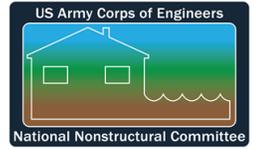




USACE NATIONAL NONSTRUCTURAL COMMITTEE BEST PRACTICE GUIDE 2020-05



Policy Considerations for Nonstructural Measures

1. Purpose. This Guide identifies policy considerations for each type of nonstructural measure commonly considered as part of USACE feasibility studies.
2. Applicability. This Guide applies to the planning process for all USACE flood risk management (FRM) and coastal storm risk management (CSR) feasibility studies, including Continuous Authorities Program (CAP) studies.
3. References
 - a. USACE, 2015. Planning Bulletin 2016-01. Subject: Clarification of Existing Policy for USACE Participation in Nonstructural Flood Risk Management and Coastal Storm Damage Reduction Measures.
 - b. USACE, 2018. Planning Bulletin 2019-03. Subject: Further Clarification of Existing Policy for USACE Participation in Nonstructural Flood Risk Management and Coastal Storm Damage Reduction Measures.
 - c. USACE, 2016. Planning Community Webinar Series: Nonstructural Policy Clarification (PB 2016-01). Retrieved from <https://planning.erdc.dren.mil/toolbox/resources.cfm?Id=0&WId=292&Option=Planning%20Webinars>
 - d. USACE, 2019. National Nonstructural Committee Best Practice Guide 2020-02, Considerations for Estimating Participation Rates in Voluntary Nonstructural Measures.
 - e. USACE, 2019. National Nonstructural Committee Best Practice Guide 2020-03, Sensitivity Analysis for Participation Rates in Nonstructural Alternatives.
 - f. Federal Emergency Management Agency. March 2007. FEMA 551, Selecting Appropriate Mitigation Measures for Floodprone Structures.
 - g. Federal Emergency Management Agency. July 2013. FEMA P-936, Floodproofing Non-Residential Buildings.

4. Background

a. Nonstructural Policy Considerations. The various nonstructural measures commonly considered on USACE projects have different policy considerations that are important to be aware of during plan formulation. For example, some measures may require the use of eminent domain by the non-federal sponsor while others allow for voluntary participation by the property owner. In addition, some nonstructural measures such as elevations allow for reductions in National Flood Insurance Program (NFIP) premiums while others such as dry floodproofing do not. These considerations may affect plan formulation, comparison, selection and recommendation.

b. Coordination with Sponsors and the Public. Project Delivery Teams (PDTs) are encouraged to communicate the requirements of applicable guidance with non-federal sponsors and property owners throughout the planning phase. For example, many sponsors are unaware of their requirements pertaining to the use of eminent domain for nonstructural measures, real estate acquisition, and other matters. The National Nonstructural Committee (NNC) remains a resource for PDTs to support clear communication with sponsors and the public.

c. National Flood Insurance Program. Although non-federal sponsors are often interested in possible flood insurance rate reductions resulting from construction of a USACE project, USACE does not consider flood insurance rate reductions in plan formulation. The connection between each nonstructural measure described below and the NFIP is provided for convenience in communicating with non-federal sponsors, but it should be noted that USACE does not formulate plans for the purpose of reducing flood insurance rates.

5. Best Practices

a. Acquisitions/Relocations/Permanent Evacuations

- i. USACE policy, as noted in Reference 3.a., states that “In order to have a complete plan, the ability to use eminent domain must be retained and a condition of an implementable project” when utilizing acquisitions, relocations or permanent evacuations. This means that the non-federal sponsor must agree to employ eminent domain, if needed, within the project area for buyouts to be included in plan formulation. The non-federal sponsor must indicate their willingness to employ eminent domain at the Tentatively Selected Plan milestone, and provide a Letter of Intent in conjunction with the draft and final reports.
- ii. Eminent domain costs are cost shared because they fall under Lands, Easements, Rights-of-Way, Relocations, and Disposal (LERRDs).
- iii. Unwillingness of a sponsor to use eminent domain to implement a project is not an applicable reason to screen a measure or plan from consideration.
- iv. The eminent domain policy stated in Reference 3.a. is intended to:
 - Ensure completeness of the recommendation.
 - Allow for relocation assistance under PL 91-646.
 - Allow for alternative use of land.
 - Address residual risk concerns.

b. Structure Elevation

- i. Property owner participation in a USACE project is voluntary for structure elevations.
- ii. Residential and commercial property owners can get reduced insurance rates under the NFIP if the first floor of their structure is at or above the Base Flood Elevation (BFE) (or higher if specified by local regulations) after elevation occurs. If a basement exists, the first floor elevation is assigned to the elevation of the basement floor.

c. Dry Floodproofing

- i. Property owner participation in a USACE project is voluntary for dry floodproofing.
 - ii. Dry floodproofing is subject to the same participation rate considerations as elevation.
 - iii. The maximum recommended height for dry floodproofing is three feet, based on hydraulic loading limits. Greater heights may be possible if an engineering analysis of a structure confirms its physical capacity to resist greater loads.
 - iv. Commercial structures that are dry floodproofed to one foot above the BFE may be eligible for the NFIP. To get reduced flood insurance rates, the structure must be located in a low velocity zone and the design must be certified by a registered professional engineer or architect. In contrast, residential structures with dry floodproofing are not eligible for reduced flood insurance rates under the NFIP. See Chapter 2 in Reference 3.g. for additional information.
- d. Wet Floodproofing
- i. Property owner participation in a USACE project is voluntary for wet floodproofing.
 - ii. Wet floodproofing is subject to the same participation rate considerations as structure elevation.
 - iii. Wet floodproofing does not reduce insurance premium rates under the NFIP for either residential or commercial structures. See Chapter 6 in Reference 3.f. for additional information.
- e. Participation Rates for Voluntary Measures
- i. Participation rates are inherently uncertain when participation in nonstructural measures is voluntary. This in turn creates uncertainty in plan selection and corresponding economic viability of the selected plan under different participation rates.
 - ii. Reference 3.b. states that PDTs must evaluate and report the effects of uncertainty in participation rates, but does allow flexibility in the evaluation approach. The NNC developed Reference 3.d. to help PDTs identify a method for estimating likely participation rates within a community, and developed Reference 3.e. to help PDTs evaluate the economic sensitivity of different participation rates. These Best Practice Guides offer PDTs example methods for estimation of both participation rates and sensitivity analysis of participation rates, but other approaches are possible as well.