7 PROJECT PORTFOLIO

7.1 Identification and Prioritization of Resilience Projects

The overall purpose of the RCCP is to support coastal communities to identify and pursue priority resilience projects that reduce and minimize risks posed by coastal hazards. The CAT referenced the following criteria (based on those in the RCCP Handbook) as well as their vision and goals in reaching agreement on a set of eight high-priority resilience projects for the County.

- Impact
  - Overall benefit to the community as a whole
  - Advances prior efforts/aligns with other plans
  - Has potential co-benefits, e.g., provides a recreational amenity, contributes to local economy, preserves a habitat, strengthens resilience to non-climate stressors like pandemics
  - Important for long-term resilience (i.e., taking climate change, sea level rise, and other future conditions into account)
  - Reduces vulnerability of key assets to coastal hazards
  - Reduces economic risk posed by coastal hazards in one or more sectors
  - Supports social equity
- Feasibility
  - Capacity to implement
  - Technical soundness
  - Likely positive benefit-cost ratio
  - Identifiable sources of funding

7.2 Prioritization Process

To develop a priority list of resilience projects for Bertie County, SWCA first created a list of potential projects based on review of existing documents including the Northeast Regional Hazard Mitigation Plan Update (North Carolina Emergency Management Division [NCEM] 2020) and the Bertie County Hurricane Matthew Resilient Redevelopment Plan (NCEM 2017).

Project prioritization proceeded in three rounds. In the first round, the CAT reviewed the full list of potential projects compiled from existing resources to remove projects already completed or no longer relevant to the County and add any additional projects for consideration. In the second round, CAT members added or refined some project ideas based on the criteria above and selected a short list to bring to the second public meeting for review and feedback. In the third round, CAT members refined and adjusted their high-priority list based on the criteria above and to better reflect public input and the vulnerability assessment results.

The eight high-priority projects agreed upon by the CAT are described in more detail in the tables below. Generally, these projects were understood by the CAT to have broad community-wide risk-reduction benefits or to benefit vulnerable populations, to be feasible, to align with the County's long-term resilience goals, to build upon other plans, and to link to efforts already underway.

All other projects considered by the CAT are documented in Appendix G. Some of the other projects considered were not prioritized because they had been completed or were already in progress since being

identified in previous planning efforts. Others were very localized and not perceived by the CAT to have sufficient benefit to the community at large to be considered high priority. Others would not substantially contribute to reducing coastal hazard risks or were considered infeasible by the CAT for any of the reasons noted in the criteria above, and so were not prioritized.

7.3 High-Priority Projects

The following eight projects were identified as high priority by the Bertie County CAT. Projects are *not* listed in order of priority; they are all high priority projects. Click the links below to jump to more details for each project:

7.3.1 Land Use Maps

Project Description	Continue to develop a Geographic Information System (GIS) to map current land uses and to map proposed future land uses (CAMA Land Use Plan Update) as an aid in assessing community vulnerability. Future land use map classifications include Conservation I (areas to be preserved: natural landscape and waterscape with civic uses, such as parks and public access, farms, forestry, and fishing) and Conservation II (areas to be protected; restricted land uses due to wetlands and flood hazards). As new maps are developed, facilitate the public review process and adoption.
Location	Countywide
Source	Northeastern NC Regional Hazard Mitigation Plan 2020, CAMA Land Use Plan 2016
Scoping Questions	Need to define a sequence of discrete mapping tasks that could be completed in house or contracted out.
Hazard(s) Addressed by Project	Storm surge, runoff, riverine flooding, sea level rise, erosion
FEMA Community Lifelines	Safety and Security
Type of Solution	Local Plans and Policies
Project Estimated Timeline	Ongoing
Responsible Entity	County Planning Department
Potential Partners	County Tax Office, External GIS service Providers
Existing Funding	None identified by CAT
Potential Funding Sources	Building Resilient Infrastructure and Communities (BRIC) State Allocation, National Fish and Wildlife Foundation (NFWF) National Coastal Resilience Fund
Project Estimated Cost	Low – $10,000-$50,000 Depending on scope of mapping needed.
Anticipated Benefit	High – Action would have a significant impact on risk reduction. This is currently an obstacle to updating plans and coordinating with boards.
Priority Rating	High

7.3.2 Feasibility Study of Frequently Flooded Major Roadways

Project Description	Look at roadways and maintenance of waterways to identify most appropriate actions to reduce flood risk. 1.Salmon Creek Bridge was topped and the surrounding area flooded which blockage of U.S. Highway 17 resulting in no access for supplies to east and west counties, and elimination of access to five counties north of Bertie County. The study looks at mitigation of flooding upstream based on findings from the Windsor Flood Reduction Feasibility Study and regular maintenance of debris before it reaches this location. 2.School Road washed out and stranded many people and the High School (shelter operations) was cut off. This Cashie River swamp area floods regularly. The study looks at construction of a higher bridge over the swamp area to maintain better access, and development of a water control process according to findings from the Windsor Flood Reduction Feasibility Study. 3.This bridge over Ahoskie Creek routinely washes out, eliminating access to the local hospital for residents of both Bertie County and Hertford County. The study looks at raising the bridge elevation and regular cleaning of debris underneath.
Location	Salmon Creek bridge on U.S. Highway 17 near Midway School Road near Bertie High School US 13 at Ahoskie Creek, Powellsville
Source	Hurricane Matthew Resilient Redevelopment Plan - Bertie County, Discussion with CAT
Scoping Questions	Is there any funding in the State Transportation Improvement Plan that could be applicable to this effort?
Hazard(s) Addressed by Project	Precipitation-based flooding
FEMA Community Lifelines	Safety and Security; Transportation
Type of Solution	Structure and Infrastructure
Project Estimated Timeline	1 year
Responsible Entity	County Planning Department
Potential Partners	NC DOT, RPO, NRCS, County Planning Board
Existing Funding	None identified by CAT
Potential Funding Sources	Building Resilient Infrastructure and Communities (BRIC) State Allocation
Project Estimated Cost	Medium - $100,000
Anticipated Benefit	High - Action would have a significant impact on risk reduction.
Priority Rating	High

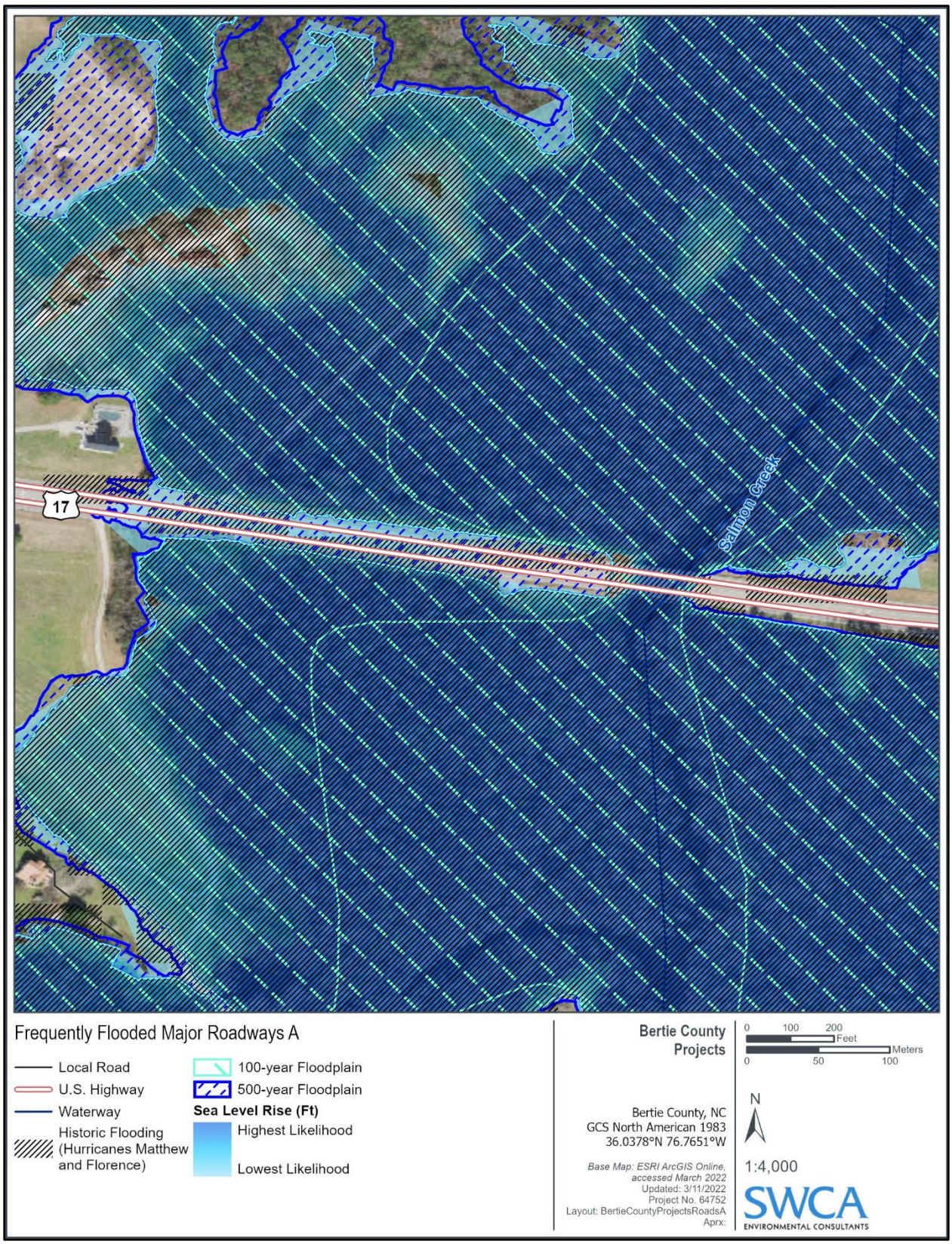

Figure 8. Location of frequently flooded major roadways at Salmon Creek.

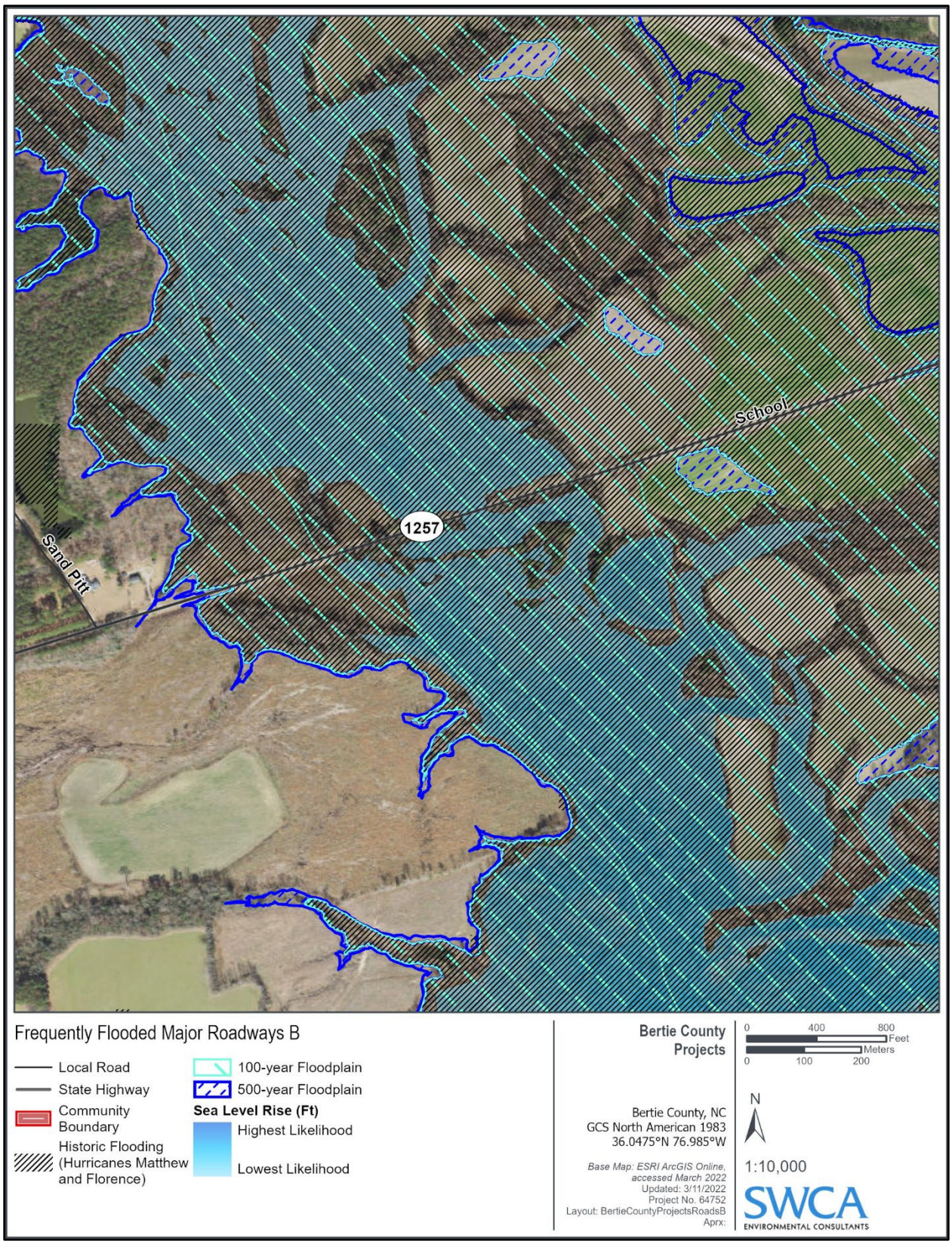

Figure 9. Location of frequently flooded major roadways at School Road.

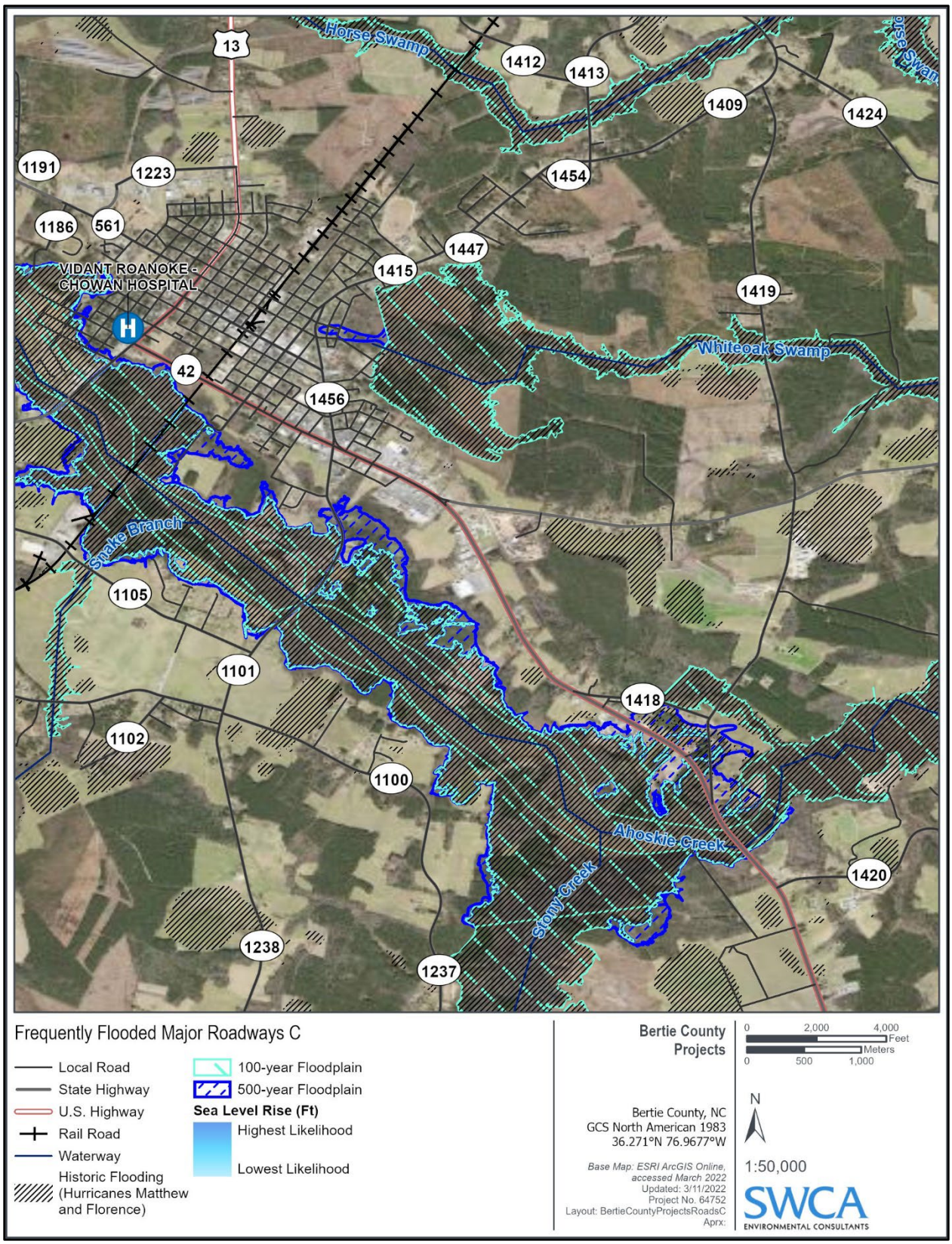

Figure 10. Location of frequently flooded major roadways at Ahoskie Creek.

7.3.3 New or Updated Zoning and Development Ordinances

Project Description	Establish zoning districts and sets standards for future development. Include standards for clustering of residential lot development to help preserve flood hazard areas from development. Include a flood hazard overlay zone to ensure that inappropriate development is adequately controlled
Location	Countywide
Source	Northeastern NC Regional Hazard Mitigation Plan 2020
Scoping Questions	What was in the previous zoning ordinance drafted with the Mideast Commission several years ago?
Hazard(s) Addressed by Project	Storm surge, runoff, riverine flooding, sea level rise, erosion
FEMA Community Lifelines	Safety and Security
Type of Solution	Local Plans and Regulations
Project Estimated Timeline	1 to 2 years
Responsible Entity	County Planning Department
Potential Partners	Board of Commissioners, Consultants or Mideast Commission
Existing Funding	None identified by CAT
Potential Funding Sources	Building Resilient Infrastructure and Communities (BRIC) State Allocation, future general fund allocation
Project Estimated Cost	Low - $75,000
Anticipated Benefit	High - Action would have a significant impact on risk reduction.
Priority Rating	High

7.3.4 Hydrologic Assessment and Development of a Drainage and Water Management Plan

Project Description	Conduct a Hydrologic Assessment to determine water management and maintenance priorities and planning, including: 1.Determine if existing Hoggard's Mill Pond dam structure and levee wall in the upper Cashie watershed could be used as water storage facilities to manage flood and drought waters. Impounding water would reduce downstream impacts on developed areas. 3.Develop a Cashie River drainage system that utilizes integrated natural and historic water control structures in the upstream portions of the black-water drainage systems (e.g., conservation easements, vegetation buffer zones, design road dams to slow down the water and create temporary holding ponds); develop partnerships to implement the program; revisit historic mill dam locations as water storage facilities. 4.Siding Road Water Storage and Diversion - A 20-foot wall of water washed out the railroad track and parallel roadway. Develop a primary water storage area and construct a diversion mechanism. 5.White Oak Drainage - Water is impounded by US 17 without a way to drain across to the south. The White Oak area receives that excess floodwater inundating the neighborhood. US 17 needs additional drainage installed so that water flows across and under the corridor for future events.
Location	Countywide, with focus on the areas noted above
Source	Hurricane Matthew Resilient Redevelopment Plan, Flood Dynamics in the Bertie Water Crescent (NCLOW), Hurricane Matthew Resilient Redevelopment Plan - Bertie County, Discussion with CAT
Scoping Questions	
Hazard(s) Addressed by Project	Riverine flooding, storm surge, sea level rise, runoff
FEMA Community Lifelines	Safety and Security
Type of Solution	Local Plans and Policies
Project Estimated Timeline	9 months to 1 year
Responsible Entity	County Planning Department with a consultant
Potential Partners	Coordinate with Vic Thompson NRCS/Soil & Water, Town of Windsor
Existing Funding	None identified by CAT
Potential Funding Sources	Building Resilient Infrastructure and Communities (BRIC) State Allocation
Project Estimated Cost	Medium - $100,000–$200,000
Anticipated Benefit	High – Action would have a significant impact on risk reduction.
Priority Rating	High

7.3.5 Ditch and Waterway Maintenance Program

Project Description	Adopt a drainage and water management plan based on results of the Hydrologic Assessment that establishes a program of regular maintenance of ditches and waterways
Location	Countywide, with focus on locations identified via the Hydrologic Assessment
Source	Discussion with CAT, Public Meeting Input
Scoping Questions	
Hazard(s) Addressed by Project	Storm surge, runoff, riverine flooding
FEMA Community Lifelines	Safety and Security
Type of Solution	Non-regulatory Program
Project Estimated Timeline	Ongoing
Responsible Entity	NRCS
Potential Partners	NCDOT, County Planning Department, towns
Existing Funding	None identified by CAT
Potential Funding Sources	Building Resilient Infrastructure and Communities (BRIC) State Allocation, Streamflow Rehabilitation Assistance Program (StRAP) - includes debris removal:
Project Estimated Cost	High - $75,000–$100,000 annually (depending on local conditions and natural events)
Anticipated Benefit	High - Action would have a significant impact on risk reduction.
Priority Rating	High

7.3.6 Address Long Branch Drainage Issues

Project Description	Address recurring nuisance flooding in this African American community that is surrounded by swamp to the west and north. To the south is farmland which might be utilized to supplement water storage under high flood conditions.
Location	Around Long Branch Road near Colerain
Source	Discussion with CAT
Scoping Questions and Notes	Previous BRIC application may not have been viewed as favorably by FEMA because of the reference to lack of maintenance. FEMA generally does not fund projects that seek to address issues on sites that have not been maintained.
Hazard(s) Addressed by Project	Riverine flooding
FEMA Community Lifelines	Safety and Security
Type of Solution	Structure and Infrastructure
Project Estimated Timeline	
Responsible Entity	Town of Colerain and Bertie County
Potential Partners	NRCS Soil and Water Conservation District, nearby farm owners that may be able to benefit from rerouted drainage to help irrigate the farmland (e.g., via public/private partnership of some kind)
Existing Funding	Pending – The County and NRCS have submitted a StRAP application in the 2022 application cycle
Potential Funding Sources	Streamflow Rehabilitation Assistance Program (StRAP)
Project Estimated Cost	Medium - $198,500
Anticipated Benefit	High – Action would have a significant impact on risk reduction.
Priority Rating	High

Figure 11. Location of Long Branch drainage issues.

7.3.7 Sans Souci Ferry Upgrades

Project Description	Flooding prevents operation of the ferry. Update the roadway and ferry terminal to protect it from flooding and develop this site as a cultural/ecological tourism destination. The Sans Souci Ferry is a critical piece of transportation history in the lower Coastal Plain known as "North Carolina's Land of Water" where small ferries operated at most landings on every major water body since human occupation. Small ferries of many types were essential factors for subsistence and the economic development of NC. The Sans Souci ferry is one of the last two-car ferries in NC, is a crucial piece of NC history, and is a critical component for the ongoing development of a sustainable eco-tourism business in the "Bertie Water Crescent." Because of water level problems, the ferry cannot operate consistently, which reduces usage and makes the ferry seem less valuable to the operating company and to NCDOT. This situation makes the ferry operation at risk of closure. Upgrades to be made: Road improvements, connection at ferry landing (at high water levels, the ferry cannot connect with the road.) Tourism additions could be shade kiosks with picnic tables, a restroom. Kayakers can use the site currently.
Location	Sans Souci Road/Woodard Road/SR1500 where it crosses the lower Cashie River
Scoping Questions	
Hazard(s) Addressed by Project	Precipitation-based flooding, storm surge, sea level rise
FEMA Community Lifelines	Safety and Security; Transportation
Type of Solution	Structure and Infrastructure
Project Estimated Timeline	To be determined
Responsible Entity	NCDOT - NCDOT contracts with a local business to manage operations
Potential Partners	Bertie County, Town of Windsor, NRCS, Historic Society, NCLand of Water (Dr. Stanley Riggs)
Existing Funding	None identified by CAT
Potential Funding Sources	Scenic Byway (Sans Souci Ferry is on the Windsor/Edenton loop), NCDOT
Project Estimated Cost	To be determined
Anticipated Benefit	Medium – Action would have an impact on risk reduction.
Priority Rating	High

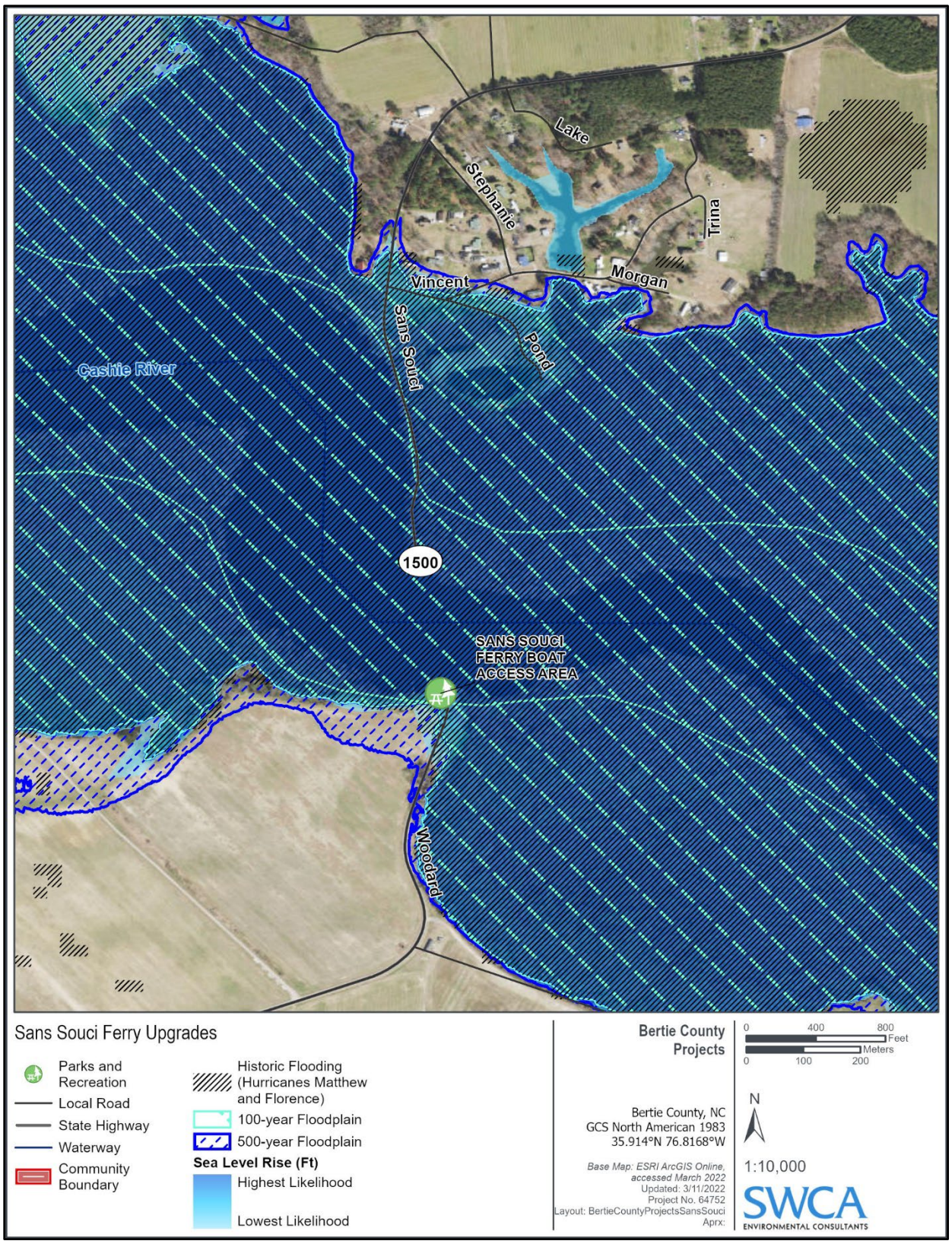

Figure 12. Location of Sans Souci Ferry upgrades.

7.3.8 Emergency Shelter Creation and Upgrades

Project Description	Upgrade and/or establish local shelters in each community so that residents do not have to travel as far or face flooding-related impediments to reach a suitable shelter. Might include: Retrofit the former school at NC 308 and School Road to meet Red Cross standards. Develop a generator resource and relay switches so that power and heat can be regularly supplied during an event.
Location	Countywide at existing shelters and creating at least one shelter location in each town
Source	Discussion with CAT
Scoping Questions	
Hazard(s) Addressed by Project	Precipitation-based flooding, sea level rise, storm surge
FEMA Community Lifelines	Safety and Security; Food, Water, Shelter
Type of Solution	Structure and infrastructure
Project Estimated Timeline	1-2 years
Responsible Entity	Bertie County Emergency Management/EMS
Potential Partners	
Existing Funding	None identified by CAT
Potential Funding Sources	Hazard Mitigation Grant Program (HMGP)
Project Estimated Cost	To be determined
Anticipated Benefit	High – Action would have a significant impact on risk reduction.
Priority Rating	High

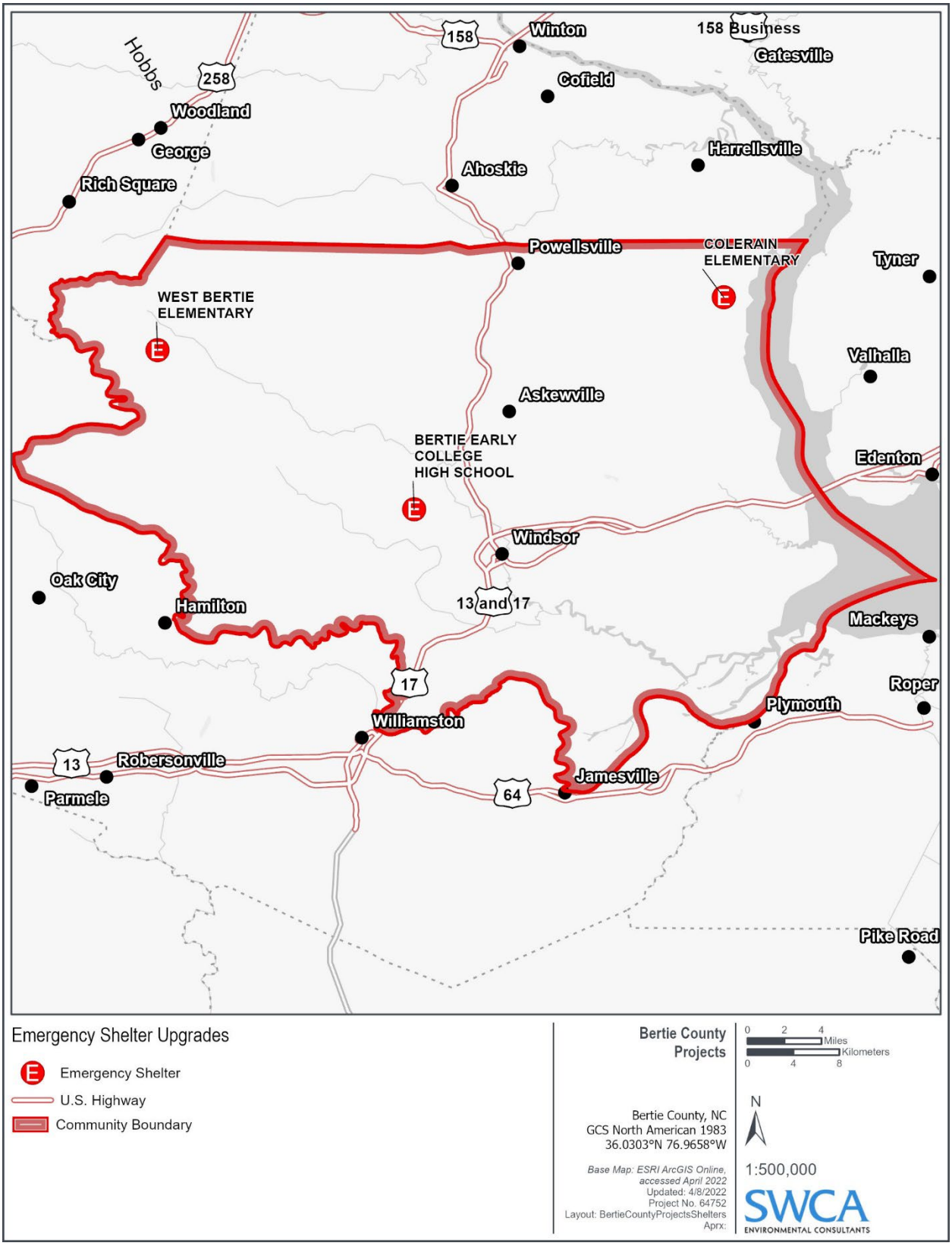

Figure 13. Location of current emergency shelters.

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