Subapplicant information

Name of federal agency

FEMA

Type of submission Application

SURRY COUNTY

114 WATKINS ST

DOBSON, NC 27017 United States

State	DUNS#	EIN#
NC	077821858	566000341

Subapplicant type Local Government

Is the subapplicant subject to review by Executive Order 12372 Process?

No - Not selected

Is the subapplicant delinquent on any federal debt?

Contact information

Subrecipient Authorized Representative (SAR)

Nicole Johnston	Primary phone	Mailing address
nicole.johnston@yvsa.org		

Point(s) of contact

MS Nicole B Johnston Executive Director	Primary phone	Additional phones	Mailing address
	3363660870	3368359819	500 NC Highway 268 West
	Mobile	Work	Elkin NC 28621
nicole.johnston@yvsa.org	Fax 3358359840	7048811120 Mobile	

Community

Please provide the following information. If the Congressional district number for your community does not display correctly, please contact your State NFIP coordinator.

Add Communities

Please find the community(ies) that will benefit from this mitigation activity by clicking on the Find communities button. If needed, modify the Congressional District number for each community by entering the updated number under the U.S. Congressional District column for that community. When finished, click the Continue button. NOTE: You should also notify your State NFIP coordinator so that the updated U.S. Congressional District number can be updated in the Community Information System (CIS) database.

Community name	County code	CID number	CRS community	CRS rating	U.S. Congressional District	
ELKIN, TOWN OF	171,193	370225	N		1,5	

Community name	County code	CID number	CRS community	CRS rating	U.S. Congressional District
JONESVILLE, TOWN OF	197	370260	N		2,8
RONDA, TOWN OF	193	370258	N		2,5
SURRY COUNTY *	171	370364	N		1,2,5
WILKES COUNTY *	193	370256	Υ	8	1,5
YADKIN COUNTY *	197	370400	N		1,2,8

Please provide any additional comments below (optional).

Surry County's partner, the Yadkin Valley Sewer Authority (YVSA), provides public sewer service to three (3) towns in three (3) North Carolina counties: the Town of Elkin in Surry County, the Town of Jonesville in Yadkin County, and the Town of Ronda in Wilkes County. The Sewer Authority serves all the residents of these towns. Sanitary sewer service is an essential service related to public health and safety. Natural disasters have been disrupting this essential service in the communities that the Sewer Authority serves. Climate Change is expected to increase these disruptions, including disruptions associated with intense storms that cause flooding, high wind speeds, lightning, and stream erosion. The project will reduce the risk of future disruptions due to severe weather. Therefore, the leaders of Surry County, Yadkin County, Wilkes County, Elkin, Jonesville, Ronda, and the Yadkin Valley Sewer Authority all support the proposed project. Letters of support and resolutions of partnership are included in the Evaluation section, in an attached file entitled "Surry-County-BRIC-Leveraging-Partners.pdf." Please see the IMPLEMENTATION MEASURES attachment for additional information and supporting documentation for the project's scope of work and implementation plan.

Attachments

Filename	Date uploaded	Uploaded by	Label	Description	Action
Surry-County-BRIC-EVALUATION-Tech- Scoring.pdf	01/05/2023	nicole.johnston@yvsa.org	Community Attachments	Technical Scoring Support	

Mitigation plan

Please provide your plan information below.

Is the entity that will benefit from the proposed activity covered by the current FEMA approved multi-hazard mitigation plan in compliance with 44 CFR Part 201?

Yes

Please provide plan detail

Plan namePlan typeNorthern Piedmont Regional HazardLocal Multijurisdictional Multi-HazardMitigation Plan (see Attachment #1)Mitigation Plan

Plan approval date 06/01/2020

Proposed activity description

The proposed activity is to complete the following: (1) Relocate (i.e., eliminate) a critical sewer pump station that is in the 100-year flood plain; and (2) To restore the natural flood-carrying capacity of Dutchman Creek which will protect the adjacent property and the adjacent wastewater treatment plant effluent pipe.

Please provide any additional comments below (optional).

The Project will further Mitigation Goals # 4, 5, 6, and 7 of the Northern Piedmont Regional Hazard Mitigation Plan (NPRHMP). As summarized in Table 8.1 (page 8:4), these goals are: GOAL #4: Protect the most vulnerable

populations, buildings, and critical facilities through the implementation of cost-effective and technically feasible mitigation actions. GOAL #5: Decrease the community's vulnerability to future hazard events. GOAL #6: Increase the community's resiliency so that recovery can be quicker and less costly. GOAL #7: Reduce hazard risks to citizens' lives and property. These goals will be met by increasing the resiliency of the sewer system that serves a population of 6,716. The Project will improve the ability of the sewer system to function during and after severe storms and it will aid the Elkin Water Treatment Plant (WTP) in doing the same. The Elkin WTP serves a population of 5,059 (which includes the Town of Ronda water system customers since Ronda purchases its drinking water from Elkin). The Project will also use INNOVATIVE, NATURE-BASED solutions to increase resiliency by the following: (1) eliminating the pump station structures in the floodway of Big Elkin Creek and (2) by restoring the natural flood-carrying capacity and riparian buffers of Dutchman Creek. This is in keeping with the objectives of the NPRHMP, which states on page 8:6 "Natural resource protection activities reduce the impact of natural hazards by preserving or restoring natural areas and their protective functions." (See Attachment #2). Furthermore, the NPRHMP identifies the repeated flooding in Elkin and Surry County. The Project will mitigate the effects of the repeated flooding, which is expected to increase due to CLIMATE CHANGE. (See Attachment #3). Please see the IMPLEMENTATION MEASURES attachment in the Scope of Work section for additional information and supporting documentation for the project's scope of work and implementation plan.

Attachments

Filename	Date uploaded	Uploaded by	Label	Description	Action
Surry-County-BRIC-MITIGATION-Attach#1-NPRHMP.pdf	01/03/2023	nicole.johnston@yvsa.org	Mitigation Plan Attachments	Attachment #1 - Northern Piedmont Regional Hazard Mitigation Plan - adopted 06/01/2020	
Surry-County-BRIC-MITIGATION-Attach#2-NPRHMP-excerpt.pdf	01/05/2023	nicole.johnston@yvsa.org	Mitigation Plan Attachments	Attachment #2 - NPRHMP Excerpt	
Surry-County-BRIC-MITIGATION-Attach#3-NPRHMP-list-of-floods.pdf	01/05/2023	nicole.johnston@yvsa.org	Mitigation Plan Attachments	Attachment #3 - NPRHMP List of Floods	

Scope of work

The project Scope of Work (SOW) identifies the eligible activity, describes what will be accomplished and explains how the mitigation activity will be implemented. The mitigation activity must be described in sufficient detail to verify the cost estimate. All activities for which funding is requested must be identified in the SOW prior to the close of the application period. FEMA has different requirements for project, planning and management cost SOWs.

Subapplication title (include type of activity and location)

SURRY COUNTY BRIC FLOOD HAZARD MITIGATION PROJECT IN THE YADKIN VALLEY

Activities

Primary activity type
Primary sub-activity type
Primary sub-activity type
Primary sub-activity type
Primary sub-activity type
Wastewater and/or sanitary sewer system
Wastewater and/or sanitary sewer system

Other
If Other please specify
Floodplain and stream restoration

Tertiary activity type (Optional)
Tertiary sub-activity type
Host meetings

Geographic areas description

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Geographic areas for the Surry County BRIC Flood Hazard Mitigation Project in the Yadkin Valley are the following: 1. Memorial Park Pump Station Relocation (Elimination) - 201 Memorial Park Drive, Elkin, Surry County, NC 28621 2. Dutchman Creek Floodplain & Stream Restoration at WWTP Effluent (near ACC Coatings) - 620 East Main Street, Elkin, Surry, 28621

Community lifelines

Primary community lifeline

Primary sub-community lifeline

Secondary community lifeline (optional)

Secondary sub-community lifeline

Tertiary community lifeline (optional)

Tertiary sub-community lifeline

Hazard sources

Primary hazard source

Secondary hazard source (optional)

Tertiary hazard source (optional)

Is this a phased project?

Are you doing construction in this project?

Percentage of population impacted

Provide detailed description of population impacted

Food, water, shelter

Water

Health and medical

Public health

Hazardous material

HAZMAT. pollutants, contaminants

Flooding

Severe storm

Infrastructure failure

Yes

Yes

100

The Yadkin Valley Sewer Authority system serves all of the sewer customers in Ronda, Jonesville, and Elkin. The system also receives and treats the filter backwash wastewater from the Elkin Water Treatment Plant (WTP) and from the Jonesville WTP. Ronda has a groundwater source for drinking water but has to supplement it with water purchased from Elkin (about 50%). According to the 2021 Local Water Supply Plans for each municipality, the water service populations are: Ronda - 938, Elkin - 4,121, and Jonesville - 2,250. Therefore, the maximum potential population to benefit from water and sewer infrastructure improvements in the three towns is 7,309. The first component of the Project, relocation/elimination of the Memorial Park Pump Station, will benefit all of the water customers dependent on the Elkin WTP, which is 5,059. The Dutchman Creek portion of the Project will benefit all of the sewer customers of the Authority, which is 6,716 (based on 2,583 residential sewer connections at 2.6 persons per household). This project for Surry County positively impacts (benefits) the entire population of the Towns of Elkin, Jonesville, and Ronda, along with all businesses institutions, and industries within these communities. There are also some water and sewer customers outside the town limits. The project benefits several schools. Furthermore, the project will benefit the only hospital in the area, Hugh Chatham Memorial in Elkin. There is one industry with over 300 employees that relies heavily on the water supply that this project would support. The Project will be located within Census Tract 9309.01 of Surry County, and it will directly benefit that population. This Census Tract has a CDC social vulnerability index (SVI) of 0.8606. This tract encompasses the majority of Elkin in Surry County. The water treatment plant also serves the Town of Ronda in Census Tract 9601 (SVI = 0.5862). The Dutchman Creek stream restoration work will benefit all sewer customers and therefore also benefits the Town of Jonesville in Census Tract 503 (SVI = 0.6645). If a weighted average SVI is computed for all the populations benefiting from the Project, it is 0.803. (See calculations in the attached file entitled "Surry-County-BRIC-SCOPE-Population-Impacted.pdf"). Therefore, since this project will benefit the entire population of the three towns, and since the majority of the population is economically disadvantaged, the project will be aligning with the priority of the BRIC

Provide a clear and detailed description of your proposed activity

program in implementing the Justice 40 Initiative. Refer to the attached file entitled "Surry-County-BRIC-SCOPE-Population-Impacted.pdf" for population data. Refer to the BCA Reports in the Cost-effectiveness section for additional information.

Surry County's proposed activity is a construction project that will (1) relocate (i.e., eliminate) a critical sewer pump station that is in the 100-year flood plain, and (2) restore and stabilize Dutchman Creek which will protect the adjacent wastewater treatment plant (WWTP) effluent pipe. Both components of the project will address the future effects of Climate Change. The project will do this by creating resiliency in critical infrastructure, thus preparing for increasing frequency and intensity of storms. (Refer to the Evaluation section for more information on the effects of Climate Change related to this project). Detailed descriptions: 1. Relocate (Eliminate) Memorial Park Sewer Pump Station from within the Floodplain and Floodway of Big Elkin Creek: Some of this pump station's equipment is elevated, but the whole station is completely in the floodway and therefore not accessible during floods. Floodways are characterized by higher, more dangerous stream velocities than the balance of the flood plain. Therefore, accessing this pump station during floods is even more dangerous to personnel than accessing other pump stations located in flood plains. The pump station is located immediately next to Memorial Park Drive. This town street recently flooded 4 times in 3 years. During these events, Sewer Authority personnel can't access the pump station to operate it and maintain it. This sewer pump station serves the Town of Elkin water treatment plant (WTP) by handling filter backwash and other wastewater from the WTP. Thus, this wastewater service supports the potable water supply for the entire Elkin and Ronda water service areas. In order to maintain sewer service (and therefore drinking water service) during and after floods, the project will relocate/eliminate the pump station. This will be accomplished by installing 2,600 feet of 12" gravity sewer at 6' to 20' deep, 1 railroad crossing, and 2 road crossings, to allow wastewater to flow by gravity to the main outfall along the Yadkin River. Once the new gravity sewer is complete, all equipment and structures at the pump station site will be removed, thus restoring the floodway in that area to a natural state with no obstructions to flood flows. After the pump station is eliminated, there will be no disruption in service to the water treatment plant, no disruption in service to the other sewer customers in the area, and no endangerment of Sewer Authority personnel. By eliminating the pump station, other negative effects of storms, such as high winds and lightning, will also be mitigated since there will no longer be any mechanical equipment to operate and maintain. Therefore, the project will be 100% effective in addressing the effects on the Memorial Park Pump Station caused by storms and Climate Change. 2. Dutchman Creek Floodplain and Stream Restoration at WWTP Effluent Pipe: The 18" pipeline carrying the treated effluent from the WWTP to the Yadkin River follows Dutchman Creek in Elkin. At the lowest segment of this stream, where it discharges into the Yadkin River, high stream velocities associated with severe storms are eroding the stream banks. The erosion is significant and has washed away the earth cover on some of the effluent pipe. The erosion has already caused an abandoned sewer line closer to the stream to collapse (refer to photos in the attachment "Surry-County-BRIC-COSTEFF-Attach#5-Documentation.pdf"). Based on aerial imagery over 10 years and based on recent survey measurements, the rate of streambank erosion is approximately 2 to 3 feet per year. In one location, the toe of the stream bank is about 20' from the effluent pipe. Therefore, undermining and collapse of pipe expected in 6 to 10 years if no action is taken, maybe sooner due to the increasing frequency of major storms due to Climate Change. It appears that past landowners have filled both sides of the stream with earth and straightened the stream. The stream is recreating its natural sinuosity as storm flows erode the stream banks. This erosion is causing a loss of riparian trees as their roots are undermined and the trees fall over. In addition, the headwall structure at the outlet end of the effluent pipe is being undermined by high flows in the Yadkin River. Increased frequency of flooding threatens this outlet structure with collapse. If any parts of the effluent line fail due to this erosion, the entire wastewater system will be disrupted (the NPDES permit for the system requires the effluent wastewater to be discharged into the Yadkin River, not into Dutchman Creek). This component of the project will use nature-based solutions (NBS) to stabilize streambanks and to create a flood plain/shelf to restore the stream's flood-carrying capacity. It will also restore the stream's riparian buffer. Up to 800 linear feet of stream will be restored and stabilized. The riparian buffer will be 50' on each side. Natural vegetation will also be used to protect the effluent pipe headwall structure. A permanent conservation easement will be established, to ensure perpetual protection of the effluent pipe, the stream,

How will the mitigation activity be implemented?

Describe how the project is technically feasible and will be effective in reducing the risk by reducing or eliminating damage to property and/or loss of life in the project area. Please include engineering design parameters and references to the codes; engineering practices and/or best practices; level of protection (e.g., life safety, 100-yr flood protection with freeboard, 100-yr wind design, etc.):

and the riparian buffer. The project will be 100% effective in addressing the threat of failure of the WWTP effluent pipe caused by storms and Climate Change. See IMPLEMENTATION MEASURES attachment for more information about the nature-based techniques that will be used.

The mitigation activity will be implemented by the following steps: Surry County will partner with the Yadkin Valley Sewer Authority (YVSA) for implementation of the project. An interlocal agreement will be executed by the County and the Authority such that YVSA will manage and control all aspects and phases of the project. YVSA will be responsible for all costs that exceed funds provided by FEMA. YVSA will select a qualified engineering firm to design the project elements and to assist with permitting, grant administration, and construction administration. After the project is designed, YVSA will obtain easements. After all permits have been received and FEMA has approved the design, YVSA will solicit bids from qualified contractors. The bidding procedure and contracting will comply with State and Federal requirements. Upon receiving bids, Surry County and YVSA will together determine if the lowest responsive, responsible bid is acceptable and within budget. Once sufficient funds are appropriated, construction will proceed. YVSA and its engineering firm or firms will frequently inspect the construction work and monitor it for compliance with the permits and State and Federal conditions. YVSA will make payments to the contractor and will submit reimbursement requests to Surry County for the FEMA grant portion of the project. Once the construction is complete. YVSA will ensure that any issues that arose during construction have been adequately addressed, including the restoration of all properties. YVSA will assist the County with all grant reporting and with all closeout documents at the completion of the project. Surry County's partner, the Yadkin Valley Sewer Authority (YVSA), has significant experience with implementing similar projects. In 2021, YVSA completed a stream mitigation project to protect threatened sewer infrastructure. The project was funded by the NC Department of Public Safety and FEMA. YVSA contracted with experienced engineers and contractors such as West Consultants, PLLC of Morganton, NC, Ecosystem Planning and Restoration of Raleigh, NC, and Wildlands Construction of Raleigh. Refer to the attachment "Surry-County-BRIC-EVALUATION-Tech-Scoring.pdf" on Nature-Based Solutions that shows the success of this project. In addition, YVSA has extensive experience with implementing all kinds of wastewater infrastructure projects, including ones like the proposed Memorial Park Pump Station elimination. YVSA has successfully invested over \$22.5 million in grant, loan, and local funds in the last 10 years on WWTP and collection system improvement projects. The Surry County government and the Sewer Authority also have experience working together on infrastructure projects. Recently the two entities partnered to acquire State and Federal funds and to construct a sewer extension to a Weyerhaeuser OSB mill near Elkin. The project was completed in 2019.

The project will use standard engineering principles to mitigate damage from floods, severe storms, and other hazards, making the critical infrastructure resilient in the face of future hazardous events. The project will be 100% following: preliminary schematic or engineering drawings/design; applicable building effective in addressing the threat of failure of the Memorial Park Pump Station and the WWTP effluent pipe caused by storms and Climate Change. The Project will be designed and built in compliance with all applicable federal, state, and local standards and the proposed project will not have adverse upstream or downstream impacts. Phase 1 will include the engineering studies and design necessary to meet the standards. The sanitary sewer extension to eliminate the Memorial Park Pump Station will be built in accordance with State of North Carolina Rule 15A NCAC 02T. Pipes and appurtenances will be buried and will not change the topography of land surfaces. Therefore, flood elevations and velocities will not be altered. Pipes crossing under State Roads will comply with the NC Department of Transportation Utility Accommodation Manual. The new infrastructure, pipe and manholes, will be underground and will thus be flood-proof for the 100year and higher flood events. Soil borings will be made to determine the presence of rock or any other special subsurface conditions. There are other utilities in the corridor along Big Elkin Creek. From an environmental standpoint, this will be an advantage since the project will not be impacting any natural areas. This is also a benefit in that existing utility easements can be used, or new easements can coincide with existing ones such that landowners' properties are not de-valued. However, excavating deep trenches adjacent to existing utilities will be a challenge. Careful and slow excavation will be required, to protect existing utilities and other improvements. This will be feasible, but the estimated cost per linear foot of pipe is relatively high for this reason. The restoration of Dutchman Creek will be designed using principles as described in "Stream Restoration - A Natural Channel Design

Handbook" published by NC State University, or similar design guides. As stated in the preface of this guide, "Stream restoration is the re-establishment of the general structure, function and self-sustaining behavior of the stream system that existed prior to disturbance. It is a holistic process that requires an understanding of all physical and biological components of the stream system and its watershed. Restoration includes a broad range of measures, including the removal of the watershed disturbances that are causing stream instability; installation of structures and planting of vegetation to protect streambanks and provide habitat; and the reshaping or replacement of unstable stream reaches into appropriately designed functional streams and associated floodplains." (page 3). Because the geomorphic conditions of the stream will be specially designed to eliminate erosion, final ground elevations will be altered. But this alteration will be to improve and not worsen flood elevations and velocities. The alterations will be designed such that a No-Rise certification can be issued, in accordance with the local flood plain development ordinance, for the 100-year (1% chance) flood event. Schematic locations of the proposed improvements are shown in the attachment "Surry-County-BRIC-SCOPE-Tech-Feasibility.pdf." Also, see the same attachment for preliminary engineering drawings of the proposed gravity sewer for the elimination of the Memorial Park Pump Station.

In accordance with the interlocal agreement, the Yadkin Valley Sewer Authority (YVSA) will manage the project and complete the mitigation activity on Surry County's behalf. Upon completion of the project, YVSA will take ownership of the assets and maintain them in perpetuity. As stated above, the Sewer Authority has significant experience with implementing similar projects. In particular, the Executive Director, Nicole Johnston, has over 27 years' experience in municipal wastewater systems operations. She has been leading the Sewer Authority since it began operations in 2009 and has been involved in every infrastructure project, including the recently completed FEMA/NCDPS stream restoration project. The completed projects total over \$22.5 million and nearly every project included State and/or Federal funding partners, like FEMA, EDA, ARC, and the NC State Water Infrastructure Authority. In addition to the Executive Director, there are five Directors that govern the Sewer Authority. These Directors are appointed by the Towns of Ronda, Elkin, and Jonesville. The current Directors all have at least several years' experience in overseeing major infrastructure projects. In fact, the current Board Treasurer, Wayne Moore, served as Chair of the board for most of the years since the Sewer Authority's creation in 2006. Mr. Moore is a retired bank executive and continues to be an asset to the Authority in providing financial and managerial oversight. Mr. Moore has held different offices on the Board of Directors, but he has continuously served on the Board, and therefore, has been involved in every infrastructure project. The current Chair of the board is Woody Faulk. In addition to serving on the YVSA Board of Directors for several years during major projects, Mr. Faulk is also the co-founder and Secretary-Treasurer of the Watershed NOW organization. Watershed NOW spearheads efforts in the region to improve water quality, including stream stabilization and restoration. Watershed NOW recently collaborated with several partners to restore a section of Big Elkin Creek upstream of the Elkin water treatment plant intake, thereby protecting aquatic habitat and the drinking water supply. Mr. Faulk will continue to serve as Chair of the Yadkin Valley Sewer Authority Board of Directors until at least the end of his term on June 30, 2023. Refer to the IMPLEMENTATION MEASURES Attachment for a list of projects showing the implementation experience of the Sewer Authority, and for a resume for Executive Director Johnston. Surry County's Manager, Chris Knopf, has been County Manager since 2012 and has been involved in many infrastructure projects. Mr. Knopf led Surry County's staff during the implementation of the Weyerhaeuser OSB Mill sewer project mentioned above. Mr. Knopf ensured that the requirements of the funding agencies Golden LEAF, Appalachian Regional Commission (administered by TVA), and NC Department of Commerce were adhered to. He will again lead County staff in ensuring that all BRIC grant requirements are met. As with all past Surry County and YVSA projects, qualified engineers and contractors will be selected to assist with the management and completion of the BRIC Flood Hazard Mitigation Project in the Yadkin Valley.

The Project will address each identified hazard. Residual risks will be greatly reduced or completely removed, as follows: Eliminate Memorial Park Pump Station: After the pump station is eliminated, there will be no disruption in service to the water treatment plant. The new gravity sewer will be buried and therefore will not be affected by flood waters. It will not need to be accessed during or after floods. Routine cleaning and repairs of the pipeline can be addressed during times of no hazard. Dutchman Creek Floodplain and Stream Restoration at WWTP Effluent: The nature-based stream and flood plain

Who will manage and complete the mitigation activity?

Will the project address the hazards identified and what risks will remain from all hazards after project implementation (residual risk)?

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restoration will eliminate scouring of the soils that protect the WWTP effluent pipe. It will be designed for a 100-year recurrence interval of storm events therefore the residual risk of failure of the stream and the adjacent infrastructure would be 1% or less. Normal maintenance of the natural stream elements will prevent failure of the effluent pipe. Refer to the BCA Reports in the Cost-effectiveness section for additional information.

Does the mitigation activity incorporate nature-based solutions?

When will the mitigation activity take place?

Explain why this project is the best alternative. What alternatives were considered to address the risk and why was the proposed activity considered the best

Phase 1 activities will begin as soon as the grant is awarded. See the proposed schedule in the IMPLEMENTATION MEASURES attachment.

The best alternative was selected for mitigating the historic or imminent hazards of each of the two sites. Other alternatives were either infeasible or had a lower Benefit-Cost Ratio (BCR), as follows: Eliminate Memorial Park Pump Station: This pump station is in the floodway of Big Elkin Creek and is surrounded by improved areas (athletic fields and a public street). An alternative considered was raising the entire site to afford access during floods. However, half the length of Memorial Park Drive would also have to be raised to actually provide access. Memorial Park Drive is also in the floodway. Raising the pump station site and Memorial Park Drive would be a major endeavor, likely involving retaining walls and a CLOMR/LOMR permitting process. It would negatively impact other properties along Elkin Creek. This is not a feasible alternative. Dutchman Creek Floodplain and Stream Restoration at WWTP Effluent: The nature-based stream and floodplain restoration will eliminate scouring of the soils that protect the WWTP effluent pipe. An alternative would be to use traditional methods such as fill and rock rip rap armoring of the streambanks. This is feasible but would forgo the additional benefits afforded by the nature-based solution (NBS). The NBS alternative was selected since the natural elements, such as woody vegetation and permanent riparian buffers, can provide improved floodcarrying capacity, wildlife habitat, and water quality.

Please identify the entity that will perform any long-term maintenance and provide a The Yadkin Valley Sewer Authority (YVSA) will perform all long-term maintenance, schedule and cost information. The subapplicant or owner of the area maintenance on the infrastructure once it is completed. YVSA already to be mitigated is responsible for maintenance (including costs of long-term care) after the project is completed?

maintains over 20 pumping stations and approximately 90 miles of collection sewers. YVSA will continue to inspect and maintain the pump stations on a weekly basis and the collection lines on an annual basis, as required by NC Department of Environmental Quality. The new or upgraded infrastructure will be added to YVSA's inventory for maintenance.

Additional comments (optional)

COMMUNITY ENGAGEMENT & OUTREACH - The outreach strategy for the Project includes presentations and listening at County and Sewer Authority public meetings, face-to-face meetings with property owners, social media advertising, and presence at community events. Surry-County-BRIC-SCOPE-Outreach.pdf. Also, refer to the attached Surry-County-BRIC-SCOPE-Risk-Reduction.pdf for more information related to Qualitative Evaluation Criterion Number 1: Risk Reduction/Resiliency Effectiveness. Please see the IMPLEMENTATION MEASURES attachment for additional information and supporting documentation for the project's scope of work and implementation plan.

Attachments

Filename	Date uploaded	Uploaded by	Label	Description	Action
Surry-County-BRIC-SCOPE-Risk-Reduction.pdf	01/05/2023	nicole.johnston@yvsa.org	Scope of Work Attachments	Risk Reduction / Resilience Effectiveness	
Surry-County-BRIC-SCOPE-Implementation Measures.pdf	01/05/2023	nicole.johnston@yvsa.org	Scope of Work Attachments	Implementation Measures	
Surry-County-BRIC-SCOPE-Population- Impacted.pdf	01/05/2023	nicole.johnston@yvsa.org	Scope of Work Attachments	Population Impacted	
Surry-County-BRIC-SCOPE-Tech-Feasibility.pdf	01/05/2023	nicole.johnston@yvsa.org	Scope of Work Attachments	Technical Feasibility	
<u>DutchmanCk-cost-opinion.pdf</u>	01/05/2023	nicole.johnston@yvsa.org	Scope of Work Attachments	Dutchman Creek Restoration Cost Estimate	

Filename	Date uploaded	Uploaded by	Label	Description	Action
Surry-County-BRIC-SCOPE-Outreach.pdf	01/05/2023	nicole.johnston@yvsa.org	Scope of Work Attachments	Community Engagement & Outreach	
MemPark-cost-opinion.pdf	01/05/2023	nicole.johnston@yvsa.org	Scope of Work Attachments	Memorial Park PS Cost Estimate	

Schedule

Specify the work schedule for the mitigation activities.

Add tasks to the schedule

Task Name Phase 1 - Receive BRIC Grant Award	Start Month 01	Task Duration (in Months) 2 months
		Award from FEMA for the Surry County BRIC Flood Hazard Mitigation Project in opt respective resolutions from Surry County and YVSA Boards for receipt of ntracting process.
Task Name Phase 1 - Project Design, Permitting and Easement Acquisition (GO, NO-	Start Month 03	Task Duration (in Months) 12 months
GO)	Services (ground-per County BRIC Flood F	cal services pre-design investigation (borings), Subsurface Utility Locating netrating radar), land surveying, engineering design for all aspects of the Surry Hazard Mitigation Project in the Yadkin Valley. Obtain all necessary s as required by NCDEQ (North Carolina Department of Environmental Quality),
	Obtain easements as permanent easement is complete. Obtain a	by Corps of Engineers for sewer construction and for stream restoration work. It can be needed to maintain a 50' temporary right-of-way for construction work and 25' It for access for sewer infrastructure to properly maintain the system once project additional easements for riparian buffers along Dutchman Creek. Do not proceed, ermits are not obtainable.
Task Name	Start Month	Task Duration (in Months)
Phase 2 - Bid Process		3 months as for Surry County BRIC Flood Hazard Mitigation Project in the Yadkin Valley. sing, review of bids by the engineering firm, and Board approval by both Surry bards.

Task Name	Start Month	Task Duration (in Months)		
Phase 2 - Complete Construction of	18	14 months		
Project				
	Task Description			
	Construct 2,600 LF of 12" Gravity Sewer (6' to 20' deep) w/ Manholes, demolish existing Memorial			
	Park Pump Station; Install 800	0 LF of stream restoration.		

Task Name	Start Month	Task Duration (in Months)
Phase 2 - Close Out	31	2 months
	Task Description Punch list and final surface resto	prations, final payment application review/approval, grant contract rsement; as-built drawings

Task I	Name	Start Month	Task Duration (in Months)
		01	2 months

Phase 1 - Procurement of Professional Services Providers

Task Description RFQ and selection process

Task Name Phase 1 - Planning

Start Month Task Duration (in Months)
03 3 months

Task Description
Planning Phase: Subsurface Utility Locating & Land Surveying; Preliminary and Hydrology & Hydraulics Engineering, EHP review, start the 401/404 permitting process (submit preliminary plans); finalize the BCA

Estimate the total duration of your proposed activities (in months).

33

Proposed project start and end dates

 Start Date
 2023-08-23

 End Date
 2026-05-09

Introduction

Project location

Provide a detailed description of the proposed project's location.

There are two (2) sites for the project location: 1. Memorial Park Pump Station - 201 Memorial Park Drive, Elkin, Surry County, NC, 28621; and 2. Dutchman Creek Floodplain & Stream Restoration at WWTP Effluent (near ACC Coatings) - 620 East Main Street, Elkin, Surry County, NC 28621 The latitude and longitude are provided below for Memorial Park Pump Station in Elkin, NC (36.247139, -080.858814). The latitude and longitude for Dutchman Creek Floodplain & Stream Restoration is near ACC Coatings, LLC in Elkin NC. This is the closest property near the WWTP effluent line along Dutchman Creek for which floodplain and restoration is proposed. The latitude and longitude are as follows: 36.248000, -080.835000.

Latitude 36.248784

Longitude -080.831873

Attachments

Filename Date uploaded Uploaded by Label Description Action

Project benefiting area

Provide a detailed description of the proposed project's benefiting area.

The benefiting areas for the Surry County BRIC Flood Hazard Mitigation Project in the Yadkin Valley will be all three (3) Towns that are served by the Yadkin Valley Sewer Authority (YVSA): Town of Elkin (Surry County), Town of Jonesville (Yadkin County), and the Town of Ronda (Wilkes County). For a description of the benefiting population and their location, refer to the attachment "Surry-County-BRIC-SCOPE-Population-Impacted.pdf" in the Scope of Work section.

Attachments

Filename Date uploaded Uploaded by Label Description Action

Project impact area

FEMAGO - Subapplication

Provide a detailed description of the proposed project's impact area.

Impacted areas for the Surry County BRIC Flood Hazard Mitigation Project in the Yadkin Valley are the following: 1. Memorial Park Pump Station - 201 Memorial Park Drive, Elkin, Surry County, NC, 28621. 2. Dutchman Creek Floodplain & Stream Restoration at WWTP Effluent (near ACC Coatings) - 620 East Main Street, Elkin, Surry County, NC 28621

Attachments

Filename Date uploaded Uploaded by Label Description Action

Project site inventory

Does this project subapplication propose to mitigate a property/structure(s)? (Examples: residential home, commercial building, bridge, fire station, levee, pumping station, wastewater treatment plant, telephone pole, electric line, etc.) Yes

Please describe how the propert(ies) will be selected upon subgrant approval. (Example: Saferoom Lottery Project, Fix the Bricks Project)

Please download the excel template, and then fill out the template with building or infrastructure data.

Enter the location of the property/structure.

List of location(s) (2 locations)

Status	Location ID	Address	Inventory type	Structure type	Mitigation action
•	<u>49301</u>	201 Memorial Park Drive , Elkin, NC, Surry, 28621	Infrastructure/Utility/other	Wastewater	Relocation
•	<u>49302</u>	620 East Main Street , Elkin, NC, Surry, 28621	Infrastructure/Utility/other	Wastewater	Floodproofing

Budget

Budget cost estimate should directly link to your scope of work and work schedule. You must add at least one item(s) greater than 0 for your cost estimate. As necessary, please adjust your federal/non-federal cost shares, and add the non-federal funding source(s) you are planning to use this project. Once you have completed this section, please click the Continue button at the bottom of this page to navigate to the next section.

Add budget cost types and item(s)

First, click the Add cost type button below to add cost type cost estimate and then click the Add item(s) button to add the item(s) for the cost estimate.

Grand total: \$2,649,500.00

Budget type: Construction

•	Cost type: Cost estimate	\$2,524,500.00
•	Cost type: Management cost	\$125,000.00

Program income (optional)

Cost share

Cost share or matching means the portion of project costs not paid by federal funds.

Proposed federal vs. non-federal funding shares

Hazard mitigation assistance (HMA) funds may be used to pay up to 75% federal share of the eligible activity costs. Building Resilient Infrastructure and Communities

(BRIC) and small impoverished communities may be eligible for up to 90% federal share. Flood Mitigation Assistance (FMA) and severe repetitive loss (SRL) properties may be eligible for up to 100% federal share. Repetitive loss (RL) properties may be eligible for up to 90% federal share.

	79 Farmershage * Sullar amount
Is this an Economically Disadvantaged Rural Community?	Proposed federal share 71.42 1892150.00
This determines your federal/non-federal share ratio.	Proposed non-federal 28.58 757350.00 share
No	ಶಿಷಾವ ^ರ ಭಾಗ ಸಂಗ್ರೆ ಅಭಿಸ್ಥೆಯ ಇಲಾಸ್, %2 040 500 00

Non-federal funding sources here

That portion of the total costs of the program provided by the non-federal entity in the form of in-kind donations or cash match received from third parties or contributed by the agency. In-kind contributions must be provided and cash expended during the project period along with federal funds to satisfy the matching requirements.

	Funding source	Funding amount	% Non-federal share by source
•	Funding source: Yadkin Valley Sewer Authority	100.00%	\$757,350.00

Please provide any additional comments below (optional).

See attached cost opinions by a professional engineer for the two parts of the Project.

Attachments

Filename	Date uploaded	Uploaded by	Label	Description	Action
Surry-County-BRIC2022-BUDGET-Attach#1- MemParkPS.pdf	11/17/2022	nicole.johnston@yvsa.org	Budget Attachments	Surry County BRIC Flood Hazard Mitigation Project in the Yadkin Valley - Memorial Park PS detailed budget	
Surry-County-BRIC2022-BUDGET-Attach#2- DutchmanCk.pdf	11/17/2022	nicole.johnston@yvsa.org	Budget Attachments	Surry County BRIC Flood Hazard Mitigation Project in the Yadkin Valley - Dutchman Creek detailed budget	
Surry-County-BRIC-BUDGET-Attach#3- LocalMatch.pdf	01/06/2023	kaine.riggan@ncdps.gov	Budget Attachments	Letter regarding commitment of local funds for non-federal share	

How was cost-effectiveness determined for this project? BCA completed in FEMA's BCA toolkit Subapplicant must attach supporting documentation.

Pre-calculated benefits

Cost-effectiveness

Substantial damage in special flood hazard area

Other BCA methodology approved by FEMA in writing

Not applicable

Not applicable

What are the total project benefits? (\$)

What are the total project cost? (\$)

What is the benefit-cost ratio (BCR) for the entire project?

Was sea level rise incorporated into the flood elevations in the BCA?

Were environmental benefits added to the project benefits?

Yes

Were social benefits added to the project benefits?

Please provide any additional comments below (optional).

Refer to the attached BCA Reports for more information. Please see the IMPLEMENTATION MEASURES attachment for additional information and supporting documentation for the project's scope of work and implementation plan. "The Census Tract that includes the project area has a Centers for Disease Control and Prevention (CDC) Social Vulnerability Index (SVI) rating among the highest in the nation: 0.80 offering the BCA waiver and further assistance from FEMA in addressing any issues found with the BCA in the NTR review. Evidence is presented in the Population Impacted document in the Scope of Work section"

Attachments

Filename	Date uploaded	Uploaded by	Label	Description	Action
Surry-County-BRIC-COSTEFF-Attach#1- MemParkPS-BCA-Methodology.pdf	01/04/2023	nicole.johnston@yvsa.org	Cost Effectiveness Attachments	Memorial Park PS Elimination BCA Report & Methodology	
Surry-County-BRIC-COSTEFF-Attach#2- DutchmanCk-BCA-Methodology.pdf	01/04/2023	nicole.johnston@yvsa.org	Cost Effectiveness Attachments	Dutchman Creek Dutchman Creek Floodplain & Stream Restoration at WWTP Effluent Pipe - BCA Report & Methodology	
Surry-County-BRIC-COSTEFF-Attach#3-Combined-BCR.pdf	01/04/2023	nicole.johnston@yvsa.org	Cost Effectiveness Attachments	Surry County Flood Hazard Mitigation in the Yadkin Valley - BCA Toolkit - weighted average BCR for combined elements of Project	
Surry-County-BRIC-COSTEFF-Attach#4-BCA- Methodology-fema_bca_toolkit-6.0.xlsx	01/04/2023	nicole.johnston@yvsa.org	Cost Effectiveness Attachments	Surry County Flood Hazard Mitigation in the Yadkin Valley - BCA Toolkit	
Surry-County-BRIC-COSTEFF-Attach#5- Documentation.pdf	01/04/2023	nicole.johnston@yvsa.org	Cost Effectiveness Attachments	Documentation of Damages and RI's	

Environmental/Historic Preservation (EHP) Review Information

Introduction

An environmental/historic preservation review is required for all activities for which FEMA funds are being requested. FEMA will complete this review with the assistance of both the state or tribal government and the local applicant. It is important that you provide accurate information. If you are having problems completing this section, please contact your application point of contact.

A. National Historic Preservation Act - Historic Buildings and Structures

1. Does your project affect or is it in close proximity to any buildings or structures 50 Yes years or more in age?

Please confirm that you have provided the information listed below by selecting each check box. (If you have not provided these documents in any other section of the application, please attach the required documents below.)

- A minimum of two color photographs showing at least three sides of each structure (Please label the photos accordingly).
- A diagram or USGS 1:24,000 scale quadrangle map displaying the relationship of the property (s) to the project area.

To help FEMA evaluate the impact of the project, please indicate below any other information you are providing. (optional)

Information gathered about potential historic properties in the project area, including any evidence indicating the age of the building or structure and presence of buildings or structures that are listed or eligible for listing on the National Register of Historic Places or within or near a National Register listed or eligible historic district. Sources for this information may include the State Historic Preservation Officer, and/or the Tribal Historic Preservation Officer (SHPO/THPO), your local planning office, historic preservation organization, or historical society.

~	Consideration of how the project design will minimize adverse effects on known or potential historic buildings or structures, and any alternatives considered or
	implemented to avoid or minimize effects on historic buildings or structures. Please address and note associated costs in your project budget.

For acquisition/demolition projects affecting historic buildings or structures, any data regarding the consideration and feasibility of elevation, relocation, or flood proofing as alternatives to demolition.

Attached materials or additional comments.

Please provide an explanation and any information about this project that could assist FEMA in its review. (optional)

No structures will be affected by the project except for the sewer infrastructure. The closest historic structure would be the Galloway Memorial Episcopal Church, at 25 feet from the Memorial Park Pump Station Elimination work. If rock is encountered, blasting will not be permitted. Any additional supporting information needed can be provided as required by FEMA.

Please provide an explanation and any information about this project that could assist FEMA in its review.

Attachments

Filename	Date uploaded	Uploaded by	Label	Description	Action
Surry-County-BRIC-EHP-Attach#1-SHPO- Map.pdf	01/04/2023	nicole.johnston@yvsa.org	closeProximityTo50YearOldBuilding.attachmentIds	Attachment #1 - SHPO Map	
Surry-County-BRIC-EHP-Attach#4-Historic- Photos.zip	01/04/2023	nicole.johnston@yvsa.org	closeProximityTo50YearOldBuilding.attachmentIds	Attachment #4 - Historical Sites with addresses and year built and photos	
Surry-County-BRIC-EHP-Attach#7-Map- DutchmanCk,pdf	01/04/2023	nicole.johnston@yvsa.org	closeProximityTo50YearOldBuilding.attachmentIds	Attachment #7 - Dutchman Creek Floodplain & Stream Restoration Map	
Surry-County-BRIC-EHP-Attach#3-USGS MAPS.pdf	01/04/2023	nicole.johnston@yvsa.org	${\bf close Proximity To 50 Year Old Building. attachment Ids}$	Attachment #3 - USGS Maps	
Surry-County-BRIC-EHP-Attach#6-Map- MemParkPS.pdf	01/04/2023	nicole.johnston@yvsa.org	closeProximityTo50YearOldBuilding.attachmentIds	Attachment #6 - Memorial Park Pump Station Map	
Surry-County-BRIC-EHP-Attach#8-Map- MemParkPS.pdf	01/04/2023	nicole.johnston@yvsa.org	closeProximityTo50YearOldBuilding.attachmentIds	Attachment #8 - Memorial Park Pump Station Map	
Surry-County-BRIC-EHP-Attach#5-Ground- Conditions.pdf	01/04/2023	nicole.johnston@yvsa.org	closeProximityTo50YearOldBuilding.attachmentIds	Attachment #5 - Ground Conditions	
Surry-County-BRIC-EHP-Attach#2-SHPO- Listing.pdf	01/04/2023	nicole.johnston@yvsa.org	closeProximityTo50YearOldBuilding.attachmentIds	Attachment #2 - SHPO Listing	

B. National Historic Preservation Act - Archeological Resources

Does your project involve disturbance of ground?

Yes

2/23, 1	0:25 AM		FEMAGO	O - Subapplication							
	lease confirm that you have provided the infection of the application, please attach the r		•	n check box. (If you have not provided these	documents in an	y other					
٧	A description of the ground disturbance by g	iving the dime	nsions (area, volume, depth,	etc.) and location.							
٧	The past use of the area to be disturbed, not	ing the extent	of previously disturbed grou	nd.							
٧	✓ A USGS 1:24,000 scale or other site map showing the location and extent of ground disturbance.										
To	o help FEMA evaluate the impact of the proj	ect, please in	dicate below any other info	ormation you are providing. (optional)							
	Any information about potential historic properties, including archeological sites, in the project area. Sources of this information may include SHPO/THPO, and/or the Tribe's cultural resources contact if no THPO is designated. Include, if possible, a map showing the relation of any identified historic properties to the project area.										
٧	Attached materials or additional comments.										
	e provide an explanation and any information al FEMA in its review. (optional)	bout this proje		hment #4 under A. National Historic Preserv and Structures	vation Act - Histori	ic					
Please	e provide an explanation and any information a	bout this proje	ct that could assist FEMA in	its review.							
Atta	chments										
Filena	ame	Date uploaded	Uploaded by	Label	Description	Action					
Surry- MAPS	County-BRIC-EHP-Attach#3-USGS 5.pdf	01/04/2023	nicole.johnston@yvsa.org	involve Disturbance Of Ground. attachment Ids	Attachment #3 - USGS Maps						
	County-BRIC-EHP-Attach#5-Ground- tions.pdf	01/04/2023	nicole.johnston@yvsa.org	involve Disturbance Of Ground. attachment Ids	Attachment #5 - Ground Conditions						
C. E	ndangered Species Act and Fis	sh and W	ildlife Coordinatior	Act							

present in the area affected by the project?

1. Are federally listed threatened or endangered species or their critical habitat No Please confirm that you have provided the information listed below by selecting each check box. (If you have not provided these documents in any other section of the application, please provide the required documents either through attachment and/or comment box below.) Information you obtained to identify species in or near the project area. Provide the source and date of the information cited. To help FEMA evaluate the impact of the project, please indicate below any other information you are providing. (optional) Any request for information and associated response from the USFWS, the National Marine Fisheries Service (NMFS) (for affected ocean-going fish), or your Attached materials or additional comments. Please provide an explanation and any information about this project that could assist FEMA in its review. (optional) Please provide an explanation and any information about this project that could assist FEMA in its review. 2. Does your project remove or affect vegetation? Yes Please confirm that you have provided the information listed below by selecting each check box. (If you have not provided these documents in any other section of the application, please provide the required documents either through attachment and/or comment box below.) Description of the amount (area) and type of vegetation to be removed or affected. A site map showing the project area and the extent of vegetation affected. Photographs or digital images that show both the vegetation affected and the vegetation in context of its surroundings. To help FEMA evaluate the impact of the project, please indicate below any other information you are providing. (optional)

✓ Attached materials or additional comments

Please provide an explanation and any information about this project that could assist FEMA in its review. (optional)

See Attachment #4 under A. National Historic Preservation Act - Historic **Buildings and Structures for photographs**

Please provide an explanation and any information about this project that could assist FEMA in its review.

3. Is your project in, near (within 200 feet), or likely to affect any type of waterway or **Yes** body of water?

f Yes, and project is not within an existing building, you must confirm that you have provided the following: (If you have not provided these documents	in
any other section of the application, please attach the required documents below.)	

A USGS 1:24,000 scale quadrangle map showing the project activities in relation to all nearby water bodies (within 200 feet).

Any information about the type of water body nearby including: its dimensions, the proximity of the project activity to the water body, and the expected and possible changes to the water body, if any, Identify all water bodies regardless whether you think there may be an effect.

A photograph or digital image of the site showing both the body of water and the project area.

To help FEMA evaluate the impact of the project, please indicate below any other information you are providing. (optional)

Evidence of any discussions with the US Fish and Wildlife Service (USFWS), and/or your State Wildlife Agency concerning any potential impacts if there is the potential for the project to affect any water body.

Please provide an explanation and any information about this project that could assist FEMA in its review. (optional)

Attachments

Filename	Date uploaded	Uploaded by	Label	Description	Action
Surry-County-BRIC2022-EHP-Attach#10-Map- DutchmanCk.pdf	11/17/2022	nicole.johnston@yvsa.org	endangeredSpecies.attachmentlds	Attachment #10 - NWS Map at Dutchman Creek	
Surry-County-BRIC2022-EHP-Attach#9-Map- MemParkPS.pdf	11/17/2022	nicole.johnston@yvsa.org	endangeredSpecies.attachmentIds	Attachment #9 - NWS Map at Memorial Park PS	
Surry-County-BRIC-EHP-Attach#3-USGS MAPS.pdf	01/04/2023	nicole.johnston@yvsa.org	endangeredSpecies.attachmentIds	Attachment #3 - USGS Maps	

D. Clean Water Act, Rivers and Harbors Act, and Executive Order 11990 (Protection of Wetlands)

Will the project involve dredging or disposal of dredged material, excavation, adding fill material or result in any modification to water bodies or wetlands designated as 'waters of the U.S' as identified by the US Army Corps of Engineers or on the National Wetland Inventory?

Please confirm that you have provided the information listed below by selecting each check box. (If you have not provided these documents in any other section of the application, please attach the required documents below.)

Documentation of the project location on a USGS 1:24,000 scale topographic map or image.

A copy of a National Wetlands Inventory map or other available wetlands mapping information.

To help FEMA evaluate the impact of the project, please indicate below any other information you are providing. (optional)

Request for information and response letter from the US Army Corps of Engineers and/or state resource agencies regarding the potential for wetlands, and applicability of permitting requirements.

Evidence of alternatives considered to eliminate or minimize impacts to wetland

Attached materials or additional comments.

Please provide an explanation and any information about this project that could assist FEMA in its review. (optional)

Attachments

Filename	Date uploaded	Uploaded by	Label	Description	Action
Surry-County-BRIC-EHP-Attach#9-Map- MemParkPS-NWI.pdf	01/04/2023	nicole.johnston@yvsa.org	water Body Or Wetland Modification. attachment Ids	Attachment #9 - National Wetlands Maps	

Filename	Date uploaded	Uploaded by	Label	Description	Action
Surry-County-BRIC-EHP-Attach#3-USGS MAPS.pdf	01/04/2023	nicole.johnston@yvsa.org	water Body Or Wetland Modification. attachment Ids	Attachment #3 - USGS Maps	
Surry-County-BRIC-EHP-Attach#10-Map- DutchmanCk-NWI.pdf	01/04/2023	nicole.johnston@yvsa.org	water Body Or Wetland Modification. attachment Ids	Attachment #10 - National Wetlands Maps	

E. Executive Order 11988 (Floodplain Management)

1. Does a Flood Insurance Rate Map (FIRM), Flood Hazard Boundary Map (FHBM), hydrologic study, or some other source indicate that the project is located in or will affect a 1% annual chance floodplain, a 0.2% annual chance floodplain, a regulatory floodway, or an area prone to flooding?

Yes

Please explain in the text box below and/or provide any documentation to identify the means or the alternatives considered to eliminate or minimize impacts to floodplains (See the 8 step process found in 44 CFR Part 9.6.) to help FEMA evaluate the impact of the project:

Since this is a flood and severe weather hazard mitigation project, much of the work will necessarily take a place within designated floodplains. Nevertheless, the project will improve rather than worsen floodplain functions. In the case of the Memorial Park Pump Station elimination and the Dutchman Creek Floodplain and Stream Restoration, floodway and floodplain topography will be made safer (obstructions, such as the pump station structures, will be removed). The project will meet the intent of 44 CFR Part 9.6, specifically step 5: "Minimize the potential adverse impacts and support to or within floodplains..."

Please provide an explanation and any information about this project that could assist FEMA in its review. (optional)

2. Does the project alter a watercourse, water flow patterns, or a drainage way, regardless of its floodplain designation?

No

Attachments

Filename Date uploaded Uploaded by Label Description Action	
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F. Coastal Zone Management Act

1. Is the project located in the state's designated coastal zone?

No

G. Farmland Protection Policy Act

1. Will the project convert more than 5 acres of prime or unique farmland outside city limits to a non-agricultural use?

No

H. Resource Conservation and Recovery Act (RCRA) and Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (Hazardous and Toxic Materials)

1. Is there a reason to suspect there are contaminants from a current or past use on No the property associated with the proposed project?

I. Executive Order 12898, Environmental Justice for Low Income and Minority Populations

1. Are there low income or minority populations in the project's area of effect or adjacent to the project area?

Ye

If Yes, you must confirm that you have provided the following either in the text box below or by attachment: (If you have not provided these documents in any other section of the application, please attach the required documents or provide the description below.)

Description of any disproportionate and adverse effects to these populations

To help FEMA evaluate the impact of the project, please indicate below any other information you are providing. (optional)

Description of the population affected and the portion of the population that would be disproportionately and adversely affected. Please include specific efforts to address the adverse impacts in your proposal narrative and budget.

Attached materials or additional comments

Please provide an explanation and any information about this project that could assist FEMA in its review. (optional)

There are low-income residents in the Town of Jonesville in Yadkin County and in the Town of Ronda in Wilkes County. However, the project will have no negative effects on these populations. The proposed infrastructure will be installed where sewer infrastructure already exists. The improvements will reduce nuisance conditions, such as sewage spills and odors, rather than increasing such nuisances. Information from the US Census: Jonesville, NC: People below Poverty Level in Jonesville: 909 (29.7% of the population) Spanning over 3 miles, Jonesville has a population density of 774 people per square mile. The average household income in Jonesville is \$38,195 with a poverty rate of 37.70%. Ronda, NC: 21% of the population for whom poverty status is determined in Ronda, NC (136 out of 649 people) live below the poverty line, a number that is higher than the national average of 12.3%. Refer to the attachment "Surry-County-BRIC-SCOPE-Population-Impacted.pdf" for more information.

Attachments

Filename Date uploaded Uploaded by Label Description Action

No

J. Other Environmental/Historic Preservation Laws or Issues

- 1. Are there other environmental/historic preservation requirements associated with **No** this project that you are aware of?
- 2. Are there controversial issues associated with this project?
- 3. Have you conducted any public meeting or solicited public input or comments on **Yes** your specific proposed mitigation project?

If Yes, please indicate in the text box below a description of the requirements, issues or public involvement effort.

YVSA (Yadkin Valley Sewer Authority) staff and supporting engineers (West Consultants, PLLC) have attended two (2) public meetings about the Surry County BRIC Flood Hazard Mitigation Project in the Yadkin Valley. Meeting #1: YVSA Board of Directors (BOD) meeting held at the YVSA Operations Building located at 500 NC Highway 268 West, Elkin, NC 28621 at 10:00 a.m. on November 9, 2021 - Action completed was that the YVSA Board provided a motion to work on obtaining funding through FEMA and with the supportive

work of all partnerships (as also listed in this application) for the BRIC Project. Meeting #2: Surry County Board of County Commissioners (BOCC) held at the Surry County Administrative Building located at 114 West Atkins Street, Dobson, NC 27017 at 6:00 p.m. on November 15, 2021 - Action completed was that the Surry County BOCC made the motion to be the subapplicant for the BRIC Project in partnership with YVSA and the other partners (as listed under partnerships).

Attachments

Filename Date uploaded Uploaded by Label Description Action

K. Summary and Cost of Potential Impacts

Having answered the questions in parts A. through J., have you identified any aspects of your proposed project that have the potential to impact environmental resources or historic properties?

No

Evaluation

Is the applicant participating in the Community Rating System (CRS)?

No

Is the applicant a Cooperating Technical Partner (CTP)?

No

Was this application generated from a previous FEMA HMAAdvance Assistance or No Project Scoping award or any other federal grant award, or the subapplicant is a past recipient of Building Resilient Infrastructure and Communities (BRIC) nonfinancial Direct Technical Assistance?

Has the applicant adopted building codes consistent with the international codes?

Yes

Year of building code

Please provide the building code.

2020 North Carolina State Building Code

Have the applicant's building codes been assessed on the Building Code Effectiveness Grading Schedule (BCEGS)?

Select rating.

Describe involvement of partners to enhance the mitigation activity outcome.

Please see the attached file entitled "Surry-County-BRIC-Leveraging Partners.pdf" that provides activity outcomes and schedule.

Discuss how anticipated future conditions are addressed by this project.

This Project will mitigate many of the effects of Climate Change, including those associated with intense storms (flooding, damaging winds, lightning, and erosion). The Project has been defined with the future in mind as Surry County and its partner the Yadkin Valley Sewer Authority prepare for the future. As stated in the North Carolina Climate Science Report (https://ncics.org/wp-content/uploads/2020/10/NC-Climate-Science-Report_Plain_Language_Summary_Final_September2020_smaller.pdf), "Heavy rains from hurricanes and other weather systems will become more frequent and more intense. Annual precipitation is also expected to increase. These changes are driven primarily by increases in atmospheric water vapor as the climate warms. Extreme rainfall in North Carolina can result from hurricanes (as experienced in recent years with Dorian, Florence, Matthew, and Michael), from Nor'easters (strong coastal storms with winds from the northeast), or from other weather systems like thunderstorms. Severe thunderstorms are also likely to increase in a warming climate and can cause flash flooding, especially in urban areas" (page 4).

Additional comments (optional)

Historical records indicate that future flood events will increase in intensities due to climate change such as warming. The issues YVSA is now facing with severe storms and flooding for the Yadkin Valley area will only intensify over time. YVSA expects this project to lessen the impacts of future flooding events. Please see the IMPLEMENTATION MEASURES attachment under the Scope of Work section for additional information and supporting documentation for the project's scope of work and implementation plan.

Attachments

Filename	Date uploaded	Uploaded by	Label	Description	Action
Surry-County-BRIC-Leveraging-Partners.pdf	01/05/2023	nicole.johnston@yvsa.org	Evaluation Attachments	Leveraging Partners	
Surry-County-BRIC-EVALUATION-Future- Conditions.pdf	01/05/2023	nicole.johnston@yvsa.org	Evaluation Attachments	Climate Change & Future Conditions	
Surry-County-BRIC-EVALUATION-Tech-Scoring_pdf	01/12/2023	kaine.riggan@ncdps.gov	Evaluation Attachments	Technical Scoring Support	

Comments & attachments

► Community	1 comment, 1 attachments
► Mitigation plan	1 comment, 3 attachments
▶ Scope of work	1 comment, 7 attachments
▶ Budget	1 comment, 3 attachments
▶ Cost-effectiveness	1 comment, 5 attachments
▶ Evaluation	1 comment, 3 attachments
► Environmental/Historic Preservation (EHP)	0 comment, 16 attachments
▶ Location	0 comment, 0 attachments

Assurances and certifications

View burden statement

SF-424D: Assurances - Construction Programs

Content:

OMB Number: 4040-0009 Expiration Date: 02/28/2025

Certain of these assurances may not be applicable to your project or program. If you have any questions, please contact the awarding agency. Further, certain Federal awarding agencies may require applicants to certify to additional assurances. If such is the case, you will be notified.

As the duly authorized representative of the applicant, I certify that the applicant:

- 1. Has the legal authority to apply for Federal assistance and the institutional, managerial and financial capability (including funds sufficient to pay the non-Federal share of project costs) to ensure proper planning, management and completion of the project described in this application.
- 2. Will give the awarding agency, the Comptroller General of the United States and, if appropriate, the State, the right to examine all records, books, papers, or documents related to the assistance; and will establish a proper accounting system in accordance with generally accepted accounting standards or agency directives.
- 3. Will not dispose of, modify the use of, or change the terms of the real property title or other interest in the site and facilities without permission and instructions from the awarding agency. Will record the Federal awarding agency directives and will include a covenant in the title of real property acquired in whole or in part with Federal assistance funds to assure nondiscrimination during the useful life of the project.
- 4. Will comply with the requirements of the assistance awarding agency with regard to the drafting, review and approval of construction plans and specifications.
- 5. Will provide and maintain competent and adequate engineering supervision at the construction site to ensure that the complete work conforms with the approved plans and specifications and will furnish progressive reports and such other information as may be required by the assistance awarding agency or State.
- 6. Will initiate and complete the work within the applicable time frame after receipt of approval of the awarding agency.
- 7. Will establish safeguards to prohibit employees from using their positions for a purpose that constitutes or presents the appearance of personal or organizational conflict of interest, or personal gain.

- 8. Will comply with the Intergovernmental Personnel Act of 1970 (42 U.S.C. §§4728-4763) relating to prescribed standards for merit systems for programs funded under one of the 19 statutes or regulations specified in Appendix A of OPM's Standards for a Merit System of Personnel Administration (5 C.F.R. 900. Subpart F).
- 9. Will comply with the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. §§4801 et seq.) which prohibits the use of lead-based paint in construction or rehabilitation of residence structures.
- 10. Will comply with all Federal statutes relating to nondiscrimination. These include but are not limited to: (a) Title VI of the Civil Rights Act of 1964 (P.L. 88-352) which prohibits discrimination on the basis of race, color or national origin; (b) Title IX of the Education Amendments of 1972, as amended (20 U.S.C.§§1681-1683, and 1685-1686), which prohibits discrimination on the basis of sex; (c) Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C.§794), which prohibits discrimination on the basis of handicaps; (d) the Age Discrimination Act of 1975, as amended (42 U.S.C.§§6101-6107), which prohibits discrimination on the basis of age; (e) the Drug Abuse Office and Treatment Act of 1972 (P.L. 92-255), as amended, relating to nondiscrimination on the basis of drug abuse; (f) the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970 (F.L. 91-616), as amended, relating to nondiscrimination on the basis of alcohol abuse or alcoholism; (g) §§523 and 527 of the Public Health Service Act of 1912 (42 U.S.C. §§290 dd-3 and 290 ee- 3), as amended, relating to confidentiality of alcohol and drug abuse patient records; (h) Title VIII of the Civil Rights Act of 1968 (42 U.S.C. §§3601 et seq.), as amended, relating to nondiscrimination in the sale, rental or financing of housing; (i) any other nondiscrimination provisions in the specific statute(s) under which application for Federal assistance is being made; and, (j) the requirements of any other nondiscrimination statute(s) which may apply to the application.
- 11. Will comply, or has already complied, with the requirements of Titles II and III of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P.L. 91-646) which provide for fair and equitable treatment of persons displaced or whose property is acquired as a result of Federal or federally-assisted programs. These requirements apply to all interests in real property acquired for project purposes regardless of Federal participation in purchases.
- 12. Will comply with the provisions of the Hatch Act (5 U.S.C. §§1501-1508 and 7324-7328) which limit the political activities of employees whose principal employment activities are funded in whole or in part with Federal funds.
- 13. Will comply, as applicable, with the provisions of the Davis-Bacon Act (40 U.S.C. §§276a to 276a-7), the Copeland Act (40 U.S.C. §276c and 18 U.S.C.§874), and the Contract Work Hours and Safety Standards Act (40 U.S.C. §§327-333), regarding labor standards for federally-assisted construction subagreements.
- 14. Will comply with flood insurance purchase requirements of Section 102(a) of the Flood Disaster Protection Act of 1973 (F.L. 93-234) which requires recipients in a special flood hazard area to participate in the program and to purchase flood insurance if the total cost of insurable construction and acquisition is \$10,000 or more.
- 15. Will comply with environmental standards which may be prescribed pursuant to the following: (a) institution of environmental quality control measures under the National Environmental Policy Act of 1969 (P.L. 91-190) and Executive Order (EO) 11514; (b) notification of violating facilities pursuant to EO 11738; (c) protection of wetlands pursuant to EO 11990; (d) evaluation of flood hazards in floodplains in accordance with EO 11988; (e) assurance of project consistency with the approved State management program developed under the Coastal Zone Management Act of 1972 (16 U.S.C. §§1451 et seq.); (f) conformity of Federal actions to State (Clean Air) Implementation Plans under Section 176(c) of the Clean Air Act of 1955, as amended (42 U.S.C. §§7401 et seq.); (g) protection of underground sources of drinking water under the Safe Drinking Water Act of 1974, as amended (F.L. 93-523); and, (h) protection of endangered species under the Endangered Species Act of 1973, as amended (P.L. 93-205).
- 16. Will comply with the Wild and Scenic Rivers Act of 1968 (16 U.S.C. §§1271 et seq.) related to protecting components or potential components of the national wild and scenic rivers system.
- 17. Will assist the awarding agency in assuring compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. §470), EO 11593 (identification and protection of historic properties), and the Archaeological and Historic Preservation Act of 1974 (16 U.S.C. §469a--1 et seq.).
- 18. Will cause to be performed the required financial and compliance audits in accordance with the Single Audit Act Amendments of 1996 and OMB Circular No. A-133, "Audits of States, Local Governments, and Non-Profit Organizations."
- 19. Will comply with all applicable requirements of all other Federal laws, executive orders, regulations, and policies governing this program.
- 20. Will comply with the requirements of Section 106(g) of the Trafficking Victims Protection Act (TVPA) of 2000, as amended (22 U.S.C. 7104) which prohibits grant award recipients or a sub-recipient from (1) Engaging in severe forms of trafficking in persons during the period of time that the award is in effect (2) Procuring a commercial sex act during the period of time that the award is in effect or (3) Using forced labor in the performance of the award or subawards under the award.

Certifications regarding lobbying

OMB Number: 4040-0013 Expiration Date: 02/28/2025

Certification for Contracts, Grants, Loans, and Cooperative Agreements

The undersigned certifies, to the best of his or her knowledge and belief, that:

- 1. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
- 2. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities," in accordance with its instructions.
- 3. The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

Statement for Loan Guarantees and Loan Insurance

The undersigned states, to the best of his or her knowledge and belief, that:

If any funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this commitment providing for the United States to insure or guarantee a loan, the undersigned shall complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities," in accordance with its instructions. Submission of this statement is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required statement shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.