



### Minimum Engineering Recommendations/Requirements for Elevation, Mitigation Reconstruction, and Acquisition Projects

#### Elevation Project

- Elevation projects will be constructed to the appropriate codes and standards by including a statement that the proposed project will be designed and constructed to meet the requirements of ASCE 24-14; a statement that the project will be designed in compliance with the National Flood Insurance Policy (NFIP) standards in 44 Code of Federal Regulations (CFR) Part 60 and a description of any additional building code standards that will be followed.
- Provide a detailed narrative clearly identifying the proposed mitigation action and structures to be mitigated, describing the proposed activities, and a clear explanation of how the project will mitigate risk, including flood event history in the project area, if available. The scope of work should include a description of the elevation method and the steps required to implement the mitigation activity including the proposed mechanism for elevation (e.g., continuous foundation walls; elevation on open foundations, such as piles, piers, posts or columns; elevating on fill), and description of activities needed to elevate utilities, as needed.
- Include any available NFIP claim records for each structure.
- Be sure to provide the following information for each structure included in the project: Existing lower floor elevation, existing foundation type, and proposed foundation type, year built, number of stories, and construction type (e.g., wood frame, masonry, concrete). Potential sources: Elevation Certificate, Elevation Survey, city or county property records, and building permit information.
- Provide a detailed line-item cost estimate for all tasks identified in the project schedule and SOW. Allowable costs are costs that are necessary and reasonable for the proper and efficient performance and administration of the federal award. All costs included in the subapplication should be reviewed to ensure they are necessary, reasonable and allocable consistent with the provisions of 2 CFR Part 200. Be consistent throughout the entire subapplication. Cost estimate activities must accurately support the proposed scope of work and align with the schedule.
- Define the proposed level of protection (e.g., the proposed project provides protection against a 100-year storm event). The first floor must be raised to 2 feet above the BFE or to the elevation specified in local ordinances, if higher.
- If the proposed structures are located within a Special Flood Hazard Area (SFHA), we recommend including a statement that the proposed project will comply with the Federal Flood Risk Management Standard (FFRMS).
- We strongly recommend providing a letter from a registered professional to ensure that each structure is structurally sound and capable of being elevated safely.
- Mitigation project alternatives are required as part of the subapplication development. Document at least two alternatives considered during the planning or design phase.



Clearly indicate which alternative is the preferred mitigation alternative and discuss why it is the most practical, effective, and environmentally sound alternative. One alternative is often considered the “no-action alternative” and reflects conditions expected to exist if a mitigation project is not completed.

### Mitigation Reconstruction Project

- Mitigation reconstruction projects must be designed and constructed to the minimum standard as established by the requirements of the latest published editions of the International Codes and Federal Flood Risk Management Standard requirements. Structures, including all parts and appurtenances, must be designed and constructed to safely support all loads, including dead loads, live loads, roof loads, floor loads, wind loads, flood loads, snow loads, seismic loads and combinations of loads expected to be imposed on the structure as defined in the codes and related documents referenced in the codes. The construction of structures must result in a system that provides a complete load path capable of transferring all loads from the point of origin through load-resisting elements to the soils supporting the foundations.
- Mitigation reconstruction projects are not allowed in the regulatory floodway or Coastal High Hazard Area (Zones V, VE and V1-V30 on FIRMs).
- The existing building and/or foundation must be partially or completely demolished or destroyed.
- The square footage of a resulting structure must be no more than 10% greater than that of the original structure. Breezeways, decks, garages and other appurtenances are not considered part of the original square footage unless situated on the original foundation system. Original square footage must be documented in the subapplication through copies of tax records or other verifiable means.
- Provide a detailed narrative clearly identifying the proposed mitigation action and structures to be mitigated, describing the proposed activities, and a clear explanation of how the project will mitigate risk, including flood event history in the project area, if available. The scope of work should include a description of the elevation method and the steps required to implement the mitigation activity including the proposed mechanism for elevation (e.g., continuous foundation walls; elevation on open foundations, such as piles, piers, posts or columns; elevating on fill), and description of activities needed to elevate utilities, as needed.
- Include any available NFIP claim records for each structure.
- Be sure to provide the following information for each structure included in the project: Existing lower floor elevation, existing foundation type, and proposed foundation type, year built, number of stories, and construction type (e.g., wood frame, masonry, concrete). Potential sources: Elevation Certificate, Elevation Survey, city or county property records, and building permit information.
- Include a statement that any enclosed space at grade level shall have hydrostatic vents and can only be used for storage or parking only. The square footage of the newly constructed and elevated structure shall be no more than ten (10) percent greater than the



original square footage. The project shall be designed and constructed in compliance with the Florida Building Code, ASCE 24-14 or latest edition, the Federal Flood Risk Management Standards (FFRMS), NFIP standards in 44 CFR, Part 60 and/or local floodplain ordinances or any other applicable local regulations.

- Provide a detailed line-item cost estimate for all tasks identified in the project schedule and SOW. Allowable costs are costs that are necessary and reasonable for the proper and efficient performance and administration of the federal award. All costs included in the subapplication should be reviewed to ensure they are necessary, reasonable and allocable consistent with the provisions of 2 CFR Part 200.
- Be consistent throughout the entire subapplication. Cost estimate activities must accurately support the proposed scope of work and align with the schedule.
- Define the proposed level of protection (e.g., the proposed project provides protection against a 100-year storm event). The first floor must be raised to 2 feet above the BFE or to the elevation specified in local ordinances, if higher.
- Mitigation project alternatives are required as part of the subapplication development. Document at least two alternatives considered during the planning or design phase. Clearly indicate which alternative is the preferred mitigation alternative and discuss why it is the most practical, effective, and environmentally sound alternative. One alternative is often considered the “no-action alternative” and reflects conditions expected to exist if a mitigation project is not completed.

### Acquisition Project

- Provide a scope of work with a detailed narrative clearly identifying the structures to be mitigated, describing the proposed activities, and a clear explanation of how the project will mitigate risk, including flood event history in the project area, if available.
- Include mitigation project alternatives, which are required as part of subapplication development. Document at least two alternatives that were considered as part of the planning or design phase. Clearly indicate which alternative is the preferred mitigation project and discuss why it is the most practical, effective and environmentally sound alternative. One alternative is often considered the “no-action alternative” and reflects conditions expected to exist if a mitigation project is not completed.
- Clearly explain the proposed mitigation activity, specifying the deliverables, identifying the tasks required to complete the proposed activity and defining the tasks to be accomplished in clear, concise and meaningful terms.
- Describe the existing conditions of the structure(s) to be acquired and describe the demolition activities.
- Include a statement that mitigation activities shall include all associated debris be removed to clear the site, the land be converted to open space and deed restricted as set forth in the FEMA program requirements concerning the acquisition of property for open space [44 CFR 206.434 (e)].
- Define the proposed level of protection (e.g., the proposed project provides protection against a 100-year storm event).



# MITIGATION

## STATE TECHNICAL UNIT - ENGINEERING

- Include any available NFIP claim records for each structure.
- Be sure to provide the following information for each structure included in the project: Building type, year built, number of stories, square footage, existing foundation type and construction type (e.g., wood frame, masonry, concrete). Potential sources: Elevation Certificate, Elevation Survey, city or county property records, and building permit information.
- Include a detailed project schedule for all tasks identified in the project cost estimate and SOW. The schedule identifies major milestones, with start and end dates for each activity. Project schedules must show completion of all activities (including the construction period) within the period of performance (POP).
- Provide a detailed line-item cost estimate for all tasks identified in the project schedule and SOW. Allowable costs are costs that are necessary and reasonable for the proper and efficient performance and administration of the federal award. All costs included in the subapplication should be reviewed to ensure they are necessary, reasonable and allocable consistent with the provisions of 2 CFR Part 200.
- Be consistent throughout the entire subapplication. Cost estimate activities must accurately support the proposed scope of work and align with the schedule.