

FY 22 HMA – Grant Application Review Summary

Subapplication Number	EMA-2022-BR-001-0033		
Project Title	Wilkesboro Cub Creek Phase III		
Applicant Name	North Carolina Department of Public Safety		
Subapplicant Name	Town of Wilkesboro		
Project Type	Flood Risk Reduction		
Recommendation	Yes with Conditions		
Federal Cost (FEMA GO)	\$1,273,050	Phased Project	No
BCR (subapplication)	1.55	Duplicate Project	No
BCR (reanalysis)	1.31	Benefits (reanalysis)	\$2,587,821

Summary

This is a technical feasibility and cost-effectiveness review in support of the National Technical Review process. Additional Environmental Planning and Historic Preservation (EHP), eligibility and completeness, and funding limitation considerations may affect the selection of this subapplication for further consideration and funding. No contact was made with the applicant or subapplicant; this review is solely based on information provided in the subapplication.

Scope of Work

The scope of work is well-defined and clearly explains the activities necessary to complete the work. The subapplicant has submitted a subapplication for creek restoration, including floodplain connectivity and expansion of the riparian corridor and regional greenway on Cub Creek in the Town of Wilkesboro. Benefits include protecting wastewater infrastructure and reducing downstream nutrient loading.

Technical Feasibility

Project Schedule

The schedule duration is 26 months. The schedule includes all items in the scope of work and is reasonable.

Cost Estimate

The cost estimate is not sufficient in defining line items consistent with the scope of work. No documentation was submitted to confirm lump-sum costs in the subapplication.

Technical Design Information

The following information and documentation were provided to support the project:

Item	Documentation	Evaluation
Proposed level of protection	Subapplication narrative	The project does not indicate a proposed level of flood risk reduction, but states that the project will reduce erosion risk to wastewater infrastructure that runs parallel or crosses Club Creek, restore floodplain connectivity, reduce flood risk at the wastewater treatment plant, and improve water quality.
Flood Risk Data	FEMA FIRMs	The provided documentation does not show how the proposed project will reduce risk. Subapplication lacks a hydrology & hydraulics (H&H) report or similar

Item	Documentation	Evaluation
		documentation to show that flood or erosion risk will be reduced.
Design and Performance Standards	Subapplication narrative	Documentation states that the project will be implemented using natural channel design and bioengineering methodologies, but does not indicate compliance with applicable federal and local standards.
Design Drawings, Maps, Photographs	Restoration Project Area Maps, project narrative, current site condition pictures, previous project pictures, preliminary plan set	Documentation was provided to support the project, including design drawings from the communities' recent "Phase 2" restoration design as an example of this project's design.
Upstream and Downstream Impacts	FEMA GO Subapplication	<p>The documentation indicates the proposed project will not have adverse upstream or downstream impacts.</p> <p>Subapplication cites previous restoration work in the upstream area, of which this proposed project would be a continuation. It seems reasonable that downstream construction would not negatively impact previously restored upstream area. With goals such as reduction of erosion and improvement of water quality, it seems reasonable that the project will not negatively impact the nutrient-impaired lake downstream of the project area.</p>
CLOMR/LOMR	FEMA FIRM	The documentation does not indicate a CLOMR/LOMR is necessary, but the project is located in an SFHA Zone AE.
Operation and maintenance (O&M) plans	Scope of work narrative	Subapplication narrative indicates that a 7-year post-mitigation monitoring plan will be implemented and that the Town of Wilkesboro will provide ongoing maintenance.

Based on the documentation provided, the project is technically feasible and effective at reducing risk to individuals and property from natural hazards. The following conditions were identified:

- Cost estimate should not be submitted as a lump sum. Amend the cost estimate to contain sufficiently detailed information. Refer to HMA Guidance, Part IV, Section H.1. for guidance on creating a cost estimate.
- Provide documentation (e.g., an H&H report, geomorphic assessment) to support the effectiveness of the project.

- Provide documentation to support that the restored channel will be designed and built in compliance with all applicable federal and local standards.
- Projects that affect the hydrologic or hydraulic characteristics of a flooding source may require a Conditional Letter of Map Revision (CLOMR) and/or a Letter of Map Revision (LOMR) if they result in changes to the existing regulatory floodway, the effective Base Flood Elevations (BFEs), or the Special Flood Hazard Area (SFHA).

Cost-Effectiveness

The Benefit-Cost Analysis (BCA) was completed based on professional expected damages.

The following was found during review of the submitted BCA:

Cost Estimation

Input	Value	Evaluation
Project Useful Life (PUL)	30 years	This value is consistent with the FEMA standard value.
BCA Toolkit Initial Project Cost	\$1,697,400	This amount is consistent with the subapplication project cost estimate.
Annual Maintenance Cost	\$15,000	This amount seems reasonable; however, no documentation was provided to support maintenance costs.
BCA Toolkit Total Project Cost	\$1,883,536	This amount is calculated based on the initial project cost, the annual maintenance costs, and the PUL.

Additional Benefits

Input	Documentation	Evaluation
Environmental Benefits	Implementation Measures, Future Conditions Narrative, Conceptual Plan Set	The project used 9 acres comprised of urban green open space and riparian ecosystem benefits. The total project area and percentage of land use of the project area is not consistent with the project description and supporting documentation.

Reanalysis BCA

A reanalysis BCA was performed, and the following edits were made:

Input	Value	Explanation
Ecosystem Benefits	Reduced from 9 acres to 8.72 acres	Ecosystem benefits were recalculated using the subapplication statement and documentation indicating a 3,800 ft restoration corridor and a new 50 ft riparian buffer/open space greenway on both sides of the restored channel, which calculates to 8.72 acres.

Input	Value	Explanation
Rural Green Open Space	Changed from urban green open space to rural green open space	The subapplication BCA ecosystem services inputs included urban green open space, which does not seem accurate, given the rural nature of the area. This input should not include any paved spaces (such as an asphalt trail) but is supported by the subapplicant statement that the Cub Creek Greenway will be extended.

Based on the reanalysis BCA, the total benefits associated with this project, \$2,587,821, are greater than the total project cost of \$1,968,406, producing a BCR of 1.31.

Based on the documentation provided, the project is cost-effective. The following condition was identified:

- Provide documentation to support the annual maintenance costs.

Conclusion

Based on the information provided, the project is technically feasible and cost-effective; therefore, it is recommended for further consideration with the following conditions:

- Cost estimate should not be submitted as a lump sum. Amend the cost estimate to contain sufficiently detailed information. Refer to HMA Guidance, Part IV, Section H.1. for guidance on creating a cost estimate.
- Provide documentation (e.g., an H&H report) to support the effectiveness of the project.
- Provide documentation to support that the restored channel will be designed and built in compliance with all applicable federal and local standards.
- Projects that affect the hydrologic or hydraulic characteristics of a flooding source may require a Conditional Letter of Map Revision (CLOMR) and/or a Letter of Map Revision (LOMR) if they result in changes to the existing regulatory floodway, the effective Base Flood Elevations (BFEs), or the Special Flood Hazard Area (SFHA).
- Provide documentation to support the annual maintenance costs.

This review is an evaluation of the project’s technical feasibility and cost-effectiveness. Additional EHP, eligibility and completeness, and funding limitation considerations may affect the selection of this subapplication for further consideration and funding.