



Institute for Resilient Infrastructure Systems
UNIVERSITY OF GEORGIA

Mr. Michael L. Connor
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HQ, U.S. Army Corps of Engineers
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441 G Street NW
Washington, DC 20314–1000

Submitted via regulations.gov

Re: Docket No. COE-2021-0008 - comments regarding proposed changes to 33 C.F.R. Part 203

Dear Mr. Connor,

Thank you for the opportunity to comment on the US Army Corps of Engineers' ("USACE's" or "the Corps") proposal to modify the 33 C.F.R Part 203 implementing regulations for Public Law 84-99. As researchers at the University of Georgia's Institute for Resilient Infrastructure Systems who are involved in the Network for Engineering With Nature (<https://n-ewn.org>), we are committed to enhanced investigation and implementation of nature-based solutions to water resource challenges. Our comments below are primarily focused on ensuring that the PL 84-99 program enables more frequent investigation and implementation of levee setbacks.

A levee setback is a critical tool in the Engineering With Nature approach to fulfilling the Corps' flood risk management mission. A levee setback is the realignment of an existing levee or the construction of a new levee that is located away from the active river channel. It combines a structural element (the levee) with an environmental element (the historical floodplain) to improve floodwater conveyance and to reduce flood stages and velocity. The benefits are myriad: decreased flood risk to local communities, infrastructure, and farmlands; decreased cost of maintaining and operating levees; enhanced habitat for fish and wildlife; restored critical ecosystem services such as water filtration and storage, and increased recreational opportunities.¹

The levee setback at L-536 in northwestern Missouri demonstrates how these myriad benefits can be achieved through the PL 84-99 program. In 2019, abnormal weather patterns in the Midwest led to record-setting flooding along the Missouri River and caused widespread,

¹ D. Smith et al., "Levee Setbacks: An Innovative, Cost-Effective, Sustainable Solution for Improved Flood Risk Management," ERDC/EL SR-17-3 (June 2017), *available at* <https://usace.contentdm.oclc.org/digital/collection/p266001coll1/id/4239/>; R. Behm, "Levee Setback White Paper" (June 2021), *available at* <https://www.trcp.org/wp-content/uploads/2021/06/Levee-Setback-White-Paper-FINAL-June-30-2021.pdf>.

catastrophic damages throughout the Missouri River Valley. L-536 experienced five full and two partial breaches, as well as significant crest damage. Among the resulting devastation in Atchison County, Missouri: More than 160 homes, nearly 1,300 agricultural buildings, and 14 commercial businesses were flooded; 121 miles of roads were destroyed, along with major disruption to the BNSF Railroad and a 216-day closure of US Highway 136; and 56,000 acres were submerged by floodwaters.

Prolonged high-water conditions prevented the Corps from immediately conducting a damage assessment and repairs but provided an inadvertent benefit: time. With this time, the local levee district consulted with the Corps' Omaha District and affected property owners about the possibility of a setback. Ultimately, the assessment determined that the most cost effective and technically feasible alternative was to construct a partial levee setback, in addition to some in-line repairs. In total, a 25,400-foot section of L-536 was built farther away from the river, encompassing a large section of the historical floodplain. The L-536 setback has created greater flood resilience for landward buildings and cropland and is expected to reduce operation and maintenance costs, reduce the flood risk to nearby communities, transportation networks, and infrastructure. It has also reconnected more than 1000 acres of floodplain and established 400 acres of new, high-value wetland habitat for fish and wildlife.²

Both congressional and presidential directives encourage consideration and implementation of levee setbacks. Executive Order 11988, "Floodplain Management," (as amended by Executive Order 13690) requires executive branch agencies to consider "natural systems, ecosystem processes, and nature-based approaches" when developing project alternatives in floodplains.³ Executive Order 14072, "Strengthening the Nation's Forests, Communities, and Local Economies," also calls on the Corps, through the Assistant Secretary of the Army for Civil Works and in partnership with other agencies, to identify opportunities for greater deployment of nature-based solutions.⁴ And most recently, in the Water Resources Development Act of 2022 ("WRDA 2022"), Congress required the Corps to develop a nationwide program for assessing the potential for setting back both Federal and non-Federal levees.⁵ Though less explicitly promoted in the document, setbacks are also consistent with the White House Council on Environmental Quality's 2013 Principles and Requirements for Federal Investments in Water Resources.⁶

² The Nature Conservancy, *Large Scale Levee Setback Playbook*. St. Louis, MO (2021).

³ Executive Order 13690, "Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input," Sec. 2(c) (Jan. 30, 2015).

⁴ EO 14072, "Strengthening the Nation's Forests, Communities, and Local Economies," Sec. 4(a) (Apr. 22, 2022).

⁵ Pub. L. No. 117-263, Div. H, § 8121, "Assessment of Corps Levees" (Dec. 27, 2022).

⁶ White House Council on Environmental Quality, "Principles and Requirements for Federal Investments in Water Resources" (March 2013), available at https://obamawhitehouse.archives.gov/sites/default/files/final_principles_and_requirements_march_2013.pdf.

Summary of Comments

We support the Corps' plan to repeal and replace the implementing regulations for Public Law 84-99 found in 33 C.F.R. Part 203. The proposed regulations will enhance consideration and implementation of levee setbacks through the Public Law 84-99 program, but we believe additional revisions are necessary to eliminate potential barriers to setbacks. In general, these revisions involve emphasizing explicit support for levee setbacks in the regulatory text, ensuring comprehensive benefits evaluation when analyzing proposals for the use of Public Law 84-99 funds, and aligning Part 203 regulations with current USACE policy, existing guidance from the Biden Administration, and recent congressional enactments.

Specifically, we support four of the Corps' proposed changes to 33 C.F.R. Part 203 because we anticipate that they will enhance the consideration and implementation of levee setbacks, and we urge you to retain these changes in the final rule:

1. Defining "emergency repair, rehabilitation, and restoration" to include "realigning segments...when the Corps determines that realignment would cost less or be more effective than an in-line repair;"
2. Specifically listing "constructing setback levees" as an allowable feature of modifications to address major deficiencies;
3. Encouraging modifications where recurring damage or failures are happening and the modifications are expected to decrease the life-cycle cost of flood response, post-flood response, and rehabilitation costs; and,
4. Allowing non-Federal sponsors to request exceptions to any regulation or policy, which will ensure necessary flexibility in the program.

We believe additional changes will enhance consideration and implementation of levee setbacks:

1. Refining key definitions to eliminate unnecessary restrictions on consideration of levee setbacks and ensure comprehensive benefits evaluation;
2. Amending several references to economic justification requirements so that they better ensure comprehensive benefits evaluation;
3. Adding provisions to Subpart D that implement new WRDA 2022 requirements for levee setback assessment;
4. Revising provisions in Subparts D and F to clarify how the Corps will consider proposals to set back levees;
5. Publishing records of historic floods and previous repairs on all levees, to aid non-Federal interests in prioritizing research and funding for levee setbacks; and
6. Ensuring the analysis of project alternatives incorporates reasonably foreseeable costs of emergency repair, rehabilitation, and restoration over a defined planning horizon.

Our comments related to these points are provided in more detail below, organized in the order of issues presented in the Code of Federal Regulations.

33 C.F.R. § 203.12 – Definitions

Definition of “Flood risk management (FRM) project”

We support the change to the proposed definition of “flood risk management (FRM) project,” which focuses on risk reduction, from the existing definition of “flood control project,” which focuses on “appreciable and dependable effects in preventing damage.” The focus on risk reduction is more inclusive because floods pose many different kinds of risk that the existing definition does not capture.

However, we believe the proposed definition does not fully capture the range of risk-reduction benefits that FRM projects can provide. By listing three risks (loss of life, damage to property, and damage to public infrastructure) that can be reduced by an FRM project to the exclusion of other common flood impacts, arguably the Corps is putting limits on the types of project benefits that can be incorporated into the benefit-cost analysis. The Corps should encourage a more comprehensive benefits analysis (in line with broader policy mandates such as the March 2013 PR&G,⁷ the January 2021 R.D. James memo on comprehensive benefits analysis,⁸ and the March 2022 Michael Connor memo on environmental justice⁹) with a straightforward amendment.

We propose the following:

Flood risk management (FRM) project. A project designed, constructed, operated, and maintained to reduce the risk of damage to property and public infrastructure, and the risk of loss of life, nonfatal injuries and illnesses, economic disruption, disruption to evacuation routes or emergency services, environmental damages, water quality and water supply impacts, and other risks posed by, ~~from~~ flooding.

⁷ White House Council on Environmental Quality, “Principles and Requirements for Federal Investments in Water Resources” (March 2013), available at https://obamawhitehouse.archives.gov/sites/default/files/final_principles_and_requirements_march_2013.pdf.

⁸ R.D. James, Assistant Secretary of the Army (Civil Works), “Memorandum for Commanding General, U.S. Army Corps of Engineers, Subject: Policy Directive – Comprehensive Documentation of Benefits in Decision Document,” January 5, 2021, available at https://planning.ercd.dren.mil/toolbox/library/MemosandLetters/ComprehensiveDocumentationofBenefitandinDecisionDocument_5January2021.pdf.

⁹ Michael L. Connor, Assistant Secretary of the Army (Civil Works), “Memorandum for Commanding General, U.S. Army Corps of Engineers, Subject: Implementation of Environmental Justice and the Justice40 Initiative,” March 15, 2022, available at https://planning.ercd.dren.mil/toolbox/library/MemosandLetters/ASACW_FinalInterimEJIG_15March2022.pdf.

Definition of “Emergency repair, rehabilitation, and restoration”

Overall, we support the proposed new definition, especially its specific reference to realignment of existing levees where “the Corps determines that realignment would cost less or be more effective than an in-line repair.” However, we have four concerns about the proposed text.

First, we reiterate our recommendation that the definition of “flood risk management (FRM) project” be amended to include a broader array of flood risk-reduction benefits provided above. As written, it is unclear how the Corps will make the determination that realignment would “be more effective than an in-line repair.” Presumably, the effectiveness of a setback must be measured in terms of what the project is designed, constructed, operated, and maintained to do, (*i.e.*, under the proposed rules, to limit risks of fatalities and damage to property or public infrastructure). If USACE district staff could incorporate a broader set of environmental and other benefits into the comparative effectiveness analysis, levee setbacks might compare more favorably to in-line repairs.

Second, we believe that the Corps should undertake a more comprehensive accounting of the life-cycle costs of maintaining risk-reduction benefits of the flood risk management project. In particular, we believe that the Corps should consider likely future costs of emergency repair, rehabilitation, and restoration based on the project’s history and modeling of future conditions, including climate change.

Third, we believe that the Corps should standardize the planning horizon for determinations such as this effectiveness analysis for potential realignments. Just as the types of benefits and costs analyzed have a significant impact on the results of the assessment, so does the time period over which those benefits and costs will be assessed. Current Corps policy demands very short periods of analysis, as short as “the degree of protection afforded by the project.”¹⁰ Thus, for example, the costs and benefits of repair to a project designed to protect against a 10 percent chance of exceedance event would only be analyzed over a 10-year period. Not only does employing such a short timeframe create a legal fiction about minimal project failures, it is also inconsistent with the social-ecological context in which the flood risk management project exists. That is, homeowners, business operators, and the broader community that depends on a flood risk management project plan on longer time horizons. A 50-year analytical timeframe would be consistent with other Civil Works programs.

We do not recommend changing the proposed regulatory text to address these additional concerns about benefit-cost analysis methodology; rather, we hope the Corps will take them into consideration when updating internal guidelines for implementing the regulations (currently found in Engineering Regulation 500-1-1 and Engineering Pamphlet 500-1-1).

Fourth, we disagree with the Corps’ proposal to limit its consideration of realignments to areas where “substantial cross-sectional damage has occurred.” This limitation has the potential to

¹⁰ US Army Corps of Engineers, Engineering Pamphlet 500-1-1, Appendix D, Para. D-1 (Sept. 30, 2001).

significantly reduce the likelihood of the Corps and non-Federal sponsors considering realignments in situations where, for example, frequent overtopping has not caused “substantial cross-sectional damage” but where a realignment could have significant benefits for flood-risk management, ecosystem services, and more. We recognize that, under Public Law 84-99, the Corps has discretion to approve realignments where necessary, and this limitation may be one way to exercise that discretion. However, we believe that the Corps is mistaken to include the limitation in the regulatory text for two reasons: (1) the limitation is presented as a generic rule, which is not an exercise of discretion – an exercise of discretion implies a case-by-case analysis; and (2) the limitation is not justified with any supporting evidence or analysis of its impact in the preamble, which suggests it is an arbitrary and capricious interpretation of the statute.

We propose eliminating the limitation in the definition, as follows:

Emergency repair, rehabilitation, and restoration. Activities to repair, rehabilitate, rebuild, or replace a project after it has been damaged by a flood or coastal storm. Such activities may include realigning segments of a FRM project ~~in which substantial cross-sectional damage has occurred~~ when the Corps determines that realignment would cost less or be more effective than an in-line repair.

Definition of “Nonstructural alternative”

We believe the proposed definition of “nonstructural alternative” needs to be revised. The proposed definition seems intended to encompass levee setbacks: It explicitly states that efforts to restore or protect natural resources, including floodplains, may be included in nonstructural alternatives. This statement is helpful for providing USACE district staff with flexibility to consider levee setbacks as nonstructural alternatives to emergency repair, rehabilitation, or restoration. It is also consistent with the underlying law, where Congress defined nonstructural alternatives broadly: “the term ‘nonstructural alternatives’ includes efforts to restore or protect natural resources, including streams, rivers, floodplains, wetlands, or coasts, if those efforts will reduce flood risk.”¹¹

However, the proposed new regulatory language narrows the definition by requiring that nonstructural measures “reduce[] human exposure or vulnerability to a flood or coastal storm without altering the nature or extent of the flooding.” Typically, that phrasing has been used to describe measures like flood-proofing buildings, creating new floodplain regulations, and establishing better flood warning systems for communities. As implemented, none of those features would alter the nature or extent of flooding. In contrast, a set-back levee is specifically designed to alter the nature and extent of flooding. Thus the proposed regulatory definition could be interpreted to exclude levee setbacks from allowable nonstructural alternatives.

¹¹ 33 U.S.C. § 701n(a)(4).

We disagree with the Corps' proposal to create a limitation on the definition of "nonstructural alternatives" that is inconsistent with the broad and inclusive definition provided by Congress. The statute does not limit nonstructural alternatives to those projects that will reduce exposure or vulnerability without altering the nature and extent of flooding. In fact, the examples of nonstructural alternatives provided by Congress for purposes of Public Law 84-99 explicitly include activities that will alter the nature and extent of flooding: protecting and restoring streams, rivers, floodplains, wetlands, etc.¹² We also do not think that the Corps has provided adequate justification for its interpretation of the statutory language in the preamble to the rule and thus it is arguably arbitrary and capricious.

Moreover, the proposed definitional exclusion of measures that will alter the nature or extent of flooding appears to conflict with contemporary and historical USACE policies. The list of allowable nonstructural project expenses in the proposed 33 C.F.R. § 203.71(g) includes various infrastructure removal, construction, and habitat restoration efforts that would likely affect the nature and extent of flooding. And existing USACE guidance in Engineering Regulation 500-1-1 indicates setbacks can be integral features of nonstructural alternatives under the Public Law 84-99 program.¹³

The Corps should alter its proposed regulatory definition to better align with the statute and ensure that setbacks may be considered as nonstructural alternatives. ***We propose*** this edit:

Nonstructural alternative. A measure or combination of measures that reduces human exposure or vulnerability to a flood or coastal storm ~~without altering the nature or extent of the flooding~~ using policy, regulation, law, or natural or nature-based features. A nonstructural alternative may include efforts to restore or protect natural resources, including streams, rivers, floodplains, wetlands, or coasts, if those efforts will also reduce flood risk.

33 C.F.R. § 203.14 - Exceptions to policy

We support the Corps' decision to include this new section in Part 203. Each flood event and each response to it is unique, as are the needs of the communities that depend on the flood risk management projects potentially covered by Public Law 84-99. As greenhouse gas emissions continue to affect the climate and as development patterns in watersheds change, the Corps needs flexibility to adapt the Public Law 84-99 program to changing situations. This proposed addition to the regulations will provide some of that flexibility. That said, we encourage the Corps to include an explanatory note in the preamble to the final rule or amend the regulatory text to ensure that exceptions are not granted to reduce protections for communities or the environment, but rather to enhance the benefits of work undertaken with Public Law 84-99 funds.

¹² *Id.*

¹³ Engineering Regulation 500-1-1, Paragraph 5-16.j mentions set-back levees as structural flood control works that may be part of the implementation of a nonstructural alternative project.

33 C.F.R. § 203.42 – Initial eligibility assessment of non-Federal flood risk management projects

We support the Corps' proposed changes to the initial eligibility assessment (IEA) process, although we see opportunities for further improvements. Under the proposed changes to the IEA process, non-Federal levee sponsors must submit an application to the Corps that includes an assessment of a levee system's actual risk-reduction capacity and known deficiencies that compromise the ability of the levee to provide the design level of risk reduction. As we understand the proposed regulations at 33 C.F.R. § 203.42(a), this application and the results of an assessment by Corps personnel will determine whether the flood risk management project is eligible for Public Law 84-99 funds at a later date, based on four questions: (1) Is the project information in the application correct? (2) Does the project meet the definition of a non-Federal FRM project? (3) Does the project meet minimum engineering and maintenance criteria to ensure that it is capable of providing reliable flood risk reduction? (4) Is there a federal interest in future emergency repair, rehabilitation, and restoration of the project?

We see three opportunities to enhance the proposed regulations.

First, the essential eligibility question – whether the project meets minimum engineering and maintenance criteria to ensure that it is capable of providing reliable flood risk reduction – warrants further explanation. We understand that under current policies it is often difficult for levee systems to obtain initial eligibility. The problem appears to be rooted in the fact that current policies deem entire flood risk management projects “unacceptable” if a single rated element is found to be in unacceptable condition during an Initial Eligibility Inspection.¹⁴ The new regulatory language proposed at 33 C.F.R. § 203.42(a) appears to be a shift away from the stringent criteria currently in place, towards an approach that recognizes flood risk management is a dynamic process. We support that shift. However, we are unsure how district staff will interpret the concept of “reliable flood risk reduction” and what that means for changes to internal guidance such as Engineering Regulation 500-1-1 and Engineering Pamphlet 500-1-1, which clarify IEA policy and practices. Further explanation on these issues in the preamble to the final rule would be helpful.

Second, consistent with the Corps' underlying goal of implementing a program that reflects the realities and dynamism of flood risk management, we believe that the Corps could better achieve that goal by expanding both the criteria used in the IEA determination and the opportunity to develop a system-wide improvement framework (SWIF). Together, these changes would ensure that non-Federal sponsors with credible intentions to address system deficiencies can obtain eligibility. As laid out in the proposed regulations, the initial eligibility determination may not sufficiently account for non-Federal project sponsors' plans and opportunities to make improvements to their flood risk management projects and the SWIF program appears to be

¹⁴ See 33 C.F.R. s 203.48(e) (2022) *and* Engineering Pamphlet 500-1-1, Para. 5-5 (Sept. 30, 2001).

only available to flood risk management projects that have already been deemed eligible (*i.e.*, those in the continuing eligibility phase).

We propose three edits to the proposed regulations:

1. Edit 33 C.F.R. § 203.42(a) to read: “The Corps will conduct an Initial Eligibility Assessment (IEA), including an onsite inspection, to verify project information, determine if a project meets the definition of a non-Federal FRM project and minimum engineering management, and maintenance criteria to ensure that the project is capable of providing reliable flood risk reduction, and determine the Federal interest in future emergency repair, rehabilitation, and restoration of the project. ...”
2. Edit 33 C.F.R. § 203.42(b)(3) to read: “Documentation of the status of maintenance, to include recent maintenance activities, and identification of deficiencies that compromise the ability of the non-Federal FRM project to provide the designed level of risk reduction, along with any system-wide improvement framework to address those deficiencies.”
3. Edit 33 C.F.R. § 203.50(b) to read: “...while allowing the non-Federal sponsors participating in the SWIF process to remain be eligible for emergency repair, rehabilitation, and restoration assistance while addressing the deficiencies.”

Third, we urge you to ensure that the proposed risk assessment obligations harmonize with a new assessment provision contained in WRDA 2022. Linking these two sections will allow non-Federal sponsors to preemptively and proactively consider levee setbacks or other non-structural alternatives prior to an emergency situation, when the need for immediate repairs prevents consideration of alternatives. Under § 8121 of WRDA 2022, “non-federal interests” may request an assessment of the potential for modifications to a levee system to achieve one or more of the following objectives: (1) increasing the flood risk reduction benefits of such systems; (2) achieving greater flood resiliency; and (3) restoring hydrological and ecological connections with adjacent floodplains that achieve greater environmental benefits without undermining flood risk reduction or flood resiliency for levee-protected communities.¹⁵ The non-federal interest must commit to paying 50 percent of the cost of the assessment.

We propose adding a paragraph (b)(4) to 33 C.F.R. § 203.42 that would instruct non-Federal sponsors to include “a request for the Secretary to carry out an assessment authorized by Section 8121 of the Water Resources Development Act of 2022, if such request is accompanied by a commitment to provide 50 percent of the cost of the assessment” in their initial eligibility assessment.

Finally, we encourage the Corps to make as much information from the IEA as possible available publicly. The National Levee Database would be a logical place for that information, since key data points are already listed there. One element missing from the National Levee Database is an accounting of past expenditures on emergency repair, rehabilitation, and restoration, which is currently recorded pursuant to Engineering Pamphlet 500-1-1 Paragraph

¹⁵ Pub. L. No. 117-263, Div. H, § 8121, 136 Stat. 3712 (Dec. 27, 2022).

5-3 and we anticipate will continue to be part of the eligibility assessment process. Broader accessibility of that information would benefit non-Federal interests that are developing prioritization policies for investments to support flood risk management.

33 C.F.R. § 203.43 – Continuing eligibility assessment of Federal and non-Federal flood risk management projects

Similar to the initial eligibility assessment, we urge you to ensure that the proposed continuing eligibility assessment also aligns with the new modifications assessment program established in § 8121 of WRDA 2022.

We propose adding a paragraph (b)(6) that would state that continuing eligibility assessments include “Documentation whether the Corps has performed an analysis of the levee system pursuant to Section 8121 of the Water Resources Development Act of 2022, and the results of that analysis.”

33 C.F.R. § 203.44 - Emergency repair, rehabilitation, and restoration of Federal and non-Federal flood risk management projects

We believe that edits to the eligibility and economic justification provisions in this section are necessary to ensure that the regulations conform with statutory requirements and Administration policy. In recent years both Congress and the Biden Administration have sought to expand how benefits are valued and calculated and what factors may be considered. These factors now go beyond readily monetizable benefits and include environmental, ecosystem services, social, and environmental justice outcomes. The proposed provisions in this rulemaking should reflect this expansion.

Paragraphs (a) and (e) state that eligible emergency repair, rehabilitation, and restoration work must be “economically justified.” Presumably this term would be interpreted as requiring emergency work to have a cost-to-benefit ratio of at least 1.0, calculated based on readily monetizable costs of construction and benefits in terms of lives saved and property damage avoided. This ratio has been standard practice in the Public Law 84-99 program, and the minor changes to 33 C.F.R. § 203.44 proposed in this rulemaking do not suggest any expectation that the practice would change.

However, such a simplistic benefit-cost analysis (BCA) is inconsistent with Congressional expectations and Administration policy.¹⁶ In WRDA 2007, Congress instructed the Corps to develop new civil works project evaluation policies and specified that the new policies should incorporate a broader analysis of public benefits.¹⁷ The results of the process undertaken in compliance with WRDA 2007 were the 2013 Principles, Requirements, & Guidelines (PR&G) documents, which describe a vision for water resources project valuation that encompasses not only readily quantifiable and monetizable economic costs and benefits, but also a broader and more comprehensive accounting of benefits using an ecosystem services framework.¹⁸

Subsequently in WRDA 2020, Congress instructed the Corps to develop Agency-specific implementation policies.¹⁹ A January 5, 2021, memorandum from then-Assistant Secretary of the Army for Civil Works R.D. James provided interim guidance for USACE staff on implementing the PR&G, emphasizing that project valuations and alternatives analyses should equally consider economic, environmental, and social outcomes.²⁰ The Corps is currently in the process of developing permanent policies in a separate rulemaking, where the Agency has recognized that the PR&G set expectations including:

- Striving to maximize economic, social, and environmental benefits relative to costs, with no hierarchy among the interrelated goals;
- Elevating the locally preferred plan, where one exists;
- Elevating the nonstructural plan;
- Recognizing that, when confronted with multiple projects worthy of investment, the decisionmaker will exercise professional judgment and consider tradeoffs between monetized and non-monetized effects; and
- Elevating ecosystem, sustainable economic development, floodplain, environmental justice, public safety and watershed considerations.²¹

¹⁶ See Ehrenworth et al., “Enhancing Benefits Evaluation for Water Resources Projects: Towards a More Comprehensive Approach for Nature-Based Solutions. Evolution of Benefits Evaluation and Prioritization of Water Resources Projects,” (July 2022), *available at* <https://ewn.ercd.dren.mil/wp-content/uploads/2022/10/EvolutionofUSACEWaterReourcesProjectSelection.pdf>.

¹⁷ Pub. L. 110-114, § 2031 (Nov. 8, 2007), *codified at* 42 U.S.C. § 1962-3.

¹⁸ White House Council on Environmental Quality, “Principles and Requirements for Federal Investments in Water Resources” (March 2013), *available at* https://obamawhitehouse.archives.gov/sites/default/files/final_principles_and_requirements_march_2013.pdf.

¹⁹ Pub. L. 116-260, Division AA, Title I, § 110, 134 Stat. 2624 (Dec. 27, 2020).

²⁰ R.D. James, Assistant Secretary of the Army (Civil Works), “Memorandum for Commanding General, U.S. Army Corps of Engineers, Subject: Policy Directive – Comprehensive Documentation of Benefits in Decision Document,” January 5, 2021, *available at* https://planning.ercd.dren.mil/toolbox/library/MemosandLetters/ComprehensiveDocumentationofBenefitsonDecisionDocument_5January2021.pdf.

²¹ US Army Corps of Engineers, “Modernization of Army Civil Works Policy Priorities,” 87 Fed. Reg. 33756 (Aug. 2, 2022).

Moreover, pursuant to President Biden's Executive Order 14072, the White House Council on Environmental Quality, Office of Domestic Climate Policy, and Office of Science and Technology Policy published a "roadmap" to promote nature-based solutions across the government in late 2022. Among their recommendations was one that encourages federal agencies to update guidance and policies related to BCA. The recommendation states: "Strong analyses pay careful attention to setting an appropriate baseline for comparison, set a timeline for evaluating the project that will capture any lags in accrual of benefits or costs as well as lifetime benefits of nature-based solutions, and, where possible, monetizing benefits."²²

We believe that the congressional enactments and agency policies discussed above warrant revisions to the text in 33 C.F.R. § 203.44 (a) and (e). To ensure a more comprehensive benefits analysis, ***we propose***:

- In (a), the following:
Eligibility for emergency repair, rehabilitation, and restoration assistance. An FRM project is eligible for emergency repair, rehabilitation, and restoration assistance if the project has received a favorable determination on the IEA and subsequent CEAs, the damage was caused by the flood event, the work is economically justified **based on an assessment of its costs relative to all beneficial outputs**, and the work is not otherwise prohibited by subpart D. The Corps will comply with all applicable environmental compliance requirements prior to any emergency repair, rehabilitation, or restoration of the project.
- In (e), the following:
Economic justification. Except as provided in § 203.113(c) of this part, the emergency repair, rehabilitation, and restoration effort must be economically justified **based on an assessment of its costs relative to all beneficial outputs** and the construction cost of the work, excluding the cost of LERRDs, must exceed \$50,000. Construction costs greater than \$50,000 do not preclude the Corps from making a determination that the required work is a maintenance responsibility of the non-Federal sponsor, and not eligible for emergency repair, rehabilitation, and restoration assistance.

In addition, we note that changes to Engineering Regulation 500-1-1 and Engineering Pamphlet 500-1-1 will be necessary to implement updated BCA policies. Updates should include a uniform 50-year period of analysis, more comprehensive list of benefits to analyze, and an expectation that anticipated future costs of emergency repair, rehabilitation, and restoration work will be incorporated into the analysis.

²² White House Council on Environmental Quality, White House Office of Science and Technology Policy, White House Domestic Climate Policy Office, "Opportunities for Accelerating Nature-Based Solutions: A Roadmap for Climate Progress, Thriving Nature, Equity, and Prosperity," at 21 (Nov. 2022), available at <https://www.whitehouse.gov/wp-content/uploads/2022/11/Nature-Based-Solutions-Roadmap.pdf>.

33 C.F.R. § 203.47 – Modifications to flood risk management projects undergoing emergency repair, rehabilitation, and restoration

The proposed revisions to this section include three changes that will promote greater consideration and implementation of levee setbacks. First, the proposed 33 C.F.R. § 203.47(a)(2)(iii) explicitly includes levee setbacks as an “allowable feature” in certain modifications. Second, proposed changes to § 203.47(a)(1)(ii) and (b)(2) encourage modifications where they will reduce “the total life-cycle flood response, post flood response, and rehabilitation costs of the project,” which we believe are problems that can be addressed through levee setbacks. And third, we support the concept embodied in § 203.47(b)(1) that modifications intended to increase the design level of risk reduction seem to be encouraged where a levee has failed and been repaired using Public Law 84-99 emergency funds multiple times in any 10-year period, again because we believe these situations can be addressed effectively with levee setbacks. Collectively these proposed revisions promote greater consideration and implementation of levee setbacks.

However, we note four shortcomings that warrant further revisions.

First, the proposed text specifically lists levee setbacks as an allowable feature of a modification only in subsection (a), which governs modifications that “would not increase the level of risk reduction provided prior to the most recent flood or floods” (emphasis ours). We believe this text could result in bad policy. Setting back levees should be an option both when the end result provides the same level of risk-reduction benefits as prior to the most recent flood or floods and also when the end result would increase risk reduction benefits. Moreover, we note that modifying a flood risk management project to achieve the same level of risk reduction as it has provided historically may essentially amount to designing it for lower levels of risk reduction, given the impacts of climate change and the so-called “levee effect.”

We propose taking the list of allowable features of modifications from (a)(2) and shifting it all to a new paragraph (c), then renumbering the current (c)-(g) as (d)-(h). Doing so would indicate that the listed features are allowable for any modification, regardless of whether they are intended to increase the design level of risk reduction.

Second, the proposed 33 C.F.R. § 203.47(e) may lead to a limited calculation of benefits and costs that would ultimately not support a levee setback. The proposed language requires any modification to be “economically justified,” which could be interpreted to mean that a BCA is limited to monetizable benefits and costs (see discussion above, regarding economic justification of emergency repair, rehabilitation, and replacement, generally under § 203.44). Setbacks can provide a number of benefits that are difficult to monetize, such as restoring ecosystem services.

We propose revising the proposed § 203.47(e) to read:

Economic justification. Both the emergency repair, rehabilitation, and restoration work and the incremental cost of the modifications must be economically-justified based on a consideration of costs relative to all beneficial outputs.

Third, proposed 33 C.F.R. § 203.47(g) prohibits the Corps from considering modifications “to achieve a purpose that is not related to flood risk management” and those “that would have the effect of extending the length of a FRM project beyond its current footprint.” Both of these phrases could be misinterpreted in ways that forestall consideration of levee setbacks, which can have multiple purposes, including habitat conservation and species protection or water quality improvements. This provision also seems inconsistent with other aspects of the proposed regulations. For instance, proposed 33 C.F.R. § 203.47(a)(1)(iv) encourages modifications to promote compliance with the Endangered Species Act and other substantive environmental requirements. Are those “related to flood risk management?” Finally, the limitation that modifications not extend the length of an FRM project beyond its current footprint is a limitation not found in the underlying statute. Congress granted the Chief of Engineers some discretion in deciding whether a modification is warranted, but this limitation is so absolute in its terms and unconnected to any clear statutory authority that it might reasonably be deemed arbitrary and capricious.

We propose editing 33 C.F.R. § 203.47(g) to read:

Limitations of modifications. The Corps will not consider modifications of a FRM project under Public Law 84-99 to improve the condition of the project beyond its pre-flood condition, or to achieve a if the primary purpose that is not related to flood risk management. ~~The Corps also will not consider modifications to a project under Public Law 84-99 that would have the effect of extending the length of a FRM project beyond its current footprint.~~

Fourth, a minor edit is necessary in proposed 33 C.F.R. § 203.47(c). The proposed language includes a reference to 33 C.F.R. § 203.45, which the Corps has proposed eliminating in this rulemaking.

33 C.F.R. § 203.48 – Inspections and risk assessments for flood risk management projects

We support the levee inspection process outlined in this section for two reasons.

First, we believe the inspection rating system prescribed in the existing regulations prevents too many flood risk management projects from being eligible for Public Law 84-99 funds. We support the Corps’ decision to abandon that regulatory text in favor of a more flexible approach. We note, however, the importance of amending Engineering Regulation 500-1-1 and

Engineering Pamphlet 500-1-1, which are based on the existing regulations. Without changes to these documents, we believe day-to-day implementation of this program will not change to meet the intentions behind the new regulations.

Second, the proposed regulations here provide another good opportunity to incorporate the requirements of § 8121 of WRDA 2022 that the Corps will use to evaluate levees for potential modifications, including setbacks.

We propose adding a sentence to the end of the paragraph to explicitly link the two sections:

The Corps will continue to conduct inspections and risk assessments of all Federal and non-Federal FRM projects eligible for emergency repair, rehabilitation, and restoration assistance. The primary purpose of the inspections and risk assessments is to assess and communicate the physical condition of the FRM project based on observations; to verify the adequacy of operation and maintenance; and to inform the non-Federal sponsors in the development and execution of their operation, maintenance, and inspection plan, emergency preparedness plan, and public outreach activities. Additionally, inspections are performed to verify that non-Federal sponsors of Federal FRM projects are fulfilling their responsibilities in accordance with Title 33—Navigation and Navigable Waters; Chapter II—Corps of Engineers, Department of the Army (33 CFR part 208) requirements and project partnership/cooperation agreements. To the extent possible, inspections shall also incorporate assessments required by Section 8121 of the Water Resources Development Act of 2022.

33 C.F.R. § 203.50 – System-wide improvement framework

We support the Corps' decision to codify the system-wide improvement framework (SWIF) program. As proposed, the SWIF program is intended to promote development of plans “to address deficiencies or issues that cannot be addressed through routine corrective actions” – improvements that may be complex and have multiple purposes beyond flood-risk management. As such, the SWIF program is an ideal place to encourage investigations of levee setbacks. We note that the benefits of a new setback may compound the benefits of other setbacks at a system level. The potential is especially great for ecosystem services benefits. We see two opportunities to expand the benefits of the SWIF program.

First, we believe eligibility for the SWIF program should be extended to flood risk management projects that are seeking initial eligibility for the Rehabilitation and Inspection Program (RIP). As noted above, the SWIF program creates a valuable incentive for local levee sponsors to plan and undertake work to address system deficiencies. But under the proposed regulations, it appears only projects that are already in the RIP are eligible for establishing SWIF plans to maintain “Active” status. We believe expanding eligibility for SWIF planning could lead to more widespread improvements to levee systems across the US.

Our proposed edits to effectuate an expansion of the SWIF program are described above, on pages 8-9, and repeated here for convenience:

1. Edit 33 C.F.R. § 203.42(b)(3) to read: “Documentation of the status of maintenance, to include recent maintenance activities, and identification of deficiencies that compromise the ability of the non-Federal FRM project to provide the designed level of risk reduction, along with any system-wide improvement framework to address those deficiencies.”
2. Edit 33 C.F.R. § 203.50(b) to read: “...while allowing the non-Federal sponsors participating in the SWIF process to remain be eligible for emergency repair, rehabilitation, and restoration assistance while addressing the deficiencies.”

Second, we see a clear opportunity to incorporate the new requirements of § 8121 of WRDA 2022 into the SWIF program.

We propose adding a new paragraph (c), as follows:

(c) A SWIF may include a request, pursuant to Section 8121 of the Water Resources Development Act of 2022, for the Corps to assess the possibility of modifications to the levee system to meet one or more of the following objectives: (i) Increasing the flood risk reduction benefits of such systems; (ii) Achieving greater flood resiliency; or (iii) Restoring hydrological and ecological connections with adjacent floodplains that achieve greater environmental benefits without undermining flood risk reduction or flood resiliency for levee-protected communities.

33 C.F.R. § 203.71 – [Nonstructural Alternatives to Emergency Repair, Rehabilitation, and Restoration of Flood Risk Management and Federal Coastal Storm Risk Management Projects,] General

As proponents of the Engineering With Nature initiative, we support the proposed revisions to 33 C.F.R. § 203.71. They provide a much-needed emphasis on nature-based solutions to flood risks and related water resource challenges. We believe the proposed text provides adequate leeway for non-Federal sponsors to pursue levee setbacks under the “nonstructural alternative” framework. That said, we once again urge you to revise the definition of “nonstructural alternative” in 33 C.F.R. § 203.12, as explained above. Doing so ensures compatibility between the definitions section and this one, where “[c]onstruction to promote, enhance, control, or modify water flows” is, rightly, listed as an allowable expense.

We see three other opportunities to enhance the proposed regulations governing nonstructural alternatives.

First, the regulations should explicitly allow non-Federal sponsors to seek approval for levee setbacks under the nonstructural alternatives framework, as one of many nonstructural alternatives. As proposed, the regulations do not expressly state that non-Federal sponsors may propose setbacks through the policies and procedures described in Subpart F.

We believe an explicit reference to setbacks would be consistent with the intent of other proposed text in 33 C.F.R. § 203.71. The list of allowable expenses provided in the proposed 33 C.F.R. § 203.71(g) include a variety of actions that would likely be involved in a setback, including “[t]otal or partial removal or razing of existing reaches of a levee” and “[c]onstruction to promote, enhance, control, or modify water flows into, out of, through, or around the nonstructural project area.” The criteria listed for evaluating nonstructural alternatives in proposed 33 C.F.R. § 203.71(a)(5) include floodplain restoration, habitat restoration, and other beneficial outcomes typically associated with levee setbacks. And the proposed 33 C.F.R. § 203.71(j) includes an oblique reference to levees “set back as part of the implementation of [a nonstructural project.]”

We propose that the preamble to the final rule should clarify that the Corps anticipates some non-Federal sponsors will propose levee setbacks as nonstructural alternatives to emergency repair, rehabilitation, and restoration. That text, however, should also note that the Corps will consider setbacks under authorities governed by Subpart D regulations.

Second, the provision to waive the general cost-share rule should be rewritten to ensure a more comprehensive benefits analysis. Under the proposed 33 C.F.R. § 203.71(c), the general rule for cost-sharing on nonstructural projects is that the Corps will only pay for construction costs up to the amount that it would have paid for a structural project, or the federal share of the benefits of a structural alternative, whichever is lower. The Corps has discretion to waive that general cost-share rule where three requirements are met, including that the costs be “economically justified.” As discussed above, this term does not capture many of the benefits of levee setbacks that are difficult to monetize.

We propose amending 33 C.F.R. § 203.71(c) to read:

Corps expenditures. Exclusive of the costs of investigation, report preparation, engineering and design work, and related costs, Corps expenditures for implementation of an NSAP are limited to the lesser of the Federal share of emergency repair, rehabilitation, and restoration construction costs of the project were the FRM or Federal CSRM project to be structurally rehabilitated in accordance with subparts D or E of this part, or the Federal share of computed benefits which would be derived from such structural rehabilitation. The Corps Director, Contingency Operations and Office of Homeland Security, may approve exceptions to the limitations on Corps expenditures when the following criteria are met:

- (1) The costs of the NSAP are ~~economically~~ justified relative to all beneficial outputs of the project.
- (2) The costs of the NSAP are reasonable in comparison to the estimated total

life-cycle Corps flood response, post flood response, and rehabilitation costs for the FRM or Federal CSRMR project.

- (3) Implementation of the NSAP will significantly reduce the risk of life loss and property damage in the area protected by the FRM or Federal CSRMR project.

Third, we believe that set-back levees should remain eligible for emergency repair, rehabilitation, and restoration funding under Public Law 84-99, provided that they meet the relevant criteria for continuing eligibility. The proposed regulations at 33 C.F.R. § 203.71(j) state that levees set back as part of a nonstructural approach may be eligible future assistance under Public Law 84-99 on a case-by-case basis at the discretion of the Corps Director, Contingency Operations and Office of Homeland Security. But the regulations do not indicate how that discretion should be exercised. We recommend that the damaged levee's eligibility "roll over" to the set-back levee and be considered for continued eligibility according to the regulations for continued eligibility assessment laid out in 33 C.F.R. § 203.43.

We propose amending 33 C.F.R. § 203.71(j) to read:

After transfer of responsibility for all future operation, maintenance, repair, replacement, and rehabilitation of a NSAP to the NSAP non-Federal sponsor or the lead Federal agency, flood-related assistance pursuant to Public Law 84-99 will not be provided for the area for which the FRM or Federal CSRMR project was effective in reducing the risk of flood or storm damages, except for rescue operations provided in accordance with § 203.31(a)(3). As an exception, ~~on a case-by-case basis, levees repaired or set back as part of the implementation of an NSAP may~~ **shall** be considered for ~~future flood-related assistance by the Corps Director, Contingency Operations and Office of Homeland Security~~ **continued eligibility pursuant to § 203.43.**

Conclusion

We appreciate the Corps' efforts to update and improve the regulations governing implementation of Public Law 84-99. The clear intent behind this effort is to ensure that the program is efficient and effective at promoting not only public safety but also co-benefits to the environment and economy. As proponents of the principles of Engineering With Nature in general and levee setbacks in particular, we are encouraged by the changes to the Part 203 regulations that clearly intend to expand the consideration and implementation of setbacks. We offer the recommendations above in a spirit of collaboration toward that common goal.

Thank you again for the opportunity to comment on this important rulemaking. For any questions about these comments, please contact Matthew Shudtz at mshudtz@uga.edu.

Sincerely,

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