

# FEMA Policy: Federal Flood Risk Management Standard (FFRMS)

## FEMA Policy 206-24-005

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### BACKGROUND

This policy facilitates implementation of the Federal Flood Risk Management Standard (FFRMS) as part of FEMA’s responsibilities to provide leadership in floodplain management and bolster the resilience of communities and federal assets against the impacts of flooding, interpreting and implementing the requirements included at 44 Code of Federal Regulations (CFR) Part 9.<sup>1</sup> This policy incorporates requirements of Executive Order (EO) 11988, *Floodplain Management*, as amended.<sup>2</sup> This policy reflects the updates made to the agency’s 8-step decision-making process<sup>3</sup> in 44 CFR Part 9 for carrying out the directives of EO 11988, as amended, consistent with the agency’s authorities pursuant to the National Flood Insurance Act, the National Environmental Policy Act, the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act), and other agency statutory and regulatory authorities.<sup>4</sup>

The National Flood Insurance Act of 1968 [42 U.S.C. § 4001 et seq.] calls for a “unified national program for flood plain management” and as such, any application of EO 11988, as amended, must not result in a standard lower than any standard established for the National Flood Insurance Program (NFIP).

### PURPOSE

This policy provides greater detail on applicability, processes, resources, and responsibilities for implementing the FFRMS as part of the 8-step decision making process established in 44 CFR Part 9.

### PRINCIPLES

A. Reduce vulnerability to loss of life and property caused by flooding.

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<sup>1</sup> See the complete regulations at <https://www.ecfr.gov/current/title-44/chapter-I/subchapter-A/part-9>.

<sup>2</sup> EO 11988 requires Federal agencies to evaluate and minimize potential effects of their actions on floodplains and to consider and minimize flood hazards.

<sup>3</sup> See 44 CFR § 9.6 for further information on the 8-step decision-making process.

<sup>4</sup> FEMA will provide adequate funding to comply with the requirements of this policy subject to program eligibility criteria and considerations. See FEMA Instruction 108-1-1, *Instruction on Implementation of the Environmental Planning and Historic Preservation Responsibilities and Program Requirements*, Section 2.3.C, [https://www.fema.gov/sites/default/files/2020-07/fema\\_ehp\\_instructions\\_implementation\\_2018.pdf](https://www.fema.gov/sites/default/files/2020-07/fema_ehp_instructions_implementation_2018.pdf).

- B. Avoid, to the extent possible, the long- and short-term adverse impacts associated with occupancy and modification of floodplains and avoid direct or indirect support of floodplain development wherever there is a practicable alternative.
- C. Improve resilience of FEMA-funded actions against current and future flood risk to ensure they serve their purpose for as long as intended.
- D. Rely on best available<sup>5</sup> information to inform agency decision making, including information on current and future flood risk and actionable climate science information, where available.

## REQUIREMENTS

### A. APPLICABILITY

1. **Effective Date:** This policy is effective September 9, 2024. For disaster-related programs (e.g., Public Assistance, Individual Assistance, Hazard Mitigation Grant Program), this policy applies to disasters declared on or after the effective date of the policy. For non-disaster grant programs, this policy is applicable to notices of funding opportunity published on or after the effective date of the policy. See Appendix A for a copy of the 44 CFR part 9 regulations applicable prior to the effective date of this policy.
2. **Applicability:** The Natural Features and Nature-Based Solutions requirements of this policy apply to all Actions subject to the full 8-step decision-making process. The remainder of the policy applies to all structure elevation, mitigation reconstruction, and dry floodproofing actions under FEMA’s Hazard Mitigation Assistance programs and all Actions Subject to the FFRMS. “Actions Subject to the FFRMS” is defined as actions where FEMA funds are used for new construction, substantial improvement, or to address substantial damage<sup>6</sup> to a structure or facility.
3. **Supersession:** This policy supersedes FEMA Policy 104-22-0003: *Partial Implementation of the Federal Flood Risk Management Standard for Public Assistance (Interim)*, and FEMA Policy 206-21-003-0001: *Partial Implementation of the Federal Flood Risk Management Standard for Hazard Mitigation Assistance Programs*.

### B. FFRMS EXCEPTIONS AND 8-STEP PROCESS EXEMPTIONS

Outcome: Explain exceptions to use of the FFRMS and how those exceptions relate to existing emergency action exemptions.

1. **8-Step Process Exemption:** While FFRMS provides an exception for emergency actions, FEMA has an existing exemption for such activities. Assistance provided for emergency work essential to save lives and protect property, public health, and safety performed pursuant to Stafford Act sections 403 and 502 is exempt from the 8-step process and not subject to the FFRMS.<sup>7</sup>

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<sup>5</sup> See “Guidelines for Implementing Executive Order 11998, Floodplain Management, and Executive Order 13690, Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input,” 80 FR 64008 (Oct. 22, 2015) (“Best available” refers to information that is “transparent, technically credible, usable, and legitimate.”)

<sup>6</sup> Substantial improvement includes work to address substantial damage to a structure or facility. See definition of “substantial improvement” below.

<sup>7</sup> 44 CFR § 9.5(c)(1).

2. **FFRMS Exceptions:** FEMA may provide an exception from the FFRMS in the following circumstances: (1) where it is in the interest of national security; (2) where it is an emergency action; or (3) where the agency action is a mission-critical requirement related to a national security interest or an emergency action.<sup>8</sup>
3. For actions subject to a FFRMS exception, but not exempt from the 8-step process, the applicable flood elevation and corresponding floodplain are the 1% annual chance (AC) flood elevation and 1% AC floodplain for non-critical actions and 0.2% AC flood elevation and 0.2% AC floodplain for critical actions.

### C. DETERMINATION OF THE FFRMS FLOODPLAIN<sup>9</sup>

Outcome: Explain how FEMA determines the appropriate vertical flood elevation and corresponding horizontal FFRMS floodplain under this policy.

1. FFRMS flood elevations and corresponding FFRMS floodplains are determined using one of the three different approaches described below:
  - a. Climate-Informed Science Approach (CISA): The elevation and corresponding horizontal floodplain that result from using the best-available, actionable hydrologic and hydraulic data and methods that integrate current and future changes in flooding based on climate science.<sup>10</sup>
  - b. Freeboard Value Approach (FVA): The elevation and corresponding horizontal floodplain that result from using the freeboard value, reached by adding 2 feet to the base flood elevation (BFE)<sup>11</sup> for non-critical actions<sup>12</sup> (+2' FVA) and from adding 3 feet to the BFE for critical actions (+3' FVA).
  - c. 0.2-Percent-Annual-Chance Flood Approach (0.2PFA): The area subject to flooding by the 0.2% AC flood.
2. FEMA will determine the FFRMS flood elevation and corresponding FFRMS floodplain according to CISA for all locations where the best-available, actionable hydrologic and hydraulic data and methods that integrate current and future changes in flooding based on climate science exist. When using CISA, for non-critical actions the FFRMS floodplain will be at least as restrictive as the 1% AC flood elevation and corresponding horizontal floodplain, and for critical actions the FFRMS floodplain will be at least as restrictive as the 0.2% AC flood elevation and corresponding horizontal floodplain.
3. For locations where CISA is not available and actionable, FEMA will determine the FFRMS elevation and FFRMS floodplain according to the approaches described below.

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<sup>8</sup> 44 CFR § 9.7(c)(1)(iii); EO 11988, as amended, Sec. 6(c)(2)

<sup>9</sup> For purposes of compliance with FFRMS, floodplains include both a vertical extent (flood elevation) and a horizontal extent.

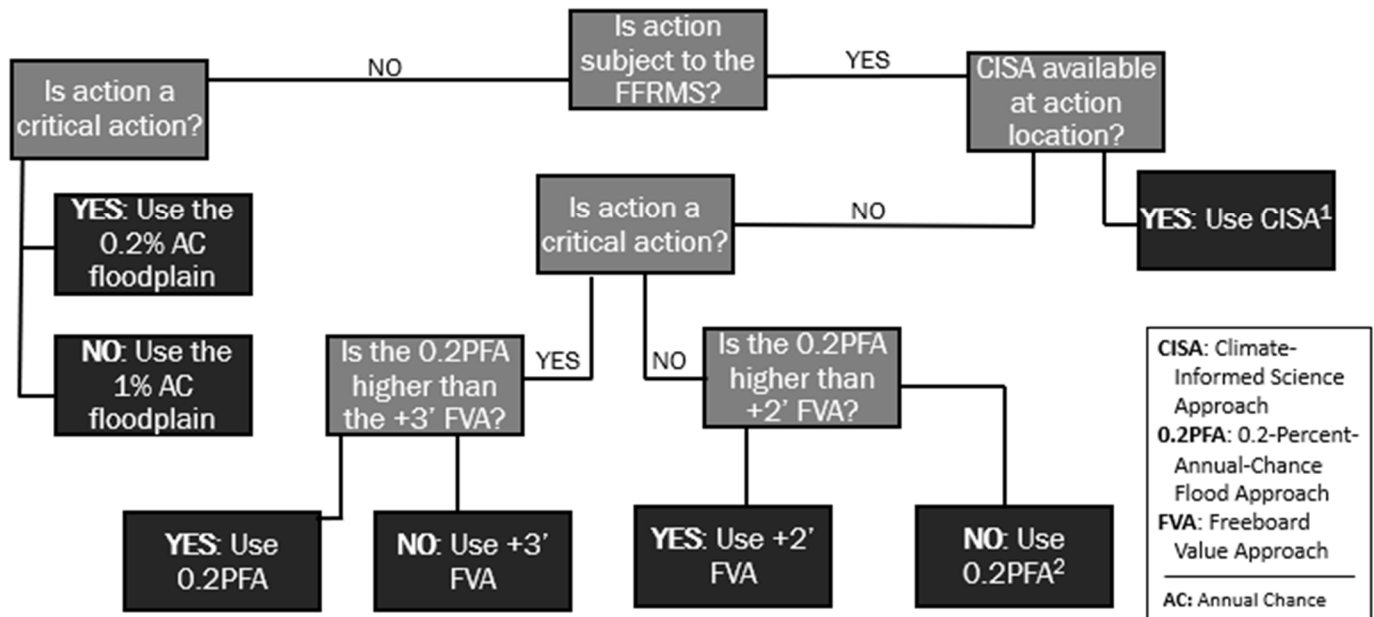
<sup>10</sup> CISA instructions and resources are included in Appendix H of the *Guidelines for Implementing EO 11988 and EO 13690*, October 2015. [https://www.fema.gov/sites/default/files/documents/fema\\_IGA-appendices-a-h\\_10082015.pdf](https://www.fema.gov/sites/default/files/documents/fema_IGA-appendices-a-h_10082015.pdf). The federal government may periodically publish new CISA resources to support determining the CISA FFRMS floodplain.

<sup>11</sup> As used in this policy, “base flood elevation” and 1% AC flood elevation are synonymous.

<sup>12</sup> Non-critical action means any activity that does not meet the definition of critical action (see Definitions below).

- a. **For non-critical actions:** The FFRMS floodplain is the area that would be inundated by the lower of the 0.2% AC flood or +2' FVA.<sup>13</sup>
  - b. **For critical actions:** The FFRMS floodplain is the area that would be inundated by the higher of the 0.2% AC flood or +3' FVA. For locations where information about the elevation and/or extent of the 0.2% AC floodplain is not available, the FFRMS floodplain is the +3' FVA.
4. FEMA may not take an action if it is inconsistent with the criteria of the NFIP or any more restrictive federal, state, or local floodplain management standards or building code.<sup>14</sup>

#### Determining the Appropriate Floodplain for the 8-Step Process



<sup>1</sup> When using CISA, the floodplain must be at least as restrictive as:

- For non-critical actions, the 1% AC floodplain
- For critical actions, the 0.2% AC floodplain

<sup>2</sup> In coastal areas, if 0.2% AC flood elevations do not account for wave action, the appropriate FVA must be used.

**Figure 1: Determining the Appropriate Floodplain for the 8-Step Process**

#### D. FFRMS FLOODPLAIN DETERMINATION AND BEST AVAILABLE INFORMATION

Outcome: The applicable floodplain for an action is determined by consulting the following sources of flood hazard information.

1. In determining the applicable floodplain, FEMA follows the processes outlined in 44 CFR § 9.7 and in FEMA Policy 104-008-2: *Guidance on the Use of Available Flood Hazard Information*. FEMA will rely on the best available information to determine whether an action is inside or outside of the applicable floodplain and to determine appropriate minimization requirements. The best available information may include information that is

<sup>13</sup> In coastal areas Flood Insurance Rate Maps (FIRMs) and Flood Insurance Studies (FISs) provide 1% AC flood elevations that account for the effects of wave action. However, 0.2% AC flood elevations are generally stillwater elevations that do not account for the effects of wave action. In coastal areas, if the 0.2% AC flood elevation does not account for the effects of wave action, the FVA flood elevation must be used.

<sup>14</sup> 44 CFR § 9.11(d)(6).

non-regulatory or FEMA preliminary flood hazard data. To be designated as the best available information, it must be at least as restrictive as information provided by effective FIRMs.

2. FEMA is coordinating across the federal government to develop tools to assist agencies and stakeholders in determining the appropriate vertical flood elevation and corresponding horizontal FFRMS floodplain. FEMA will rely on these tools, such as the FFRMS Floodplain Determination Job Aid,<sup>15</sup> as the best available information to determine CISA flood elevations and corresponding horizontal floodplains.

## **E. SUBSTANTIAL IMPROVEMENT, SUBSTANTIAL DAMAGE, AND NEW CONSTRUCTION**

Outcome: Explain definitions, requirements, and procedures related to determinations of new construction, substantial improvement (SI), and substantial damage (SD) for compliance with the FFRMS. FEMA will follow the process below to identify actions that may receive substantial damage or substantial improvement determinations.

1. For purposes of application of 44 CFR Part 9 and this policy, substantial improvement includes repair to structures and facilities that have been substantially damaged.
2. To assist in identifying Actions Subject to the FFRMS, FEMA will rely on local floodplain administrator determinations, if available, for determining whether an action entails substantial improvement<sup>16</sup> or work to address substantial damage.<sup>17</sup> For communities that participate in the NFIP, local officials determine whether activities within the 1% AC floodplain trigger substantial damage or substantial improvement requirements as part of their floodplain management responsibilities.
3. In cases where local officials are unavailable or unable to make a determination, FEMA will make SI/SD determinations for Actions Subject to the FFRMS.
4. FEMA will make SI/SD determinations where necessary in the expanded FFRMS floodplain, in NFIP non-participating communities, and for facilities.
5. **SI/SD Determinations for Structures.** FEMA will determine that an action involving work on a structure constitutes SI/SD when the cost equals or exceeds 50% of the market value of the structure.
6. **SI/SD Determinations for Facilities.** Cases where the cost of improvement to a facility or cost to repair damage to a facility exceeds 50% of the facility's replacement cost will be determined SI/SD. For example, if work to repair a culvert costs more than 50% of replacing the culvert, FEMA will consider that facility to be substantially damaged. If a facility is an essential link in a larger system, such as a roadway or electrical system, the percentage of damage will be based on the relative cost of repairing the damaged facility to the replacement cost of the portion of the system which is operationally dependent on the facility.

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<sup>15</sup> Available at [https://www.fema.gov/sites/default/files/documents/fema\\_ffrms-floodplain-determination-job-aid.pdf](https://www.fema.gov/sites/default/files/documents/fema_ffrms-floodplain-determination-job-aid.pdf).

<sup>16</sup> See definition of "substantial improvement" in Definitions below.

<sup>17</sup> Determining whether an action entails substantial improvement or work to address substantial damage is often referred to as making an "SI/SD Determination."

7. **New Construction.** FEMA will determine that a FEMA action is new construction when it is construction of a new structure or facility or replacement of a structure or a facility that has been completely destroyed.<sup>18</sup>

## F. NATURAL FEATURES AND NATURE-BASED SOLUTIONS

Outcome: Require consideration of natural features and nature-based approaches as alternatives to a proposed action. Nature-based solutions are also known as nature-based approaches, bioengineering, or green infrastructure.

1. **Alternatives to a proposed action:** For actions located within or that may affect a floodplain or wetland, the following alternatives must be considered: a) no action; b) alternative locations; and c) alternative actions, including alternative actions that use natural features or nature-based solutions. Where possible, the Agency shall use natural systems, ecosystem processes, and nature-based solutions.<sup>19</sup>

The requirement to consider natural features and nature-based solutions applies to all actions that are subject to the alternatives analysis (Step 3 of the 8-step process)—not only to Actions Subject to the FFRMS.

2. **Examples and Benefits:** Natural features, use of ecosystem processes, and nature-based solutions, whether existing or proposed to be restored, cover a wide variety of solutions for disaster recovery and mitigation projects. One example is to consider constructing a living shoreline or incorporating bioengineering rather than building a seawall.<sup>20</sup> Choosing alternatives that incorporate natural features and nature-based solutions enhances the natural and beneficial values of floodplains and wetlands while also reducing flood risk.
3. **Incorporation as a Minimization Measure:** If not practicable as an alternative on their own, natural features and nature-based solutions may be incorporated into actions as minimization measures. For example, natural features and nature-based solutions may not be a practicable alternative for replacing a structure on a school campus, but they could be incorporated into the project site. Possible nature-based solutions include permeable pavement, native vegetation, and stormwater quality improvements. Such minimization measures enhance the natural and beneficial values of floodplains and wetlands as well as minimize some of the impacts of actions within those areas.

## G. FLOOD RISK MINIMIZATION MEASURES<sup>21</sup>

Outcome: Explain requirements under this policy to minimize flood risk.

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<sup>18</sup> See definition of “new construction” in Definitions below. The FFRMS does not apply to the placement of Temporary Housing Units due to the short-term nature of their placement. However, the FFRMS does apply to those units when the unit is permanently installed.

<sup>19</sup> 44 CFR § 9.9(b)(2).

<sup>20</sup> See additional FEMA and other federal agency resources on nature-based solutions for more examples: [Nature-Based Solutions](#).

<sup>21</sup> The first goal of the FEMA Building Codes Strategy is to Integrate building codes and standards across FEMA (see: <https://www.fema.gov/emergency-managers/risk-management/building-science/building-codes-strategy>). Accordingly, FEMA’s Hazard Mitigation Assistance (HMA) and Public Assistance (PA) grant programs have additional minimum building requirements, including but not limited to design and construction requirements established in *ASCE 24 – Flood Resistant Design and Construction*, published by the American Society of Civil

## 1. Flood Risk Minimization for Structures

- a. Structure elevation, mitigation reconstruction, and dry floodproofing Actions under FEMA's Hazard Mitigation Assistance Programs and Actions Subject to the FFRMS must be either located outside the FFRMS floodplain or elevated or floodproofed to the flood elevation determined in Section C of this policy.
- b. FEMA does not generally allow floodproofing for residential structures.<sup>22</sup> Minimization requirements for residential structures must be met by elevation above the applicable FFRMS floodplain.
- c. For nonresidential structures, instead of elevating to the appropriate flood elevation, FEMA may approve a floodproofing design for a structure and its attendant utility and sanitary facilities so that the structure is watertight below the flood elevation, with walls substantially impermeable to the passage of water and with structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy.<sup>23</sup> Elevation and floodproofing requirements must be consistent with NFIP criteria or any more restrictive local standard.
- d. FEMA guidance provides technical information on elevation methods for new construction and retrofitting existing structures with various types of foundations. Guidance is available in NFIP Technical Bulletins (1-11), FEMA P-758, Substantial Improvement/ Substantial Damage Desk Reference, FEMA P-936 Floodproofing Non-Residential Buildings, FEMA P-348, Protecting Building Utility Systems from Flood Damage, FEMA P-467-2 Floodplain Management Bulletin on Historic Structures, among other FEMA publications.

## 2. Flood Risk Minimization for Facilities<sup>24</sup>

- a. The FFRMS is a resilience standard.<sup>25</sup> Particularly in cases where elevation may not be feasible or appropriate for non-structure facilities, the FFRMS floodplain, determined according to the process described in section C of this policy, establishes the level to which a structure or facility must be resilient. Resilience measures include using structural or nonstructural methods to reduce or prevent damage; elevating a structure; or, where appropriate, designing it to adapt to, withstand and rapidly recover from a flood event.
- b. To the extent practicable and in accordance with applicable grant program requirements, projects for non-structure facilities located within a FFRMS floodplain must be designed to ensure resilience against flooding up to the flood elevation of the FFRMS floodplain.

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Engineers. When elevation requirements in ASCE 24 are lower than elevation requirements in this policy, applicants must follow the requirements in this policy. ASCE 24 highlights are available at [https://www.fema.gov/sites/default/files/2020-07/asce24-14\\_highlights\\_jan2015.pdf](https://www.fema.gov/sites/default/files/2020-07/asce24-14_highlights_jan2015.pdf). Refer to HMA and PA policy for more details on program-specific building requirements.

<sup>22</sup> 44 CFR § 9.11(d)(3)(ii).

<sup>23</sup> 44 CFR § 9.11(d)(3)(ii).

<sup>24</sup> Facilities are also known as non-structure facilities.

<sup>25</sup> Resilience means the ability to adapt to changing conditions and withstand and rapidly recover from disruption due to emergencies (*Guidelines for Implementing EO 11988 and EO 13690*, October 2015).

### 3. Water Surface Elevation/No Rise Requirement

- a. To ensure FEMA actions comply with the provisions of the NFIP, FEMA will adhere to the minimization measure specified in 44 CFR § 9.11(d)(4), ensuring that FEMA actions do not result in any increase in water surface elevation within the community during the occurrence of a 1% annual chance flood beyond what is allowed under the NFIP or more restrictive local requirements. Encroachments, including fill, new construction, substantial improvements, and other development are prohibited within any adopted regulatory floodway unless it has been demonstrated through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the proposed encroachment would not result in any increase in flood elevation within the community during the occurrence of the 1% AC flood discharge.<sup>26</sup>
- b. Until a regulatory floodway is designated, no new construction, substantial improvements, or other development (including fill) shall be permitted within the 1% AC floodplain, unless it is demonstrated that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the 1% AC flood more than one foot or the amount designated by local floodplain ordinance, whichever is more restrictive.<sup>27</sup>

### H. COORDINATION WITH OTHER FEDERAL AGENCIES

Outcome: FEMA coordinates with other federal agencies when engaging with or implementing actions in the same area as another federal agency.

1. When multiple federal agencies are conducting, supporting (including funding), or permitting actions in the same geographic area, early coordination is essential to avoid applying conflicting standards on the same project.
  - a. Accordingly, when FEMA is funding an action in conjunction with another federal agency, FEMA will coordinate with the applicable federal agencies as early in the planning process as possible.
  - b. When coordinating with other federal agencies, FEMA will generally default to the FFRMS policy approach outlined in Section C above, as appropriate.<sup>28</sup>
  - c. FEMA will include in NEPA documents (such as Environmental Assessments or Environmental Impact Statements) analysis of impacts of applying conflicting FFRMS standards within the same geographic area.
2. In a declared major disaster, the Unified Federal Review (UFR) process offers additional coordination opportunities for FEMA and other federal agencies. The goal of UFR is to expedite and unify the process for completing environmental and historic preservation reviews required for disaster recovery projects, while maintaining the technical rigor and public participation associated with those reviews. This is done by developing agreements and tools which assist federal agencies in coordinating their reviews to streamline the decision-making process and improve delivery of disaster-related services and

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<sup>26</sup> 44 CFR § 60.3(d)(3).

<sup>27</sup> 44 CFR § 60.3(c)(10).

<sup>28</sup> Per 44 CFR § 9.11(d)(6), actions must be consistent with the NFIP as well as any more restrictive federal, State, or local floodplain management standards. Those floodplain management standards may include a more restrictive application of another federal agency's FFRMS approach.



assistance. For more information on the UFR Process, see FEMA’s website at [Unified Federal Environmental and Historic Preservation Review \(UFR\) Library](#).

## **I. NON-DISCRIMINATION, EQUITY, AND ENVIRONMENTAL JUSTICE REQUIREMENTS**

Outcome: The FFRMS is applied in a non-discriminatory and equitable manner.

1. The Stafford Act, Rehabilitation Act of 1973, and Title VI of the Civil Rights Act of 1964 require that all FEMA-funded relief and assistance activities shall be accomplished in an equitable and impartial manner, without discrimination on the grounds of race, color, religion, nationality, sex, age, disability, English proficiency, or economic status.
2. FEMA is required to pursue a comprehensive approach to advancing equity for all, including people of color and others who have been historically underserved, marginalized, and adversely affected by persistent poverty and inequality.<sup>29</sup> FEMA is also responsible for identifying and addressing the disproportionate and adverse human health or environmental effects of programs, policies, and activities on communities with environmental justice concerns, to the greatest extent practicable and permitted by law.<sup>30</sup>
3. Accordingly, the FFRMS policy is designed to be sufficiently standardized to be easily understood and consistently applied, while allowing sufficient flexibility to account for future updates to the FFRMS and ensuring an appropriate level of resilience without excessive risk minimization requirements. FEMA will continue to examine current policies and practices in the field of floodplain management to address any injustices or inequities that may exist.

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Signatory

July 8, 2024

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Date

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<sup>29</sup> See EO 13985: *Advancing Racial Equity and Support for Underserved Communities Through the Federal Government*, January 25, 2021.

<sup>30</sup> See EO 14096, *Revitalizing Our Nation’s Commitment to Environmental Justice for All*, 88 Fed. Reg. 25,251 (Apr. 26, 2023).

# ADDITIONAL INFORMATION

## REVIEW CYCLE

This policy will be reviewed, revised, extended, and/or rescinded within four years of the issue date.

## AUTHORITIES and REFERENCES

### Authorities

- A. Robert T. Stafford Disaster Relief and Emergency Assistance Act, 42 U.S.C. § 5121-5207, as amended.
- B. Title VI of the Civil Rights Act of 1964, 42 U.S.C. § 2000d et seq.
- C. Title 44 of the Code of Federal Regulations, Parts 7, 9 and 206.
- D. Title 44 of the Code of Federal Regulations, Parts 59-63.
- E. Executive Order 11988: *Floodplain Management*, May 24, 1977, as amended.
- F. Executive Order 11990: *Protection of Wetlands*, May 24, 1977.
- G. Executive Order 13690: *Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input*, January 30, 2015.
- H. Executive Order 14030: *Climate-Related Financial Risk*, May 20, 2021.

### References

- A. Water Resources Council. *Guidelines for Implementing Executive Order 11988, Floodplain Management, and Executive Order 13690, Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input*, October 2015.
- B. Interagency Task Force on Floodplain Management. *Further Advice on Executive Order 11988 Floodplain Management*, 1986.
- C. FEMA Policy 104-008-2: [Guidance on the Use of Available Flood Hazard Information](#), October 11, 2016.
- D. NFIP Technical Bulletins (1-11)
- E. FEMA P-758, Substantial Improvement/Substantial Damage Desk Reference
- F. FEMA P-936 Floodproofing Non-Residential Buildings
- G. FEMA P-348, Protecting Building Utility Systems from Flood Damage
- H. FEMA P-467-2 Floodplain Management Bulletin on Historic Structures

## DEFINITIONS

*The following definitions apply throughout this policy.*

**0.2% Annual Chance Flood Elevation** means the elevation to which floodwater is anticipated to rise during the 0.2 percent annual chance flood (also known as the 500-year flood) (44 CFR § 9.4).

**0.2% Annual Chance Floodplain** means the area subject to flooding by the 0.2 percent annual chance flood (also known as the 500-year floodplain) (44 CFR § 9.4).

**1% Annual Chance Flood Elevation** means the elevation to which floodwater is anticipated to rise during the 1% annual chance flood (also known as the base or 100-year flood). The terms “base flood elevation,” “1% annual chance flood elevation,” and “100-year flood elevation” are synonymous and are used interchangeably (44 CFR § 9.4 – Base Flood Elevation).

**1% Annual Chance Floodplain** means the area subject to flooding by the 1 percent annual chance flood (also known as the 100-year floodplain or base floodplain) (44 CFR § 9.4).

**Action** means any activity including (1) acquiring, managing, and disposing of Federal lands and facilities; (2) providing federally undertaken, financed, or assisted construction and improvements; and (3) conducting Federal activities and programs affecting land use, including, but not limited to, water and related land resources, planning, regulating and licensing activities (44 CFR § 9.4).

**Action Subject to the Federal Flood Risk Management Standard** means an action where FEMA funds are used for new construction, substantial improvement, or to address substantial damage to a structure or facility (44 CFR § 9.4).

**Base Flood Elevation** – See 1% annual chance flood elevation.

**Critical action** means any activity for which even a slight chance of flooding is too great. Critical actions include, but are not limited to, those which create or extend the useful life of structures or facilities: (1) Such as those which produce, use, or store highly volatile, flammable, explosive, toxic, or water-reactive materials; (2) Such as hospitals and nursing homes, and housing for the elderly, which are likely to contain occupants who may not be sufficiently mobile to avoid the loss of life or injury during flood and storm events; (3) Such as emergency operation centers, or data storage centers which contain records or services that may become lost or inoperative during flood and storm events; and (4) Such as generating plants, and other principal points of utility lines (44 CFR § 9.4).

**Facility** means any man-made or man-placed item other than a structure (44 CFR § 9.4).

**Federal Flood Risk Management Standard (FFRMS)** means the Federal flood risk management standard to be incorporated into existing processes used to implement Executive Order 11988, as amended (44 CFR § 9.4).

**Federal Flood Risk Management Standard (FFRMS) Floodplain** means the floodplain established using one of the approaches described in section C.1 of this policy (44 CFR § 9.4).

**Natural and beneficial values of floodplains and wetlands** means features or resources that provide environmental and societal benefits. Water and biological resources are often referred to as “natural function of floodplains and wetlands.” These values include but are not limited to: (1) Water resource values (storing and conveying floodwaters, maintaining water quality, and groundwater recharge); (2) living resource values (providing habitats and enhancing biodiversity for fish, wildlife, and plant resources); (3) cultural resource values (providing open space, natural beauty, recreation, scientific study, historical and archaeological resources, and education); and (4) cultivated resource values (creating rich soils for agriculture, aquaculture, and forestry) (44 CFR § 9.4).

**Natural features** means characteristics of a particular environment (e.g., barrier islands, sand dunes, wetlands) that are created by physical, geological, biological, and chemical processes and exist in dynamic equilibrium. Natural features are self-sustaining parts of the landscape that require little or no maintenance to continue providing their ecosystem services (functions) (44 CFR § 9.4).

**Nature-based solutions** (also referred to as Nature-based approaches) means the features designed to mimic natural processes and provide specific services such as reducing flood risk and/or improving water quality. Nature-based solutions are created by human design (in concert with and to accommodate natural processes) and generally, but not always, must be maintained in order to reliably provide the intended level of service (44 CFR § 9.4).

**New Construction** means the construction of a new structure or facility or the replacement of a structure or facility which has been totally destroyed. New construction includes permanent installation of temporary housing units. New construction in wetlands includes draining, dredging, channelizing, filling, diking, impounding, and related activities (44 CFR § 9.4).

**Practicable** means capable of being done within existing constraints.<sup>31</sup> The test of what is practicable depends upon the situation and includes consideration of all pertinent factors, such as natural environment, social concerns, economic aspects, legal constraints, and agency authorities (44 CFR § 9.4).

**Structures** means walled and roofed buildings, including temporary housing units and gas or liquid storage tanks (44 CFR § 9.4).

**Substantial Improvement** means any repair, reconstruction or other improvement of a structure or facility, which has been damaged in excess of, or the cost of which equals or exceeds, 50% of the market value of the structure or replacement cost of the facility (including all “public facilities” as defined in the Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1988) (1) before the repair or improvement is started, or (2) if the structure or facility has been damaged and is proposed to be restored, before the damage occurred. Substantial improvement includes work to address substantial damage to a structure or facility. If a facility is an essential link in a larger system, the percentage of damage will be based on the relative cost of repairing the damaged facility to the replacement cost of the portion of the system which is operationally dependent on the facility. The term “substantial improvement” does not include any alteration of a structure or facility listed on the National Register of Historic Places or a State Inventory of Historic Places (44 CFR § 9.4).

**Wetlands** means those areas which are inundated or saturated by surface or ground water with a frequency sufficient to support, or that under normal hydrologic conditions does or would support, a prevalence of vegetation or aquatic life typically adapted for life in saturated or seasonally saturated soil conditions, including wetlands areas separated from their natural supply of water as a result of construction activities such as structural flood protection methods or solid-fill road beds and activities such as mineral extraction and navigation improvements. Examples of wetlands include, but are not limited to swamps, fresh and saltwater marshes, estuaries, bogs, beaches, wet meadows, sloughs, potholes, mud flats, river overflows, and other similar areas. This definition is intended to be consistent with the definition utilized by the U.S. Fish and Wildlife Service (44 CFR § 9.4).

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<sup>31</sup> 44 CFR 9.9(c) provides more information on practicability factors.

## **MONITORING AND EVALUATION**

FEMA will monitor the implementation of this policy through close coordination with regional and field staff, as appropriate, as well as interagency partners and state, local, Tribal, and territorial stakeholders.

## **QUESTIONS**

Direct questions to [fema-oehp-policy-branch@fema.dhs.gov](mailto:fema-oehp-policy-branch@fema.dhs.gov)