
Increase the design flood elevation (DFE)	

* Increase the DFE to the elevation of the 0.2% annual chance flood event. 5

* Use climate-informed science projections to designate an increased DFE based on future flood projections. 6

Update Flood Maps - Amend local flood hazard area maps based on one of the following three methods:

* The 0.2% annual chance floodplain 5

* The future 1% annual chance floodplain, as defined by the relevant climate-informed science guideline elevation (as per Table 4 of the SFRMG) 6

* The area defined by extending horizontally the increased DFE (or BFE) plus freeboard to the ground 8

F. What to submit

Training: Submit documentation of staff training sessions, including dates, name of attendees, and resources utilized, completed within the previous 5 years.

Increased DFE: Submit a copy of (or link to) the updated zoning law demonstrating the increase in DFE. Show that it was completed within the previous 15 years. Provide an explanation of the method used to create the increased DFE and how it corresponds to the point tiers in Section E.

Updated flood maps: Submit a copy of (or link to) the amended flood hazard areas map. Show that the update was completed within the previous 15 years. Provide an explanation of the method used to create the map and how it corresponds to the point tiers in Section E.

All CSC action documentation is available for public viewing after an action is approved. Action submittals should not include any information or documents that are not intended to be viewed by the public.

G. Links to additional resources or examples

- [Cornell Water Resources Institute, Increasing Resilience to Flooding Flowchart](#)
- [NYS Flood Risk Management Guidance](#)
- [NYS DEC Estimating Guideline Elevations](#)
- [NYS DEC Part 490 Sea-level Rise Projections](#)
- [NYSERDA Considering Current and Future Inland Flood Risk: A Consumers' Guide to Flooding Tools for Communities in New York State](#)
- [NYS DOS Model Local Laws to Increase Resilience](#)
- [NYSERDA Responding to Climate Change in New York State \(ClimAID\)](#)
- [Cornell Water Resources Institute, Resources for Adapting: see the comparison of flooding and sea-level rise mappers](#)
- [NYS DEC NFIP Coordinating Office: website and contact information](#)

H. Recertification requirements

The recertification requirements are the same as the initial certification requirement.