



PE7 Action: Freeboard Policies

4 – 19
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. Freeboard is the safety factor between the estimated 1% annual chance (“100-year”) flood height and the lowest floor of a structure. Increasing freeboard height in your municipality is one way to adapt to changing floodplains, protect human health, and potentially save millions of dollars in flood-related damages. Completing this action can also help a municipality that participates in the National Flood Insurance Program (NFIP) Community Rating System earn points toward discounted flood insurance rate premiums.

Under this Climate Smart Communities (CSC) action, municipalities can choose to increase freeboard elevation and/or extend the freeboard requirement area. This action can be completed in addition to, or in place of, [PE7 Action: Design Flood Elevation and Flood Maps](#). 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 increase the freeboard elevation and/or extend the freeboard requirement area 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 In addition, FIRMs are based on historical data, are often outdated, and do not account for sea-level rise or other factors related to climate change.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 policies related to freeboard. To learn more about freeboard, refer to the discussion in [Chapter 4 of the Model Local Laws to Increase Resilience](#) and in the SFRMG.

For maximum protection against flooding, implement both of the following two policy options: Increase freeboard elevation and extend the freeboard requirement area.

Increase freeboard 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. Essentially 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 more information about this option, see PE7 Action: Design Flood Elevation and Flood Maps.

Municipalities can increase the amount of freeboard required within the special flood hazard areas (SFHA) with approval from the NYS Fire Prevention and Building Code Council. This involves adopting a freeboard policy that requires all new or substantially improved buildings be elevated or floodproofed to higher than the current two-foot requirement. (Substantial improvement is defined by the Building Code of New York as “any repair, alteration, addition or improvement

of a building or structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the improvement or repair is started. If the structure has sustained substantial damage, any repairs are considered substantial improvement regardless of the actual repair work performed.”)

This CSC action offers points for freeboard policies that focus on critical facilities and/or that focus on all new or substantially improved buildings in the community. Critical facilities are ones that are so vital that their destruction or incapacitation would disrupt the security, economy, health, safety, or welfare of the public. For a list of facility types considered critical, consult pages 25-26 of the [State Flood Risk Management Guidance \(SFRMG\)](#). A freeboard policy focused on critical facilities within the mapped SFHA must require them to be elevated or floodproofed to more than three feet above the DFE.

This CSC action also offers points for adopting a formal freeboard policy that requires all new or significantly improved buildings within the mapped SFHA be elevated (or floodproofed) to either three feet or four feet (or more) above the DFE.

Extend freeboard requirement area. Local governments can extend the area in which the freeboard requirement applies through the creation of a floodplain overlay district. Approval from the NYS Fire Prevention and Building Code Council is not required when extending the freeboard requirement area.

Creation of an overlay district will help protect buildings outside the SFHA that may still be exposed to flooding, particularly as the climate changes. Creating an overlay district involves adopting a local zoning law or an ordinance to extend the horizontal area in which the freeboard applies to a designated area landward of the current SFHA boundary. For example language for this policy, refer to [Chapter 4.1 of the Model Local Laws to Increase Resilience](#). The example language in this model local law uses the 0.2% annual chance floodplain, but municipalities are eligible for CSC points if they define overlay districts for any of the following three areas:

- The 0.2% annual chance floodplain
- The future 1% annual chance floodplain, as defined by the relevant climate-informed science guideline elevation (as per Table 4 of the SFRMG)
- The area defined by extending horizontally the BFE (or DFE) 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 all amendments to the Local Law for Flood Damage Prevention prior to the amended law being filed with the NYS Department of State (DOS).

Further state guidance on managing flood risk

Since 2014, applicants in almost all DEC permit programs and certain state funding programs are required to demonstrate consideration of future flood risk, under the [Community Risk and Resiliency Act \(CRRA\)](#). As amended by the 2019 Climate Leadership and Community Protection Act, the CRRA also requires state agencies and authorities to consider mitigation of future flood risk before funding, approving, undertaking or supporting a public infrastructure project. DEC has published the following documents to support CRRA implementation:

- [State Flood Risk Management Guidance \(SFRMG\)](#)
- [Guidance for Smart Growth Public Infrastructure Assessment \(SGG\)](#)
- [Using Natural Measures to Reduce the Risk of Flooding \(NRMG\)](#)
- [Estimating Guideline Elevations \(EGFE\)](#)

Although the CRRA does not require municipalities to adopt more stringent local floodplain laws, municipalities exposed to either tidal or non-tidal flooding can reduce risk through local codes and zoning policies based on the state’s CRRA guidance (listed above) and [Model Local Laws to Increase Resilience](#), published by the New York 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 creating and implementing the freeboard policy (or policies) within six 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 zoning authority to change freeboard requirements. 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. The policies must have been implemented within the last 15 years.

	<i>POSSIBLE POINTS</i>
Increase freeboard elevation Adopt a formal freeboard policy requiring all <i>critical facilities</i> (that are new or significantly improved) within the mapped SFHA be elevated or floodproofed to at least three feet above the design flood elevation (DFE).	5
Adopt a formal freeboard policy requiring all new or significantly improved buildings within the mapped SFHA be elevated or floodproofed to one of the following:	
- Three feet above the DFE	7
- Four feet or more above the DFE	8
Extend freeboard requirement area Through local zoning or an ordinance, extend the area in which the enhanced freeboard requirement applies to one of the following areas:	
- The 0.2% annual chance floodplain	4
- The future 1% annual chance floodplain, as defined by the relevant climate-informed science guideline elevation (as per Table 4 of the SFRMG)	5
- The area defined by extending horizontally the BFE (or DFE) plus freeboard to the ground	6

F. What to submit

Submit a copy of (or link to) the expanded freeboard policies. Provide an explanation of the types of policies that were implemented and how they correspond to the point tiers in Section E. Show that the policies were adopted within the previous 15 years. If freeboard was increased, provide documentation that the policy was approved by the NYS Codes Council.

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.