North Carolina
RESILIENT COASTAL COMMUNITIES PROGRAM

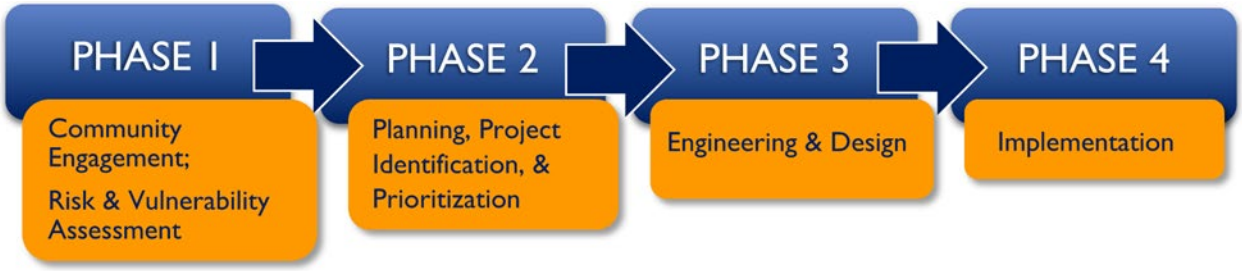
RESILIENCE STRATEGY

TOWN OF AULANDER

Spring 2024

EXECUTIVE SUMMARY

The North Carolina Resilient Coastal Communities Program (RCCP) was established with the objective of providing financial grants and technical assistance to support a proactive, locally and data driven, and equitable approach to coastal resilience planning and project implementation. The RCCP is administered by the North Carolina Department of Environmental Quality – Division of Coastal Management (DCM) and is comprised of four phases.



Source: NC DCM

The four phases of the RCCP are focused on:

- Forming a Community Action Team (CAT) and identifying and engaging stakeholders, including traditionally underserved populations;
- Establishing community vision and goals;
- Assessing coastal risks and vulnerabilities;
- Developing nature-based solutions that incorporate sustainable planning, design, engineering, and natural resource management; and,
- Linking communities to funding streams and technical expertise for project implementation

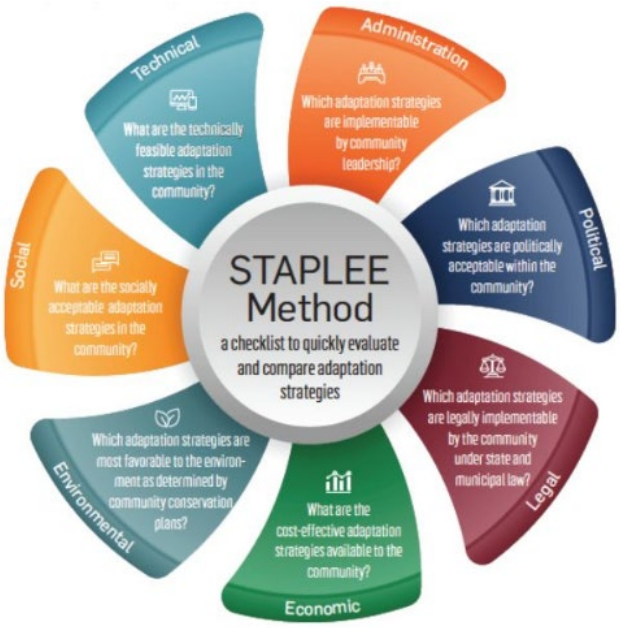
The **Town of Aulander** was selected to participate in the first two phases of the RCCP in Spring 2023. Phases 1 and 2 were completed between August 2023 and June 2024, culminating in this Resilience Strategy, the main deliverable of the program's initial phases, which is designed to be integrated into existing local plans and ordinances.

The Resilience Strategy provides a framework to:

- Document the steps and outcomes of the Phase 1 and 2 resiliency planning process;
- Provide a clarity of purpose;
- Identify opportunities for short-term and long-term resiliency actions based on community input;
- Set project priorities for Phase 3 – Engineering and Design; and,
- Identify, attract, and secure potential funding opportunities for project implementation

Through input from the CAT and the public and available data, community hazards were identified to include flooding (riverine and nuisance), drought, and wildfire. Varying types of critical assets and natural infrastructure located throughout the town's jurisdiction were identified. Critical assets were also identified outside of the Town's jurisdictional boundaries, in the case of particularly vital assets or services.

The Town's **resilience vision** is defined as "Aulander exemplifies a culture of resilience to natural hazards through strong and inclusive partnerships, community preparedness, education and engagement, protection of critical infrastructure, durable natural systems, and proactive measures to prevent or minimize future damage. By proactively reducing risk and preventing loss, and providing quick, effective response and recovery capabilities which recognize the diversity of needs, Aulander fosters a resilient community and supports healthy economic growth."



Source: FEMA

To implement the vision, fourteen (14) resiliency **goals and objectives** were defined and grouped under economic, social, and environmental categories.

Based on local input and the risk and vulnerability assessment, a suite of twelve (12) potential solutions, including planning/policy related solutions and green/hybrid and hard/grey infrastructure projects, were evaluated using the FEMA STAPLEE method and a benefit-cost analysis. This method takes into consideration the social, technical, administrative, political, legal, economic, and environmental aspects, and potential impacts of each project solution.

The cost or the economic case for different strategies or actions must be considered when developing resilience strategies. The proposed adaptation actions were also reviewed using an informal benefit-cost analysis. Ratings of high, medium, or low are assigned to the anticipated costs and the benefits associated with each action based on general criteria that are established by the community.

	Benefit/cost ratings
	Benefit
HIGH	**Action would have significant impact on risk reduction**
MEDIUM	**Action would have an impact on risk reduction**
LOW	**Long-term benefits are difficult to quantify in the short term**
	Cost
HIGH	**Cost of project is high and/or funding will be more difficult to acquire**
MEDIUM	**Cost of project is medium and/or funding will be easier to acquire**
LOW	**Cost of project is low and/or funding is available in existing budget**

After additional stakeholder input, scoring analysis and consideration by the CAT, eight (8) **prioritized project solutions** were identified for the Town of Aulander (see Table 1). The most popular project based upon Phase 2 Open House input was the Upgrade Stormwater System Project, which will be combined with the Stormwater Action Plan. The CAT selected the Permeable Pavement and Green Stormwater Infrastructure Implementation

Projects to move forward to RCCP Phase 3. These project solutions are described in more detail in the Project Portfolio.

Table 1. Priority Project Solutions

Project Name	Project Description
✓ Permeable Pavement and Green Stormwater Infrastructure Implementation Projects	Utilize town-owned property at four locations (old Ryan's Café property, across from the Aulander Municipal Building, Aulander Community Building, and Aulander fitness trail) to install permeable pavement for parking areas and trails that incorporate green stormwater infrastructure and public education. This project will decrease impervious surfaces in the town and replace them with permeable pavement that allows stormwater infiltration (approx. 42,000 sq ft.).
Stormwater Action Plan – Stormwater System Upgrade	Develop a Stormwater Action Plan combined with strategically upgrading the stormwater system through improved and expanded infrastructure. The project will establish mapping and condition assessments for stormwater system components and outfalls with a focus on known problem areas and areas identified via a desktop analysis. The project will promote proactive stormwater maintenance through development of interactive mapping tools and maintenance guidance. The project will encourage stormwater quality awareness through public outreach efforts and produce construction drawings for a priority project.
Floodplain Improvements at Grit Chamber Entrance	Utilize town owned property to increase floodplain capacity along Fort Branch at the entrance of the grit chamber (town sewer system facility).
Back-up Generators at Critical Facilities	Obtain funding for and installation of backup generators at critical facilities.
Economic Development Plan	Develop an Economic Development Plan.
Aulander Park and Fitness Trails Resiliency Master Plan and Design	Develop a Resiliency Master Plan and project designs for the Aulander Park and Fitness Trails which includes passive nature-based elements such as open space and vegetated areas which improve water quality and reduce stormwater flooding, along with active recreation components such as play equipment and entertainment areas.
Downtown Revitalization with Green Stormwater Infrastructure	Complete a downtown revitalization Green Street project that incorporates green stormwater infrastructure along Main St. from S. Lombardy St. To Broad St. ('800 ft./0.15 mi.) and along S Commerce St. from Main St. to Canal St (525 ft./0.1 mi.). The approximate total distance is 1,325 linear ft./0.25 miles. This project would improve the downtown streetscape aesthetics while providing green stormwater features. Project may include street trees, bioretention cells, planted medians, planted bulb outs with pedestrian crosswalks, benches, local art and education, low energy lighting, and electric vehicle charging stations. The project will also include road repaving (considering warm asphalt), sidewalk repairs, and stormwater system upgrades. Reused materials will be implemented where feasible, and land and water conservation will be a priority. A "GreenRoads" certification is a potential after the project is completed.
Regional Stormwater Maintenance Plan and Stormwater Coordinating Committee	Establish a Stormwater Coordinating Committee and develop a Regional Stormwater Maintenance Plan.

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INTRODUCTION

The Resilient Coastal Communities Program (RCCP) is funded through the North Carolina General Assembly, the National Fish and Wildlife Foundation, and the National Oceanic and Atmospheric Administration (NOAA) and administered by the North Carolina Department of Environmental Quality – Division of Coastal Management (DCM). Program partners include the North Carolina Office of Recovery and Resiliency, the North Carolina Sea Grant, and the North Carolina Nature Conservancy. The goal of the RCCP is to increase community adaptation ability and resilience and is a component of the statewide North Carolina Resilient Communities Program, called for in the North Carolina Climate Risk Assessment and Resilience Plan.

The four phases of the RCCP are designed to address barriers to coastal resilience at the local level; engage community stakeholders including those that are socially vulnerable; assess coastal risks and vulnerabilities; develop nature-based solutions to strategically improve the resiliency of communities and their natural and built infrastructure; and link communities to funding streams for project implementation.

- Phase 1 – Community Engagement/Risk and Vulnerability Assessment
- Phase 2 – Planning, Project Identification and Prioritization
- Phase 3 – Engineering and Design
- Phase 4 – Project Implementation

The 20 designated North Carolina Coastal Area Management Act (CAMA) counties, as well as, municipalities, homeowners associations, and federal and state-recognized tribes within this jurisdictional area are eligible to apply for the RCCP. The Town of Aulander was selected to participate in the first two phases in Spring 2023 which were completed between August 2023 and June 2024.

This Resilience Strategy documents Phase 1 and 2 steps and includes all associated deliverables/materials including those for the development of a CAT, stakeholder engagement, inventory and review of existing local and regional plans, defining of community vision and goals, development of a Community Engagement Strategy, identification/mapping of hazards and critical assets/natural infrastructure/socially vulnerable populations, Risk and Vulnerability Assessment Report, identification of a suite of potential project solutions, project prioritization, and the concluding Project Portfolio.

COMMUNITY ACTION TEAM REPORT

RCCP Phase 1, Step 1 involves of the creation of a CAT consisting of key stakeholders, ideally with diverse and multi-disciplinary backgrounds, and expertise in planning and community development, hazard mitigation, utility management, engineering, the community's economy, engaging with vulnerable and underrepresented populations, and nature-based solutions. CAT members could include:

- Community residents
- Neighborhood or faith leaders
- Municipal/county managers
- Planners
- Elected officials
- Utility managers
- Community and economic developers
- Business community representatives

- Disaster recovery coalitions/groups
- Councils of Governments (COGs)
- State and federal land managers
- Non-governmental organizations (NGOs)
- Others working with the community on resilience planning

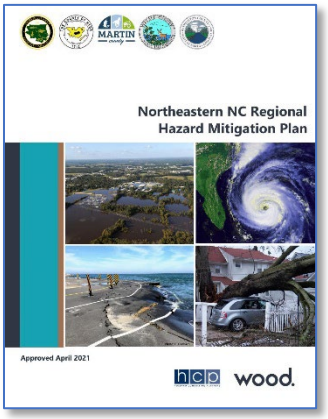
The CAT Champion, or lead member, was identified and worked with the contractors to identify additional CAT members to fill the roles detailed above. Potential members were contacted by phone and/or email either by the contractors or the CAT Champion. The need for CAT members was announced to the public at Town Council meetings and elected officials were selected to serve and underserved community representatives were identified.

COMMUNITY ACTION TEAM MEMBERS

- CAT Champion – Lynne Conner, Town Clerk/Finance Officer
- Bob Jones – Town Administrator
- Tommy Hale – Interim Public Works Director
- Ron Poppell – Commissioner of Public Works
- Corey Ballance – Citizen, Local Business Owner and County Commissioner
- Eddie Hoggard – Chief of Police
- Larry Drew – Citizen representative and former Mayor

Refer to Appendix A for Community Action Team Materials.

REVIEW OF EXISTING LOCAL & REGIONAL EFFORTS



To avoid the duplication of work and build upon and remain consistent with previous resiliency efforts, existing programs, plans, policies and ordinances were reviewed and incorporated as part of RCCP Phase 1, Step 2. The Northeastern NC Regional Hazard Mitigation Plan contains a baseline vulnerability and risk assessment and served as a reference point for conducting the assessments while considering additional factors and the local context.

RELEVANT PLANS, ORDINANCES, POLICIES, and PROGRAMS

- **NCORR Regions Innovating for Strong Economies and Environment (RISE) Program: Resilience Projects for the Mid-East Region (2022) –** The Regional Resilience Portfolio Program is a two-part effort consisting of the Climate Change and Natural Hazards Vulnerability Assessment for the Mid-East Region and a Project Portfolio. The Project Portfolio is a compilation of regionally focused resilience projects that will provide benefits throughout the Mid-East Region. *(Source: NCORR)*

- Albemarle-Pamlico National Estuary Partnership Comprehensive Conservation and Management Plan (2012-2022) – This plan is organized around four basic questions and related answers: what is a healthy Albemarle-Pamlico system; what is the current condition of the system; what are the most significant challenges facing the system over the next 10 years; and what actions should be implemented to best achieve a healthy system? *(Source: APNEP)*
- Northeastern NC Regional Hazard Mitigation Plan (2020) – This plan ensures all possible activities are reviewed and implemented so that the problems are addressed by the most appropriate and efficient solutions. This plan provides a framework for all interested parties to work together toward mitigation. It establishes the vision and guiding principles for reducing hazard risk and proposes specific mitigation actions to eliminate or reduce identified vulnerabilities. *(Source: Holland Consulting Partners/Wood.)*
- Bertie County Emergency Operations Plan (2015) – The Bertie County Emergency Operations Plan has been developed to address multiple hazards which threaten the county. Using a functional format, this plan encourages an Integrated Emergency Management approach to disaster and fosters prompt, efficient and coordinated response operations by elements of the emergency organization. *(Source: NCEM)*
- Hurricane Matthew Resilient Redevelopment Plan, Bertie County (2017) – The purpose of the plan is to provide a roadmap for community rebuilding and revitalization assistance for the communities that were damaged by the hurricane. The program empowers communities to prepare locally driven recovery plans to identify redevelopment strategies, innovative reconstruction projects, and other needed actions. *(Source: NCEM)*
- Hurricane Matthew Resilient Redevelopment Plan, Northeast Region (2017) – As part of the program, NC Emergency Management facilitated development of regional resilient redevelopment plans for four "prosperity zones" as identified by the NC Dept of Commerce, created to facilitate collaborative and coordinated planning and use of resources. *(Source: NCEM)*
- Bertie County Comprehensive Transportation Plan (2012) – The Bertie County Comprehensive Transportation Plan (CTP) is a long-range plan which identifies major transportation improvement needs and develops long term solutions for the next 25 to 30 years. The CTP study involves both government officials and the public in an effort to determine the area's future transportation needs based on the best information available including, but not limited to, population, economic conditions, traffic trends and patterns of land development in the county. *(Source: NCDOT)*
- Bertie County CAMA Land Use Plan (2016) – This locally adopted land use plan is certified by the North Carolina Coastal Resources Commission and is then used by DCM in making CAMA permit decisions and to ensure projects and activities remain consistent with the policies of a local land use plan. *(Source: NCDEQ)*
- Bertie County Comprehensive Recreation Plan (2018) – The purpose of the plan is to identify the key role parks and recreation play in the health and well-being of the community, as well as gauge community support. The current plan documents the needs that residents and park and recreation professionals feel are important related to public park and recreation programs, facilities, and grounds in the next five to ten years. The plan provides an evaluation of the services and facilities offered by the Bertie County Recreation Department and recommendations and suggestions on how they can better serve the needs of the County. *(Source: East Carolina University Department of Recreation & Leisure Studies; Good Consulting Services)*

- **Blueprint for Bertie: A Community Economic Development Plan (2014)** – The immediate and future desires of the people of Bertie County serve as the vision of this plan. The people of Bertie County envision a bright future and tremendous opportunity and economic growth. Residents' observations, reflections of those who serve the county, and extensive research all helped to determine the findings and goals of the plan. *(Source: Center for NC Strategic Economic Growth at UNC Chapel Hill)*
- **Town of Aulander Code of Ordinances –** The adopted code includes applicable ordinances such as Building Code; Flood Damage Prevention; Subdivision; Zoning; Streets and Sidewalks; and Utilities.

VISION & GOALS

Phase 1, Step 3 involves developing a community-specific vision, goals, and objectives to guide the planning process. Relevant local and regional plans were summarized for the CAT and vision statements and goals from each plan were reviewed as well as, example goals from resiliency plans outside the area. Using this input, example vision statements, goals, and themes were identified and were used to guide the CAT's brainstorming process during CAT Meeting 1.

The team was encouraged to employ the triple bottom line approach to resiliency, which considers environmental, economic, and social factors. Worksheets were provided to CAT members for use in identifying draft vision statements, goals, and objectives that reflected local values and priorities. The team worked together during the meeting to complete the worksheets. Team members also had an opportunity to complete the worksheets following the meeting.

Input from the CAT was used to finalize the resilience vision, goals, and objectives listed below.

RESILIENCE VISION

Aulander exemplifies a culture of resilience to natural hazards through strong and inclusive partnerships, community preparedness, education and engagement, protection of critical infrastructure, durable natural systems, and proactive measures to prevent or minimize future damage. By proactively reducing risk and preventing loss, and providing quick, effective response and recovery capabilities which recognize the diversity of needs, Aulander fosters a resilient community and supports healthy economic growth.

RESILIENCE GOALS and OBJECTIVES

Economic

Goal 1: Improve and maintain buildings to support resilience to hazards.
Objectives:

- Incentivize the construction of "flood resistant" homes.
- Elevate homes in flood prone areas.
- Floodproof businesses and other non-residential buildings in flood prone areas.
- Promote research and development of building construction and design standards that can better withstand storm damage.
- Promote energy efficiency and solar panels for homes and businesses.

Goal 2: Protect and maintain critical infrastructure and ensure that critical infrastructure is resilient to anticipated hazards.
Objectives:

- Identify key community assets that will need increased physical and fiscal protection from the major weather events and incremental climate change impacts anticipated in the next 20-50 years.
- Protect, maintain, and enhance critical infrastructure.
- Reduce power outages for residents and businesses.
- Promote research and development of utility infrastructure hardening.
- Create redundancies in the water and sewer service networks.

Goal 3: Provide quality municipal infrastructure and services.
Objectives:

- Maintain the town's sewer system and improve/upgrade the system as needed.
- Maintain the town's water system and improve/upgrade the system as needed.
- Maintain the town's road system and improve/upgrade the system as needed.
- Develop strong partnerships with electric providers including Dominion Energy and Roanoke Electric Membership Cooperative (EMC).
- Provide high quality public services.

Goal 4: Support smart growth principles with future development.
Objectives:

- Provide guidance on how future development can minimize additional damage and recovery costs from hazard events.
- Discourage development in areas at high-risk for flooding or storm damage.
- Encourage the demolition of unused and dilapidated impermeable surfaces and buildings.
- Implement mitigation activities that will assist in protecting lives and property.
- Recognize that low level nuisance flooding and tidal flooding are going to become increasingly frequent, and that infrastructure needs to be built or retrofitted in anticipation of these events.
- Plan for sea level rise in coastal areas.

Goal 5: Support strong, resilient local businesses and neighborhoods that recover quickly following a hazard event.
Objectives:

- Invest in community development projects (e.g., bicycle and pedestrian facilities, public parks, affordable and diverse housing options) and create a connected community fabric where residents support thriving local businesses.
- Support and strengthen the local economy.
- Ensure that local businesses are able to reopen quickly following a hazard event.
- Ensure that residents are able to return home, have services, and return to normal life quickly following a hazard event.

Goal 6: Identify and obtain funding for resilience projects.
Objectives:

- Develop a list of resilience projects suitable for funding.
- Identify funding and grant opportunities to implement resilience projects.
- Identify funding to reduce repetitive losses from previous hazard events, such as funding for building elevation/floodproofing and equitable buyouts.
- Utilize partnerships and apply for identified grant opportunities to implement projects.

Goal 7: Pursue funds to reduce the risk of natural hazards to existing developments where such hazards are clearly identified and the mitigation efforts are cost-effective.

Objectives:

- Conduct benefit-cost analyses to identify cost-effective projects with a high-level of benefits for existing developments.
- Identify funding and grant opportunities to implement identified projects.
- Utilize partnerships and apply for identified grant opportunities to implement projects.

Environmental

Goal 8: Reduce flooding.

Objectives:

- Reduce the potential for flooding of homes and businesses.
- Develop flood mitigation projects, including nature based and sustainable solutions.
- Identify both structural and non-structural solutions to flooding.

Goal 9: Preserve natural resources.

Objectives:

- Incentivize reliance on "natural" protective systems as much as possible (i.e., leaving wetlands, forests and marshes as intact as possible to absorb floodwaters and mitigate storm surge).
- Discourage excessive covering of land with impervious surfaces.
- Conserve resources for present and future generations.
- Protect a connected network of green spaces.
- Clean up trash in and along waterways.
- Control illegal dumping.

Goal 10: Improve Water Quality

Objectives:

- Improve the water quality of the Chowan River, Ahoskie Creek, the Roanoke River, the Cashie River, and their tributaries including Fort Branch.
- Explore implementation of a local riparian buffer ordinance to encourage intensive development to occur away from rivers and streams.
- Support federal and state regulations related to water quality and report known violations.
- Partner with the local council of governments, environmental non-profits, and local universities to plan, develop, and implement water quality projects.

Social

Goal 11: Develop effective hazard response and recovery.

Objectives:

- Continue partnering with Bertie County Emergency Management.
- Restore services quickly and efficiently following a hazard event.
- Minimize damage and loss of life from disasters.
- Plan how to deal with increased solid waste and storm debris disposal as natural disasters are anticipated to result in more home and property destruction in the future.
- Develop a Comprehensive Evacuation Plan.

- Plan for serving areas cut off by flood waters post storm events.
- Rebound quickly following a hazard event.
- Review local land development regulations and capital improvement plans for opportunities to incorporate hazard resilience.

Goal 12: Foster strong partnerships with residents.
Objectives:

- Foster strong relationships and partnerships with residents to achieve success.
- Continue developing and nurturing partnerships with community and business organizations and non-profit organizations.
- Communicate with residents on a regular basis through multiple communication venues (websites and social media, newspaper, television, radio, newsletters, in-person community events, etc.).
- Involve local community and faith-based groups in resilience work and public outreach.
- Utilize social networks to be proactive in resilience efforts.

Goal 13: Serve vulnerable and disadvantaged populations.
Objectives:

- Enhance public education about available transportation options during evacuations.
- Ensure that bedridden citizens, elderly non-drivers, low income, and other vulnerable populations have information on available transportation options.
- Provide the public, including socially vulnerable populations, with the tools needed to protect themselves from natural hazards.
- Conduct grassroots outreach efforts to share information and engage residents in resiliency efforts.
- Partner with local community groups and faith organizations.
- Ensure that all programs are equitable.

Goal 14: Support a thriving, healthy and resilient community, local identity, and recreational access to nature.
Objectives:

- Promote riparian buffers as spaces for recreation, education, and enjoyment.
- Promote outdoor recreational activities for everyone, including public waterfront access.
- Ensure that all residents have access to clean water, food, healthcare, quality education, good jobs, and affordable, suitable housing.
- Preserve historic buildings and other cultural and historic resources.
- Support community initiatives which improve the quality of life for all citizens.

STAKEHOLDER ENGAGEMENT STRATEGY

EXISTING CONDITIONS, ISSUES, and OPPORTUNITIES

RCCP Phase 1, Step 4 directs contractors to develop and implement a stakeholder engagement strategy. Information was presented and stakeholder input was gathered through various methods such as site visits, two public open houses coinciding with Phase 1 and Phase 2, a public survey, interactive displays, handouts, PowerPoint presentations and a GIS storymap available at the second open house.

Public Survey

A public survey was developed in partnership with the CAT and released after CAT Meeting 1. Survey questions were based around resiliency to flooding, coastal erosion, coastal storms and sea level rise and were designed to be completed in 15 minutes or less depending on the amount of input.

Advertisement methods included:

- Flyer contained a link to the online survey and information on hard copies available at Town Hall, plus a phone number to request a mailed hard copy
    - Flyer posted electronically – Town Facebook page
    - Flyer posted in person – Town Hall, Municipal Building/Town Council Chambers, Sallie Harrell Jenkins Library
    - Flyers were distributed at Harvest Fest Fun Day
- Announcement was made at Board of Commissioners meeting

Survey input was used to identify existing conditions, issues, needs, and opportunities to enhance resiliency. Information was gathered on how personal lives and property have been affected by flooding, how flooding is perceived in the community, and what measures they have taken to prevent or avoid flooding. This information was used to recommend appropriate strategies for flooding resilience including public education campaigns. A total of 12 stakeholders responded to the survey.

Phase 1 Open House

The in-person Phase 1 Open House was held on December 11, 2023 from 4:00 p.m. – 6:30 p.m. at the Aulander Community Building and a virtual meeting was held December 15, 2023 from 4:00 p.m. – 6:30 p.m.

Advertisement methods included:

- Flyer posted electronically – Town Facebook page
- Flyer posted in person – Town Hall, Municipal Building/Town Council Chambers, Sallie Harrell Jenkins Library
- Notice was sent via phone using the Town's One Call information system
- News release ran in the Bertie Ledger Advance newspaper
- Announcement was made at Board of Commissioners meeting

For the Phase 1 Open House, poster displays included:

- What is resiliency?
- Hazard Identification Exercise Maps (interactive)
- What does resiliency mean to you? (interactive)
- North Carolina Resilient Coastal Communities Program
- Community Vision and Goals Exercise (interactive)

The public survey was available at the Phase 1 Open House to gather stakeholder input and there was also a resource table with handouts on topics such as the RCCP, flood readiness, stormwater education, creating home rain gardens, septic maintenance, mold remediation, etc. Some of these materials were made available in Spanish. Contractors and CAT members were on hand to interact with the public during the in-person and virtual events.

DRAFT RESILIENCY ACTIONS

In Spring 2024, a storymap was created using ArcGIS Online and was posted at AulanderFloodResilience.org. The storymap presented Resiliency 101, Aulander's vision statement, CAT members, existing resiliency plans, public survey input, the risk and vulnerability assessment, the top flood related hazards, the STAPLEE analysis, and proposed draft actions. The storymap was presented at the Phase 2 Open House.

Phase 2 Open House

The Phase 2 Open House was held on March 13, 2024 from 4:00 p.m. – 6:30 p.m. at the Aulander Community Building.

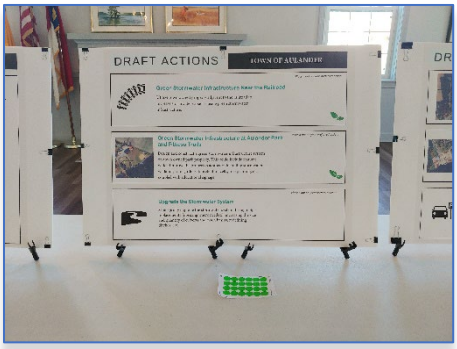
Advertisement methods included:

- Flyer posted electronically – Town Facebook page
- Flyer posted in person – Town Hall, Municipal Building/Town Council Chambers, Sallie Harrell Jenkins Library
- Notice was sent via phone using the Town's One Call information system
- News release ran in the Bertie Ledger Advance newspaper
- Notice went out on radio station Earl 98.3
- Announcement was made at Board of Commissioners meeting

For the Phase 2 Open House, displays included:

- What is resiliency?
- North Carolina Resilient Coastal Communities Program
- Action Strategy Areas
- Draft Actions
    - Provide input on your top twelve (12) preferred actions, including an option to suggest other projects that were not listed (interactive)

In addition to the interactive posters, comment forms were also available to provide another method to solicit feedback on preferred projects and other aspects of the community's resiliency program. Resource handouts were also available, and contractors were in attendance to interact with the public.



The most popular project based upon Phase 2 Open House input was the Upgrade Stormwater System Project.

ENGAGEMENT TOOLS LIST

- Public Survey
- Webpage/GIS storymap
- Notifications (news release, social media ads, flyers, announcements)
- Public Open Houses (In-person and Virtual)

Refer to Appendix B for Stakeholder Engagement Materials.

RISK AND VULNERABILITY ASSESSMENT REPORT

The Risk and Vulnerability Report details the quantitative and qualitative assessments performed for evaluating the vulnerability of critical assets, natural infrastructure, and vulnerable populations to hazards faced by the community.

As part of Phase 1, Step 5, the contractor team identified critical assets including community resources, built infrastructure, natural infrastructure, and socially vulnerable populations. Critical assets were identified primarily within the Town's jurisdictional boundaries, and in some cases were identified outside of the Town's jurisdictional boundaries in the case of particularly vital assets or services.

MAPPING ASSETS, NATURAL INFRASTRUCTURE, AND VULNERABLE POPULATIONS

Community Assets

Contractors worked with the CAT at Meeting 2 to identify community assets in list format, then researched what GIS data was available and created maps of community assets located within the Town's jurisdictional boundaries. In some cases, there was already a data layer available. In other instances, the GIS data was created by the contractors based on CAT input on which assets to include. In the sources listed below, "created" is used to designate data that was developed by the contractor.

Sources:

- Law Enforcement – created
- Fire and EMS Stations – NC Office of State Fire Marshall
- Government Services – created
- Food – created
- Water/Wastewater
    - Public Water Supply Wells – NC Dept. of Environmental Quality (NC DEQ) Division of Water Resources
    - Wastewater Discharge Permits – NC DEQ Division of Water Resources
    - Town Wide Water and Wastewater System Mapping – Wooten Company
- Fuel Stations – created
- Transportation
    - Road Network – Bertie County
    - Bridges – NC Dept. of Transportation (NC DOT)
    - Rail – NC DOT
- Schools – created
- Libraries – created
- Churches - created
- Community Buildings – created
- Affordable Housing Areas – created
- Downtown Commercial District – created
- Tax Parcels – Bertie County

Natural Infrastructure

Contractors researched existing natural infrastructure data and shared an initial list with the CAT. The team helped to add additional natural assets to the list. Contractors also worked with the team to identify local public land and private land used for public recreational purposes. Contractors then created maps of natural infrastructure located within the Town's jurisdictional boundaries.

Sources:

- Parks/Public Land – created
- Wetlands – NC Coastal Regional Evaluation of Wetland Significance (NC CREWS)
- Priority Forests – NC Natural Heritage Program
- Floodplains – Federal Emergency Management Agency (FEMA)
- Surface Water
    - Rivers and Streams – NC DEQ
- Biodiversity and Wildlife Habitat Assessment – NC Natural Heritage Program

Vulnerable Populations

Maps of vulnerable populations were downloaded from the Center for Disease Control including the overall Social Vulnerability Index, Socioeconomic Status, Household Composition/Disability, Race/Ethnicity/Language, and Housing Type/Transportation. The CAT reviewed the series of vulnerable populations maps and provided additional input on the presence of vulnerable populations and the accuracy of the data.

Sources:

- Social Vulnerability Index – US Center for Disease Control
- 2021 American Community Survey 5-year estimates from the US Census Bureau
- EPA Environmental Justice Screen Reports

IDENTIFYING AND MAPPING HAZARDS

Riverine flooding, nuisance flooding, sea level rise, storm surge, drought, wildfire and coastal erosion were initially considered as community hazards to assess risk and vulnerability within the community. Hazards not applicable to specific communities were not factored into the complete risk and vulnerability assessments. After the initial assessment, riverine flooding, nuisance flooding, drought, and wildfire were further evaluated for Aulander as community hazards. Definitions of each hazard and the data used to calculate risk and vulnerability are shown below. Refer to the vulnerability index for the thresholds used for each dataset and how each dataset was used to calculate vulnerability. Maps were created of each hazard, including hazard layers overlaid with critical assets and natural infrastructure.

Riverine Flooding

Riverine flooding is defined as when a stream exceeds its capacity and overflows into adjacent low-lying or dry land (Riverine Flooding | National Risk Index (fema.gov)). FEMA has created datasets to indicate flooded areas during a 100-yr and 500-yr storms. This data, along with Zone X indicating moderate to low flooding risk, was used to identify potential flood vulnerabilities within the community.

Sources:

- North Carolina Emergency Management Floodplain Mapping program
- OpenFEMA Data Sets | FEMA.gov
- Riverine Flooding | National Risk Index (fema.gov)

Nuisance Flooding

Nuisance flooding is caused by stormwater holding in low-lying areas within a community. To assess nuisance flooding, a digital elevation model was downloaded from the North Carolina Spatial Data Download (nc.gov) to identify low lying areas using ESRI ArcGIS PRO Hydrology tools including Fill DEM, and Sink. Low lying areas capable of holding a storm greater than or equal to the 5-yr storm were evaluated based on proximity to an asset to determine vulnerability.

Sources:

- North Carolina Spatial Data Download (nc.gov)
- ESRI Arc Hydro
- National Stormwater Calculator (epa.gov)

Drought (2000-Present)

Drought is defined as a prolonged period of dry conditions caused by a lack of precipitation, resulting in a water shortage. To assess drought conditions for each community, the Historical Drought data from Drought.gov was used to calculate the potential vulnerability for drought conditions based on previous data (2000-2023). Each community was given a constant drought vulnerability score based on the thresholds presented with the vulnerability index.

Sources:

- Historical Data and Conditions | Drought.gov
- Drought Basics | Drought.gov

Wildfire

A wildfire is an unplanned, uncontrolled fire that spreads quickly. The Wildfire Risk to Communities data from the US Forest Service was used to predict the vulnerability of a wildfire affecting each community and its assets. This data takes into consideration population, building location, building coverage, land cover, and wildfire hazards.

Sources:

- Data: USFS – Wildfire Risk to Communities Wildfire VHazard Potential
- WRC_PopulatedAreas_Methods_Dec2020.pdf (wildfirerisk.org)

ASSESSING VULNERABILITY

Vulnerability = Exposure + Sensitivity - Adaptive Capacity

- **Vulnerability** – Describes a system's susceptibility to harm or change. Vulnerability is the combined result of exposure, sensitivity, and adaptive or response capacity and, as such, a function of the character, magnitude, and rate of the climate change hazard to which a system is exposed, as well as of non-climatic (social and environmental) characteristics of the system, which determine its sensitivity and adaptive capacity.
- **Exposure** – Refers to the probability of physical contact between an asset and a hazard.
- **Sensitivity** – Is the degree to which an asset is impacted by a hazard.
- **Adaptive Capacity** – Is the ability of an asset to cumulatively adapt to all hazards.

To assess vulnerability, the contractor developed multiple vulnerability indexes which combined exposure, sensitivity, and adaptive capacity to estimate cumulative vulnerability of critical assets within six categories:

Building Infrastructure, Affordable Housing, Downtown Commercial District, Transportation Infrastructure, Sewer & Utility System Infrastructure, and Natural Resources.

Exposure and sensitivity were objective factors within the vulnerability equation.

EXPOSURE – The exposure parameter analyzed effects of different coastal hazards on community critical assets by categorizing each exposure to the individual hazard as high, medium, or low. This score was weighted based on the hazard risk within the community. These hazards included: riverine flooding, nuisance flooding, storm surge, drought, fire, and sea level rise. Hazards that did not directly affect the community were considered and removed from the list. Exposure thresholds were set based on best available data and can be viewed in the Vulnerability Index.

SENSITIVITY – The sensitivity parameter analyzed the cumulative effects of the hazards on critical assets within each category by assigning a percent threshold or indicating a high/low need for that asset within the community. For example, high sensitivity for building infrastructure indicates that greater than 66% of the community asset building – within a certain subcategory (e.g., police stations) - were affected by the coastal hazard or that a particular building was highly sensitive to the function of the community. This assessment indicated the value of redundancy and alternative uses of assets.

ADAPTIVE CAPACITY – Adaptive capacity was a subjective factor within our assessment that used objective data and community input to evaluate an asset's ability to recover and/or the ability of that assets to be modified for resiliency. Factors such as: social vulnerability, feasibility of relocation, feasibility of retrofit, and possible alternatives were evaluated to give each critical asset an adaptive capacity score. Contractors relied on input from the CAT to evaluate the adaptive capacity of each critical asset. Thresholds for adaptive capacity are within the Vulnerability Index.

Asset	Exposure Score 0-3	Sensitivity Score 0-3	Adaptive Capacity 0-3	Vulnerability Score 0-6
Asset name	*0 = no exposure* *1 = low* *2 = medium* *3 = high*	*0 = no sensitivity* *1 = low* *2 = medium* *3 = high*	*0 = no adaptive capacity* *1 = low* *2 = medium* *3 = high*	*0-2 = low* *3-4 = medium* *5-6 = high*

Critical assets were given a score based on the average exposure, sensitivity, and adaptive capacity scores. These scores were then used in the vulnerability equation to calculate cumulative vulnerability. The thresholds for each category are listed below:

Exposure Parameters

Riverine Flooding

- High: Zone AE (100-yr flood level)
- Med: 0.2 percent (500-yr flood level)
- Low: X Zone (Low to Moderate risk)

Nuisance Flooding

- High: Low lying area on the property or within 25 ft of structure or asset / intersect linear feature
- Med: Up to 50 ft from property or within 50 ft of structure or asset
- Low: >50 ft from property or >50 ft of structure or asset

Drought (2000 - Present)

Aulander was given a consistent score of 2 based on county evaluation. Historical Data and Conditions | Drought.gov

- High – 3+ periods >18 days of Extreme or Exceptional Drought or 5+ periods of 30+ days of Severe Drought
- Med – 1-2 periods of Extreme or Exceptional Drought or >12 days or 2-5 periods of Severe Drought >18 days
- Low – No cases of prolonged (>12 day) Severe or Extreme or Exceptional Drought periods

Wildfire - (Data: USFS – Wildfire Risk to Communities Wildfire VHazard Potential)

- Low: USFS – Very low or low
- Med: USFS – Moderate
- High: USFS – High or very high

Generated Report for Risk and Vulnerability. Map | National Risk Index (fema.gov)

Groups

Buildings

Exposure

- High weight (3): Riverine Flood, Nuisance Flood, and Fire
- Med weight (2): Drought

Sensitivity (Infrastructure group)

- High: >66%+ Facilities affected / Needed by the community
- Medium: 33%-66% / Other facilities can be used (Alternatives)
- Low: <33% / Facility not needed to operate

Adaptive Capacity

- Subjective – need community input
- Social Vulnerability Index
- Ability to relocate building infrastructure (Ex. From 25yr to 50yr floodplain)
- The ability to raise structure
- Accessibility to residents once moved (SVI)
- Land availability
- Ability to retrofit for flooding (raise generator/sensitive components)
- Another facility can be used in its place
- Facility is not needed to operate

Affordable Housing

Exposure

- Average Score of exposure parameters

Sensitivity (Infrastructure group)

- High: >66% of area affected by 2 exposure parameters / High SVI
- Medium: 33%-66% of area affected by 2 exposure parameters / Moderate SVI
- Low: <33% of area affected by 2 exposure parameters / Low SVI

Adaptive Capacity

- Subjective – need community input
- Social Vulnerability Index
- Ability to relocate building infrastructure
- The ability to raise structure
- Accessibility to residents once moved (SVI)
- Land availability
- Ability to retrofit for flooding (raise generator/sensitive components)

Downtown Commercial District

Exposure

- Average Score of exposure parameters

Sensitivity (Infrastructure group)

- High: >66% of area affected by 2 exposure parameters / Buildings affected are needed by the community / Cultural significance
- Medium: 33%-66% of area affected by 2 exposure parameters / Alternatives available
- Low: <33% of area affected by 2 exposure parameters / Buildings impacted do not affect the community

Adaptive Capacity

- Subjective – need community input
- Economically viable
- Ability to relocate building infrastructure
- The ability to raise structure
- Accessibility to residents once moved (SVI)
- Land availability
- Ability to retrofit for flooding (raise generator/sensitive components)

Transportation Infrastructure

Exposure

- High weight (3): Riverine Flood and Nuisance Flood
- Med weight (2): Fire, Drought

Sensitivity

- High: >50% of structures affected by natural hazards
- Medium: 25% - 50% affected by natural hazards
- Low: <25% affected by natural hazards

Adaptive Capacity

- Subjective – need community input
- Replacement cost
- Detour length
- Disruption duration
- FHWA roadway functional classification (roadways with higher functional classification may result in greater system disruptions if damaged)
- Evacuation routes
- Emergency services/freight route

- Access to food and services (supermarkets, bottled water, prescriptions, batteries, critical goods)
- Historical repair cost
- Access to critical areas (roads that provide the only access to critical areas are more significant to the adaptive capacity of larger response systems)

Sewer Infrastructure & Utility System Infrastructure (Sewer/Water/Electric/Communications)

Exposure

- Weighted value (3): Riverine Flood, Nuisance Flood and Drought
- Weighted value (2): Fire

Sensitivity

- High: > 66% Exposure and/or Age >30 yrs. and structural repair needed
- Medium: 33% - 66% Exposure and/or Age 15-30 yrs. and maintenance needed
- Low: >33% Exposure and/or Age <15 and no action needed for repair or maintenance

Adaptive capacity

- Waterlines
  - Low = 8" or greater pipe
  - Med = 4" - 6" pipe
  - High = 2" or less diameter pipe
- Subjective – need community input
- Social Vulnerability Index
- Ability to relocate utility infrastructure (Ex. From 25-yr to 50-yr floodplain)
- The ability to increase capacity
- Ability to retrofit infrastructure to be more resilient to flooding

Natural Resources (Streams, Wetlands, Managed Areas, Natural Areas)

Exposure

- Average Score of exposure parameters

Sensitivity (Increased flooding due to deforestation or removal of buffers and no ability to replace)

- High: Buffer <50 ft / 50 ft from structure / 50% affected
- Med: Buffer <50 ft and >100 ft / 100 ft from structure / 25%-50%
- Low: Buffer >100 ft / >100 ft from structure / >25%

Adaptive Capacity

- Wetlands/ Open Areas
  - Low = Less than 5 ac.
  - Med = >5 - <15 ac.
  - High = >15 ac.
- Stream
  - Low = Less than 3000 ft
  - Med = >3000 ft and <10,000 ft
  - High = >10,000 ft
- Restorative capacity
- Ability to increase flood capacity

- Alternative use capacity (Ex. park and floodplain)

ESTIMATING RISK

In order to estimate risk to critical assets, supplemental data was gathered in addition to what was available from the hazard mitigation and a quantitative tool was utilized.

Asset Values

The following critical assets and natural infrastructure were assigned a rough estimate of monetary value using the identified methodology. Assets were only valued if they were in Aulander's jurisdiction (city limits or ETJ).

Table 2. Risk Estimate Methodology and Sources

Critical Asset or Natural Infrastructure	Methodology and Sources
Law Enforcement	Sum of tax value of each critical asset
Fire and EMS Stations	Sum of tax value of each critical asset
Government Services	Sum of tax value of each critical asset
Food	Sum of tax value of each critical asset
Water System	$57.73 per linear foot of water line (Uni-Bell PVC Pipe Association) + $7,000 per fire hydrant + $506,104 per water storage tank (Landmark) + $57,500 per public water supply well + tax value of water treatment plant
Wastewater System	$110 per linear foot of sewer line (Next Level Pipe Lining) + $250,000 per pump station (Water Level Controls) + $5,015 per manhole (Buncombe County) + tax value of wastewater treatment plant
Electric System	$73.86 per linear foot of electric transmission lines (Power Grid International) + tax value of electric substations
Fuel Stations	Sum of tax value of each critical asset
Roads	$8,650,000 per mile of roadway (NCDOT average cost)
Railroad	$2,000,000 per mile of railroad (National Academies Press)
Schools	Sum of tax value of each critical asset
Libraries	Sum of tax value of each critical asset
Churches	Sum of tax value of each critical asset
Community Buildings and Facilities	Sum of tax value of each critical asset
Downtown Commercial Districts	Sum of tax value of each property in district
Affordable Housing Areas	Number of housing units x median home value $107,500 (2021 US Census American Community Survey)
Wetlands	$76,150.13 per acre for non-coastal wetlands (NC Division of Mitigation value)
Streams	$740.09 per linear foot (NC Division of Mitigation value)
Parks/Public Land	Sum of tax value of each critical asset

Table 3. Risk Estimate Worksheet

Critical Asset or Natural Infrastructure	Number of Critical Assets or Areas at Risk	Estimated Monetary Value
Law Enforcement	1 building/property	$149,373
Fire and EMS Stations	2 buildings/properties	$239,475

Government Services	5 buildings/properties	$703,331
Food	6 buildings/properties	$1,384,619
Water System	86,652.27 linear feet of water lines, 78 fire hydrants, 2 public water supply wells	$5,663,435
Wastewater System	72,500.3 linear feet of sewer lines, 6 pump stations, 176 manholes, 1 wastewater treatment field	$13,552,326
Electric System	131,841.6 linear feet of electric lines, 1 electric substation	$9,738,515
Fuel Stations	1 building/property	$118,742
Roads	24.97 linear miles	$215,990,500
Railroad	3.94 linear miles	$7,880,000
Schools	1 building/property	$2,193,145
Libraries	1 building/property	$107,106
Churches	4 buildings/properties	$1,865,225
Community Buildings and Facilities	2 buildings/properties	$304,523
Downtown Commercial Districts	18 tax parcels (most parcels contain buildings, some do not)	$502,519
Affordable Housing Areas	457 housing units	$49,127,500
Wetlands	3,137.3 acres	$238,905,803
Streams	19,195.97 linear feet	$14,206,744
Parks/Public Land	2 properties	$175,812

Refer to Appendix C for Risk and Vulnerability Assessment Materials.

PROJECT PORTFOLIO

The assembled project portfolio details eight (8) high priority projects, addressing hazards, type of strategy area and approach, priority rating, potential sources of funding, cost and project duration estimates, project map(s), project description, and project scope. These projects were developed to coincide with the top priority solution that would help make the community more resilient to the hazards identified: riverine flooding, nuisance flooding, drought, and wildfire. One nature-based or hybrid solution project is eligible to move forward into Phase 3 of the RCCP, Engineering and Design. The Town of Aulander CAT, along with stakeholders, choose to move forward with the Permeable Pavement and Green Stormwater Infrastructure Implementation Projects to RCCP Phase 3. Steps taken to assemble the project portfolio that led to the community and the CAT choosing this project are outlined below.

IDENTIFY A SUITE OF POTENTIAL PROJECT SOLUTIONS

The first step to assembling the project portfolio was to identify a suite of potential solutions. The contractors helped the CAT identify 21 potential solutions. The Northeastern NC Hazard Mitigation strategies identified an additional 15 potential solutions that could also be carried forward. These solutions were categorized by Planning/Policy, Green and Hybrid Infrastructure Solutions, and Hard/Grey Infrastructure Solutions and presented to the CAT at Meeting 4. Each CAT member then identified their top solutions.

CONSOLIDATE AND PRIORITIZE PROJECTS

The second step in assembling the project portfolio was to consolidate and prioritize the project solutions. The CAT identified twelve (12) solutions from the suite of potential solutions that could move forward based on the STAPLEE Method and a simple benefit/cost rating system to help consolidate and prioritize all the potential project solutions. The STAPLEE Method assesses the social, technical, administrative, political, legal, economic, and environmental aspects and potential impacts of each project solution. The benefit/cost rating system used a high/medium/low scoring system to predict benefits and costs of each project solution.

Potential priority projects were presented to the CAT during the 5th meeting where the STAPLEE and benefit/cost rating metrics were reviewed and finalized. These projects were then brought to the community for additional feedback at the Phase 2 Public Open House. The Town of Aulander along with the CAT identified eight (8) priority projects to be presented in the project portfolio.

Priority Projects

- Permeable Pavement and Green Stormwater Infrastructure Implementation Projects (project to advance to Phase 3)
- Stormwater Action Plan – Stormwater System Upgrade (combined project)
- Floodplain Improvements at Grit Chamber Entrance
- Back-up Generators at Critical Facilities
- Economic Development Plan
- Aulander Park and Fitness Trails Resiliency Master Plan and Design
- Downtown Revitalization with Green Stormwater Infrastructure

- Regional Stormwater Maintenance Plan and Stormwater Coordinating Committee

Permeable Pavement and Green Stormwater Infrastructure Implementation Projects (project to advance to Phase 3)

North Carolina RESILIENT COASTAL COMMUNITIES PROGRAM

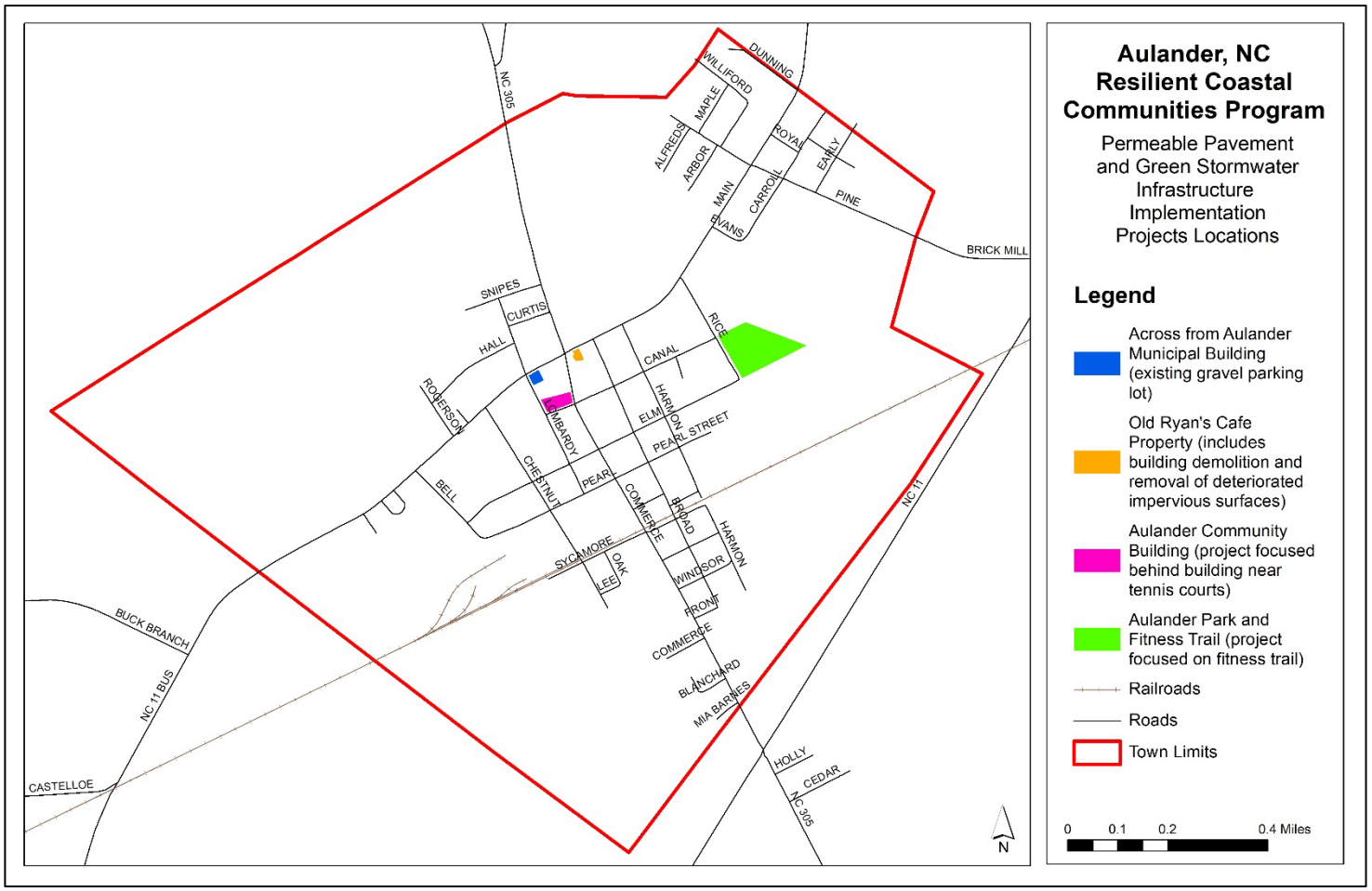
TOWN OF AULANDER

Permeable Pavement and Green Stormwater Infrastructure Implementation Projects

Project Summary	
Project Description	Utilize town-owned property at four locations (old Ryan's Café property, across from the Aulander Municipal Building, Aulander Community Building, and Aulander fitness trail) to install permeable pavement for parking areas and trails that incorporate green stormwater infrastructure and public education. This project will decrease impervious surfaces in the town and replace them with permeable pavement that allows stormwater infiltration (approx. 42,000 sq ft.).
Project Scope	Engineering/Design – Engineer and design permeable pavement parking areas (three locations) and a permeable pavement walking trail (Aulander Fitness Trail) with green stormwater infrastructure design elements such as rain gardens and bioretention cells. Educational signage will be included. The Aulander Fitness Trail is in disrepair and already needs to be repaved. There is a preference to reroute the Fitness Trail to avoid the need to remove mature trees which have damaged the existing fitness trail. The old Ryan's Café project will include building demolition and removal of dilapidated impervious surfaces. The old Ryan's Café project will include two to three electric vehicle charging stations if deemed feasible for the site. The Aulander Community Building will focus on the area behind the building around the tennis courts. The project across from the municipal building will focus on the existing gravel parking lot area. All projects will include permeable pavement along with planted green stormwater features. All properties are town owned. - Survey - Engineering/Design - Permitting Due Diligence - Educational Material - Maintenance Manual Implementation – Utilize town-owned property at four locations (old Ryan's Café property, across from the Aulander Municipal Building, Aulander Community Building, and Aulander Fitness Trail) (approx. 42,000 sq ft.) to implement permeable areas for parking and trails that incorporate green stormwater infrastructure and public education. In addition to permeable pavement, green stormwater infrastructure will include at least one bioretention cell at each site, improving the area's aesthetics. Educational signage will be included. Two to three electric vehicle charging stations will potentially be included.

	- Permitting - Construction - Construction Administration - Construction Inspections
Hazard(s) Addressed by Project	List Hazards Specific to the Community Which Impact the Project Location (Refer to Hazard Mapping) ▪ Flooding (nuisance) ▪ Economic resilience
Type of Solution/Strategy Area	List Strategy Area Column(s) from Matrix (e.g., Policy, Planning, Green and Hybrid [Nature-Based] Solutions, Hard/Grey Infrastructure) ▪ Green and Hybrid Solutions
Type of Strategy Approach	List Strategy Approach from Matrix (e.g., Avoid, Accommodate, Protect, Retreat, Build Adaptive Capacity) ▪ Accommodate
Project Estimated Cost	<u>Engineering/Design</u> – $165,000 <u>Implementation</u> – $650,000 – $850,000 (includes $150,000 for two electric vehicle charging stations)
Potential Implementation Funding Sources	Potential Sources for Project/Action Implementation <u>Engineering/Design</u> ▪ NC Resilient Coastal Communities Program Phase 3 ▪ NC Environmental Enhancement Grant (EEG) ▪ NC Land and Water Fund Grant ▪ NC Water Resources Development Grant <u>Implementation</u> ▪ NC Resilient Coastal Communities Program Phase 4 ▪ NC Environmental Enhancement Grant (EEG) ▪ NC Land and Water Fund Grant ▪ NC Water Resources Development Grant ▪ NC DEQ Division of Air Quality – DC Fast Charging Infrastructure Program and Level 2 Infrastructure Program ▪ US DOT – Charging and Fueling Infrastructure Discretionary Grant Program
Project Estimated Timeline	2 years (engineering/design and construction)
Priority Rating	High

Potential Submission for RCCP Phase 3	♦	Yes		No	*Project must be a nature-based solution or hybrid solution to be considered for RCCP Phase 3.*
Project Map					


Aulander, NC
Resilient Coastal Communities Program
Permeable Pavement and Green Stormwater Infrastructure Implementation Projects Locations
Legend
Across from Aulander Municipal Building (existing gravel parking lot)
Old Ryan's Cafe Property (includes building demolition and removal of deteriorated impervious surfaces)
Aulander Community Building (project focused behind building near tennis courts)
Aulander Park and Fitness Trail (project focused on fitness trail)
Railroads
Roads
Town Limits
0 0.1 0.2 0.4 Miles
N
NC 305
DUNNING
WILLIFORD
MAPLE
ALFREDS
ARBOR
ROYAL
EARLY
MAIN
CARROLL
PINE
EVANS
BRICK MILL
SNIPES
CURTIS
HALL
RICE
CANAL
ROBERSON
LIMBARDY
HARMON
ELM
PEARL STREET
CHESTNUT
PEAR
BELL
COMMERCE
BROAD
HARMON
SYCAMORE
OAK
LEE
WINDSOR
FRONT
COMMERCE
BLANCHARD
MIA BARNES
NC 11
BUCK BRANCH
NC 11 BUS
CASTELLOE
HOLLY
CEDAR
NC 305

Stormwater Action Plan – Stormwater System Upgrade (combined project)

North Carolina RESILIENT COASTAL COMMUNITIES PROGRAM

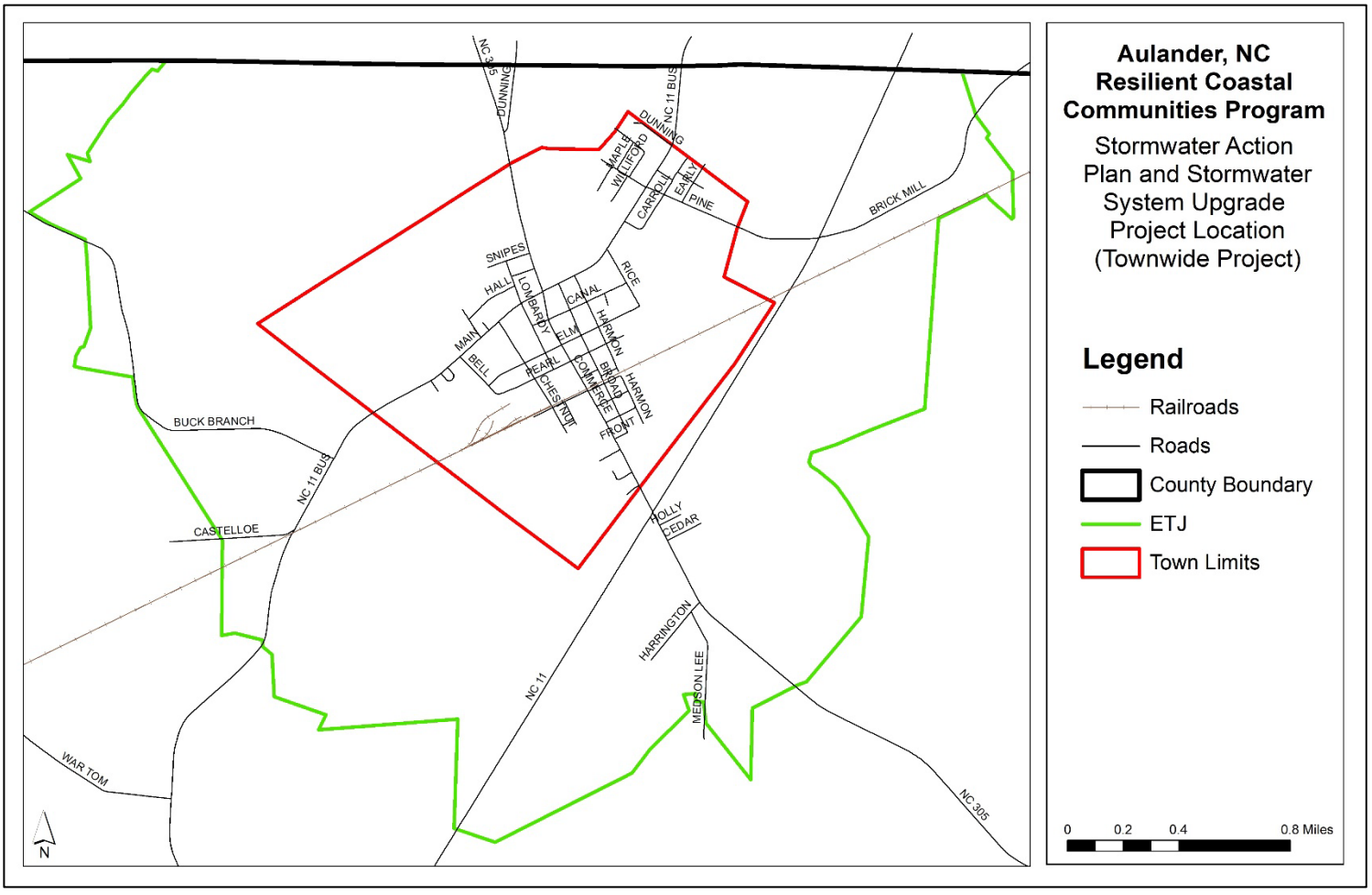
TOWN OF AULANDER

Stormwater Action Plan and Stormwater System Upgrade

Project Summary	
Project Description	Develop a Stormwater Action Plan combined with strategically upgrading the stormwater system through improved and expanded infrastructure. The project will establish mapping and condition assessments for stormwater system components and outfalls with a focus on known problem areas and areas identified via a desktop analysis. The project will promote proactive stormwater maintenance through development of interactive mapping tools and maintenance guidance. The project will encourage stormwater quality awareness through public outreach efforts and produce construction drawings for a priority project.
Project Scope	Engineering/Design - Develop a Stormwater Action Plan. This plan will complete a stormwater ground assessment and surface hydrology analysis that will be incorporated into an online mapping system that can submit real-time data to analyze, prioritize, and take action on a problem area. The plan will also incorporate a maintenance plan that will be tracked by the online tool. The plan will include assessing and documenting the type and location of stormwater infrastructure, collecting and analyzing data on the hydraulic flow, assessing stormwater system capacity and functionality, and identifying projects to upgrade the system and improve the ability of the system to convey water and/or improve water quality. Both hard/grey infrastructure and green/nature-based solutions will be considered in the Stormwater Action Plan. A public education campaign on stormwater responsibilities will also be included. Design and Construction drawings will be completed for one project chosen in partnership with the community. - Hydro Analysis / vulnerability assessment - Field Work - Natural Resource Technical Report - Project Prioritization/Recommendations - Arc Online Tool - Stormwater Maintenance Manual - Public Education Campaign – Stormwater Responsibilities - Permitting Due Diligence - Project Surveys / Utility Locations - Project Engineering/Design Implementation - Strategically upgrade the stormwater system through pipe replacements (upsizing where needed), increasing the size and quantity of culverts and catch basins, redefining ditches, implementing backflow preventors,

	installing bioswales, bioretention cells, etc. The previously developed Stormwater Action Plan will determine project prioritization. - Permitting - Construction - Construction Administration - Construction Inspections
Hazard(s) Addressed by Project	List Hazards Specific to the Community Which Impact the Project Location (Refer to Hazard Mapping) ▪ Flooding (nuisance)
Type of Solution/Strategy Area	List Strategy Area Column(s) from Matrix (e.g., Policy, Planning, Green and Hybrid [Nature-Based] Solutions, Hard/Grey Infrastructure) <u>Stormwater Action Plan</u> ▪ Planning ▪ Green and Hybrid Solutions <u>Stormwater System Upgrade</u> ▪ Green and Hybrid Solutions
Type of Strategy Approach	List Strategy Approach from Matrix (e.g., Avoid, Accommodate, Protect, Retreat, Build Adaptive Capacity) ▪ Accommodate ▪ Build Adaptive Capacity
Project Estimated Cost	<u>Engineering/Design</u> - $350,000 <u>Implementation</u> - $150,000 - $350,000 (per stormwater retrofit project)
Potential Implementation Funding Sources	Potential Sources for Project/Action Implementation <u>Stormwater Action Plan</u> ▪ NC Resilient Coastal Communities Program Phase 3 ▪ Federal Emergency Management Agency (FEMA) Building Resilient Infrastructure in Communities (BRIC) Capability and Capacity Building (C&CB) Grant ▪ NC Department of Environmental Quality Water Resources Development Grant (WRDG) <u>Stormwater System Upgrade</u> ▪ NC Resilient Coastal Communities Program Phase 4 ▪ Federal Emergency Management Agency (FEMA) Building Resilient Infrastructure in Communities (BRIC) Grant ▪ Federal Emergency Management Agency (FEMA) Flood Mitigation Assistance (FMA) Grant

	▪ NC Environmental Enhancement Grant (EEG) ▪ NC Land and Water Fund Grant ▪ NC Department of Environmental Quality Water Resources Development Grant (WRDG) ▪ NC Department of Environmental Quality 319 Grant ▪ HUD Community Development Block Grant – Mitigation (CDBG-MIT)				
Project Estimated Timeline	3-10 years (project may be completed in phases)				
Priority Rating	High				
Potential Submission for RCCP Phase 3	♦	Yes		No	*Project must be a nature-based solution or hybrid solution to be considered for RCCP Phase 3.*
Project Map					



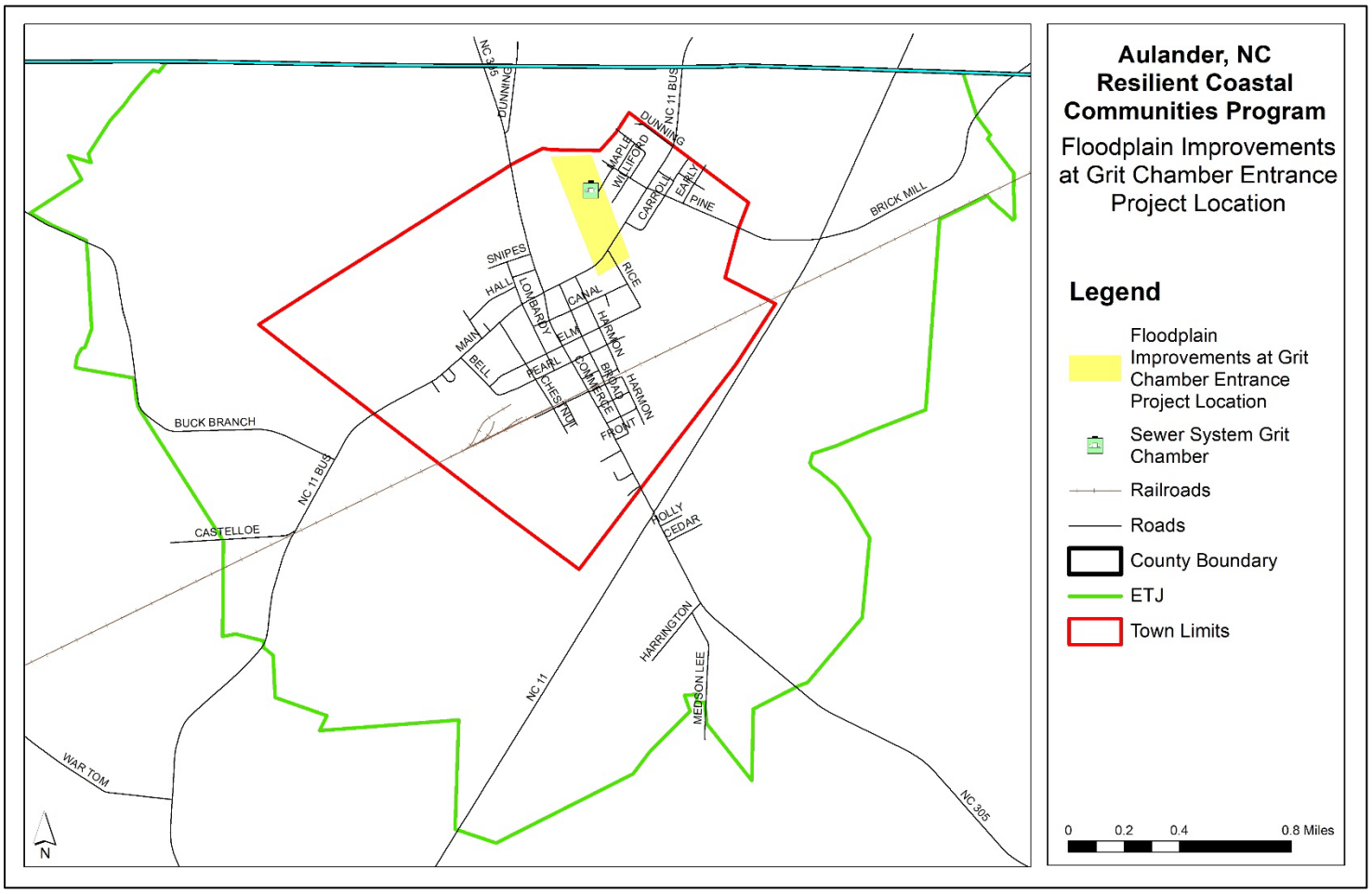
North Carolina RESILIENT COASTAL COMMUNITIES PROGRAM

TOWN OF AULANDER

Floodplain Improvements at Grit Chamber Entrance

Project Summary	
Project Description	Utilize town owned property to increase floodplain capacity along Fort Branch at the entrance of the grit chamber (town sewer system facility).
Project Scope	Engineering/Design – Utilize town owned property to design a project to increase floodplain capacity along Fort Branch at the entrance of the grit chamber (town sewer system facility). Partner with property owners north of E Main St. at grit chamber entrance. Partner with NC Dept. of Transportation Division 1 and Highway Drainage Group. - NEPA/SEPA - Hydro Analysis - Engineering/Design - Permitting Due Diligence Implementation – Complete a stream and floodplain restoration along Fort Branch. - Permitting - Construction - Construction Administration - Construction Inspections
Hazard(s) Addressed by Project	List Hazards Specific to the Community Which Impact the Project Location (Refer to Hazard Mapping) ▪ Flooding (riverine)
Type of Solution/Strategy Area	List Strategy Area Column(s) from Matrix (e.g., Policy, Planning, Green and Hybrid [Nature-Based] Solutions, Hard/Grey Infrastructure) ▪ Green and Hybrid Solutions
Type of Strategy Approach	List Strategy Approach from Matrix (e.g., Avoid, Accommodate, Protect, Retreat, Build Adaptive Capacity) ▪ Accommodate ▪ Build Adaptive Capacity
Project Estimated Cost	Engineering/Design – $65,000 Implementation – $150,000 - $250,000

Potential Implementation Funding Sources	Potential Sources for Project/Action Implementation <u>Engineering/Design</u> ▪ NC Resilient Coastal Communities Program Phase 3 ▪ NC Environmental Enhancement Grant (EEG) ▪ FEMA Building Resilient Infrastructure in Communities (BRIC) Grant ▪ NC Water Resources Development Grant ▪ NC Land and Water Fund Grant ▪ NC Dept. of Transportation <u>Implementation</u> ▪ NC Resilient Coastal Communities Program Phase 4 ▪ NC Environmental Enhancement Grant (EEG) ▪ FEMA Building Resilient Infrastructure in Communities (BRIC) Grant ▪ NC Water Resources Development Grant ▪ NC Land and Water Fund Grant ▪ NC Dept. of Transportation				
Project Estimated Timeline	2-3 years (engineering/design and construction)				
Priority Rating	High				
Potential Submission for RCCP Phase 3	♦	Yes		No	*Project must be a nature-based solution or hybrid solution to be considered for RCCP Phase 3.*
Project Map					


Aulander, NC
Resilient Coastal Communities Program
Floodplain Improvements at Grit Chamber Entrance Project Location
Legend
Floodplain Improvements at Grit Chamber Entrance Project Location
Sewer System Grit Chamber
Railroads
Roads
County Boundary
ETJ
Town Limits
0 0.2 0.4 0.8 Miles
N
NC 305
DUNNING
NC 11 BUS
MAPLE
WILLIFORD
CARROLL
EARLY
PINE
BRICK MILL
SNIPES
HALL
LOMBARDY
CANAL
RICE
MAIN
ELM
HARMON
BELL
PEARL
CHESTNUT
COMMERCE
BROAD
FRONT
BUCK BRANCH
CASTELLOE
HOLLY
CEDAR
HARRINGTON
NC 11
MEDSON LEE
WAR TOM

North Carolina RESILIENT COASTAL COMMUNITIES PROGRAM

TOWN OF AULANDER

Back-up Generators at Critical Facilities

Project Summary	
Project Description	Obtain funding for and installation of backup generators at critical facilities.
Project Scope	Acquire, install and/or replace backup generators or other forms of redundant power supply to ensure that critical facilities and infrastructure remain operational where normal power supply is not available. Current generator needs include Town Hall, the Fire Department, the Municipal Building/Police Department, the Aulander Gym/Senior Center, the Aulander Community Building, public water supply wells (2), and sewer lift stations (6). This would include regularly scheduled equipment evaluation and maintenance to ensure the generators continue to meet operational demands at town facilities. An electrician has evaluated a majority of the sites for generator needs. The summary of recommendations from the electrician follows: <u>Aulander Community Building</u> Notes: 200 amp 120/240 single phase service. No outside disconnect. Two 3.5 ton cooling units on building. Refrigerators and freezers on site. Ovens on site. LP Gas on site. Recommendations: Need to add an outdoor service disconnect and auto transfer switch. Install a 25KW to 30KW liquid cooled generator. 120/240 volt single phase. Will need concrete pad. LP gas. <u>Aulander Fire Department</u> Notes: 100 amp, 120/240 volt, 3 phase service. Open delta with high leg. Service is for diesel pumps, gas pumps, and motor driven siren. Service needs to be upgraded. Recommendations: 120/240 Volt, 3 phase generator, 20 kw generator. No LP or natural gas on site. <u>Aulander Gym/Senior Center</u>

Notes:
200 amp 120/240 Volt Service single phase. LP Gas on site already. 3.5 tons of cooling for building.

Recommendations:
Recommended 22KW generator LP gas with 200 amp transfer switch. 120/240 volt single phase.

Aulander Police Department/Municipal Building

Notes:
120/240 volt 200 amp, single phase service. Currently an outdated transfer switch for an old arm surplus diesel generator onsite. Two 3 ton heating and cooling units onsite.

Recommendations:
Install 200 auto transfer switch. Install a 25 KW 120/240 single phase generator, liquid cooled, on concrete pad. No LP or NG onsite currently.

Aulander Town Hall

Notes:
200 amp, 120/208 Volt, 3 phase service for the building. One 5 ton 3 phase cooling system onsite. No LP gas or natural gas on site.

Recommendations:
Auto transfer switch 200amp. 20 to 25 KW generator 3 phase 120/208 volt.

Bell St. Lift station

Notes:
100 amp, 120/240 volt, 3 phase open delta, with high leg. System is already set up for portable generator hook up with manual transfer switch. Two 1.5 HP pumps.

Recommendations:
Portable Diesel Generator 120/20 volt 3 phase, 10 kw.

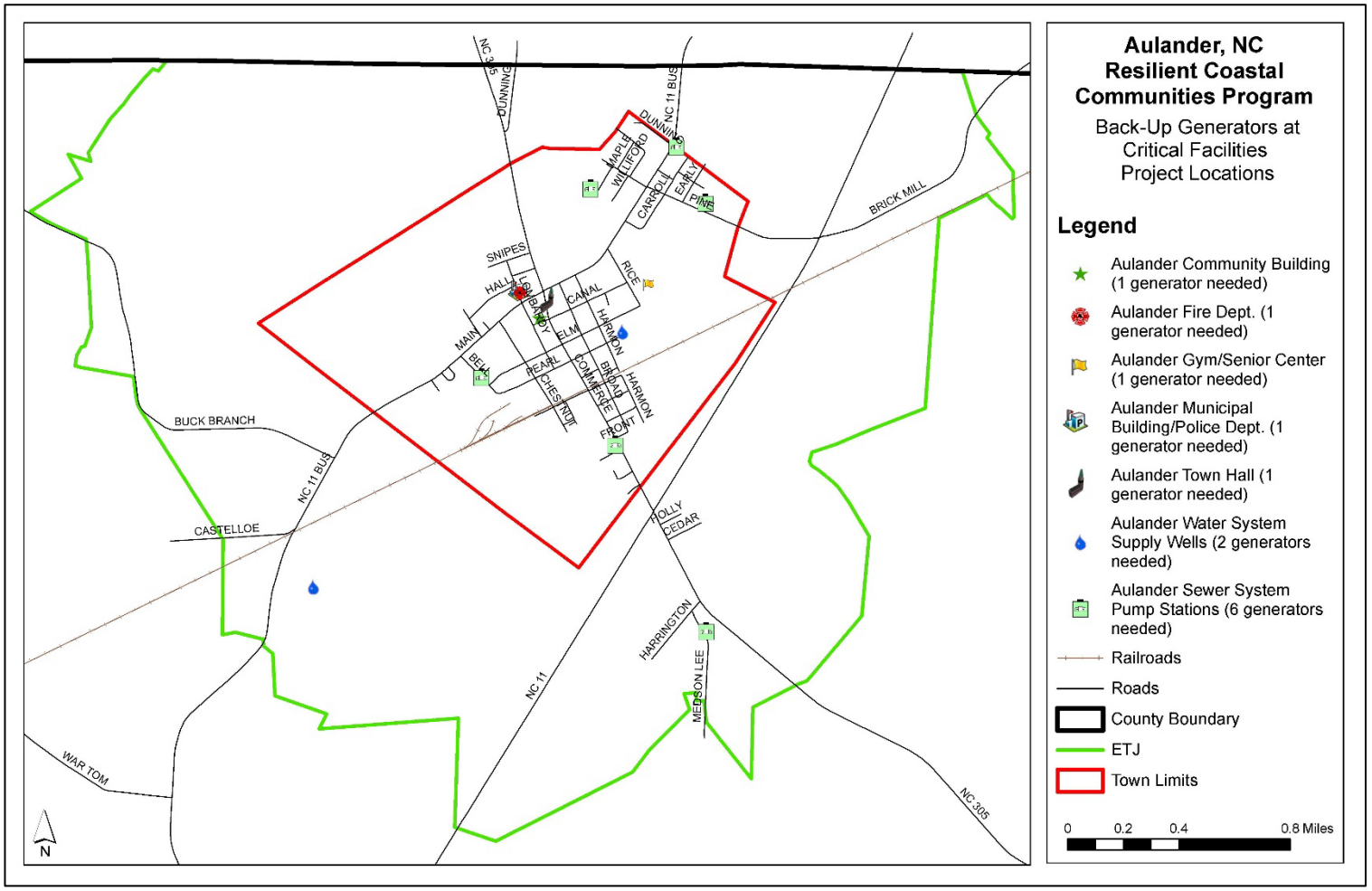
Canal Street Lift Station

Notes:
120/240 Volt 100 amp single phase service. One 2 HP lift pump 240 volt single phase.

Recommendations:
Install a new 100 amp service disconnect (currently not one) and install a manual transfer switch and a 50 amp generator connection plug. 120/240 volt single phase.

	Need at least a 5KW continuous watt portable generator to run and cord to connect. Can be gas or diesel. 120/240 volt single phase. Would not hurt to size larger. <u>Commerce Street Lift Station</u> Notes: 120/240 Volt single phase, 100 amp service. Two 2 HP lift pumps onsite System is already set up for portable generator with manual transfer switch. Recommendations: Portable generator with cord. Single Phase 120/240 Volt generator 10KW. <u>Medson Lee Rd Lift Station</u> Notes: 277/480 Volt 3 phase 60 amp service. Already set up for portable generator with manual transfer switch. Two 10 HP lift pumps. Recommendations: Portable generator 277/480 volt 3 phase 50KW. Cord, diesel. <u>North Main St Force Pump</u> Notes: 120/240 volt Single phase 100 amp service. Two 2 hp lift motors. Already set up for portable generators with manual switch. Recommendations: 120/240 volt single phase generator 10KW with cord.
Hazard(s) Addressed by Project	List Hazards Specific to the Community Which Impact the Project Location (Refer to Hazard Mapping) ▪ Any major storm or event which makes normal power supply unavailable (hurricane, tornado, flooding, wildfire, etc.) ▪ Economic and social resilience
Type of Solution/Strategy Area	List Strategy Area Column(s) from Matrix (e.g., Policy, Planning, Green and Hybrid [Nature-Based] Solutions, Hard/Grey Infrastructure) ▪ Hard/Grey Infrastructure
Type of Strategy Approach	List Strategy Approach from Matrix (e.g., Avoid, Accommodate, Protect, Retreat, Build Adaptive Capacity) ▪ Build Adaptive Capacity
Project Estimated Cost	13 generators – 50 kw generators or under: $35,000 each with installation

Potential Implementation Funding Sources	Potential Sources for Project/Action Implementation ▪ FEMA Hazard Mitigation Grant Program (HMGP) ▪ FEMA Pre-Disaster Mitigation Grant Program ▪ Golden Leaf Grant ▪ HUD Community Development Block Grant – Mitigation (CDBG-MIT)				
Project Estimated Timeline	1-2 years				
Priority Rating	High				
Potential Submission for RCCP Phase 3		Yes	♦	No	*Project must be a nature-based solution or hybrid solution to be considered for RCCP Phase 3.*
Project Map					



Economic Development Plan

North Carolina RESILIENT COASTAL COMMUNITIES PROGRAM

TOWN OF AULANDER

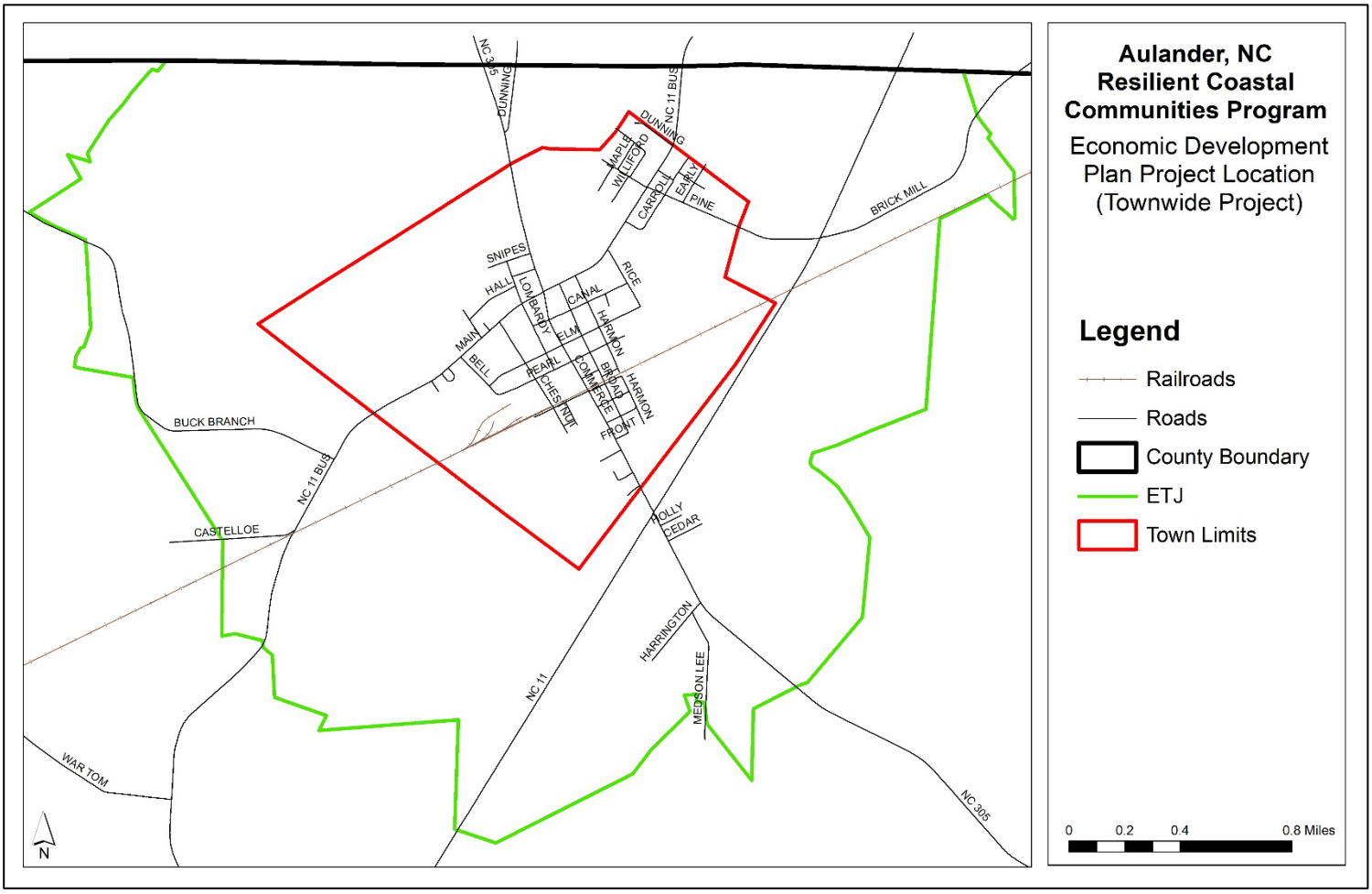
Economic Development Plan

Project Summary	
Project Description	Develop an Economic Development Plan.

Project Scope	<u>Planning</u>
	Develop an Economic Development Plan with a focus on downtown revitalization. This plan will build off existing town, county and regional plans. Bertie County is a potential partner.
	
	- Current Economic Assessment Analysis
	- Organize an Economic Development Team
	  ○ Vision and Goals
	- Provide Stakeholder Engagement Meetings
	- Perform Industry and Sector Analysis
	- Perform Commuting Analysis
	- Assess Infrastructure Development Needs
	  ○ Incorporate resiliency strategies
	- Assess and Develop Workforce Development Goals
	- Assess providing Business Support Services
	- Develop strategies and policies to incentivize sustainable economic growth
	- Develop marketing materials to attract business, industry and tourism
	- Establish metrics for Monitoring and Evaluation success
	- Establish an Economic Development Committee that will continue meeting to implement the plan
	- Workshops for tools to promote economic development
	
	Deliverable
	- Economic Development Plan

Hazard(s) Addressed by Project	List Hazards Specific to the Community Which Impact the Project Location (Refer to Hazard Mapping) ▪ Economic resilience
Type of Solution/Strategy Area	List Strategy Area Column(s) from Matrix (e.g., Policy, Planning, Green and Hybrid [Nature-Based] Solutions, Hard/Grey Infrastructure) ▪ Planning

Type of Strategy Approach	List Strategy Approach from Matrix (e.g., Avoid, Accommodate, Protect, Retreat, Build Adaptive Capacity) ▪ Build Adaptive Capacity				
Project Estimated Cost	$150,000				
Potential Implementation Funding Sources	Potential Sources for Project/Action Implementation ▪ NC Dept. of Commerce ▪ Golden Leaf Grant ▪ US Economic Development Administration (EDA) Planning and Local Technical Assistance Program ▪ Private Sector Partnerships				
Project Estimated Timeline	2 years				
Priority Rating	High				
Potential Submission for RCCP Phase 3		Yes	♦	No	*Project must be a nature-based solution or hybrid solution to be considered for RCCP Phase 3.*
Project Map					


Aulander, NC
Resilient Coastal Communities Program
Economic Development Plan Project Location (Townwide Project)
Legend
Railroads
Roads
County Boundary
ETJ
Town Limits
0 0.2 0.4 0.8 Miles
N
NC 305
DUNNING
NC 11 BUS
MAPLE
WILFORD
CARROLL
EARLY
PINE
BRICK MILL
SNIPES
HALL
LOMBARDY
CANAL
RICE
MAIN
ELM
HARMON
BELL
PEARL
CHESTNUT
COMMERCE
BROAD
FRONT
BUCK BRANCH
CASTELLOE
HOLLY
CEDAR
HARRINGTON
NC 11
MEDSON LEE
WAR TOM

Aulander Park and Fitness Trails Resiliency Master Plan and Design

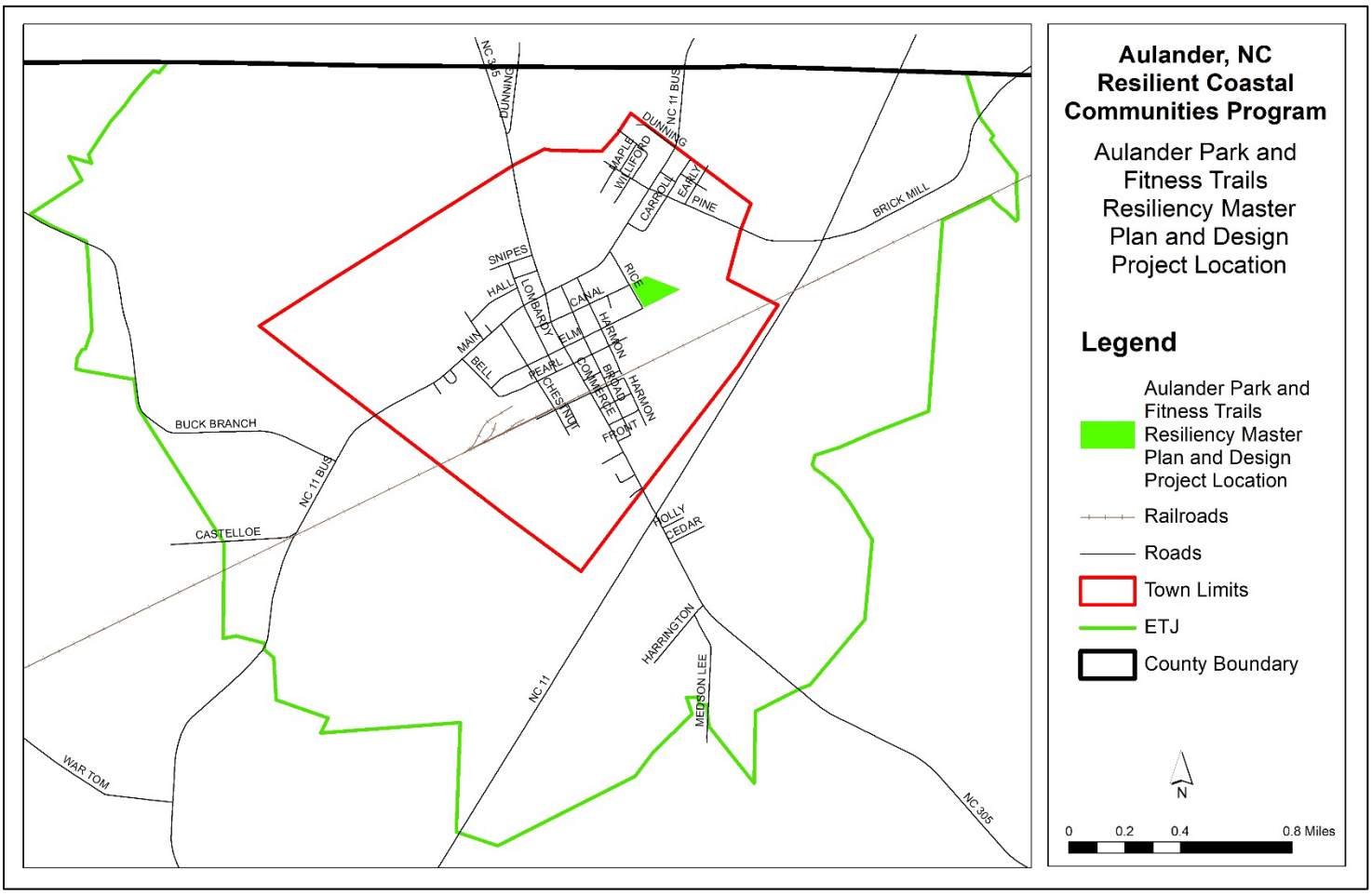
North Carolina RESILIENT COASTAL COMMUNITIES PROGRAM

TOWN OF AULANDER

Aulander Park and Fitness Trails Resiliency Master Plan and Design

Project Summary	
Project Description	Develop a Resiliency Master Plan and project designs for the Aulander Park and Fitness Trails which includes passive nature-based elements such as open space and vegetated areas which improve water quality and reduce stormwater flooding, along with active recreation components such as play equipment and entertainment areas.
Project Scope	Engineering/Design – Develop a Resiliency Master Plan and project designs for the Aulander Park and Fitness Trails which includes passive nature-based elements such as open space and vegetated areas which improve water quality and reduce stormwater flooding, along with active recreation components such as play equipment and entertainment areas. Nature-based elements could include features which improve the property's aesthetics including stormwater wetlands, bioretention cells, rain gardens, etc. coupled with educational signage. The first step will be development of the Master Plan. The second step will be engineering/design where all project elements of the Master Plan will be designed and construction ready. A potential limiting factor for development is that construction debris from the demolition of an old school building is buried on the site just under the soil's surface. - Site Analysis - Master Plan - Concept Designs - Engineering/Design - Permitting Due Diligence Implementation – Construct identified projects from the Aulander Park and Fitness Trails Resiliency Master Plan. Specific projects and placement will be determined during the Master Plan and engineering/design phases. - Permitting - Construction - Construction Administration - Construction Inspections
Hazard(s) Addressed by Project	List Hazards Specific to the Community Which Impact the Project Location (Refer to Hazard Mapping) ▪ Flooding (nuisance) ▪ Social resilience

Type of Solution/Strategy Area	List Strategy Area Column(s) from Matrix (e.g., Policy, Planning, Green and Hybrid [Nature-Based] Solutions, Hard/Grey Infrastructure) ▪ Green and Hybrid Solutions				
Type of Strategy Approach	List Strategy Approach from Matrix (e.g., Avoid, Accommodate, Protect, Retreat, Build Adaptive Capacity) ▪ Accommodate				
Project Estimated Cost	Master Plan – $100,000 Engineering/Design – $75,000 Implementation – $400,000 - $600,000				
Potential Implementation Funding Sources	Potential Sources for Project/Action Implementation Engineering/Design ▪ NC Resilient Coastal Communities Program Phase 3 ▪ NC Environmental Enhancement Grant (EEG) ▪ NC Land and Water Fund Grant ▪ NC Water Resources Development Grant ▪ NC Parks and Recreation Trust Fund (PARTF) Grant ▪ HUD Community Development Block Grant (CDBG) Mitigation (MIT) Grant Implementation ▪ NC Resilient Coastal Communities Program Phase 4 ▪ NC Environmental Enhancement Grant (EEG) ▪ NC Land and Water Fund Grant ▪ NC Water Resources Development Grant ▪ NC Parks and Recreation Trust Fund (PARTF) Grant ▪ HUD Community Development Block Grant (CDBG) Mitigation (MIT) Grant				
Project Estimated Timeline	3-5 years (planning, engineering/design and construction)				
Priority Rating	High				
Potential Submission for RCCP Phase 3	♦	Yes		No	*Project must be a nature-based solution or hybrid solution to be considered for RCCP Phase 3.*
Project Map					


Aulander, NC
Resilient Coastal Communities Program
Aulander Park and Fitness Trails Resiliency Master Plan and Design Project Location
Legend
Aulander Park and Fitness Trails Resiliency Master Plan and Design Project Location
Railroads
Roads
Town Limits
ETJ
County Boundary
N
0 0.2 0.4 0.8 Miles
NC 305
DUNNING
NC 11 BUS
MAPLE
WILLIFORD
CARROLL
EARL
PINE
BRICK MILL
SNIPES
HALL
LOMBARDY
CANAL
RICE
MAIN
ELM
HARMON
BELL
PEARL
CHESTNUT
COMMERCE
BROAD
FRONT
BUCK BRANCH
CASTELLOE
HOLLY
CEDAR
HARRINGTON
NC 11
MEDSON LEE
WAR TOM

Downtown Revitalization with Green Stormwater Infrastructure

North Carolina RESILIENT COASTAL COMMUNITIES PROGRAM

TOWN OF AULANDER

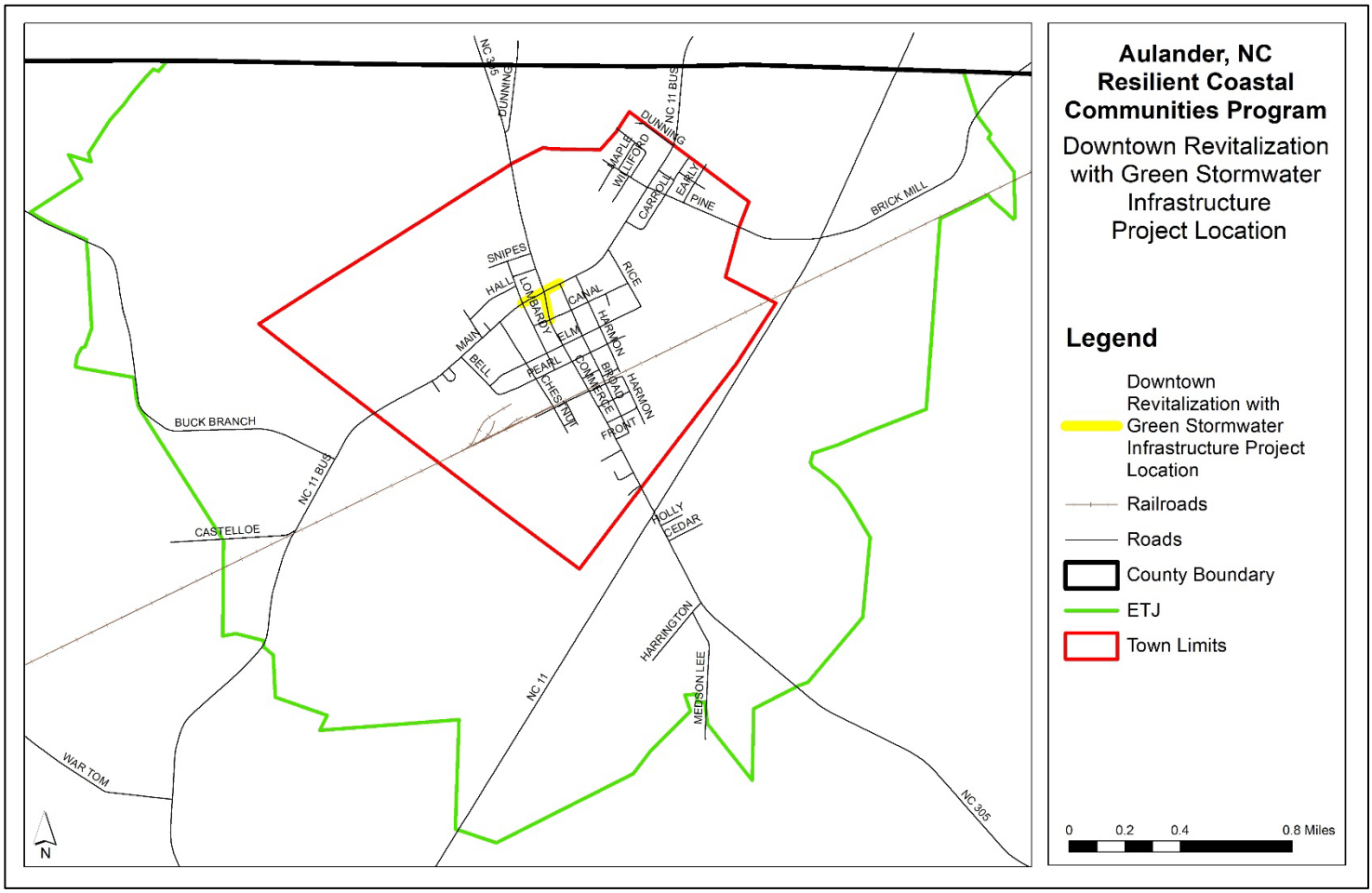
Downtown Revitalization with Green Stormwater Infrastructure

Project Summary	
Project Description	Complete a downtown revitalization Green Street project that incorporates green stormwater infrastructure along Main St. from S. Lombardy St. to Broad St. (‘800 ft./0.15 mi.) and along S Commerce St. from Main St. to Canal St (525 ft./0.1 mi.). The approximate total distance is 1,325 linear ft./0.25 miles. This project would improve the downtown streetscape aesthetics while providing green stormwater features. The project may include street trees, bioretention cells, planted medians, planted bulb outs with pedestrian crosswalks, benches, local art, educational signage, low energy lighting, and electric vehicle charging stations. A round-about with a public art installation is a potential. The project will also include road repaving (considering warm asphalt), sidewalk repairs, and stormwater system upgrades. Reused materials will be implemented where feasible and land and water conservation will be a priority. A “GreenRoads” certification is a potential after the project is completed.

Project Scope	Engineering/Design – Engineer and design a downtown revitalization project (0.25 miles) that incorporates green stormwater infrastructure along Main and Commerce Streets. This project will include downtown streetscape design to improve the aesthetics of the area. Project may include street trees, bioretention cells, planted medians, planted bulb outs with pedestrian crosswalks, benches, local art, educational signage, low energy lighting, and electric vehicle charging stations. The project will also include road repaving (considering warm asphalt), sidewalk repairs, and stormwater system upgrades.
	
	A round-about with a public art installation is a potential. However, the round-about may or may not be feasible. There is the potential that property would need to be bought out and partnerships with the NC Dept. of Transportation and the Albemarle Rural Planning Organization (RPO) that would be needed.
	
	Construction of this project should wait until the water main line in the area is replaced. The sewer main line has already been replaced and the water main line will be completed in the near future.
	
	- Survey
	- NEPA/SEPA
	- Concept Design
	- Design
	  ○ Roadway
	  ○ Hydro

	○ Transportation ○ Utility - GreenRoads Certification - Lifecycle Cost Analysis - Carbon Analysis - NC DOT coordination - Permitting due diligence <u>Implementation</u> – Construct identified downtown revitalization project. Specific improvements to be determined in the engineering/design phase. The project may be implemented in phases. - Permitting - Construction - Construction Administration - Construction Inspections
Hazard(s) Addressed by Project	List Hazards Specific to the Community Which Impact the Project Location (Refer to Hazard Mapping) ▪ Flooding (nuisance) ▪ Economic resilience
Type of Solution/Strategy Area	List Strategy Area Column(s) from Matrix (e.g., Policy, Planning, Green and Hybrid [Nature-Based] Solutions, Hard/Grey Infrastructure) ▪ Green and Hybrid Solutions
Type of Strategy Approach	List Strategy Approach from Matrix (e.g., Avoid, Accommodate, Protect, Retreat, Build Adaptive Capacity) ▪ Accommodate
Project Estimated Cost	<u>Engineering/Design</u> – $350,000 <u>Implementation</u> – $2,350,000 – $3,250,000
Potential Implementation Funding Sources	Potential Sources for Project/Action Implementation <u>Engineering/Design</u> ▪ NC Resilient Coastal Communities Program Phase 3 ▪ NC Environmental Enhancement Grant (EEG) ▪ NC Land and Water Fund Grant ▪ NC DEQ Water Resources Development Grant ▪ NC Dept. of Commerce ▪ US Economic Development Administration (EDA) ▪ Golden Leaf <u>Implementation</u> ▪ NC Resilient Coastal Communities Program Phase 4 ▪ NC Environmental Enhancement Grant (EEG)

	▪ NC Land and Water Fund Grant ▪ NC DEQ Water Resources Development Grant ▪ NC DEQ Division of Air Quality – DC Fast Charging Infrastructure Program and Level 2 Infrastructure Program ▪ US DOT – Charging and Fueling Infrastructure Discretionary Grant Program ▪ NC Dept. of Commerce ▪ US Economic Development Administration (EDA) ▪ Golden Leaf				
Project Estimated Timeline	3-5 years (engineering/design and construction)				
Priority Rating	High				
Potential Submission for RCCP Phase 3	♦	Yes		No	*Project must be a nature-based solution or hybrid solution to be considered for RCCP Phase 3.*
Project Map					



Regional Stormwater Maintenance Plan and Stormwater Coordinating Committee

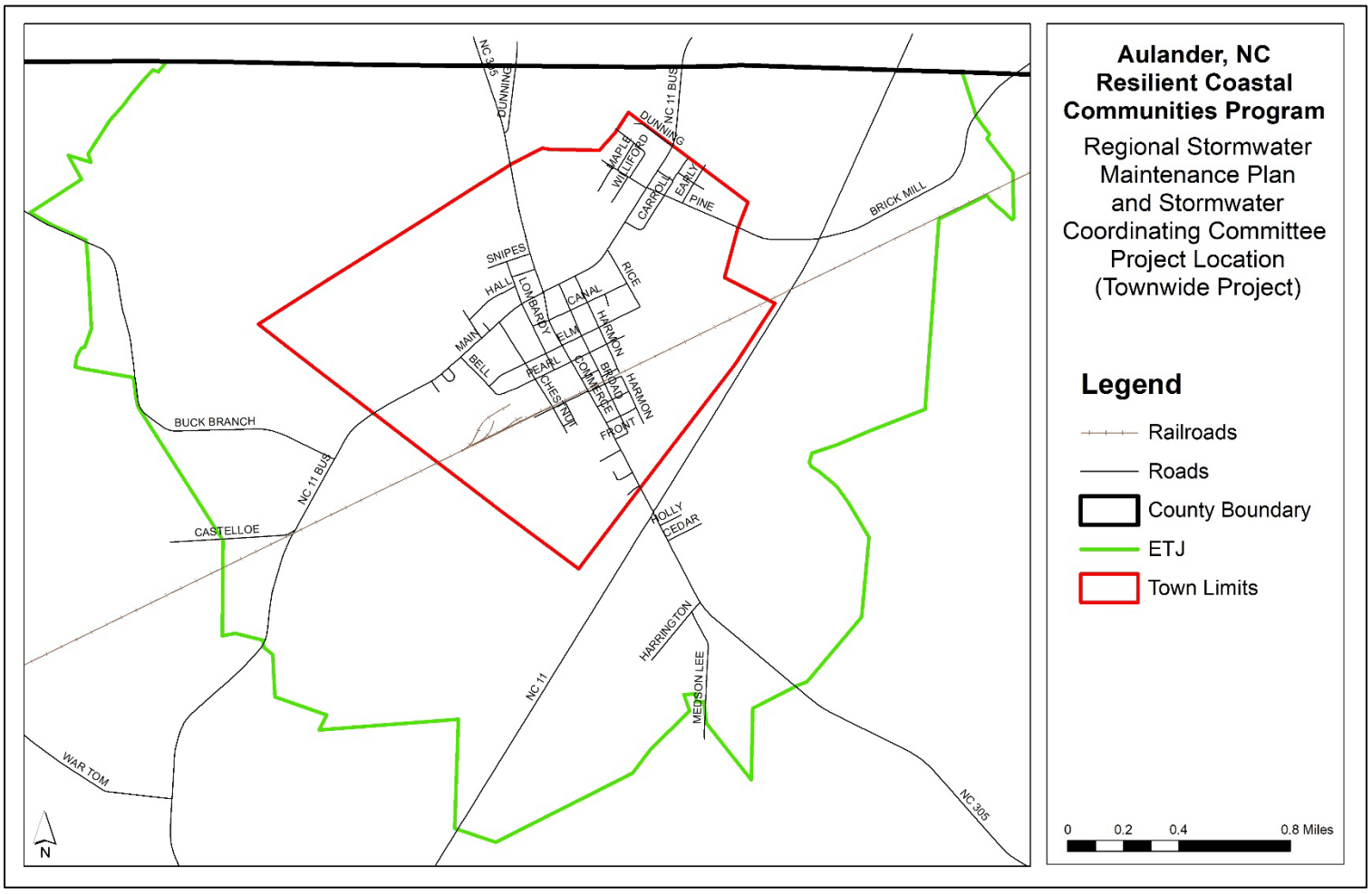
North Carolina RESILIENT COASTAL COMMUNITIES PROGRAM

TOWN OF AULANDER

Regional Stormwater Maintenance Plan and Stormwater Coordinating Committee

Project Summary	
Project Description	Establish a Stormwater Coordinating Committee and develop a Regional Stormwater Maintenance Plan.
Project Scope	Establish a Stormwater Coordinating Committee to ensure that all parties responsible for stormwater management within the town communicate to ensure maximum cooperation in developing and maintaining stormwater drainage systems with surrounding communities. Bertie County, Hertford County, Soil and Water Districts, and the Town of Ahoskie would be key committee members (Fort Branch in Aulander drains to Ahoskie Creek). Work with the team and develop a Regional Stormwater Maintenance Plan. - Establish committee - Set vision and goals - Analyze existing stormwater data - Identify and prioritize data gaps - Establish a stormwater agreement - Develop strategies to increase connectivity - Develop a Regional Stormwater Maintenance Plan - Workshops for committee members
Hazard(s) Addressed by Project	List Hazards Specific to the Community Which Impact the Project Location (Refer to Hazard Mapping) ▪ Flooding (nuisance)
Type of Solution/Strategy Area	List Strategy Area Column(s) from Matrix (e.g., Policy, Planning, Green and Hybrid [Nature-Based] Solutions, Hard/Grey Infrastructure) ▪ Planning
Type of Strategy Approach	List Strategy Approach from Matrix (e.g., Avoid, Accommodate, Protect, Retreat, Build Adaptive Capacity) ▪ Accommodate, Build Adaptive Capacity
Project Estimated Cost	$270,000
Potential Implementation Funding Sources	Potential Sources for Project/Action Implementation ▪ FEMA Building Resilient Infrastructure in Communities (BRIC) Capability and Capacity Building (C&CB) Grant ▪ NC Water Resources Development Grant

	▪ Local Funds (staff time)				
Project Estimated Timeline	Continual (2 years for committee development and planning)				
Priority Rating	High				
Potential Submission for RCCP Phase 3		Yes	♦	No	*Project must be a nature-based solution or hybrid solution to be considered for RCCP Phase 3.*
Project Map					



Appendix A

Community Action Team Materials

Community Action Team Members:

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Bob Jones, Town Administrator
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Ron Poppell, Commissioner of Public Works
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(252)287-1603

Corey Ballance, Citizen, Local Business Owner and County Commissioner
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(252)642-0840

Eddie Hoggard, Chief of Police
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Larry Drew, Citizen and former Mayor
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Contractors:

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Seth Laughlin, Planner
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Kasen Wally, Coastal Resilience Specialist
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Cayla Cothron, Coastal Planning Specialist
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North Carolina RESILIENT COASTAL COMMUNITIES PROGRAM

Town of Aulander

Community Action Team - Meeting Framework

Each meeting is anticipated to be approximately 2-hours in duration. Meeting dates, times and locations are noted below. The review of relevant RCCP materials and CAT coordination will occur between each meeting. Meeting agendas will be provided in advance of each meeting. Meeting topics are subject to change as additional topics or needs are identified.

PHASE 1 COMMUNITY ENGAGEMENT AND RISK/VULNERABILITY ASSESSMENT

MEETING 1

Date: Thurs. Oct. 5, 2023

Time: 10:00 am – 12:00 pm

Location: Aulander Community Building, 130 S Commerce St. Aulander, NC 27805

VISION AND GOALS, EXISTING PLANS & COMMUNITY ENGAGEMENT

Phase 1, Step 1: Form Community Action Team

- A. Introduce team members and contractors.

Phase 1, Step 2: Review Existing Plans and Efforts

- A. Review existing plans, ordinances, policies, and programs, including Pamlico Sound Regional Hazard Mitigation Plan.
- B. Compile information on critical assets, natural resources, social vulnerability, risk assessments, and resiliency related projects.
- C. Identify and document additional data and resources necessary to complete the community's Risk and Vulnerability Assessment.

Phase 1, Step 3: Set Vision and Goals

- A. Review community plans and Hazard Mitigation Plan for resiliency vision and goal statements.
- B. Identify example resiliency vision and goal statements.
- C. Develop community-specific visions and goals.

Phase 1, Step 4: Develop a Community Engagement Strategy

- A. Identify audiences/stakeholders, including vulnerable populations.
- B. Identify tools, techniques, and strategies for informing and engaging the community, including a targeted approach for reaching vulnerable populations.
- C. Develop a community engagement strategy and schedule.

MEETING 2

Date: Thurs. Nov. 2, 2023

Time: TBD

Location: Aulander Community Building, 130 S Commerce St. Aulander, NC 27805

EXISTING CONDITIONS – CRITICAL ASSETS & NATURAL INFRASTRUCTURE

Phase 1, Step 5: Map Critical Assets and Natural Infrastructure

- Review inventory of critical assets and natural infrastructure.
- Review and discuss critical assets, natural resources, social vulnerability, available risk assessments, and resiliency related projects.
- Review draft mapping of critical assets and natural infrastructure.
- Select critical assets and natural infrastructure to include in the RCCP Risk and Vulnerability Assessment.
- Discuss hazards to include in the Risk and Vulnerability Assessment.

MEETING 3

Date: Thurs. TBD

Time: TBD

Location: Aulander Community Building, 130 S Commerce St. Aulander, NC 27805

RISK & VULNERABILITY ASSESSMENT & PUBLIC MEETING PLANNING

Phase 1, Step 6: Conduct Risk and Vulnerability Assessment

- A. Identify and map the hazards.
  - 1. Review hazard mapping including hazards overlaid with critical assets and natural resources.
- B. Assess Vulnerability
  - 1. Review vulnerability index to measure exposure, sensitivity and adaptive risk for critical assets and natural infrastructure.
  - 2. Complete vulnerability worksheets.
- C. Estimate Risk
  - 1. Complete quantitative risk worksheets.
- *Community Engagement:* Plan a Public Open House to engage the community during Phase 1. Two-week public comment period required before moving into Phase 2.

PHASE 2 PLANNING, PROJECT IDENTIFICATION, AND PRIORITIZATION

MEETING 4

Date: Thurs. TBD

Time: TBD

Location: Aulander Community Building, 130 S Commerce St. Aulander, NC 27805

SUITE OF POTENTIAL STRATEGIES

Phase 2, Step 1: Identify a Suite of Potential Solutions

- A. Review the community's plans and other local sources for previously identified projects.
- B. Brainstorm a suite of potential solutions.
- C. Capture a suite of innovative solutions that can be used to apply for funding or self-funding.
- D. Link various strategies to the Phase I Risk Assessment with those being most vulnerable or most at risk
- E. Collaborate to further define the solutions.
- F. Discuss development of resiliency projects and actions portfolio.

MEETING 5

Date: Thurs. TBD

Time: TBD

Location: Aulander Community Building, 130 S Commerce St. Aulander, NC 27805

PRELIMINARY PROJECT PRIORITIZATION & PUBLIC MEETING PLANNING

Phase 2, Step 2: Consolidate and Prioritize Projects

- A. Describe strategies.
- B. Evaluate strategies and their feasibility (STAPLEE method).
- C. Conduct an informal cost-benefit analysis to review proposed strategies.
- D. CAT to review strategies and discuss preliminary project priorities.
- *Community Engagement:* Plan a Public Open House to engage the community during Phase 2 and obtain input on strategies and priorities. One-week public comment period following Open House.

MEETING 6

Date: Thurs. TBD

Time: TBD

Location: Aulander Community Building, 130 S Commerce St.
Aulander, NC 27805

PUBLIC INPUT & DRAFT RESILIENCE STRATEGY ELEMENTS

Phase 2, Step 2: Consolidate and Prioritize Projects (continued)

- A. Consider public input and select priority projects.
- B. Identify at least five (5) priority projects for final project portfolio.
- C. Discuss project sites and details for each priority project.
- D. Collaborate on priority project templates.

MEETING 7

Date: Thurs. TBD

Time: TBD

Location: Aulander Community Building, 130 S Commerce St.
Aulander, NC 27805

RESILIENCE STRATEGY DOCUMENT

Phase 2, Step 3: Develop the Resilience Strategy Document

- A. High level review of Resilience Strategy document.
- B. Review priority project portfolio.
- C. Discuss RCCP Phase 3 and 4 application process.
- D. Pick one nature-based or hybrid project to apply for Phase 3 & 4 funding.
- E. Vote on endorsement of Resilience Strategy document.

RESILIENCY STRATEGY DOCUMENT

Following Meeting 6, the Contractor team will develop the Town of Aulander Resilience Strategy Document. Elements of the document will be shared with the CAT as developed throughout the planning process. The CAT will be provided the entire draft Resilience Strategy Document for review and comment before the plan is finalized.

Thank you for participating on the Town of Aulander Community Action Team!
We appreciate your involvement as we plan for a more resilient community.

North Carolina
RESILIENT
COASTAL
COMMUNITIES
PROGRAM

Town of Aulander

Community Action Team – Meeting #1

AGENDA

Thursday, Oct. 05, 2023, 10:00 AM - 12:00 PM

Location: Aulander Community Building, 130 S Commerce Street, Aulander, NC 27805

10:00 – 10:15 AM	**Introduction to Resilient Coastal Communities Program** ▪ Introduction of contractors and team members ▪ Review of Resilient Coastal Communities Program ▪ Review of Community Action Team meeting schedule and tasks ▪ See Community Action Team Meeting Framework document
10:15 – 10:30 AM	**Review of Existing Plans and Ordinances**
10:30 – 10:50 AM	**Community Vision Statement Exercise** ▪ Review Vision Statements from adopted plans and other vision statement examples ▪ Exercise: Community Vision Statement
10:50 – 11:15 AM	**Community Goals Exercise** ▪ Review goals from adopted plans and other resiliency goal examples ▪ Goals should address all three points; economic, environmental, social ▪ Exercise: Community Goals
11:15 – 11:30 AM	**Social Vulnerability Data**
11:30 – 11:50 AM	**Community Engagement Strategy** ▪ Public Survey ▪ Public Open House ▪ Strategies to engage the community, including vulnerable populations
11:50 AM – NOON	**Discussion / Adjournment**

North Carolina RESILIENT COASTAL COMMUNITIES PROGRAM

AULANDER

Community Action Team – Meeting #1

MEETING SUMMARY

THURSDAY, OCTOBER 5, 2023, 10:00 AM – 12:00 PM, AULANDER MUNICIPAL BUILDING

Attendees:

- Jamie Heath, Mid-East Commission
- Seth Laughlin, Mid-East Commission
- Lisa Williams, Mid-East Commission (virtual attendee)
- Tris Ford, RK&K
- Gordon Marsh, RK&K (virtual attendee)
- Sarah Spiegler, NC Sea Grant
- Mackenzie Todd, NC Division of Coastal Management
- Lynne Conner, Town of Aulander
- Johnnie Wheeler, Town of Aulander
- Tommy Hale, Town of Aulander
- Larry Drew, Town of Aulander citizen/former Mayor

Meeting Purpose:

- Introduction of contractors and team members
- Review of Resilient Coastal Communities Program
- Review of Community Action Team meeting schedule and tasks
- Review of existing plans and ordinances
- Review vision statements from adopted plans and other vision statement examples
- Exercise: Community Vision Statement
- Review goals from adopted plans and other resiliency goal examples
- Exercise: Community Goals
- Review social vulnerability data
- Plan Community Engagement Strategy

Notes:

- All team members introduced themselves.
- Jamie Heath presented overview of Resilient Coastal Communities Program.
- Existing plans and ordinances were reviewed.
- Example vision statements were reviewed.
- The Community Vision Statement exercise was completed and worksheets were collected. Jamie Heath stated draft vision statement would be made available for comment via email.

- Example goals were reviewed.
- The Community Goals exercise was completed and worksheets were collected. Jamie Heath stated draft goals and objectives would be made available for comment via email.
    - There was a question on whether team members not able to attend would be able to submit a worksheet. Jamie Heath stated she would follow up with them to request worksheets by email.
- Social vulnerability data was reviewed.
    - Center for Disease Control (CDC) Social Vulnerability Index data was reviewed.
        - Socioeconomic status - Group agreed that SVI seemed accurate.
        - Household characteristics – Group agreed that SVI is at least accurate, but probably should be higher.
        - Racial and ethnic minority – Group agreed that SVI seemed accurate. It is also consistent with information stated on recent grant applications.
        - Housing type & transportation – Group agreed that SVI seemed accurate. There is a prevalence of mobile homes in town.
    - EPA Environmental Justice Screen reports were reviewed.
    - Local census data was reviewed.
- The Community Engagement Strategy was planned, including vulnerable populations to consider and outreach methods. There will be a survey and public open house in Phase 1 and Phase 2.
    - The draft public survey for Phase 1 was reviewed. The survey will be available both online and in hard copy format.
    - Outreach methods were discussed.
        - Town has Facebook page but does not have a website yet.
        - Town has a OneCall system that sends automated messages to citizens. All numbers were added from utility bills.
        - The Bertie Ledger Advance is the local newspaper.
        - Local businesses would be willing to post flyers and posters.
        - The Nutrition Center is active and does function as a Senior Center.
        - There are a few local churches that would help with outreach.
        - There is a place on the corner where a banner can be hung.
        - The Aulander Harvest Fest is this coming weekend. Jamie Heath stated she would send survey and flyers by Friday.
        - Ms. Heath said she would also send the RCCP 2-pager and a blurb about the survey for the town's message system.
        - Another event opportunity for outreach is the tree lighting ceremony.

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Town of Aulander

Community Action Team – Meeting #2

AGENDA

Thursday, Nov. 02, 2023, 2:00 - 4:00 PM

Location: Aulander Municipal Building, 124 W Main St. Aulander, NC 27805

2:00 – 2:30 PM	**Critical Assets and Natural Infrastructure** ▪ Inventory list ▪ Maps
2:30 – 2:45 PM	**Potential Hazards and Non-Climate Stressors**
2:45 – 3:00 PM	**Available Risk Assessments** ▪ From Northeastern NC Regional Hazard Mitigation Plan
3:00 – 3:30 PM	**Known Issues** ▪ From RCCP application ▪ Other known issues
3:30 – 3:45 PM	**Current / Past Resilience Projects**
3:45 – 4:00 PM	**Discussion / Adjournment**

North Carolina RESILIENT COASTAL COMMUNITIES PROGRAM

AULANDER

Community Action Team – Meeting #2

MEETING SUMMARY

THURSDAY, NOVEMBER 2, 2023, 2:00 – 4:00 PM, AULANDER MUNICIPAL BUILDING

Attendees:

- Jamie Heath, Mid-East Commission
- Seth Laughlin, Mid-East Commission
- Lisa Williams, Mid-East Commission
- Tris Ford, RK&K
- Gordon Marsh, RK&K
- Lynne Conner, Town of Aulander
- Johnny Wheeler, Town of Aulander
- Tommy Hale, Town of Aulander
- Corey E. Ballance Sr., Citizen & County Commissioner
- Ronald Poppell, Town of Aulander
- Eddie Hoggard, Town of Aulander

Meeting Purpose:

- Review draft critical assets and natural infrastructure inventory list and maps
- Discuss potential hazards and non-climate stressors
- Review available risk assessments
- Discuss known coastal hazard issues
- Discuss any current/past resilience projects

Notes:

- Draft critical assets and natural infrastructure inventory list and maps
    - Noted unsure if the two churches listed still serve as food pantries. Lynne Conner will verify.
    - Add Aulander Grocery and Tobacco Plus at 503 S Commerce St. under food category.
    - Add restaurant downtown under food category.
    - Check with Tommy Hale on maps/GIS data for water and sewer system.
    - Add Aulander Senior Nutrition Center under community buildings. It does serve as a Senior Center.
    - Other critical assets seemed correct.
    - Natural infrastructure seems correct.

    - Noted to change colors of working forests and rural forests for contrast on priority forest lands map.
    - Noted to darken floodplain layers on floodplain maps.
- Potential hazards and non-climate stressors
    - Flooding is a concern including riverine flooding during hurricanes and nuisance flooding from heavy rain events. Poor drainage is an issue.
    - Drought is experienced periodically and heat wave is a concern.
    - Wind damage is a concern. There have been a couple of tornadoes in the past.
    - There are no major concerns with sea level rise, shoreline erosion, or storm surge.
    - For non-climate stressors, all were applicable, including;
        - Aging or potentially undersized infrastructure
            - Noted aging infrastructure especially water and sewer pipes. Some date back to when the system was constructed in 1924.
        - Population dynamics
            - Noted there is a large low income population, many residents live in poverty
            - More renters than homeowners. There is an issue with “slum lords”, not fixing up rental properties.
        - Economic shifts
            - Noted businesses are needed to keep people here. There used to be more business downtown.
            - There used to be a peanut factory in town but it closed. It was recently purchased by Eddie Kaine Steel and the steel plant will be opening in the near future.
            - A dental clinic is opening in town in the near future as well, across from the cemetery on Pine St.
        - Increased subsidence
        - Altered drainage patterns
        - Land cover change
            - Note impervious town core
- Available risk assessments
    - The Bertie County risk assessment from the Northeastern NC Regional Hazard Mitigation Plan was reviewed. There were no comments.
- Known coastal hazard issues
    - Reviewed issues from RCCP application.
    - An additional issue to note is Mitchell Street by the railroad track floods in heavy rains.
    - An additional issue to note is ditch maintenance.
    - There is a potential culvert issue on Main Street.

- Current/past resilience projects
    - A CDBG Infrastructure grant was closed out in 2022 for sewer improvements (small area, not whole system).
- Other
    - The next Community Action Team meeting was confirmed for Thurs. Dec. 7th from 2:00 – 4:00 pm.
    - The Public Open House for Phase 1 was confirmed for Mon. Dec. 11th, drop-in style from 4:00 – 6:30 pm. Jamie Heath will work with Lynne Conner to advertise. The community building will be the best place for the open house.
    - Virtual Public Open House for Phase 1 will be Fri. Dec. 15th, drop-in style from 4:00 – 6:30 pm. Will be co-hosted for all 4 of our participating communities.

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Town of Aulander

Community Action Team – Meeting #3

AGENDA

Thursday, Dec. 7, 2023, 2:00 - 4:00 PM

Location: Aulander Municipal Building, 124 W Main St. Aulander, NC 27805

2:00 – 2:30 PM	**Hazards Mapping**
2:30 – 3:15 PM	**Vulnerability Assessment**
3:15 – 3:30 PM	**Risk Estimate**
3:30 – 3:45 PM	**Public Open House Activity Plan**
3:45 – 4:00 PM	**Discussion / Adjournment**

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AULANDER

Community Action Team – Meeting #3

MEETING SUMMARY

THURSDAY, DECEMBER 7, 2023, 2:00 – 4:00 PM, AULANDER MUNICIPAL BUILDING

Attendees:

- Jamie Heath, Mid-East Commission
- Seth Laughlin, Mid-East Commission
- Tris Ford, RK&K
- Gordon Marsh, RK&K
- Tommy Hale, Town of Aulander
- Ronald Poppell, Town of Aulander
- Kasen Wally, DCM

Meeting Purpose:

- Review draft hazards mapping
- Review draft vulnerability assessment
- Review draft risk estimate
- Discuss public open house activity plan

Notes:

- Draft hazards maps
    - Draft hazards maps for Aulander were reviewed including floodplain overlaid with critical assets and affordable housing areas, and potential hazardous sites.
    - Noted that sea level rise and storm surge layers were not available this far inland. (Layers end at river near Windsor).
    - Based on the vulnerability assessment, Aulander does have vulnerability to wildfires. We will add wildfire hazard maps.
- Draft vulnerability assessment
    - Vulnerability assessment thresholds were reviewed.
    - The draft vulnerability assessment worksheet was reviewed.
    - Low-income housing should be updated to affordable housing areas.
    - Affordable housing areas, streams, wetlands should be exposure 3 (worksheet said 4).
    - Rice Street should be added to the streets list.
    - The “grit chamber” for the sewer system is where sewage is collected and it is pumped and sprayed on the spray field. It is very vulnerable to flooding including nuisance flooding. We need to add a shapefile for it and incorporate it into the worksheet. (After

further research, it is incorporated into the shapefile prepared by Wooten as a pump station.)
    - Discussed changing Family Dollar and Citgo to low adaptive capacity because they are the only place for groceries and the only place for fuel in town.
- Draft risk estimate
    - Reviewed draft risk estimate methodology and worksheet.
    - Discussed that many community-owned assets were valued based on property tax values, which some communities feel undervalues the asset.
    - Suggested that we reach out to Lynn for insurance values for more accurate monetary risk estimates on town-owned assets.
- Public open house
    - Discussed public open house and activities we will have. Open house will occur on Dec. 11th in person and Dec. 15th virtually.
- Other
    - The town needs new water lines. They are constantly fixing leaks. The sewer lines are old too but not as bad as water.
    - Aulander Elementary School might be closing. The school board held a meeting to discuss it but has not made a decision yet.
    - The next Community Action Team meeting will be held Thurs. Jan. 18, 2024 at 2:00 pm.

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Town of Aulander

Community Action Team – Meeting #4

AGENDA

Thursday, Jan. 18, 2024, 2:00 - 4:00 PM

Location: Aulander Municipal Building, 124 W Main St. Aulander, NC 27805

2:00 – 2:30 PM	**Phase 1 Public Input Review** • Public survey response summary • Public open house feedback summary
2:30 – 3:45 PM	**Identify a Suite of Potential Solutions** • STAPLEE worksheets
3:45 – 4:00 PM	**Discussion / Adjournment**

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AULANDER

Community Action Team – Meeting #4

MEETING SUMMARY

THURSDAY, JANUARY 18, 2024, 2:00 – 4:00 PM, AULANDER MUNICIPAL BUILDING

Attendees:

- Jamie Heath, Mid-East Commission
- Tris Ford, RK&K
- Gordon Marsh, RK&K
- Tracy Baker, Town of Aulander
- Johnny Wheeler, Town of Aulander
- Kasen Wally, DCM
- Mackenzie Todd, DCM

Meeting Purpose:

- Review Phase 1 public input (survey and open house)
- Review draft Suite of Potential Solutions

Notes:

- Phase 1 public survey results
    - Phase 1 public survey results were reviewed. There were 12 total responses despite a variety of advertising methods.
    - We discussed adding text as a communication method in the next public survey.
    - There were no comments on the public survey results.
- Phase 1 public open house results
    - Phase 1 public open house results were reviewed. There was a low turnout despite a variety of advertising methods.
    - There were no comments on the feedback received at the public open house.
    - The group discussed the possibility of having the Phase 2 public open house occur at a town event to increase attendance, but the event would have to occur in the next 3 months for this to be an option. It was stated that the town might be doing a “Spring Fling” event but they are not sure yet.
    - We discussed linking the next public open house to the term flooding rather than the term resilience.
- Draft suite of potential solutions
    - The draft suite of potential solutions on the STAPLEE worksheets were reviewed. There was also a brief explanation of the STAPLEE scoring method which will be used to further prioritize projects at the next meeting.

- Under policy, noted to add a project about land use policies, stricter codes in flood prone areas (zoning, subdivision, flood damage prevention ordinances).
- Noted under planning, add Downtown Revitalization Plan.
- Noted under planning, add Stormwater Action Plan.
- Under green and hybrid infrastructure solutions, noted that "Floodplain capacity expansion along Fort Branch at the grit chamber" is a high priority project/area. The property the town owns just south of the grit chamber was discussed. The team members present thought the town would be open to using this lot for a solution if it is helpful.
- Under green and hybrid infrastructure solutions, "Implement green stormwater infrastructure along Main St." should say "and Commerce St." Discussed the town owned building (old Ryan's Café) on Main St. Needs demolition. The town thought of possibly using this site for parking after the building is demolished. Could potentially be open for other solutions, need to have a future discussion.
- Under green and hybrid infrastructure solutions, "Complete a stream restoration along Fort Branch throughout Aulander to increase stormwater capacity." Noted that "throughout" would be ideal but may not be feasible. We will likely need to pick an area(s) to focus on.
- Noted to add a project under green and hybrid infrastructure solutions, permeable parking throughout the town.
- Noted to add a project under green and hybrid infrastructure for the Aulander Elementary School site if the location could be helpful.
- Noted to add a project under green and hybrid infrastructure for the Aulander public park site if the location could be helpful.
- Under hard/grey infrastructure solutions, add ditch project.
- To move up from Northeastern NC Hazard Mitigation Plan: B1, B3, B7, B8, B9, B10, B12, B13, B15. Discussed Chestnut St./"The Hole" neighborhood. Possible buyout candidate (B8). Discussed that B10 (debris inspection and removal program) will be a partnership with Bertie County and the state. Discussed that town is pretty well set with generators (B13) but there is not a generator for the public water supply well.
- Town is well set with emergency notification. In addition to Facebook they have a One Call system implemented. All utility customers are automatically signed up for the alert phone calls unless they intentionally opt out.
- Asked CAT members to turn in STAPLEE worksheet comments if desired and they will be incorporated into prioritization.

- Other
  - There was a question regarding whether there are any grant programs that can assist individual homeowners with purchasing a sump pump. Ms. Heath stated that the RCCP is focused on community assets but she would follow up to see if there are any applicable grants for private homeowners.

- We will contact the town and send everyone an email and calendar invite to schedule CAT meeting 5.

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Town of Aulander

Community Action Team – Meeting #5

AGENDA

Thursday, Feb. 15, 2024, 2:00 - 4:00 PM

Location: Aulander Municipal Building, 124 W Main St. Aulander, NC 27805

2:00 – 3:30 PM	**Consolidate and Prioritize Projects** • Project examples • Revised project list • STAPLEE scoring explanation • STAPLEE worksheet • Cost-benefit worksheet
3:30 – 3:45 PM	**Phase 2 Public Open House** • Wed. March 13th, 4:00 – 6:30 pm, drop-in style • Activities • Advertising
3:45 – 4:00 PM	**Discussion / Adjournment** • Next CAT meeting: Thurs. April 11th, 2:00 – 4:00 pm

North Carolina RESILIENT COASTAL COMMUNITIES PROGRAM

AULANDER

Community Action Team – Meeting #5

MEETING SUMMARY

THURSDAY, FEBRUARY 15, 2024, 2:00 – 4:00 PM, AULANDER MUNICIPAL BUILDING

Attendees:

- Jamie Heath, Mid-East Commission
- Tris Ford, RK&K
- Gordon Marsh, RK&K
- Doug Keller, RK&K
- Kasen Wally, DCM
- Ron Poppell, Town of Aulander
- Eddie Hoggard, Town of Aulander
- Lynne Conner, Town of Aulander
- Corey Ballance, County Commissioner and Aulander resi

Meeting Purpose:

- Consolidate and prioritize projects
- Plan Phase 2 public open house

Notes:

- Consolidate and prioritize projects
    - Project categories were discussed including policy, planning, green/hybrid infrastructure solutions and hard/grey infrastructure solutions.
    - Examples of nature-based solutions (green infrastructure) were discussed with example photos on PowerPoint.
    - The STAPLEE scoring method was discussed.
    - The cost-benefit analysis was discussed.
    - The updated draft suite of potential solutions was reviewed.
        - Under policy, “Responsible development policy through Future Land Use Plans and Zoning Ordinances that increase resiliency to natural hazards.” It was noted that the town is already working on updating their ordinances and this is something that could potentially be incorporated into that update. Yes, on political and community acceptance.
        - Under planning, “Work with local Council of Governments and/or contractor to match local projects with grant opportunity, apply for those grants and administer successful grants.” This is important but should be an

implementation step for projects, not a project in itself. Noted that grants with large matches can be a struggle for the town. Staffing capacity is also an issue. They do have a contract grant writer used by the town frequently who charges a percentage if the grant is awarded and does not charge if the grant is not awarded.

- Under planning, "Develop a Stormwater Action Plan and Stormwater assessment tool…" The team felt like this is a high priority. They already have something like this for water/sewer and it is a need for stormwater as well. It would allow the town to be proactive rather than reactive to stormwater issues.
- Under planning, "Evaluate the relocation or buy out potential of structures in flood prone areas." This project should be removed. Buyout needs are very minimal.
- Under planning, "Develop an economic development plan with a focus on downtown revitalization." Noted that this is a high priority for the town.
- Under Northeastern NC hazard mitigation plan projects, "Consider participation in the Community Rating System (CRS) to reduce flood insurance premiums for citizens." This project should be removed. Not enough staff capacity to implement and most structures in town are outside the 100-year floodplain.
- Under Northeastern NC hazard mitigation plan projects, "Accomplish the following during the next CAMA Land Use Plan update…" This is a continuing activity, can remove from project list.
- Under Northeastern NC hazard mitigation plan projects, "Identify repetitive flood loss properties for acquisition and relocation." This project can be removed. It is a continuing action for the county but not the town.
- Under Northeastern NC hazard mitigation plan projects, "Establish a coordinating committee to ensure that all parties responsible for stormwater management within the town communicate to ensure maximum cooperation in developing and maintaining stormwater drainage systems with surrounding communities. Noted that this project should be left on the list, although it is not the highest priority project. A partnership with Ahoskie could be beneficial. Fort Branch drains to Ahoskie Creek.
- Under Northeastern NC hazard mitigation plan projects, "Establish and maintain a coordinated debris inspection and removal program." This project can be removed. The town already contracts to have Fort Branch cleaned out.
- Under Northeastern NC hazard mitigation plan projects, "Partner with county to establish program to advise/assist property owner in retrofitting homes and businesses." This project can be removed. It is a continuing action but better handled at the county level.
- Under Northeastern NC hazard mitigation plan projects, "Acquire generators…" This is a high priority. Town Hall and the Municipal Building need generators.

They would also like generators at the sewer lift stations (currently they have a portable generator that must be moved between lift stations).

- Under green and hybrid infrastructure solutions, "Complete a downtown revitalization project that incorporates green stormwater infrastructure along Main and Commerce Streets." Noted that there would be community support and political support for this project. Noted that town staff could be available for reasonable project maintenance. Noted that public education is needed on these types of projects. Make sure public education components are in the project descriptions. Noted under comments, the description needs to be revised to smaller scale projects, bioretention cells, etc.
- Under green and hybrid infrastructure solutions, "Utilize the town owned property to increase floodplain capacity along Fort Branch at the entrance of the grit chamber…" This project is a high priority. Noted that flooding is at the access points, not at the grit chamber itself. Noted that there are no stormwater pipes under the access driveway but there is a sewer line. Noted "lifelines" for grants applications apply due to wastewater infrastructure access.
- Under green and hybrid infrastructure solutions, "Partner with Eddie Kane Steele property…" Team was unsure on property owner's willingness to partner for this type of project. Lynne Conner said she could reach out to the owner.
- Under green and hybrid infrastructure solutions, "Strategically design and construct green stormwater infrastructure on town owned property." Discussed the old Ryan's Café property downtown. This property is a high priority to be redeveloped and is owned by the town. The building needs to be demolished. They had discussed using it as a parking lot since parking downtown is a need. Permeable pavement parking area with green infrastructure (bioswales, rain garden, etc.) is a potential.
- Under green and hybrid infrastructure solutions, "Utilize town owned property adjacent to railroad to increase stormwater capacity using green stormwater infrastructure." Yes, there would be community support and political support for this project.
- Under green and hybrid infrastructure solutions, "Design and construct green stormwater infrastructure system on town owned park property." This is a good project, there are areas of the park where nuisance flooding is a problem. Bioretention cells with educational signage along the walking trail are a potential. A bioswale to catch the splash pad water is also a potential. Yes, there would be community support and political support for this project.
- Under hard/grey infrastructure solutions, "Strategically upgrade stormwater system…" Yes, this is a need. Yes, there would be community support and political support.

- The Phase 2 Public Open House was discussed.
    - The event will be held Wed. March 13th from 4:00 – 6:30 pm, drop-in style, at the Aulander Community Building.
    - We will be asking the public for input on the priority projects, and they will be able to vote for which projects they like. There will also be education on the program and the project types including green infrastructure/nature-based solutions.
    - Advertisement materials were discussed. A flyer will be sent to the town to be shared on the town's Facebook page and posted in person at Town Hall, the Municipal Building, and the Sallie Harrell Jenkins Library.
    - A notice will be sent out over the town's One Call system.
    - A press release will be developed and sent to the Bertie Ledger Advance.
    - Radio stations were discussed as another potential advertisement method. There are no stations in town, but the Murfreesboro station is popular and Jay Jenkins is the contact.
- The next Community Action Team meeting will occur on Thurs. April 11th at 2:00 pm.

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Town of Aulander

Community Action Team – Meeting #6

AGENDA

Thursday, April 11, 2024, 2:00 - 4:00 PM

Location: Aulander Municipal Building, 124 W Main St. Aulander, NC 27805

2:00 – 2:30 PM	**Phase 2 Public Open House Results**
2:30 – 3:45 PM	**Priority Project Portfolios** • Review draft project portfolios • Discuss additional project details for portfolios • Select project to move forward – RCCP Phase 3 (engineering/design) applications due May 31st
3:45 – 4:00 PM	**Discussion / Adjournment**

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AULANDER

Community Action Team – Meeting #6

MEETING SUMMARY

THURSDAY, APRIL 11, 2024, 2:00 – 4:00 PM, AULANDER MUNICIPAL BUILDING

Attendees:

- Jamie Heath, Mid-East Commission
- Tris Ford, RK&K
- Gordon Marsh, RK&K
- Doug Keller, RK&K
- Kasen Wally, DCM
- Sarah Spiegler, NC Sea Grant
- Lynne Conner, Town of Aulander
- Bob Jones, Town of Aulander

Meeting Purpose:

- Review Phase 2 public open house results
- Review draft project portfolios
- Discuss additional details for project portfolios
- Select project to move forward to RCCP Phase 3

Notes:

- Reviewed results from public open house. There was unfortunately a low turnout but a few residents did come out. The most popular project from the open house was “Upgrade the Stormwater System”.
- Reviewed draft priority project portfolios.
    - Upgrade the Stormwater System
        - Discussed combining this project with the Stormwater Action Plan project. Stormwater Action Plan being first step (planning/engineering/design) and Upgrade the Stormwater System being the implementation project.
        - Discussed that this project could possibly be a partnership with the county (drainage area does not stop at town boundary).
        - Discussed that this could potentially be a hybrid project rather than just hard/grey infrastructure if green/nature based solutions are also identified.
        - Discussed town water system (drinking water). It is antiquated and has leaks, etc. that need addressing. This has taken a front seat to stormwater issues recently.

- Collapsing storm drains in some places is causing sidewalks to cave in.

- Stormwater Action Plan
  - Discussed combining this with the Upgrade Stormwater System project, as discussed above.
  - Noted that nobody currently uses the online system for water/sewer that was set up.
- Green Stormwater Infrastructure at Aulander Park and Fitness Trails
  - There is a current water and sewer project and building up the area around the splash pad to prevent water from sitting.
  - The town prefers no trees near the walking path as the current trees have torn up the path and it now needs to be redone. The town does have PARTF funding to repave the path.
  - Discussed permeable pavement options.
  - Noted that a vac truck is needed twice per year for permeable pavement. Town has vacuum machine. Opinion was that this machine would do the job.
- Floodplain Improvements at Grit Chamber Entrance
  - This is a big problem area for flooding. On the next two roads over (Canal St. and adjacent), new stormwater pipes have been installed.
  - There is a sewer line that runs under the entrance drive to the grit chamber.
  - When the manholes are flooded the town is treating rain water in the sewer system.
- Back-up Generators at Critical Facilities
  - Add the two public water supply wells to the needs list.
  - Noted that the town only has one portable generator for all sewer lift stations and have to move between lift stations to pump wastewater in times of electric outage.
- Complete a downtown revitalization project that incorporates green stormwater infrastructure along Main and Commerce Streets.
  - Discussed that the impression when people drive through town is bad due to dilapidated buildings.
  - Noted that the town wants EV charging stations downtown.
  - Building demolition is needed in many cases (beyond repair). Discussed CDBG grant for commercial building demolition.
  - Add educational signage to project description.
  - Could be a downtown “streetscape” project. Noted that a DOT partnership would be needed.
  - The county recently took three properties downtown (next to the restaurant) for tax foreclosure. They will be meeting with the town to discuss plans for the properties.

        - A USDA Economic Development grant rehabbed the Breaking Bread Café property. The town is renting the property to the business.
    - Economic Development Plan
        - Discussed that this is an important need to be met for the town.
        - Discussed steel plant. Maybe opening soon. They recently connected to water and sewer. It will create well paying jobs (unsure how many).
        - Discussed the need for a truck stop. There are many trucks that travel NC-11.
    - Permeable Pavement Parking Lot and Green Stormwater Infrastructure at Old Ryan's Café Property
        - Add educational signage to project description.
        - There are actually three areas in town in need of parking. In addition to the old Ryan's Café property which will provide downtown parking, parking is needed at the Community Building, and across from the Police Station/Municipal Building. The town owns all these properties.
        - Expand this project to meet parking needs at all three of these areas. Permeable pavement parking with green stormwater features at all three sites.
    - Establish a Stormwater Coordinating Committee
        - No comments on this project.
- Town will follow up on project selected to move forward to RCCP Phase 3 (engineering/design). Applications are due May 31st. Board meets next on April 22nd.
- The next Community Action Team meeting will occur on Thurs. May 30th at 2:00 pm.

North Carolina RESILIENT COASTAL COMMUNITIES PROGRAM

AULANDER

Community Action Team – Meeting #7

MEETING SUMMARY

THURSDAY, MAY 30, 2024, 2:00 - 4:00 PM, AULANDER MUNICIPAL BUILDING

Attendees:

- Jamie Heath, Mid-East Commission
- Tris Ford, RK&K
- Doug Keller, RK&K
- Gordon Marsh, RK&K
- Bob Jones, Town of Aulander

Meeting Purpose:

- Review draft Aulander Resilience Strategy and vote on endorsement.

Notes:

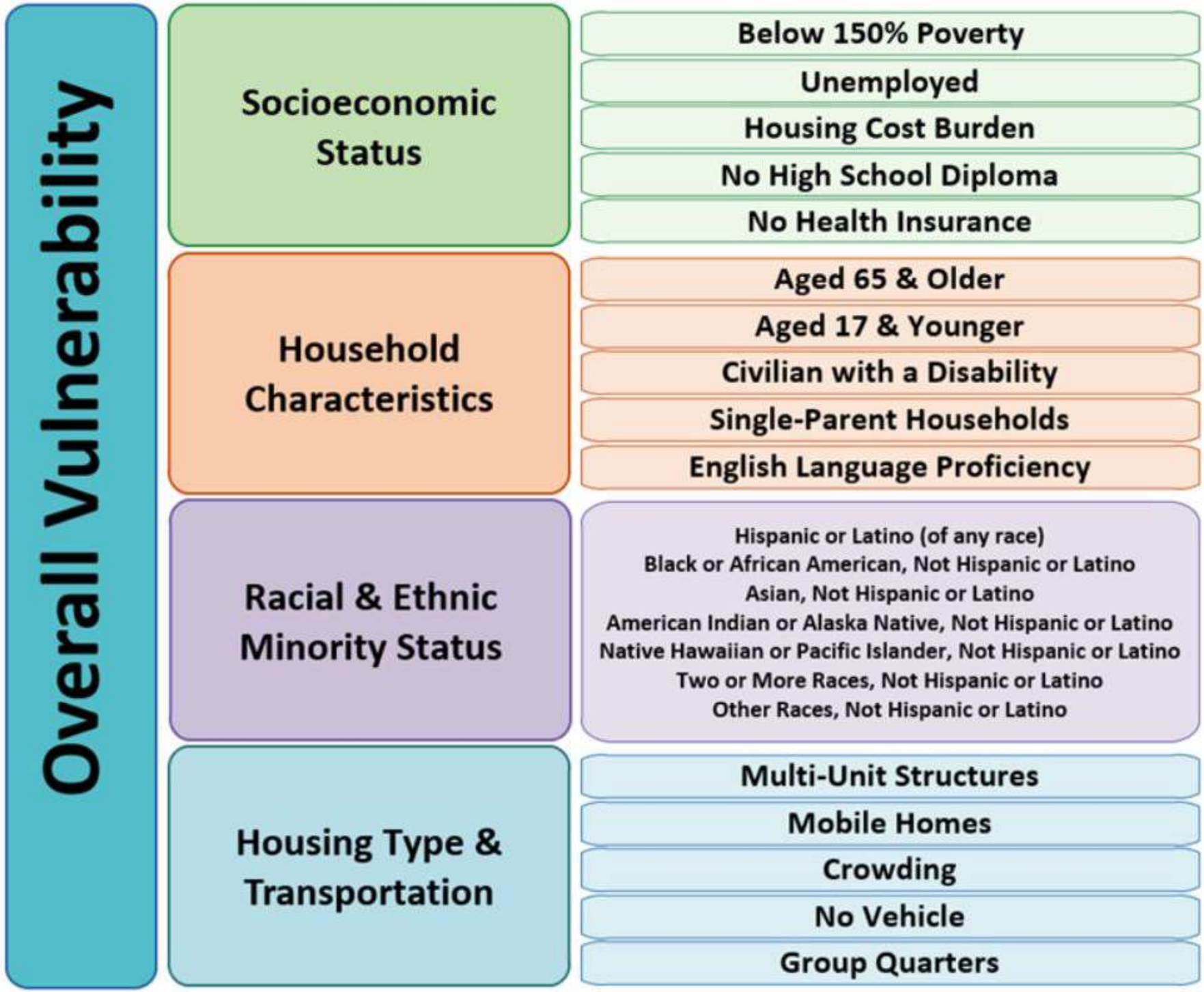
- The draft Aulander Resilience Strategy was reviewed. A general overview of the document layout was given and the primary focus was the project profiles.
- Updates needed:
    - SVI maps in Appendix A need to be changed to landscape format/page size standardized.
    - Credit Bertie County for parcel data where mapping is discussed.
    - Change Town Manager to Town Administrator in Community Action Team list (document and appendix).
    - Change all maps with the Aulander park marked to the correct parcel. In project profiles and maps in appendix.
    - Permeable Pavement Areas with Green Stormwater Infrastructure Implementation Projects profile: Note the preference to reroute the fitness trail around the existing mature trees to avoid having to remove trees (which have damaged the current fitness trail). Make sure map shows correct parcel for park site. Add electric vehicle charging stations to project profile under Old Ryan's Café site. Update cost to account for this (plus $15,000 for engineering/design, plus estimated cost for three EV charging stations to implementation). Add Duke Energy Community Foundation and other funding sources for EV charging stations to funding list. (Windsor just got a grant, can check with them on funding source.)
    - Stormwater Action Plan – Upgrade the Stormwater System project profile: Implementation cost, change to a range. "$150,000 - $350,000 (per project)"

- Floodplain Improvements at Grit Chamber Entrance project profile: Note NC DOT partnership needed, with Division 1 and with Highway Drainage Group.
- Back Up Generators for Critical Facilities project profile: Each location was evaluated by an electrician. Documents have been sent by the town. Update project profile with these details for each location.
- Economic Development Plan project profile: Note Bertie County partnership. Note building off existing plans.
- Aulander Park and Fitness Trails Resiliency Master Plan and Design project profile: Spell out CEI in implementation scope, or remove (already covered under construction administration and construction inspections). Remove RCCP Phase 4 from funding sources list under engineering/design. Update map to correct parcel. Note potential limiting factor for development. Brick and concrete from the demolition of an old school building was buried on site and is right under the soil's surface.
- Downtown Revitalization with Green Stormwater Infrastructure project profile: Note that construction of the project should wait for water main line repair to occur (sewer has already been completed and water will be in near future). Add the roundabout with public art installation as a potential in the scope/description. Note constraints for roundabout such as right of way, need to purchase property, RPO/DOT partnership needed, any other constraints to roundabout. Add to funding source list: NC Dept. of Commerce, US Economic Development Administration, Golden Leaf.

- The Community Action Team voted to endorse the Aulander Resilience Strategy with the noted updates.
- This was the final Community Action Team meeting. Board adoption of the Aulander Resilience Strategy document is recommended. Jamie Heath is available to facilitate if needed and will deliver three final bound hard copies after board adoption is completed.

Variables Used

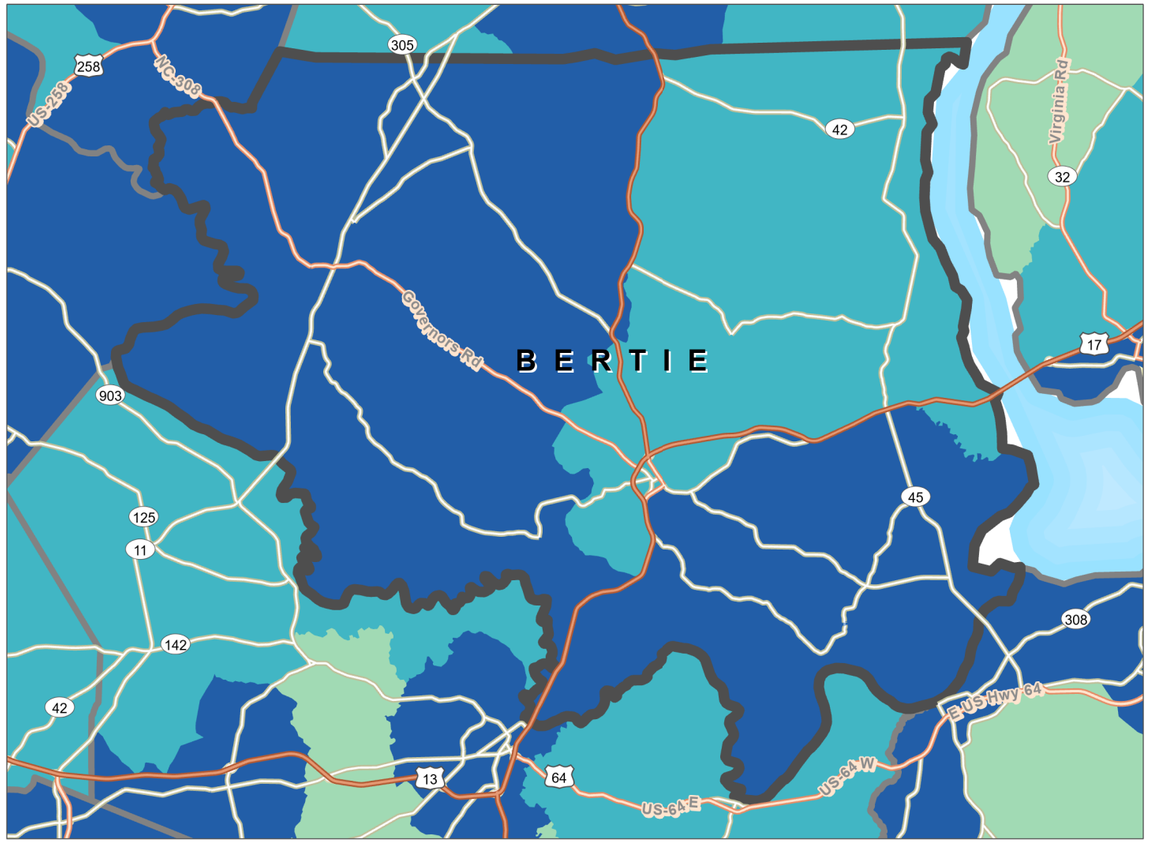
American Community Survey (ACS), 2016-2020 (5-year) data for the following estimates:



CDC/ATSDR Social Vulnerability Index 2020

BERTIE COUNTY, NORTH CAROLINA

Overall Social Vulnerability[1]



Highest (Top 4th) — Vulnerability (SVI 2020)[2] — Lowest (Bottom 4th)

Data Unavailable[3]

0 1.5 3 6 9
Miles

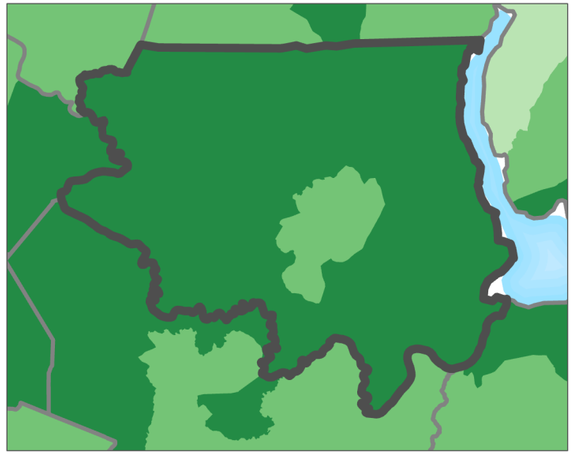
Social vulnerability refers to a community's capacity to prepare for and respond to the stress of hazardous events ranging from natural disasters, such as tornadoes or disease outbreaks, to human-caused threats, such as toxic chemical spills. The **CDC/ATSDR Social Vulnerability Index (CDC/ATSDR SVI 2020)[4] County Map** depicts the social vulnerability of communities, at census tract level, within a specified county. CDC/ATSDR SVI 2020 groups **sixteen census-derived factors** into **four themes** that summarize the extent to which the area is socially vulnerable to disaster. The factors include economic data as well as data regarding education, family characteristics, housing, language ability, ethnicity, and vehicle access. Overall Social Vulnerability combines all the variables to provide a comprehensive assessment.

ATSDR Agency for Toxic Substances and Disease Registry

GRASP Geospatial Research, Analysis, and Services Program

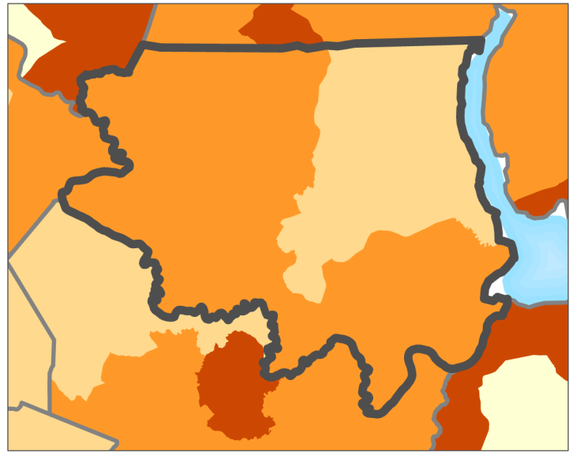
CDC/ATSDR SVI Themes

Socioeconomic Status[5]



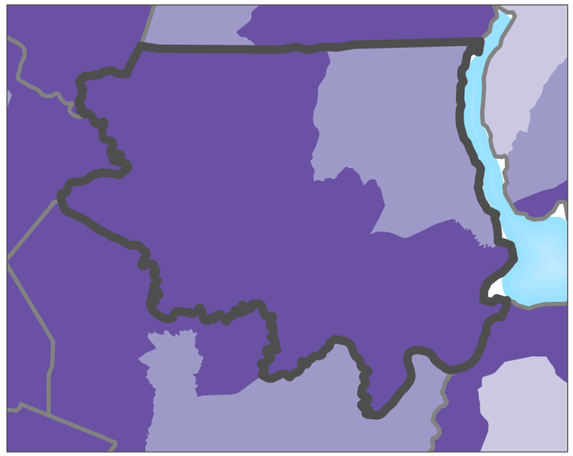
Highest (Top 4th) — Vulnerability (SVI 2020)[2] — Lowest (Bottom 4th)

Household Characteristics[6]



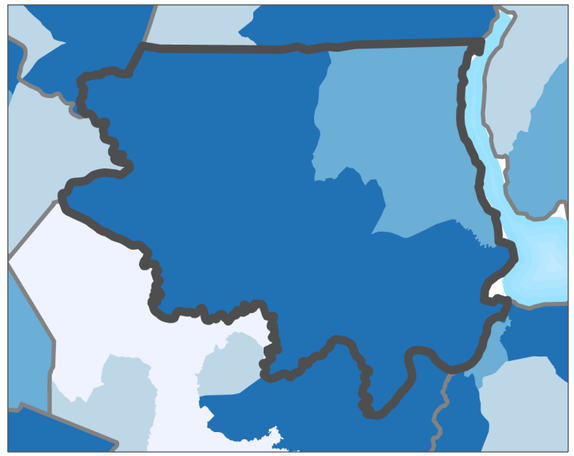
Highest (Top 4th) — Vulnerability (SVI 2020)[2] — Lowest (Bottom 4th)

Racial and Ethnic Minority Status[7]



Highest (Top 4th) — Vulnerability (SVI 2020)[2] — Lowest (Bottom 4th)

Housing Type/Transportation[8]



Highest (Top 4th) — Vulnerability (SVI 2020)[2] — Lowest (Bottom 4th)

Data Sources: [2]CDC/ATSDR/GRASP, U.S. Census Bureau, Esri® StreetMapTM Premium.

Notes: [1]Overall Social Vulnerability: All 16 variables. [3]Census tracts with 0 population. [4]The CDC/ATSDR SVI combines percentile rankings of US Census American Community Survey (ACS) 2016-2020 variables, for the state, at the census tract level. [5]Socioeconomic Status: Below 150% Poverty, Unemployed, Housing Costs Burden, No High School Diploma, No Health Insurance. [6]Household Characteristics: Aged 65 and Older, Aged 17 and Younger, Civilian with a Disability, Single-Parent Household, English Language Proficiency. [7]Race/Ethnicity: Hispanic or Latino (of any race); Black and African American, Not Hispanic or Latino; American Indian and Alaska Native, Not Hispanic or Latino; Asian, Not Hispanic or Latino; Native Hawaiian and Other Pacific Islander, Not Hispanic or Latino; Two or More Races, Not Hispanic or Latino; Other Races, Not Hispanic or Latino. [8]Housing Type/Transportation: Multi-Unit Structures, Mobile Homes, Crowding, No Vehicle, Group Quarters.

Projection: NAD 1983 StatePlane North Carolina FIPS 3200 Feet.

References: Flanagan, B.E., et al., A Social Vulnerability Index for Disaster Management. *Journal of Homeland Security and Emergency Management*, 2011. 8(1).
CDC/ATSDR SVI web page: https://www.atsdr.cdc.gov/placeandhealth/svi/index.html.

Overall SVI Nationwide Comparison
By Census Tract | 2020

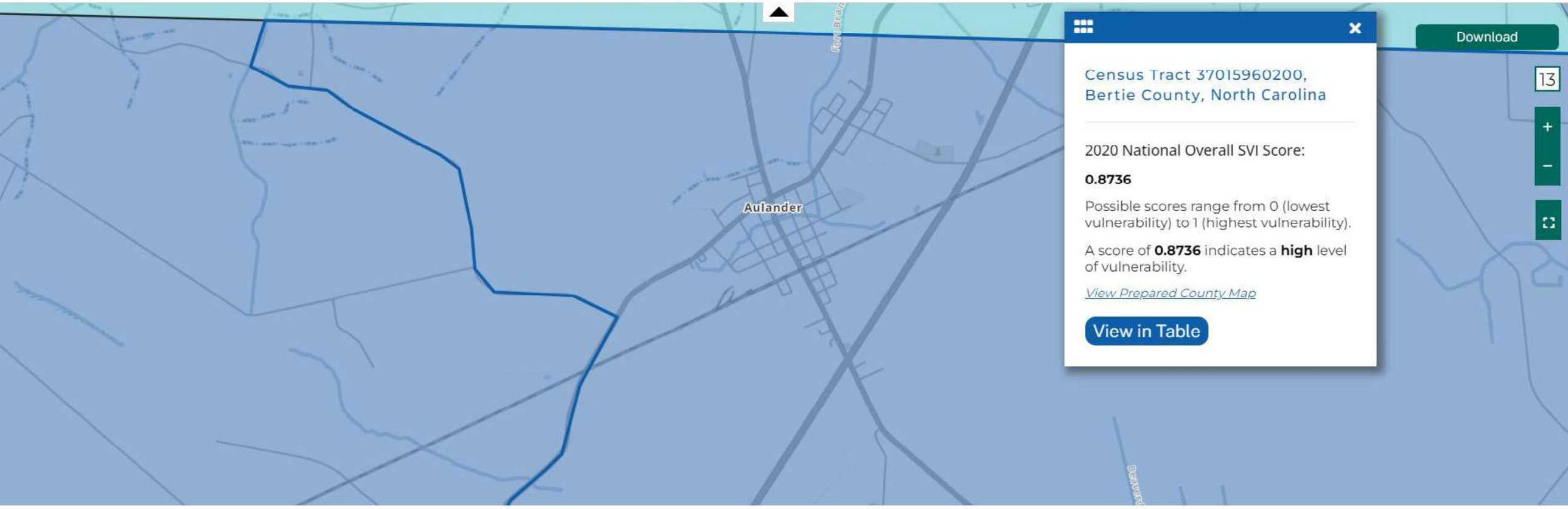
Map Features: Click to view

Map Transparency

Search within: U.S.

Find address, county, or ZIP code

Map | Table | More



Level of Vulnerability

Low	Low-Medium	Medium-High	High	No Data

Socioeconomic Status Nationwide Comparison
By Census Tract | 2020

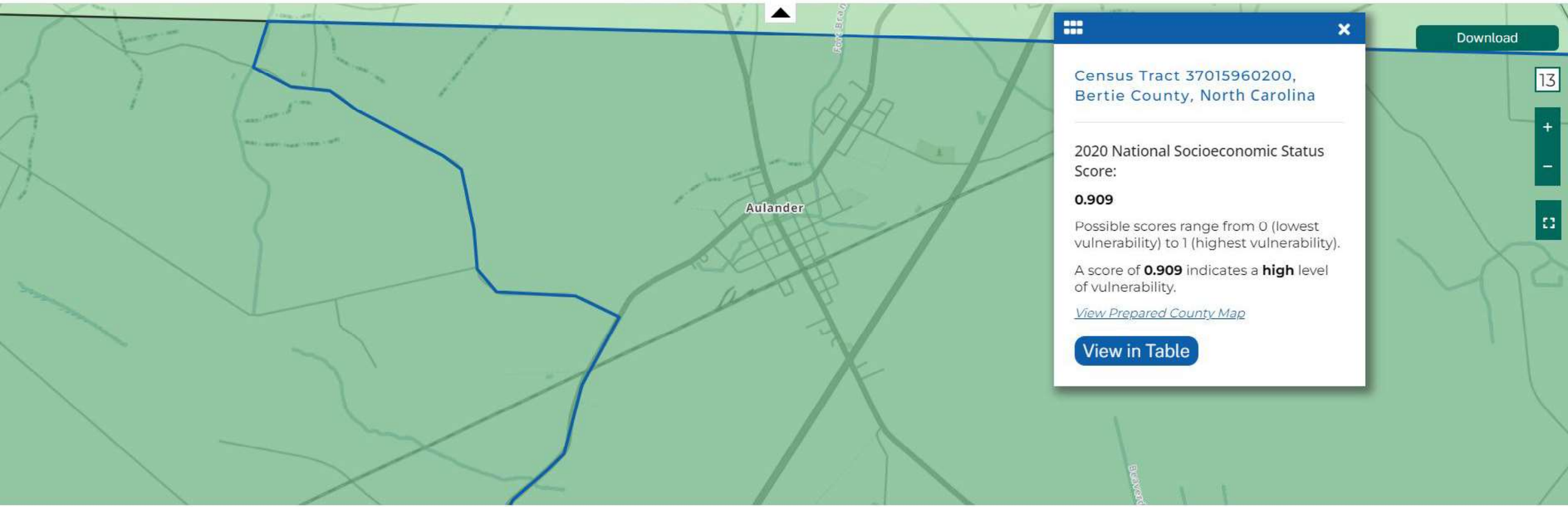
Map Features: Click to view

Map Transparency

Search within: U.S.

Find address, county, or ZIP code

Map | Table | More



Level of Vulnerability

Low	Low-Medium	Medium-High	High	No Data

Household Characteristics Nationwide Comparison
By Census Tract | 2020

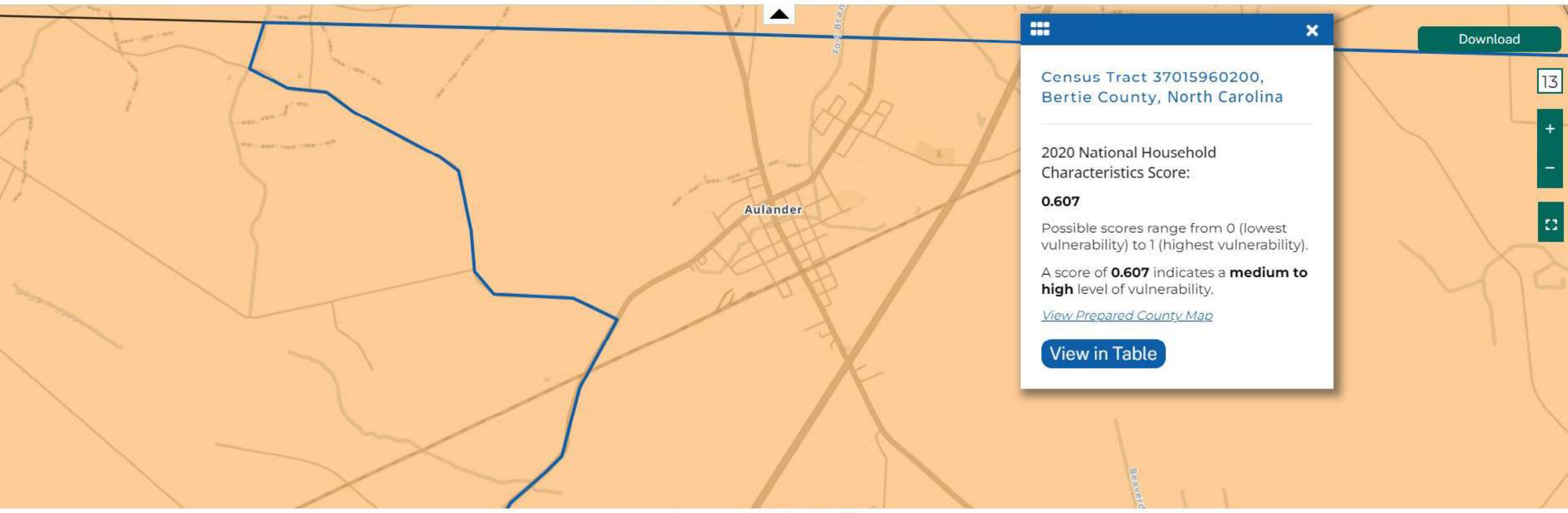
Map Features: Click to view

Map Transparency

Search within: U.S.

Find address, county, or ZIP code

Map | Table | More



Level of Vulnerability

Low	Low-Medium	Medium-High	High	No Data

Racial & Ethnic Minority Status

Nationwide Comparison

By Census Tract | 2020

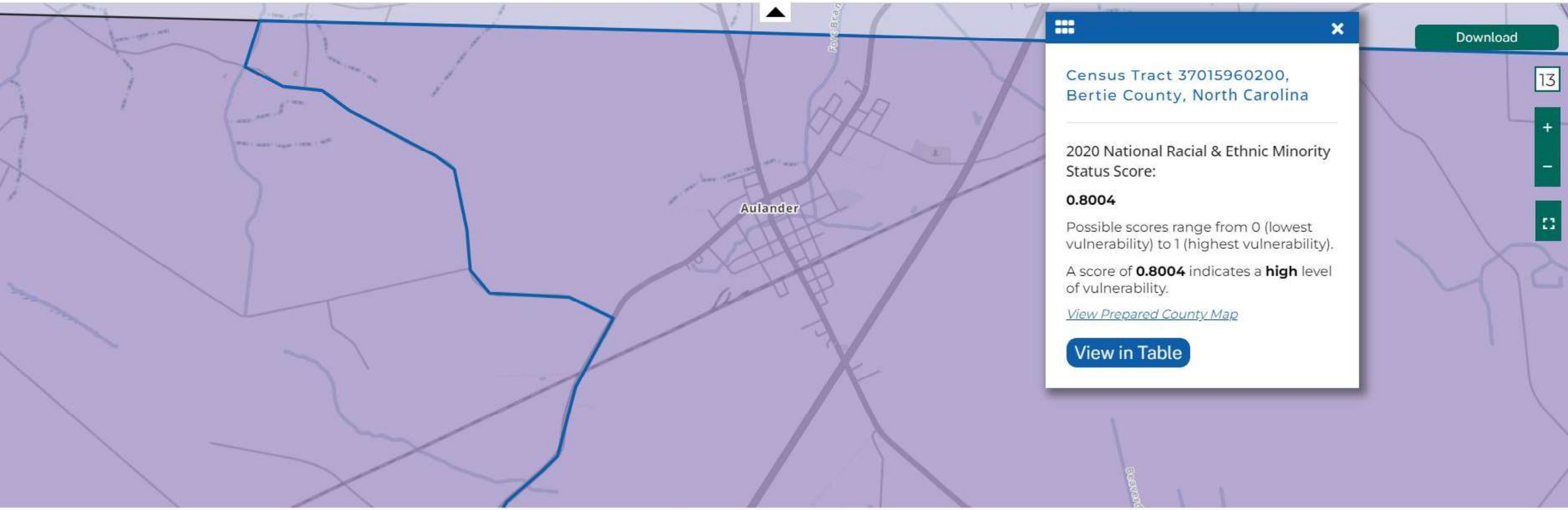
Map Features: Click to view

Map Transparency

Search within: U.S.

Find address, county, or ZIP code

Map | Table | More



Level of Vulnerability

Low	Low-Medium	Medium-High	High	No Data

Housing Type & Transportation

Nationwide Comparison

By Census Tract | 2020

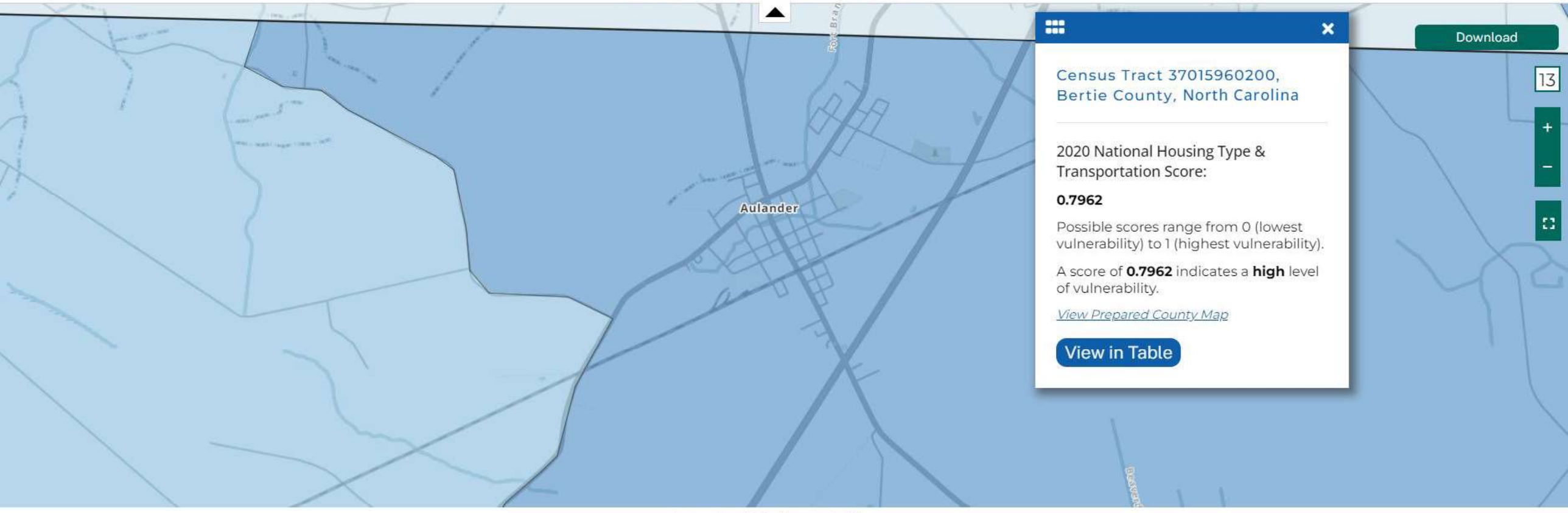
Map Features: Click to view

Map Transparency

Search within: U.S.

Find address, county, or ZIP code

Map | Table | More



Level of Vulnerability

Low	Low-Medium	Medium-High	High	No Data

EJScreen Report (Version 2.11)

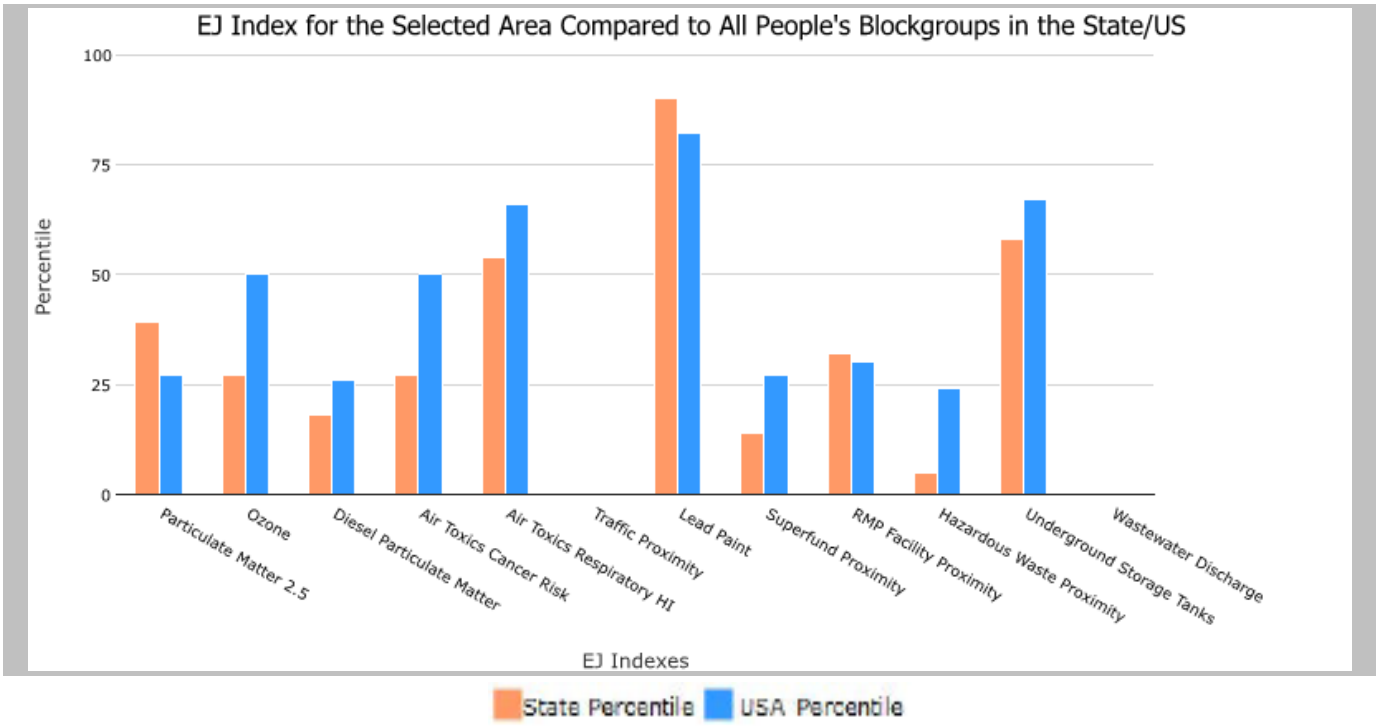
Blockgroup: 370159602001, NORTH CAROLINA, EPA Region 4

Approximate Population: 970

Input Area (sq. miles): 6.03

Selected Variables	State Percentile	USA Percentile
Environmental Justice Indexes		
Particulate Matter 2.5 EJ index	39	27
Ozone EJ index	27	50
Diesel Particulate Matter EJ index*	18	26
Air Toxics Cancer Risk EJ index*	27	50
Air Toxics Respiratory HI EJ index*	54	66
Traffic Proximity EJ index	N/A	N/A
Lead Paint EJ index	90	82
Superfund Proximity EJ index	14	27
RMP Facility Proximity EJ index	32	30
Hazardous Waste Proximity EJ index	5	24
Underground Storage Tanks EJ index	58	67
Wastewater Discharge EJ index	N/A	N/A

EJ Indexes - The EJ indexes help users screen for potential EJ concerns. To do this, the EJ index combines data on low income and people of color populations with a single environmental indicator.



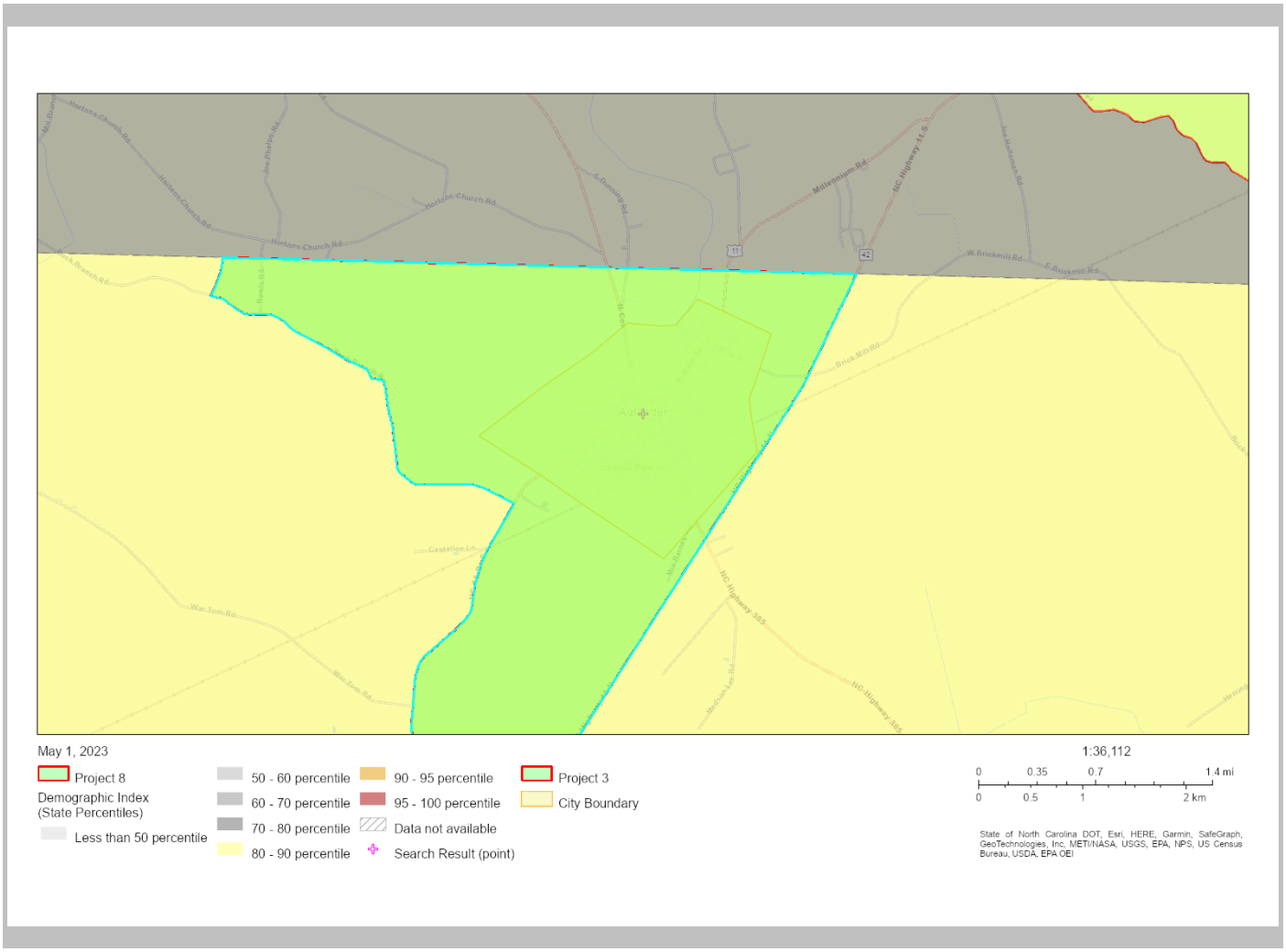
*Diesel particular matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. Cancer risks and hazard indices from the Air Toxics Data Update are reported to one significant figure and any additional significant figures here are due to rounding. More information on the Air Toxics Data Update can be found at: https://www.epa.gov/haps/air-toxics-data-update.

EJScreen Report (Version 2.11)

Blockgroup: 370159602001, NORTH CAROLINA, EPA Region 4

Approximate Population: 970

Input Area (sq. miles): 6.03



Sites reporting to EPA	
Superfund NPL	0
Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDF)	0

EJScreen Report (Version 2.11)

Blockgroup: 370159602001, NORTH CAROLINA, EPA Region 4

Approximate Population: 970

Input Area (sq. miles): 6.03

Selected Variables	Value	State Avg.	%ile in State	USA Avg.	%ile in USA
Pollution and Sources					
Particulate Matter 2.5 (µg/m^3)	6.65	7.67	18	8.67	9
Ozone (ppb)	37.9	41.5	12	42.5	20
Diesel Particulate Matter* (µg/m^3)	0.0778	0.178	7	0.294	<50th
Air Toxics Cancer Risk* (lifetime risk per million)	20	28	21	28	<50th
Air Toxics Respiratory HI*	0.3	0.36	39	0.36	<50th
Traffic Proximity (daily traffic count/distance to road)	N/A	400	N/A	760	N/A
Lead Paint (% Pre-1960 Housing)	0.32	0.15	81	0.27	59
Superfund Proximity (site count/km distance)	0.013	0.08	6	0.13	9
RMP Facility Proximity (facility count/km distance)	0.072	0.41	12	0.77	10
Hazardous Waste Proximity (facility count/km distance)	0.041	0.83	2	2.2	7
Underground Storage Tanks (count/km^2)	0.41	3.9	29	3.9	37
Wastewater Discharge (toxicity-weighted concentration/m distance)	N/A	0.28	N/A	12	N/A
Socioeconomic Indicators					
Demographic Index	57%	35%	82	35%	80
Supplemental Demographic Index	21%	15%	82	15%	81
People of Color	71%	37%	84	40%	78
Low Income	42%	33%	65	30%	72
Unemployment Rate	17%	5%	93	5%	93
Limited English Speaking Households	0%	2%	0	5%	0
Less Than High School Education	26%	11%	89	12%	88
Under Age 5	20%	6%	99	6%	99
Over Age 64	15%	16%	46	16%	49
Low Life Expectancy	21%	21%	55	20%	67

EJScreen Report (Version 2.11)

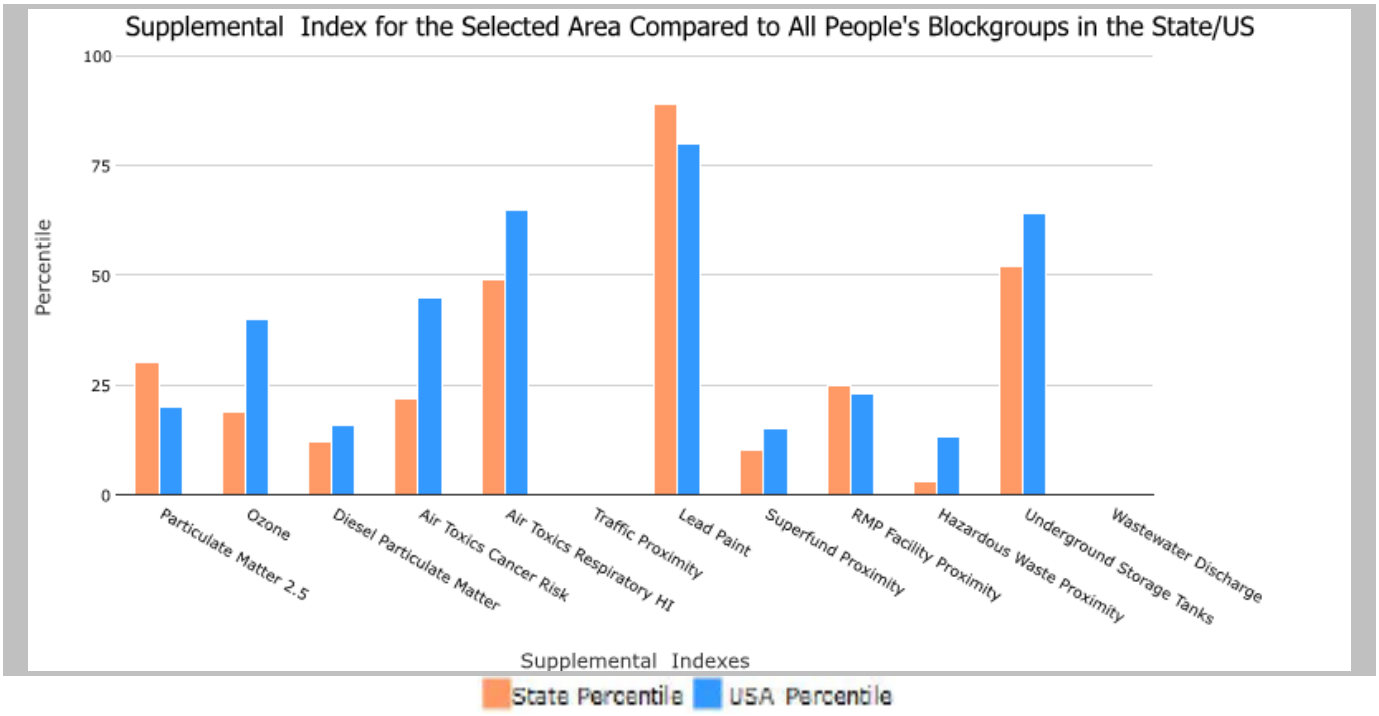
Blockgroup: 370159602001, NORTH CAROLINA, EPA Region 4

Approximate Population: 970

Input Area (sq. miles): 6.03

Selected Variables	State Percentile	USA Percentile
Supplemental Indexes		
Particulate Matter 2.5 Supplemental Index	30	20
Ozone Supplemental Index	19	40
Diesel Particulate Matter Supplemental Index*	12	16
Air Toxics Cancer Risk Supplemental Index*	22	45
Air Toxics Respiratory HI Supplemental Index*	49	65
Traffic Proximity Supplemental Index	N/A	N/A
Lead Paint Supplemental Index	89	80
Superfund Proximity Supplemental Index	10	15
RMP Facility Proximity Supplemental Index	25	23
Hazardous Waste Proximity Supplemental Index	3	13
Underground Storage Tanks Supplemental Index	52	64
Wastewater Discharge Supplemental Index	N/A	N/A

Supplemental Indexes - The supplemental indexes offer a different perspective on community-level vulnerability. They combine data on low-income, limited English speaking, less than high school education, unemployed, and low life expectancy populations with a single environmental indicator.



This report shows the values for environmental and demographic indicators, EJScreen indexes, and supplemental indexes. It shows environmental and demographic raw data (e.g., the estimated concentration of ozone in the air), and also shows what percentile each raw data value represents. These percentiles provide perspective on how the selected block group or buffer area compares to the entire state, EPA region, or nation. For example, if a given location is at the 95th percentile nationwide, this means that only 5 percent of the US population has a higher block group value than the average person in the location being analyzed. The years for which the data are available, and the methods used, vary across these indicators. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJScreen documentation for discussion of these issues before using reports. For additional information, see: www.epa.gov/environmentaljustice.

North Carolina RESILIENT COASTAL COMMUNITIES PROGRAM

Town of Aulander

Town Level Social Vulnerability Data – US Census Bureau

TOWN OF AULANDER CENSUS DATA

Total Population: 763 (2020 US Decennial Census)

Disability: 14.2% of population with a disability

Elderly: 15.3% of population 65 years and over

Language Barrier: 9.8% of population speak a language other than English at home

Median Household Income: $32,448

Minority: 56.6% minority population (2020 US Decennial Census)

Poverty Rate: 27.8% of population below poverty rate

Vehicle Access: 6.8% of households have no vehicle available

(All data except total population and minority population is 2021 American Community Survey 5-year estimates from the US Census Bureau.)

RCCP STAPLEE Criteria Worksheet
Aulander

STAPLEE Criteria >>	Social		Technical			Administrative			Political			Legal			Economic				Environmental					TOTAL
Considerations for Alternative Actions	Community Acceptance	Effect on Segment of Population	Technical Feasibility	Long term Solution	Secondary Impacts	Staffing	Funding Allocated	Maintenance/Operations	Political Support	Local Champion	Public Support	State Authority	Existing Local Authority	Potential Legal Challenge	Benefit of Action	Cost of Action	Contributes to Economic Goals	Outside Funding Required	Effect on Land/Water	Effect on Endangered Species	Effect on HAZMAT Waste Sites	Consistent w/ Community Environmental Goals	Consistent w/ Federal Laws	
POLICY																								
1. Responsible Development Policy **Comments:** Implement regulations for responsible and sustainable coastal development, considering factors such as setback requirements, building materials, and energy efficiency.		1	0	1	1							1		0	1	1	1	1	1	0	0	1	1	11
2. Low-Impact Development Policy on Government facilities **Comments:** Policy geared toward enforcing stormwater retention and infiltration through design		1	1	1	1							1		0	1	1	1	1	1	0	0	1	1	12
3. Stormwater fee **Comments:** Policy to implement a stormwater fee to generate income for stormwater projects		0	0	1	1							1		0	1	0	1	0	1	0	0	0	1	7
4. Renewable Energy Policy **Comments:** Policy that addresses renewable energy development		1	0	1	1							1		0	1	1	0	1	1	0	0	0	1	9
PLANNING																								
5. Complete a grant analysis to assess future grant opportunities **Comments:**		1	1	1	1							1		1	1	1	1	0	1	1	1	1	1	14
6. Complete a hydro analysis for the town to assess flood prone areas in depth **Comments:** Assess drainage issues within the town. Could be combined with Stormwater assessment.		1	0	1	1							1		1	1	0	0	1	1	0	0	1	1	10
7. Land and natural resource Management Program **Comments:** Program directed toward management on land assets, conservation, and stewardship		1	0	1	1							1		0	1	0	1	1	1	0	1	1	1	11
8. Develop Stormwater Maintenance Plan Comments: Includes ditches and tributaries		1	1	1	1							1		1	1	0	1	1	1	0	0	0	1	11
9. Emergency Preparedness and Response plan **Comments:** Plan to address actions needed in case of a natural disaster.		1	0	1	1							1		1	1	1	1	1	0	0	0	0	1	10
10. Social Equity Resiliency Plan. **Comments:** Implement actions to remove lower-income from high flood prone areas or retrofit homes to accommodate		1	0	1	1							1		1	1	1	1	1	1	0	0	1	1	12

RCCP STAPLEE Criteria Worksheet
Aulander

STAPLEE Criteria >>	Social		Technical			Administrative			Political			Legal			Economic				Environmental					TOTAL
Considerations for Alternative Actions	Community Acceptance	Effect on Segment of Population	Technical Feasibility	Long term Solution	Secondary Impacts	Staffing	Funding Allocated	Maintenance/Operations	Political Support	Local Champion	Public Support	State Authority	Existing Local Authority	Potential Legal Challenge	Benefit of Action	Cost of Action	Contributes to Economic Goals	Outside Funding Required	Effect on Land/Water	Effect on Endangered Species	Effect on HAZMAT Waste Sites	Consistent w/ Community Environmental Goals	Consistent w/ Federal Laws	
11. Stormwater assessment Comments: Assess the vulnerability of the stormwater infrastructure and the viability of a stormwater fee.		1	0	1	1							1		1	1	0	1	1	1	0	0	1	1	11
GREEN AND HYBRID INFRASTRUCTURE SOLUTIONS																								
11. Floodplain capacity expansion along Fort Branch at the grit chamber. **Comments:**		1	0	1	1							1		1	1	0	1	1	1	0	0	1	1	11
12. Implement green stormwater infrastructure along main St. **Comments:** permeable parking, stormwater infiltration medians, ext.		1	1	0	1							1		1	1	1	0	1	1	0	0	1	1	11
13. Increase flood capacity along Fort Branch and Bell St. **Comments:** This will also benefit W Elm St.		1	0	1	1							1		1	1	1	0	1	1	0	0	1	1	11
14. Implement green stormwater infrastructure at Old Peanut Factory, now Eddie Kane Steele property on Chestnut Street. **Comments:** Permeable parking, stormwater wetland, bioretention		1	1	0	1							1		1	1	1	0	1	1	0	0	1	1	11
15. Implement strategically placed bioretention cells throughout the town. **Comments:**		1	1	0	1							1		1	1	1	0	1	1	0	0	1	1	11
16. Increase stormwater capacity along railroad **Comments:**		1	0	1	1							0		0	1	0	0	1	1	0	0	1	1	8
17. Complete a stream restoration along Fort Branch throughout Aulander to increase stormwater capacity. **Comments:**		1	0	1	1							1		1	1	0	0	1	1	0	0	1	1	10
18. XXXXXXXXX **Comments:**																								0
HARD/GREY INFRASTRUCTURE SOLUTIONS																								
19. Increase culvert sizes at highly flooded areas **Comments:** Implement a stormwater assessment		1	0	1	1							1		0	1	0	0	1	1	0	0	0	1	8

RCCP STAPLEE Criteria Worksheet
Aulander

STAPLEE Criteria >>	Social		Technical			Administrative			Political			Legal			Economic				Environmental					TOTAL
Considerations for Alternative Actions	Community Acceptance	Effect on Segment of Population	Technical Feasibility	Long term Solution	Secondary Impacts	Staffing	Funding Allocated	Maintenance/Operations	Political Support	Local Champion	Public Support	State Authority	Existing Local Authority	Potential Legal Challenge	Benefit of Action	Cost of Action	Contributes to Economic Goals	Outside Funding Required	Effect on Land/Water	Effect on Endangered Species	Effect on HAZMAT Waste Sites	Consistent w/ Community Environmental Goals	Consistent w/ Federal Laws	
20. Increase catch-basin capacity at highly flooded areas **Comments:** Implement a stormwater assessment		1	0	1	1							1		0	1	0	0	1	1	0	0	0	1	8
21. Strategically install retention ponds to decrease holistic flooding **Comments:** Implement a plan to determine where to install retention ponds		1	0	1	1							1		0	1	0	0	1	1	0	0	0	1	8
22. Upgrade storm water system capacity **Comments:** Implement a plan to determine weaknesses		1	0	1	1							1		0	1	0	0	1	1	0	0	0	1	8
Northeastern NC Hazard Mitigation Plan																								
B1. Revise/update regulatory maps upon completion of FIRM update.		1	1	0	1							1		1	1	1	0	1	0	0	0	1	1	10
B2. 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.		1	0	1	1							1		1	1	1	0	1	0	0	0	1	1	10
B3. Consider participating in the Community Rating System (CRS) to reduce flood insurance premiums for citizens.		1	1	0	1							1		1	1	1	0	1	0	0	0	1	1	10
B4. Accomplish the following during the next CAMA Land Use Plan update: • Establish more specific growth guidelines and policies and specifically delineate sensitive environmental areas for protection; • Adopt a more limited policy on the types of uses allowed within flood hazard areas; • Adopt a policy to not extend public services and utilities into flood hazard or other environmentally sensitive areas to discourage growth.		1	1	0	1							1		1	1	1	0	1	0	0	0	1	1	10
B7. Review and update the flood damage prevention ordinance to: • Ensure maximum protection from flood hazard events. • Raise the minimum finished floor elevation to at least 2' above base flood elevation (BFE) to provide more flood protection for new or substantially improved structures. • Consider prohibiting any fill within the 100-yearfloodplain to discourage development. • Prohibit enclosures to the lower areas of elevated buildings, including breakaway walls. • Continue to require and maintain FEMA elevation certificates for all permits for new buildings or improvements to buildings on lots including any portion of the 100-year floodplain.		1	1	0	1							1		1	1	1	0	1	0	0	0	1	1	10

RCCP STAPLEE Criteria Worksheet
Aulander

STAPLEE Criteria >>	Social		Technical			Administrative			Political			Legal			Economic				Environmental					TOTAL
Considerations for Alternative Actions	Community Acceptance	Effect on Segment of Population	Technical Feasibility	Long term Solution	Secondary Impacts	Staffing	Funding Allocated	Maintenance/Operations	Political Support	Local Champion	Public Support	State Authority	Existing Local Authority	Potential Legal Challenge	Benefit of Action	Cost of Action	Contributes to Economic Goals	Outside Funding Required	Effect on Land/Water	Effect on Endangered Species	Effect on HAZMAT Waste Sites	Consistent w/ Community Environmental Goals	Consistent w/ Federal Laws	
B8. Identify repetitive flood loss properties for acquisition and relocation. Seek Federal and State funding (voluntary program).		1	1	0	1							1		1	1	1	0	1	0	0	0	1	1	10
B9. Establish a coordinating committee to ensure that all parties responsible for stormwater management within the county communicate to ensure maximum cooperation in developing and maintaining stormwater drainage systems.		1	1	0	1							1		1	1	1	0	1	0	0	0	1	1	10
B10. Establish and maintain a coordinated debris inspection and removal program.		1	0	0	1							1		1	1	1	0	1	1	0	0	1	1	10
B11. Review rebuilding activities in wake of recent hurricanes and flooding and establish policies/procedures for minimizing repetitive flood losses.		1	1	0	1							1		1	1	1	0	1	0	0	0	1	1	10
B12. Advise/assist property owners in retrofitting homes and businesses.		1	0	0	1							1		1	1	1	0	1	0	0	0	1	1	9
B13. Acquire generators or other forms of redundant power supply to ensure that critical facilities and infrastructure remain operational where normal power supply is not available.		1	1	0	1							1		1	1	1	0	1	0	0	0	0	1	9
B14. Work to improve the emergency notification system in an effort to increase awareness regarding the locations of shelters and evacuation routes during natural hazard events.		1	1	0	1							1		1	1	1	0	1	0	0	0	1	1	10
B15. Seek grant funding for mitigation opportunities eligible under the most current version of the UHMA guidance and Public Assistance 406 Mitigation Guidance at the time of application. Projects may include but are not limited to: acquisition/elevation, mitigation/reconstruction, and wet/dry floodproofing to residential and non-residential structures. Funding may also be utilized for redundant power to critical facilities, wind retrofits to critical facilities, storm shelters and other activities that reduce the loss of life and property.		1	0	1	1							1		1	1	1	0	1	0	0	0	1	1	10

Benefit-Cost Overview

The cost or the economic case for different strategies or actions must be considered when developing resilience strategies. An informal cost-benefit analysis should be used to review proposed adaptation actions. Ratings of high, medium, or low are assigned to the anticipated costs and the benefits associated with each action based on general criteria that are established by the community.

Make sure to explore and identify potential funding mechanisms for project or action item implementation.

	Benefit/cost ratings
	Benefit
HIGH	Action would have significant impact on risk reduction
MEDIUM	Action would have an impact on risk reduction
LOW	Long-term benefits are difficult to quantify in the short term
	Cost
HIGH	Cost of project is high and/or funding will be more difficult to acquire
MEDIUM	Cost of project is medium and/or funding will be easier to acquire
LOW	Cost of project is low and/or funding is available in existing budget

Strategy	Benefit	Cost
1. Responsible development policy through Future Land Use Plans and Zoning Ordinances that increase resiliency to natural hazards. Comments: Implement regulations for responsible and sustainable coastal development, considering factors such as setback requirements, building materials, and energy efficiency. On-going, but need help.	**MEDIUM**	**LOW**
2. Develop a Stormwater Action Plan and Stormwater assessment tool. This plan will complete a stormwater ground assessment and surface hydrology analysis that will be incorporated into an online mapping system that can submit real-time data to analyze, prioritize, and take action on potential problem areas. The plan will also incorporate a maintenance plan that will be tracked by the online tool. Comments: Assess drainage issues within the town. Could be combined with a stormwater assessment. Combine with current tool.	**HIGH**	**MEDIUM**
3. Develop an Economic Development Plan with a focus on downtown revitalization.	**HIGH**	**LOW**
4. Establish a coordinating committee to ensure that all parties responsible for stormwater management within the town communicate to ensure maximum cooperation in developing and maintaining stormwater drainage systems with surrounding communities.	**MEDIUM**	**LOW**
5. Acquire generators or other forms of redundant power supply to ensure that critical facilities and infrastructure remain operational where normal power supply is not available. Current generator needs include town hall, municipal building, sewer lift stations (currently these facilities are utilizing a portable generator that needs to be moved between facilities).	**HIGH**	**MEDIUM**
6. Complete a Downtown revitalization project that incorporates green stormwater infrastructure along Main and Commerce Streets. Comments: Incorporate bioswales, bio retention, bump outs, tree planting	**HIGH**	**HIGH**
7. Utilize the Town owned property to increase floodplain capacity along Fort Branch at the entrance of the grit chamber. Partner with property owners N. of E. Main St. at Grit Chamber entrance to complete a stream and floodplain restoration along Fort Branch. Comments: NC OneMap shows that Town owns property N. and S. of E. Main St. No SW pipe under road.	**HIGH**	**HIGH**
8. Partner with Eddie Kane Steele property on Chestnut and W. Pearl St. to implement green stormwater infrastructure.	**HIGH**	**MEDIUM**

Benefit/Cost Ratings

Strategy	Benefit	Cost
Comments: Permeable parking, stormwater wetland, bioretention		
9. Strategically design and construct green stormwater infrastructure on Town owned property. Specifically, utilize town owned property downtown (old Ryan's Café property) to develop a permeable pavement parking area which incorporates green stormwater infrastructure and public education. In addition to permeable pavement, green stormwater infrastructure could include bioretention cells and rain gardens, planting trees, etc. Comments: Old Ryan's Café building needs to be torn down and old concrete needs to be removed.	**HIGH**	**MEDIUM**
10. Utilize town owned property adjacent to railroad to Increase stormwater capacity using green stormwater infrastructure.	**HIGH**	**MEDIUM**
11. Design and construct green stormwater infrastructure system on Town owned park property. Comments: Utilize parcels where impermeable surfaces could be removed, bioretention cells could be installed, trees could be planted, etc.	**HIGH**	**MEDIUM**
12. Strategically upgrade stormwater system through pipe replacements (upsizing where needed), increase size and quantity of culverts and catch basin, redefining ditches, ext. Comments: The Stormwater Action Plan can be utilized to determine prioritization. If chosen, project will be defined for future grant opportunities.	**HIGH**	**HIGH**

Benefit/Cost Ratings

RCCP STAPLEE Criteria Worksheet
Aulander

RK&K | MID-EAST Communications

Green = High (19-20)
Orange = Med (17-18)
Yellow = Low (15-16)

STAPLEE Criteria >>	Social		Technical			Administrative			Political			Legal			Economic				Environmental					TOTAL
Considerations for Alternative Actions	Community Acceptance	Effect on Segment of Population	Technical Feasibility	Long term Solution	Secondary Impacts	Staffing	Funding Allocated	Maintenance/Operations	Political Support	Local Champion	Public Support	State Authority	Existing Local Authority	Potential Legal Challenge	Benefit of Action	Cost of Action	Contributes to Economic Goals	Outside Funding Required	Effect on Land/Water	Effect on Endangered Species	Effect on HAZMAT Waste Sites	Consistent w/ Community Environmental Goals	Consistent w/ Federal Laws	
POLICY																								
1. Responsible development policy through Future Land Use Plans and Zoning Ordinances that increase resiliency to natural hazards. **Comments:** Implement regulations for responsible and sustainable coastal development, considering factors such as setback requirements, building materials, and energy efficiency. On-going, but need help.	1	1	0	1	1	1	0	1	1	1	1	1	1	0	1	1	1	1	1	0	0	1	1	18
PLANNING																								
2. Develop a Stormwater Action Plan and Stormwater assessment tool. This plan will complete a stormwater ground assessment and surface hydrology analysis that will be incorporated into an online mapping system that can submit real-time data to analyze, prioritize, and take action on potential problem areas. The plan will also incorporate a maintenance plan that will be tracked by the online tool. **Comments:** Assess drainage issues within the town. Could be combined with a stormwater assessment. Combine with current tool.	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	0	1	1	1	0	0	1	1	19
3. Develop an Economic Development Plan with a focus on downtown revitalization. **Comments:**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	0	0	0	1	19
Northeastern NC Hazard Mitigation Plan																								
4. Establish a coordinating committee to ensure that all parties responsible for stormwater management within the town communicate to ensure maximum cooperation in developing and maintaining stormwater drainage systems with surrounding communities.	1	1	1	0	1	1	0	1	1	1	1	1	1	1	1	1	0	1	0	0	0	1	1	17
5. Acquire generators or other forms of redundant power supply to ensure that critical facilities and infrastructure remain operational where normal power supply is not available. Current generator needs include town hall, municipal building, sewer lift stations (currently these facilities are utilizing a portable generator that needs to be moved between facilities).	1	1	1	0	1	1	0	1	1	1	1	1	1	1	1	1	0	1	0	0	0	0	1	16
GREEN AND HYBRID INFRASTRUCTURE SOLUTIONS																								
6. Complete a Downtown revitalization project that incorporates green stormwater infrastructure along Main and Commerce Streets. **Comments:** Incorporate bioswales, bio retention, bump outs, tree planting	1	1	0	1	1	1	0	1	1	1	1	0	1	0	1	0	1	1	1	0	0	1	1	16
7. Utilize the Town owned property to increase floodplain capacity along Fort Branch at the entrance of the grit chamber. Partner with property owners N. of E. Main St. at Grit Chamber entrance to complete a stream and floodplain restoration along Fort Branch. **Comments:** NC OneMap shows that Town owns property N. and S. of E. Main St. No SW pipe under road	1	1	0	1	1	1	0	1	1	1	1	1	1	1	1	0	1	1	1	0	0	1	1	18
8. Partner with Eddie Kane Steele property on Chestnut and W. Pearl St. to implement green stormwater infrastructure. **Comments:** Permeable parking, stormwater wetland, bioretention	1	1	1	0	1	1	0	0	1	1	1	1	1	1	1	1	0	1	1	0	0	1	1	17

RCCP STAPLEE Criteria Worksheet
Aulander

Green = High (19-20)
Orange = Med (17-18)
Yellow = Low (15-16)

STAPLEE Criteria >>	Social		Technical			Administrative			Political			Legal			Economic				Environmental					TOTAL
Considerations for Alternative Actions	Community Acceptance	Effect on Segment of Population	Technical Feasibility	Long term Solution	Secondary Impacts	Staffing	Funding Allocated	Maintenance/Operations	Political Support	Local Champion	Public Support	State Authority	Existing Local Authority	Potential Legal Challenge	Benefit of Action	Cost of Action	Contributes to Economic Goals	Outside Funding Required	Effect on Land/Water	Effect on Endangered Species	Effect on HAZMAT Waste Sites	Consistent w/ Community Environmental Goals	Consistent w/ Federal Laws	
9. Strategically design and construct green stormwater infrastructure on Town owned property. Specifically, utilize town owned property downtown (old Ryan's Café property) to develop a permeable pavement parking area which incorporates green stormwater infrastructure and public education. In addition to permeable pavement, green stormwater infrastructure could include bioretention cells and rain gardens, planting trees, etc. **Comments:** Old Ryan's Café building needs to be torn down and old concrete needs to be removed.	1	1	1	0	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	19
10. Utilize town owned property adjacent to railroad to Increase stormwater capacity using green stormwater infrastructure. **Comments:**	1	1	0	1	1	1	0	0	1	1	1	0	1	1	1	1	0	1	1	0	0	1	1	16
11. Design and construct green stormwater infrastructure system on Town owned park property. **Comments:** Utilize parcels where impermeable surfaces could be removed, bioretention cells could be installed, trees could be planted, etc.	1	1	0	1	1	1	0	1	1	1	1	0	1	1	1	1	0	1	1	0	0	1	1	17
HARD/GREY INFRASTRUCTURE SOLUTIONS																								
12. Strategically upgrade stormwater system through pipe replacements (upsizing where needed), increase size and quantity of culverts and catch basin, redefining ditches, ext. **Comments:** The Stormwater Action Plan can be utilized to determine prioritization. If chosen, project will be defined for future grant opportunities.	1	1	0	1	1	1	0	1	1	1	1	1	1	0	1	0	1	1	1	0	0	0	1	16

Appendix B

Stakeholder Engagement Materials

North Carolina RESILIENT COASTAL COMMUNITIES PROGRAM

AULANDER

Phase 1 Public Survey Summary

Please tell us about yourself.

Do you live and/or work in Aulander?12 responses

Yes (7 responses)
Live (2 responses)
Moved here in 1994
I work in Aulander and I am a utility customer of the Town of Aulander
Work for Town of Aulander

If yes, how long have you lived and/or worked in Aulander?12 responses

4.5 years
8 years
6 years
16 YEARS
45 years
approximately 60 years
1 year
For 68 years
1994 to present
27 years
1 1/2 years
Worked here for 1 year

Do you own and/or rent your property (home, business, or both as applicable)?12 responses

Own (8 responses)
Own home
Own my family home
Own my home that gets utilities from TOA
no

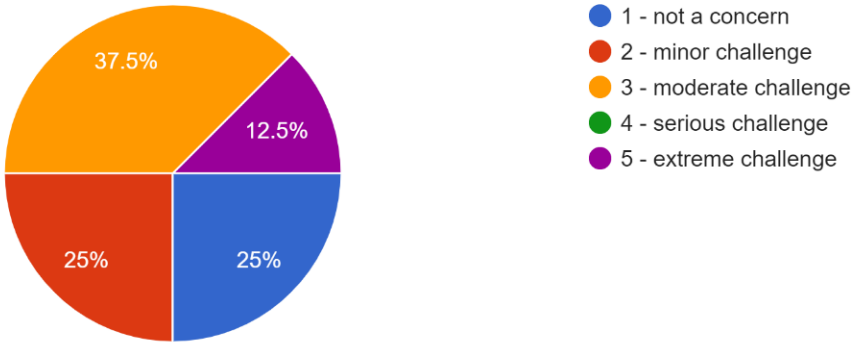
Please identify your zip code (home, work, or both as applicable).12 responses

27805 (11 responses)
27805 home and 27870 work

Coastal Storms, Erosion and Flooding

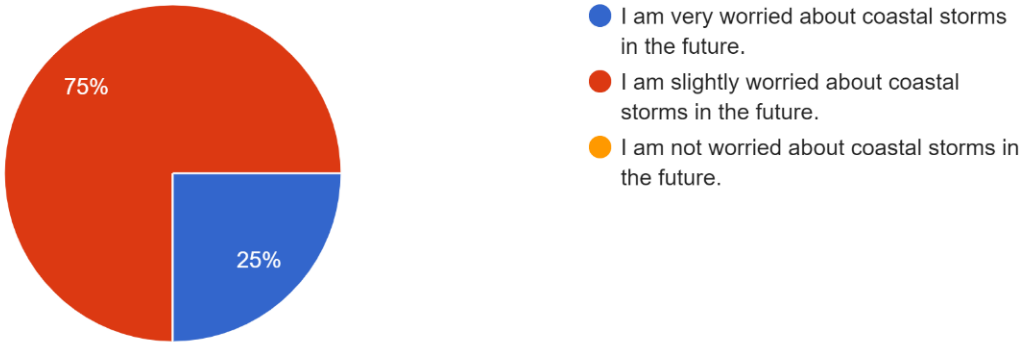
On a scale of 1-5, how significant of a risk do you think coastal erosion poses to your community?

8 responses



Which of the following statements about coastal storms do you most agree with?

12 responses



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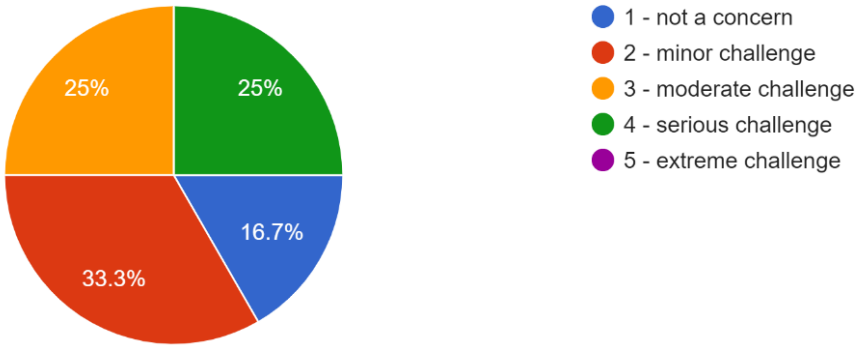
AULANDER

Phase 1 Public Survey Summary

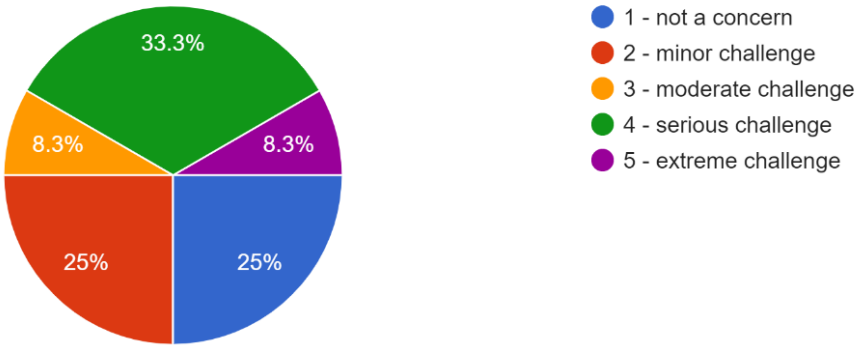
On a scale of 1-5, how significant of a risk do you think flooding currently poses to your community?

12 responses

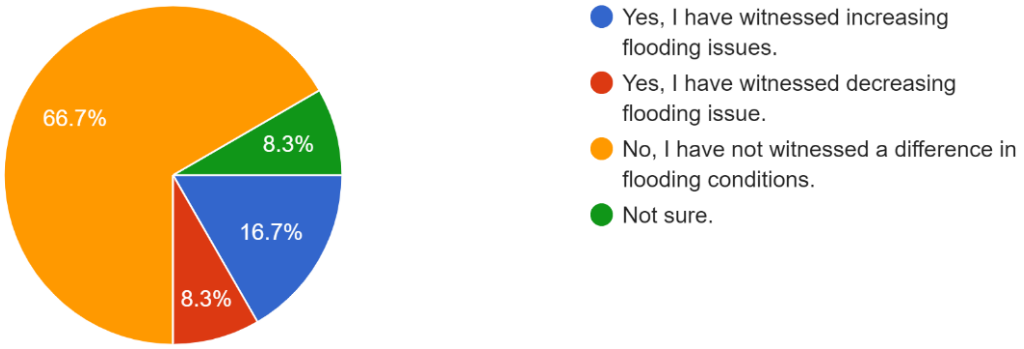


On a scale of 1-5, how significant of a risk do you think flooding will pose to your community in the next 20-40 years, given climate change and rising sea levels?

12 responses



Throughout your time living and/or working in Aulander, has your experience with flooding changed?
12 responses

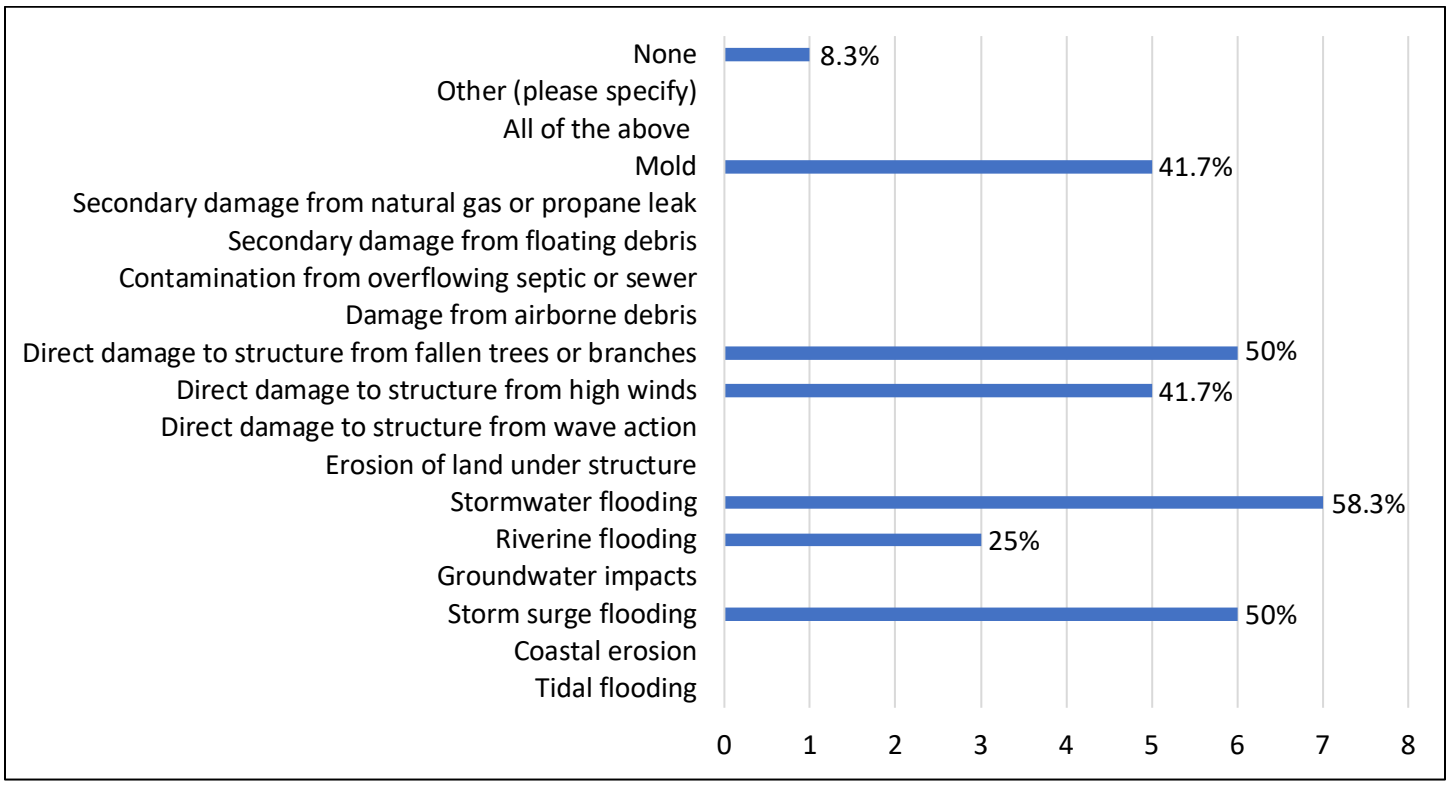


Comments on previous question (optional).2 responses

- I believe a lot of the flooding issues would be resolved if not only the town, county, but the state would keep the ditches, canals, and water supply channels cleaned out of trash, trees, and debris.
- The roads and around the homes that I live near are flooded due to rain water poor drainage

Coastal Hazards and Impacts

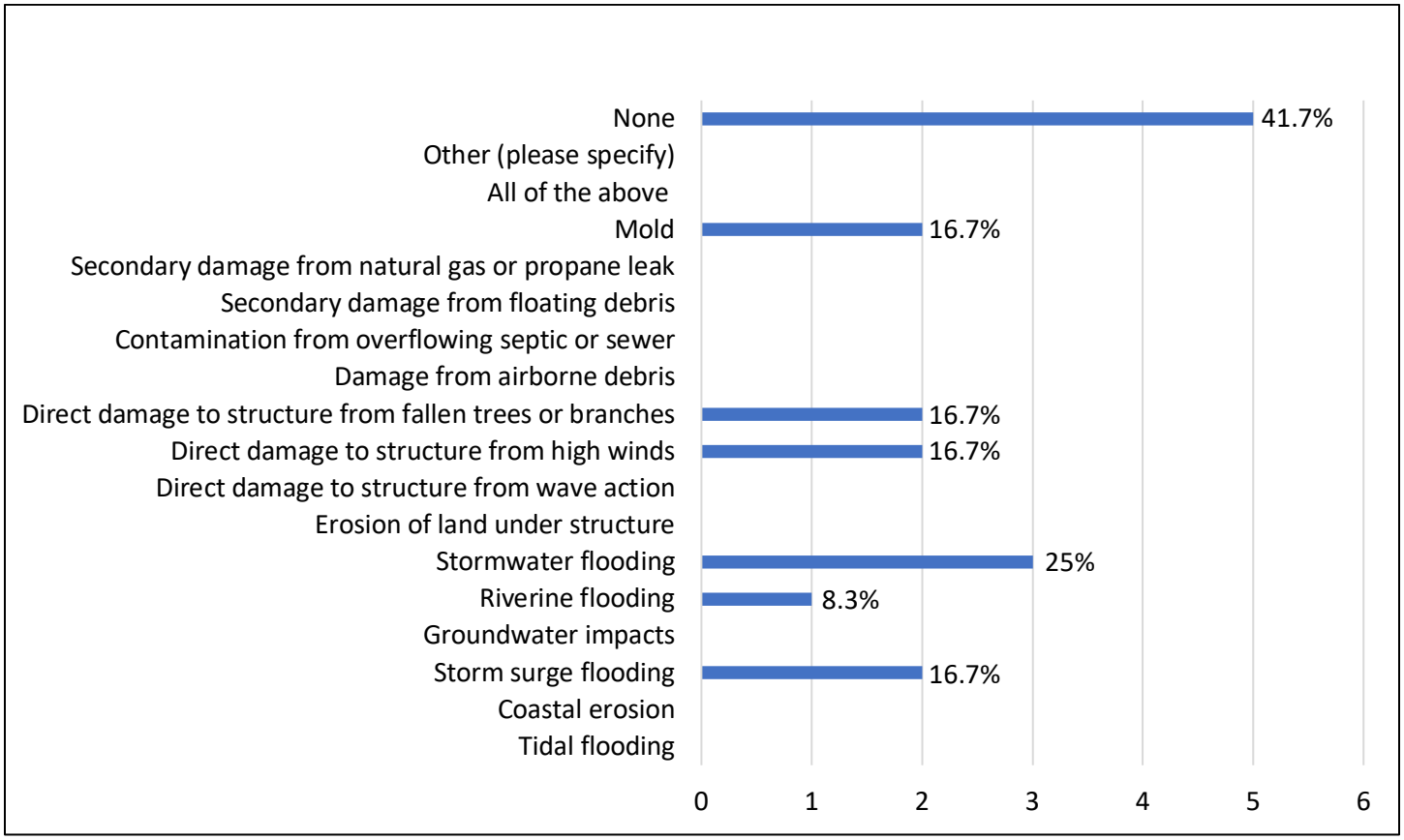
What type of coastal hazards have you witnessed in your community? Select all that apply. 12 responses



Comments on previous question (optional). 1 response

The drainage vents need to be cleaned every week especially when the leaves and tree straw falls

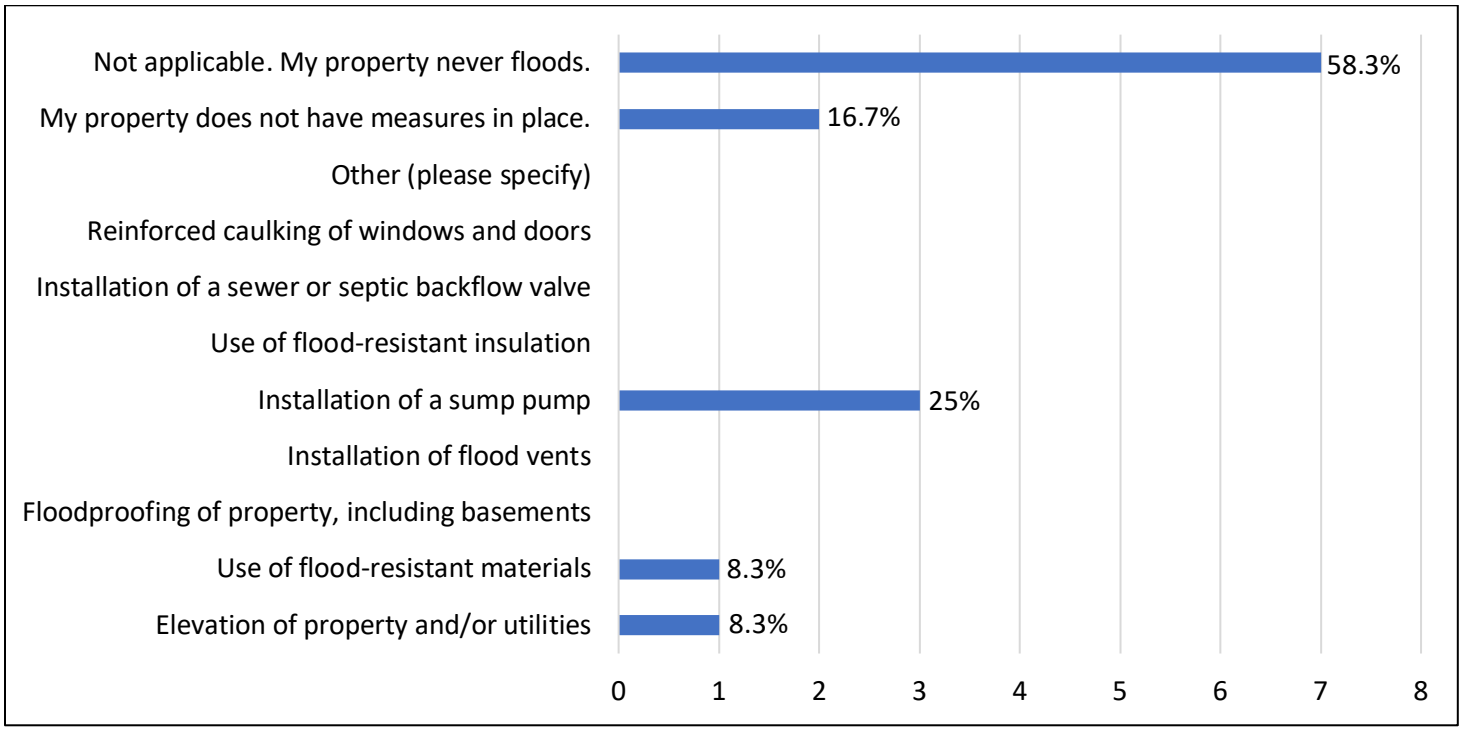
Which of those same hazards have directly impacted your home or your business? Select all that apply.12 responses



Comments on previous question (optional).1 response

We are up high but roads have been flooded, ditches overloaded

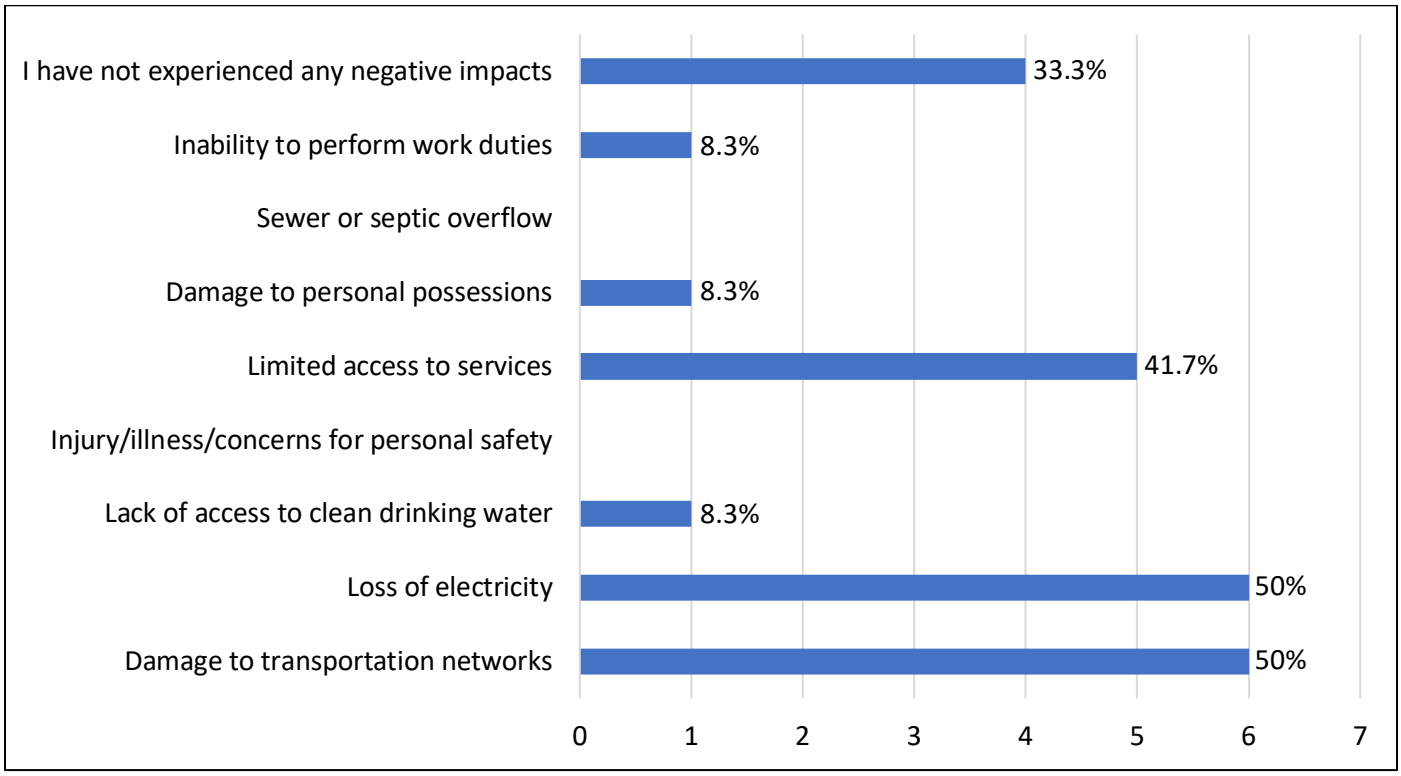
Do you have measures in place to prevent and/or reduce flooding or flood-related damages and losses to your property? If yes, what type of actions have you taken? Check all that apply.12 responses



Have you ever considered moving to another location (can be inside or outside of Aulander) to avoid future flood losses, impacts, or damages?

12 responses

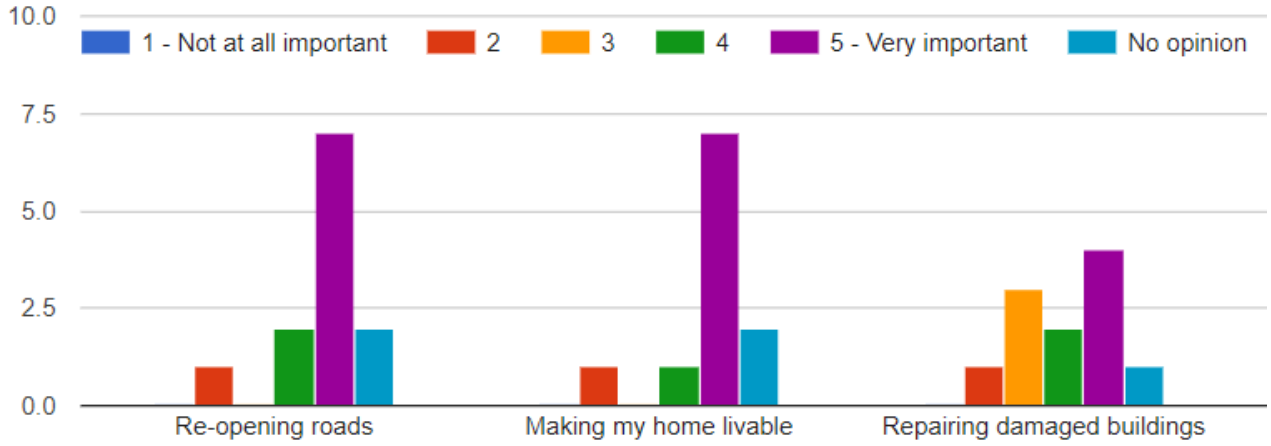
Aside from any impacts to your home or business, have you experienced any other negative impacts as a result of flooding events? Check all that apply.12 responses

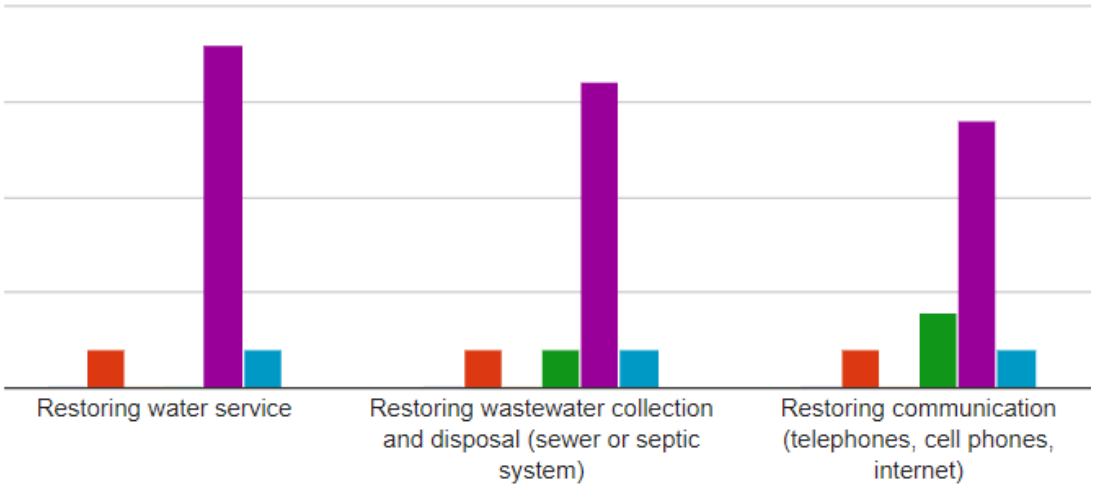


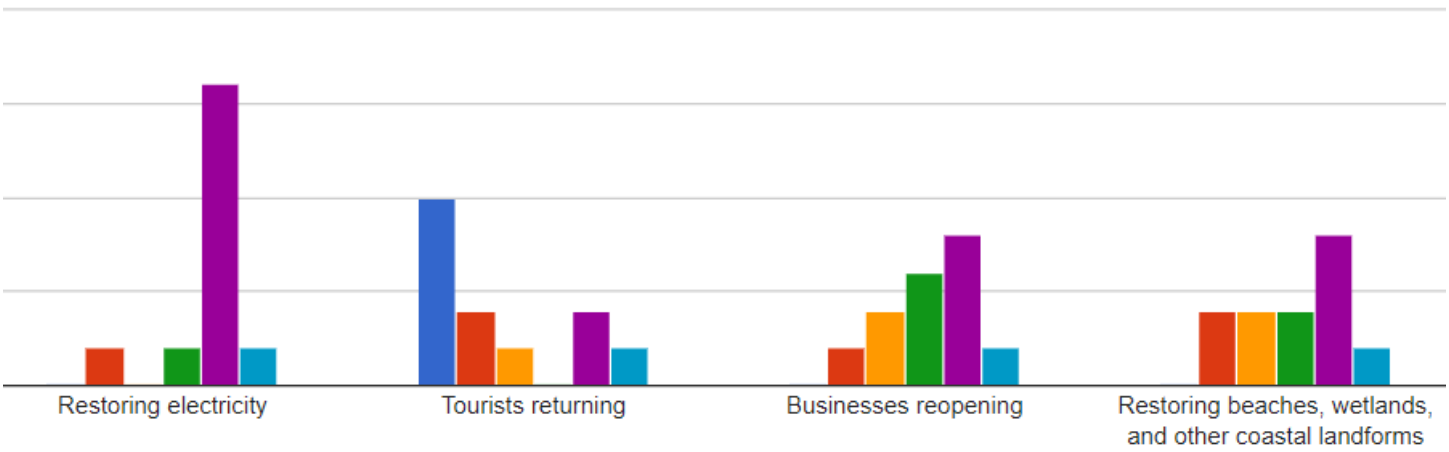
Are there any specific areas of your community vulnerable to coastal hazards? If so, please list them by location. Please use street intersections or landmarks to describe locations.5 responses

Ditch on rice street
None immediately around me
no
A canal runs through town it has flooded some areas once or twice since I've been living here.
No

Please rank the following activities, intended to restore daily life after a coastal storm.





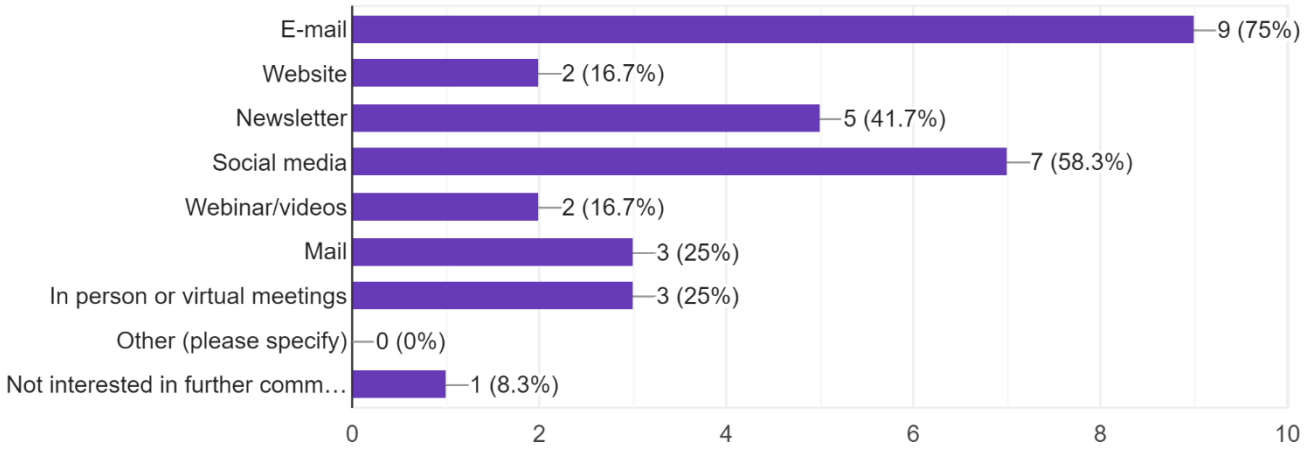


Is there anything else you would like to share with us regarding flooding and coastal resilience in Aulander?2 responses

No (2 responses)

How would you like the Town of Aulander to communicate with you and/or your community regarding this program or on similar programs in the future?

12 responses



Are there any local or community groups or organizations you feel we should coordinate with to create awareness of this program or similar programs in the future? If yes, please provide their name, website, and contact information if possible.2 responses

Citizens of Aulander
no

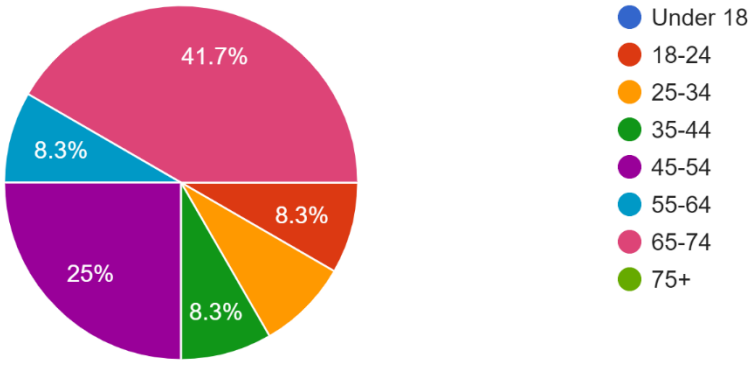
Are there any upcoming events where we could share information about this program?2 responses

Fall festival
no

Demographic Information (optional)

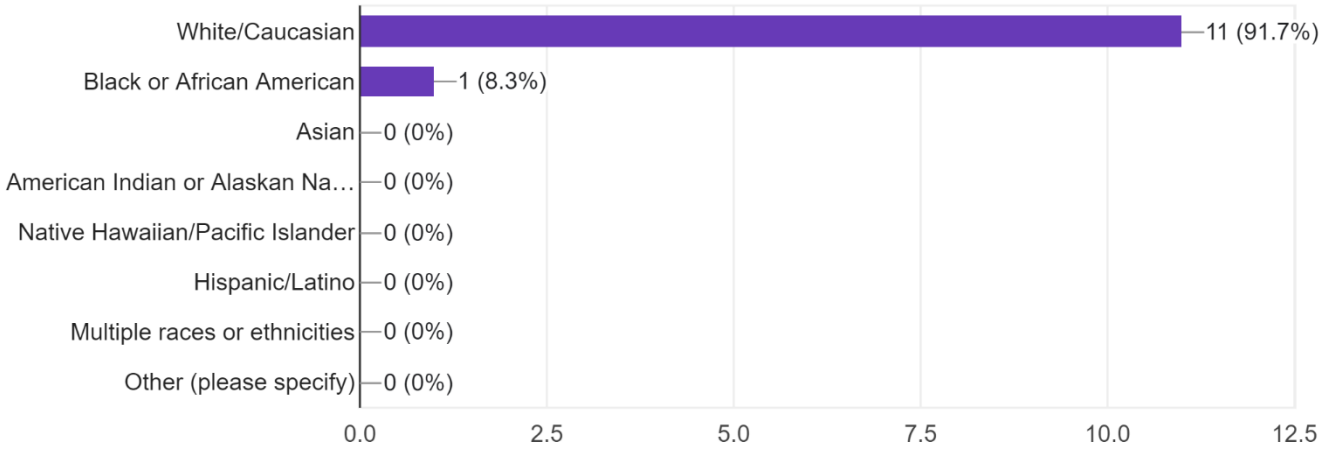
Tell us your age.

12 responses



What race/ethnicity best describes you? Check all all that apply.

12 responses



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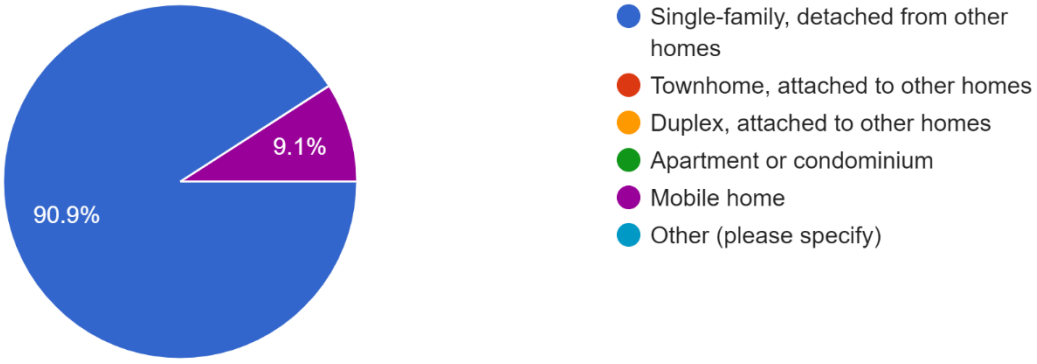
AULANDER

Phase 1 Public Survey Summary

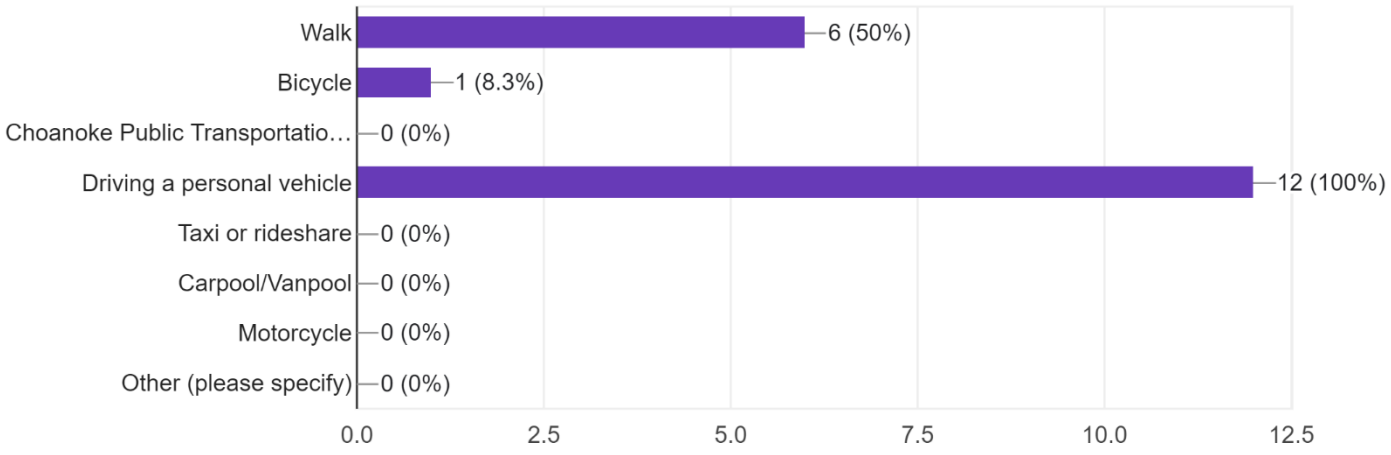
Which type of housing best describes your home?

11 responses



How do you travel in Aulander? Select all that apply.

12 responses



North Carolina
RESILIENT COASTAL COMMUNITIES PROGRAM

AULANDER

Phase 1 Open House Summary

PHASE 1 OPEN HOUSE

MONDAY, DECEMBER 11, 2023, 4:00 PM – 6:30 PM; AULANDER COMMUNITY BUILDING

Attendees:

- Jamie Heath, Mid-East Commission
- Mackenzie Todd, NC Division of Coastal Management
- Lynne Conner, CAT member, Town of Aulander Clerk/Finance Officer
- Ron Poppell, CAT member, Town of Aulander Commissioner
- Richard Jernigan, Town of Aulander Commissioner
- Philip Thomas, Town of Aulander resident

Meeting Purpose:

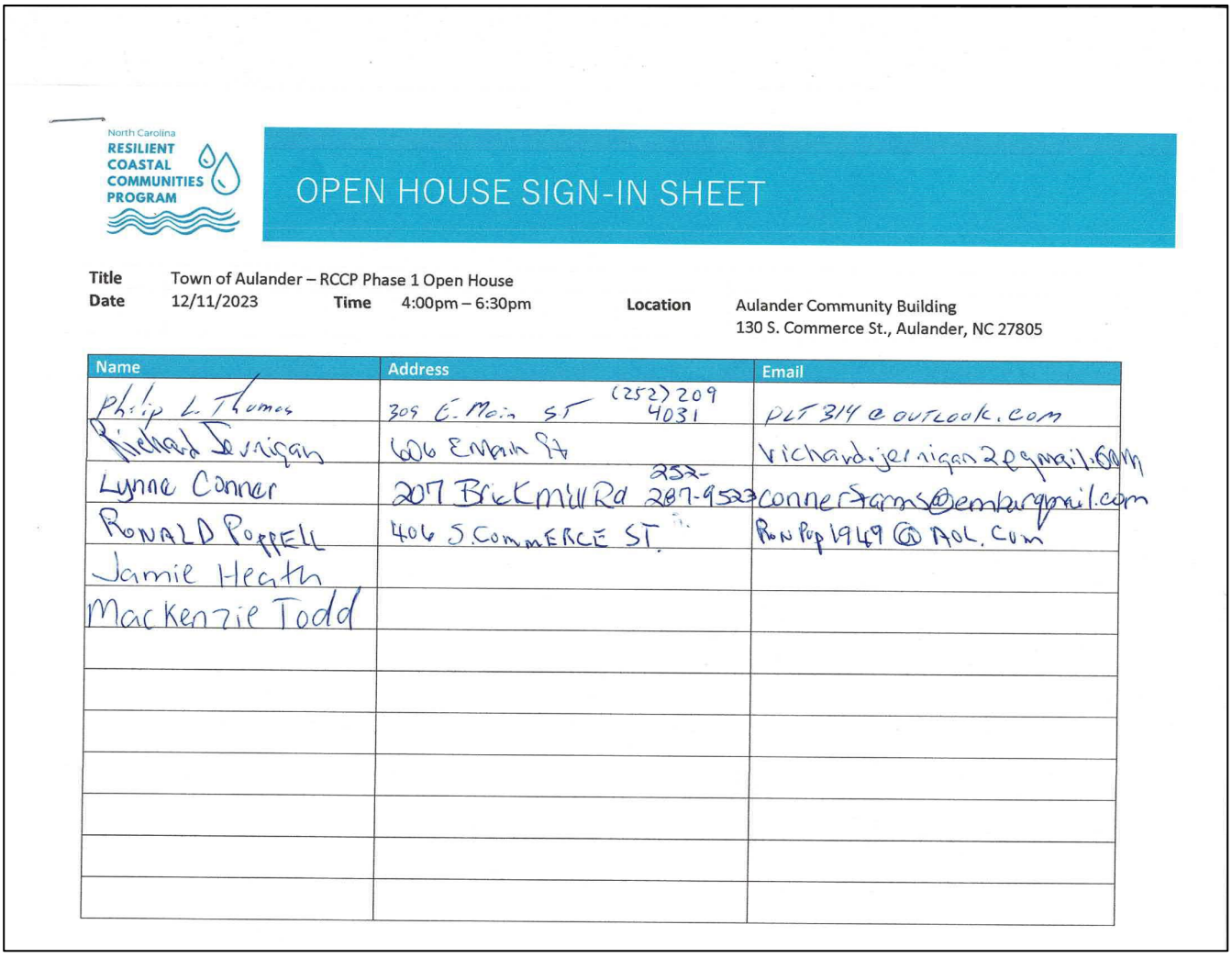
The Phase 1 Open House is the culmination of Phase 1 activities and was held to present information from the process to stakeholders such as critical asset and natural infrastructure inventories, defined community vision and goals, and risk and vulnerability assessment results, for additional comment and input. Hardcopies of the public surveys were made available and team members were available to answer questions. Open house materials also included various displays such as an overview of the RCCP and a board defining resiliency with Bertie County/Aulander flooding related facts and demographic data, existing hazard mapping, critical assets and natural infrastructure lists, and FEMA and DCM informational handouts. Stakeholders were asked to rank vision and goals on the displays from 'no support' (1) to 'fully support (5), identify additional hazards on displayed maps using stickers, and define what resilience means to them. A PowerPoint slide show was also prepared that contained additional information on the RCCP, the CDC SVI, and the risk and vulnerability assessment steps.

Notes:

- Only one resident stakeholder attended despite a variety of advertisement methods. But the resident who attended along with CAT members and Commissioners were engaged. Conversations centered around specific flood problems and other problem areas the town is facing, including dilapidated buildings, the possible closure of the elementary school, and the need for downtown revitalization.
- The resident who attended discussed flooding issues around Fort Branch near its intersection with Rice Ave. He lives in the area and there are major flooding problems with large storms along with more frequent nuisance flooding problems. The town's "grit chamber" for the sewer system is just north of the resident's property and also experiences nuisance flooding on a regular basis.
- Flooding on Commerce St. was discussed including flooding of the fire station.

- Flooding of multiple low income housing areas was discussed.
- These flood problems areas were depicted by participants through the use of stickers placed on the hazard area identification map.

Copy of event sign-in sheet:



North Carolina RESILIENT COASTAL COMMUNITIES PROGRAM

OPEN HOUSE SIGN-IN SHEET

Title Town of Aulander – RCCP Phase 1 Open House
Date 12/11/2023 **Time** 4:00pm – 6:30pm **Location** Aulander Community Building, 130 S. Commerce St., Aulander, NC 27805

Name	Address	Email
Philip L. Thomas	309 E. Main ST (252) 209 4031	PLT314@outlook.com
Richard Jernigan	606 Emma St	richardjernigan2@gmail.com
Lynne Conner	207 Brickmill Rd 252-287-9523	connerfarms@embarqmail.com
RONALD POPPELL	406 S. COMMERCE ST.	RonPop1949@AOL.com
Jamie Heath		
Mackenzie Todd		

Hazard area identification exercise results:

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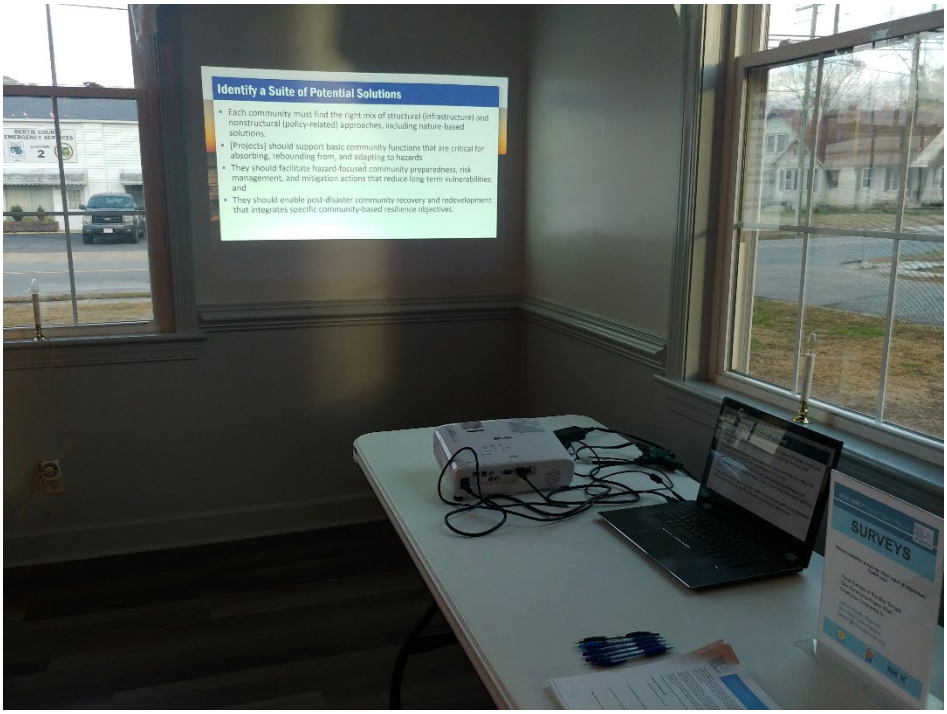
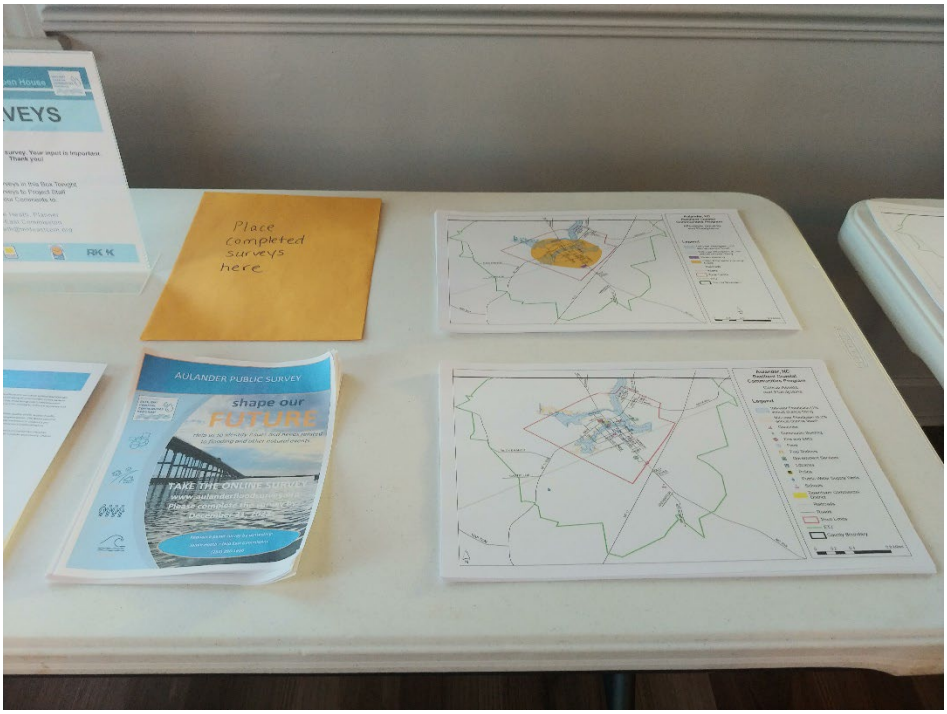
AULANDER

Phase 1 Open House Summary

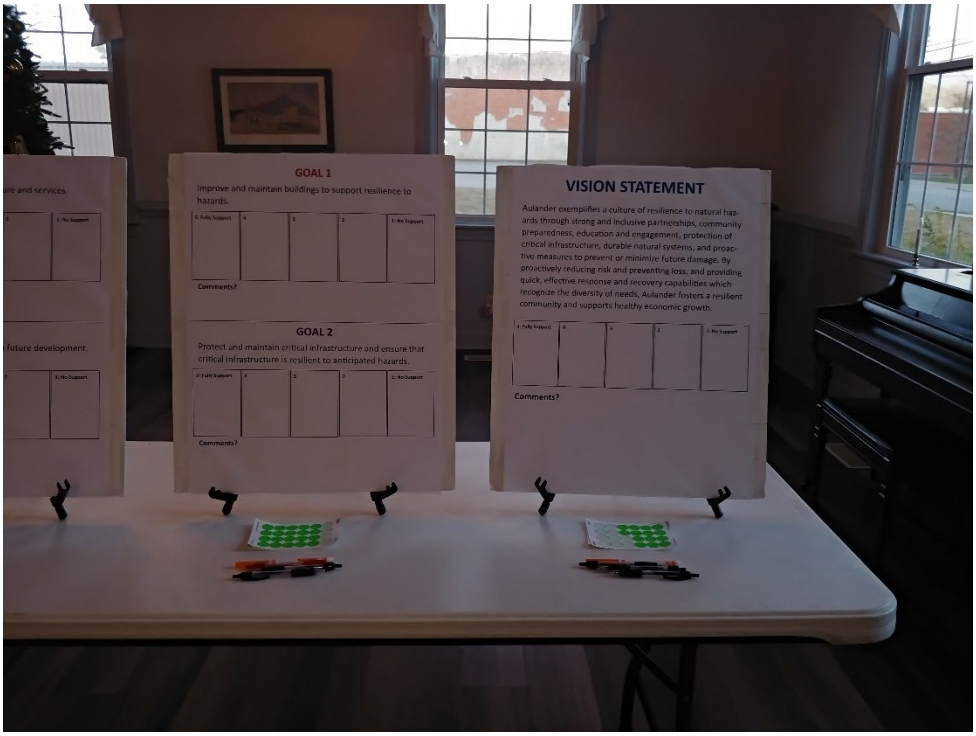
Photos from event:

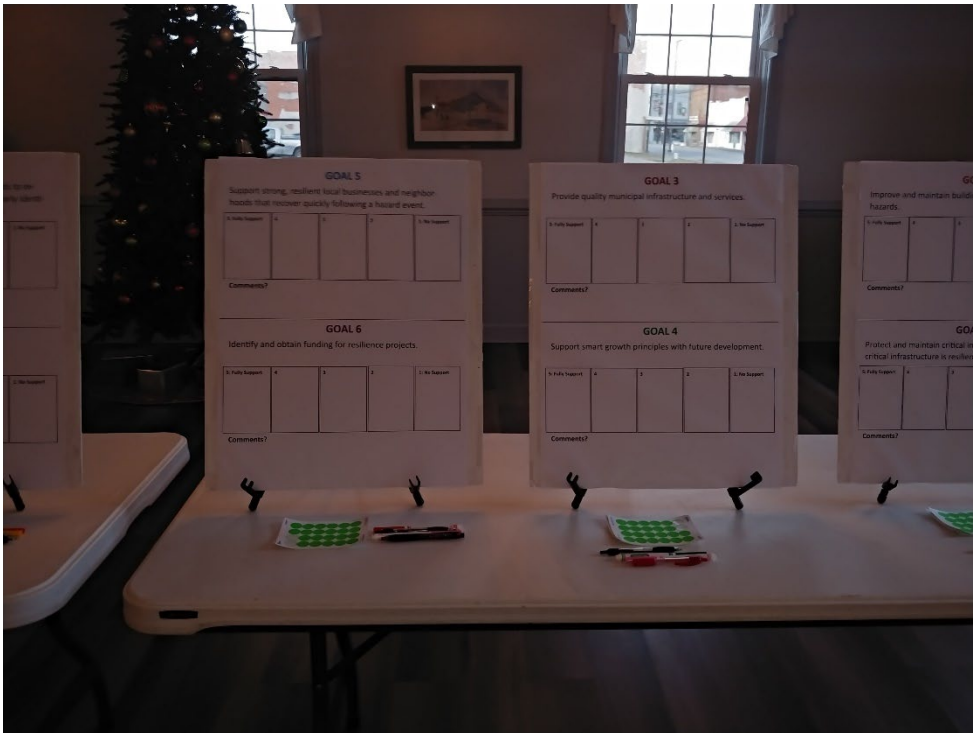


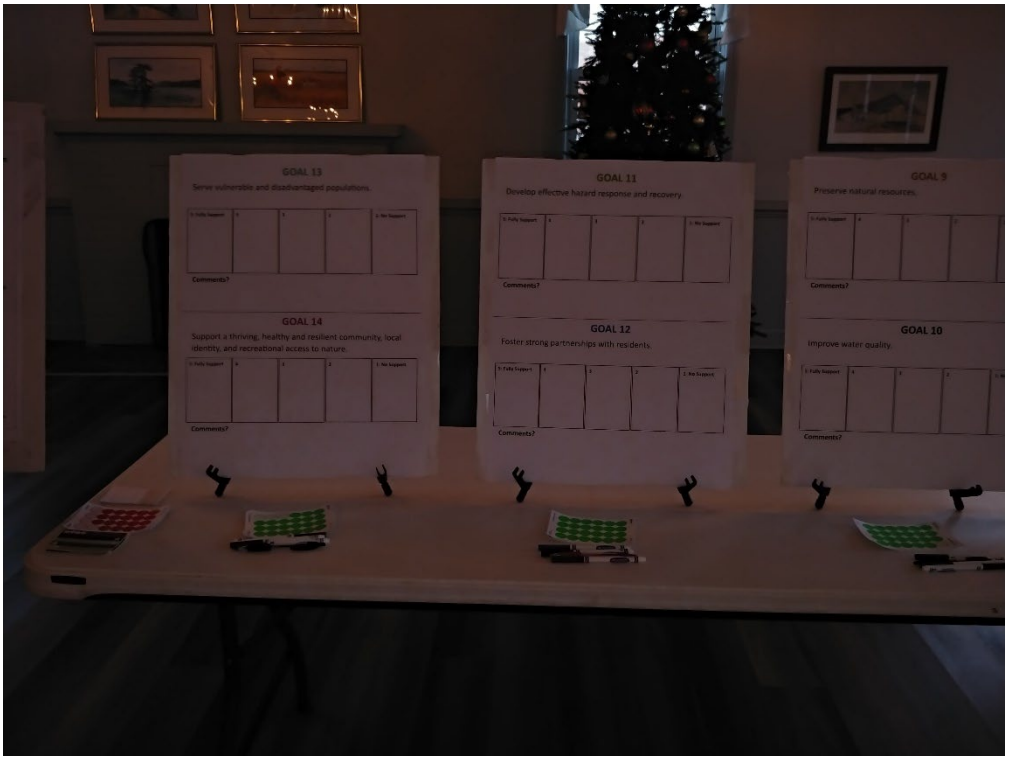


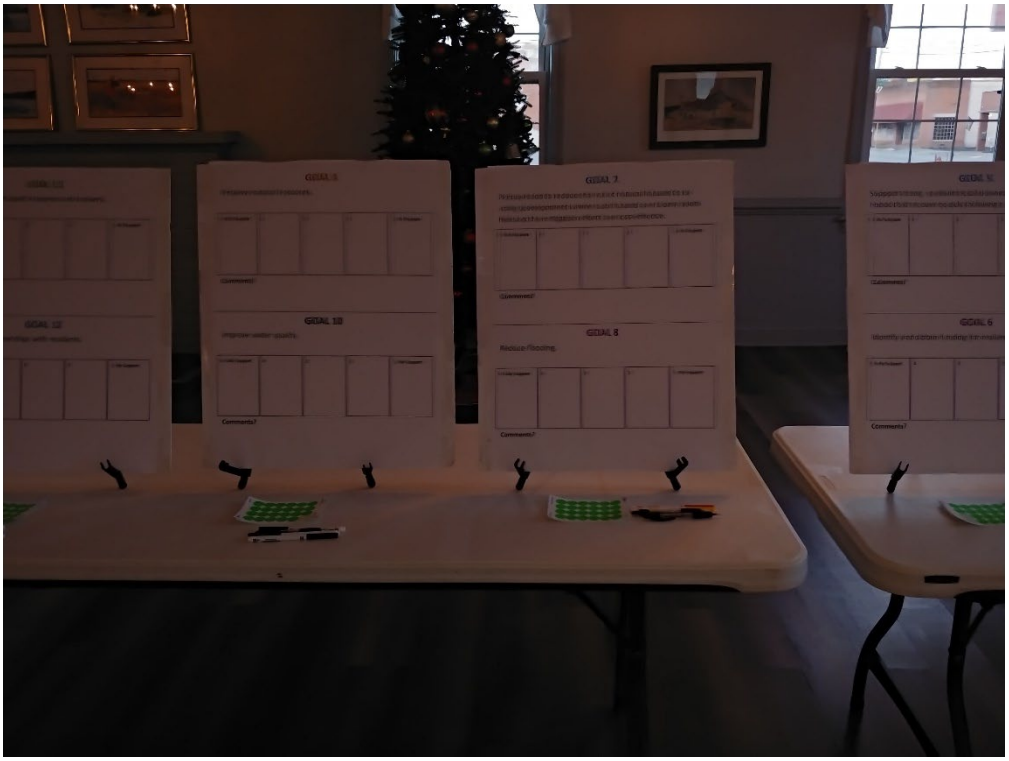
AULANDER

Phase 1 Open House Summary






GOAL 13
Serve vulnerable and disadvantaged populations.
Comments?
GOAL 14
Support a thriving, healthy and resilient community, local identity, and recreational access to nature.
Comments?
GOAL 11
Develop effective hazard response and recovery.
Comments?
GOAL 12
Foster strong partnerships with residents.
Comments?
GOAL 9
Preserve natural resources.
Comments?
GOAL 10
Improve water quality.
Comments?



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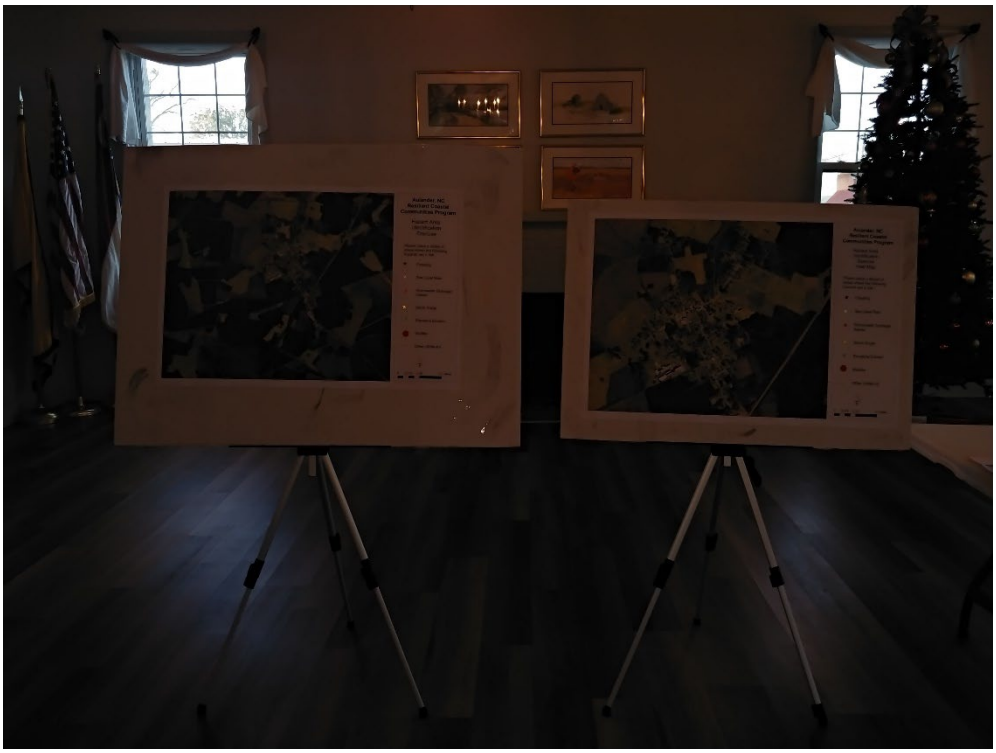
AULANDER

Phase 1 Open House Summary



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RESILIENT COASTAL COMMUNITIES PROGRAM

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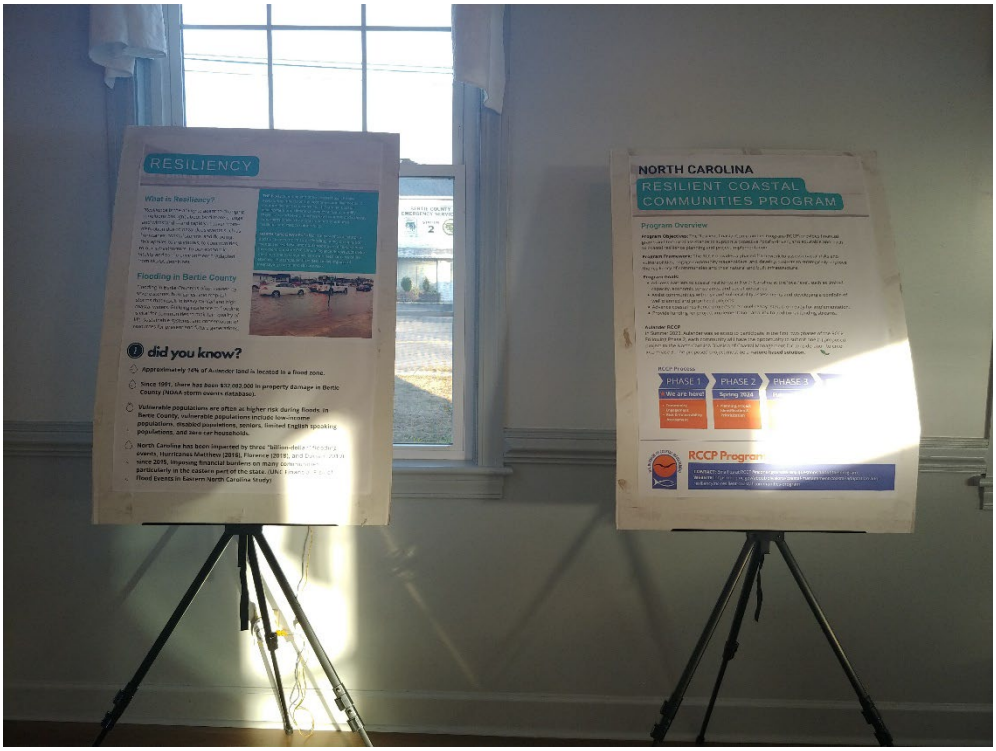
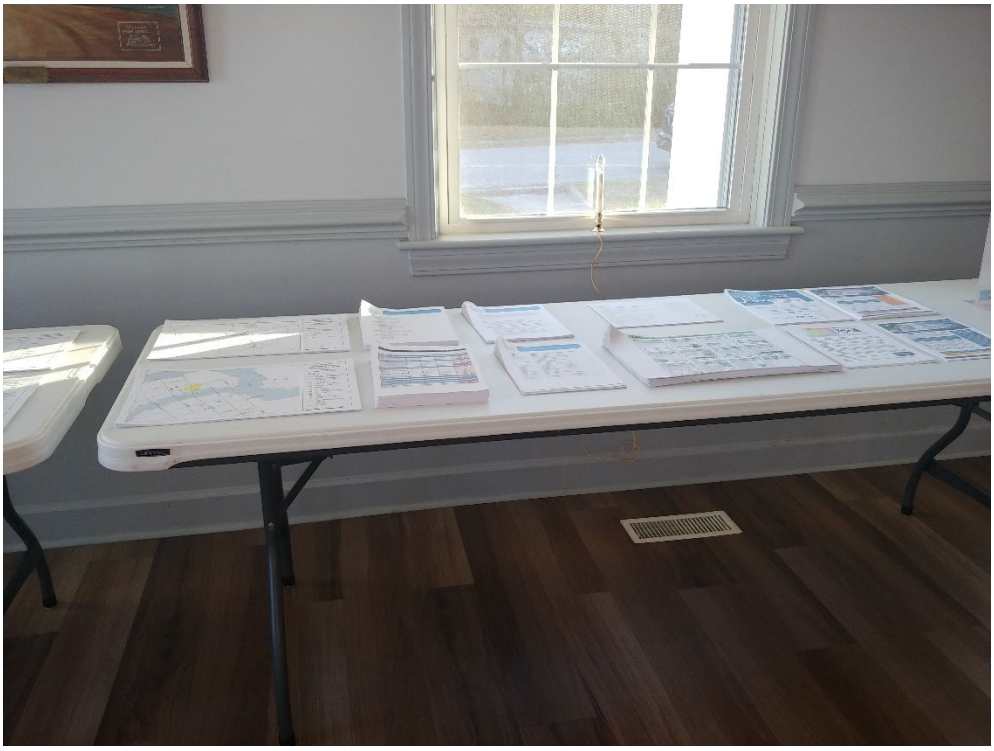
Phase 1 Open House Summary






SURVEYS

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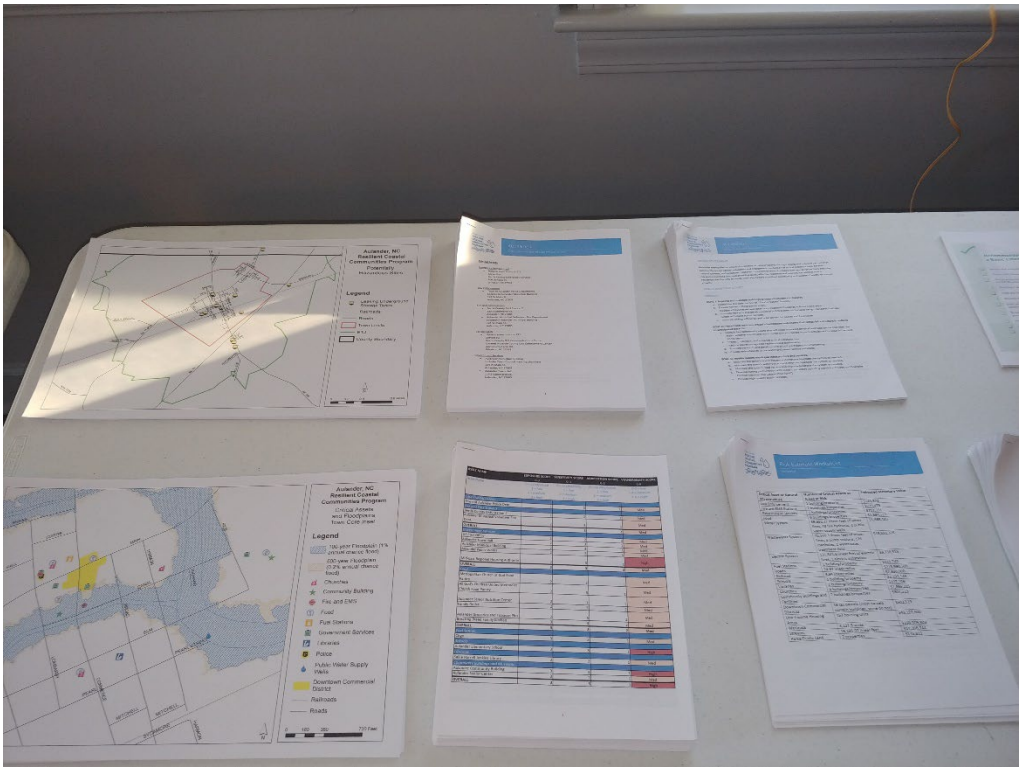
Phase 1 Open House Summary



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Phase 2 Open House Summary

PHASE 2 OPEN HOUSE

WEDNESDAY, MARCH 13, 2024, 4:00 PM – 6:30 PM; AULANDER COMMUNITY BUILDING

Attendees:

- Jamie Heath, Mid-East Commission
- Gordon Marsh, RK&K
- Kasen Wally, NC Division of Coastal Management
- Sarah Spiegler, NC Sea Grant
- Ron Poppell, CAT member, Town of Aulander Commissioner
- Tommy Hale, CAT member, Town of Aulander Public Works Director
- Eddie Hoggard, CAT member, Town of Aulander Police Chief
- Lindora Williams, Town of Aulander resident
- Teresa White, Town of Aulander resident
- Gabriel Bryan, Town of Aulander resident

Meeting Purpose:

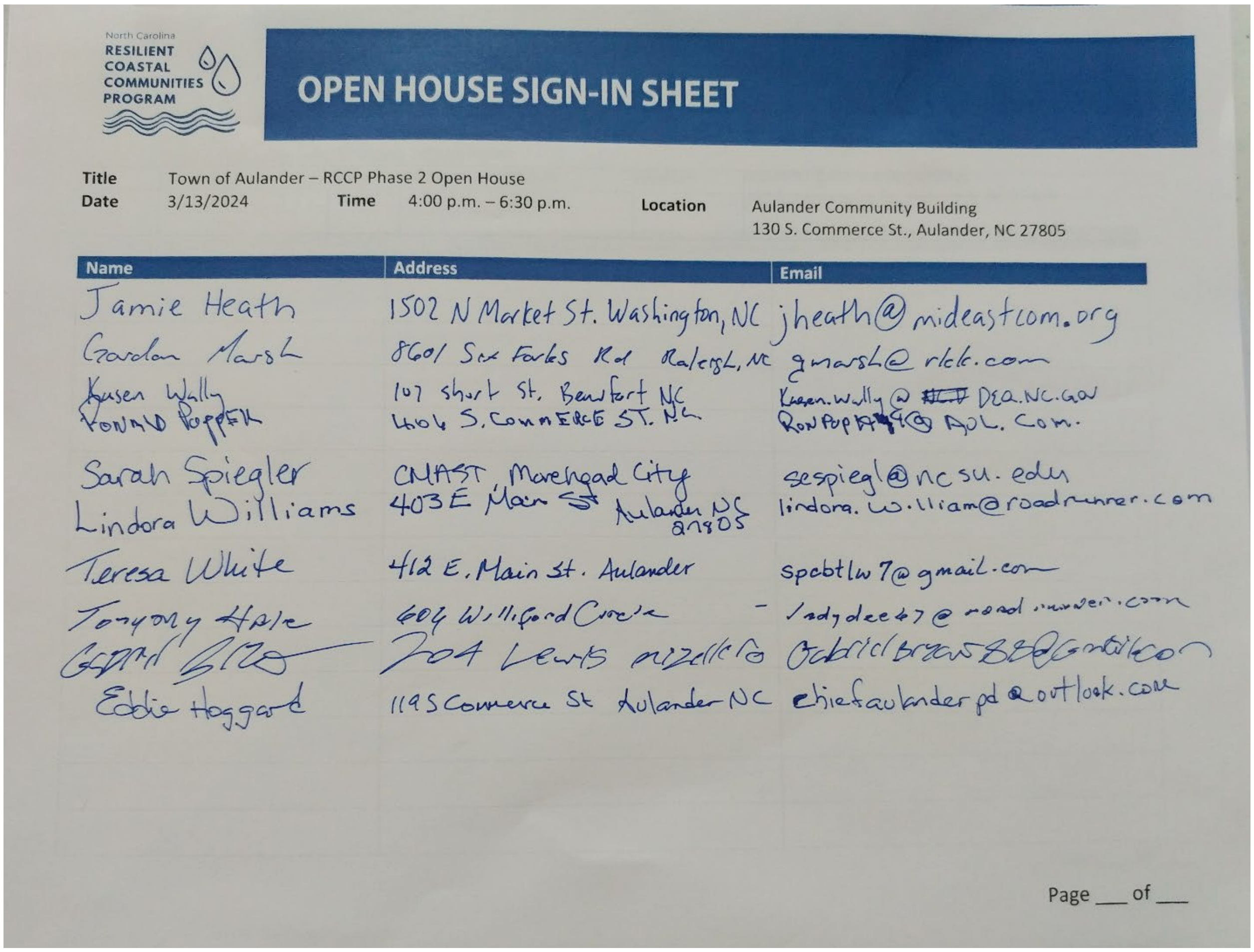
The Phase 2 Open House is the culmination of Phase 2 activities and was held to present draft projects to the community. Attendees were asked to vote on projects to determine community priorities and assist the Community Action Team with the final round of project prioritization. Voting was conducted by placing stickers on project posters. Participants were also able to suggest additional projects. Education on the RCCP and on the various project types were also presented through posters, handouts, and an online Story Map, including education on green/nature-based solutions.

Notes:

- In addition to contractors and Community Action Team members, three resident stakeholders participated in the Phase 2 open house.
- East Main Street in the blocks closest to Fort Branch was a primary area of concern discussed by residents.
- Residents who live in the East Main Street area near Fort Branch discussed flooding issues on their properties. One resident said they are sometimes unable to access their property following a heavy rainfall event.
- Draft priority projects were presented on posters and participants placed stickers on the posters to vote for their favorite projects.
- Draft projects received the following number of votes:
    - Upgrade the stormwater system: 5 votes

  - Green stormwater infrastructure at Aulander Park and Fitness Trails: 3 votes
  - Floodplain improvements at grit chamber entrance: 3 votes
  - Back-up generators for critical facilities: 3 votes
  - Downtown revitalization with green stormwater infrastructure: 3 votes
  - Economic development plan: 3 votes
  - Stormwater Action Plan: 2 votes
  - Permeable pavement parking lot and green stormwater infrastructure at old Ryan's Café Property: 2 votes
  - Stormwater Coordinating Committee: 2 votes
  - Green stormwater infrastructure near the railroad: 1 vote
  - Green stormwater infrastructure at Eddie Kaine Steel property: 1 vote
  - Responsible Development Policy: no votes
- Additional suggested projects include the following:
  - Elevating homes
  - Additions to the storm and gutter system

Copy of event sign-in sheet:



North Carolina RESILIENT COASTAL COMMUNITIES PROGRAM

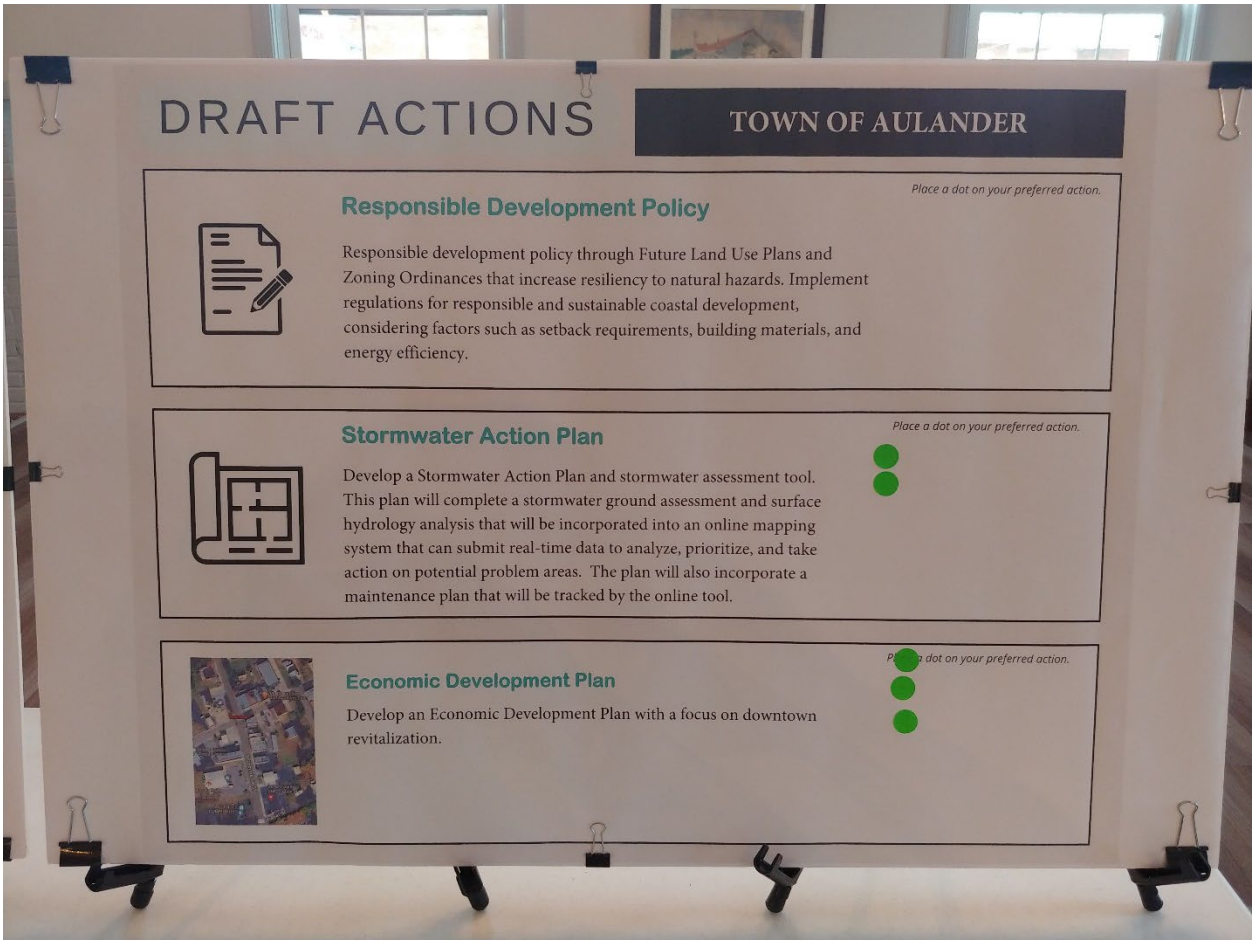
OPEN HOUSE SIGN-IN SHEET

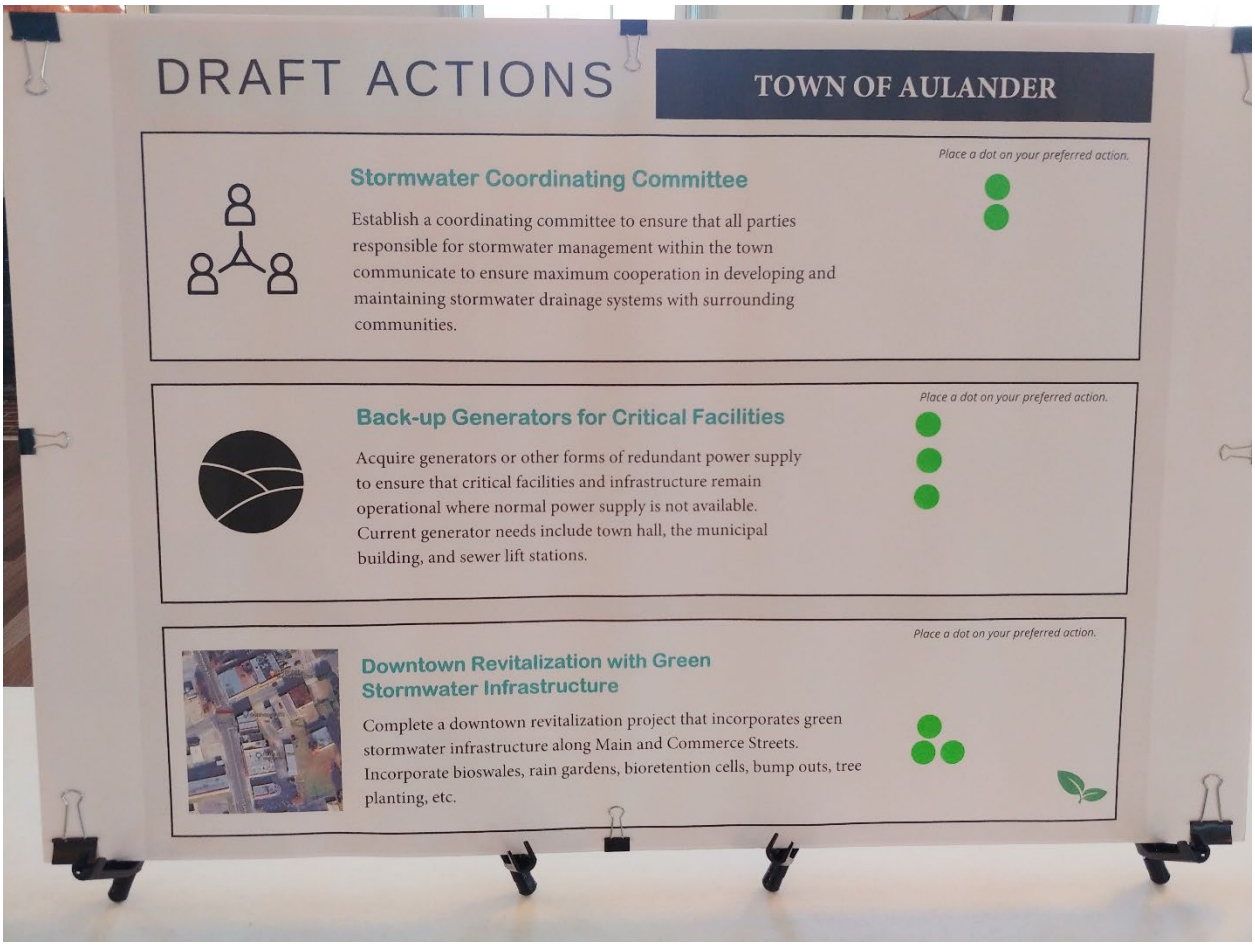
Title Town of Aulander – RCCP Phase 2 Open House
Date 3/13/2024 **Time** 4:00 p.m. – 6:30 p.m. **Location** Aulander Community Building
130 S. Commerce St., Aulander, NC 27805

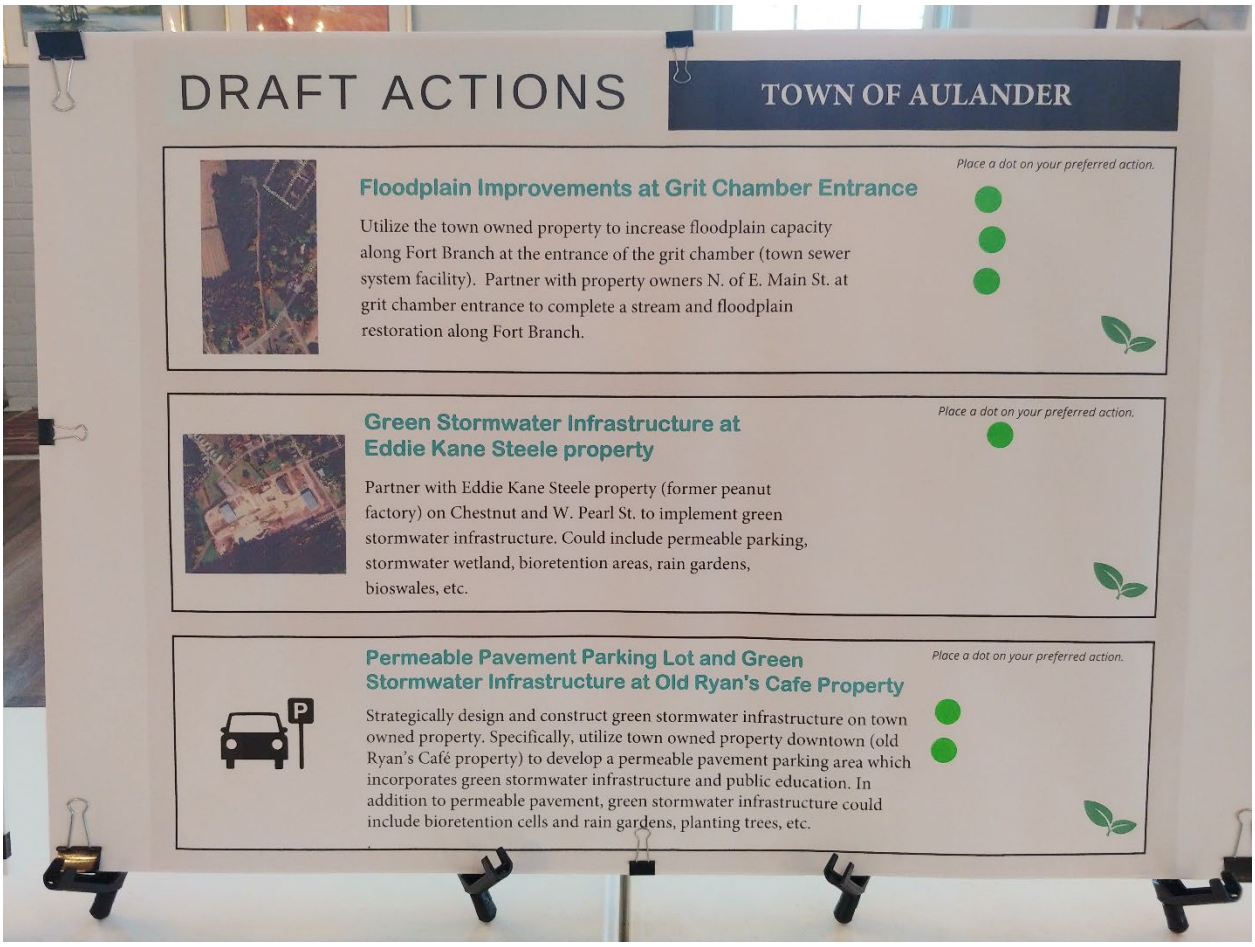
Name	Address	Email
Jamie Heath	1502 N Market St. Washington, NC	jheath@mideastcom.org
Gordon Marsh	8601 Six Forks Rd Raleigh, NC	gmarsh@ rkk.com
Karen Wally	107 Short St. Beaufort NC	Karen.Wally@ ~~NCF~~ DEQ.NC.GOV
Ronald Pepper	406 S. COMMERCE ST. NC	RonPep[illegible]@ AOL.Com.
Sarah Spiegler	CMAST, Morehead City	sespiegl@ncsu.edu
Lindora Williams	403 E Main St Aulander NC 27805	lindora.william@roadrunner.com
Teresa White	412 E. Main St. Aulander	spcbtlw7@gmail.com
Tonyony Hale	604 Williford Circle	ladydee47@ roadrunner.com
[illegible]	204 Lewis [illegible]	[illegible]@[illegible]
Eddie Hoggard	119 S Commerce St Aulander NC	chiefaulanderpd@outlook.com

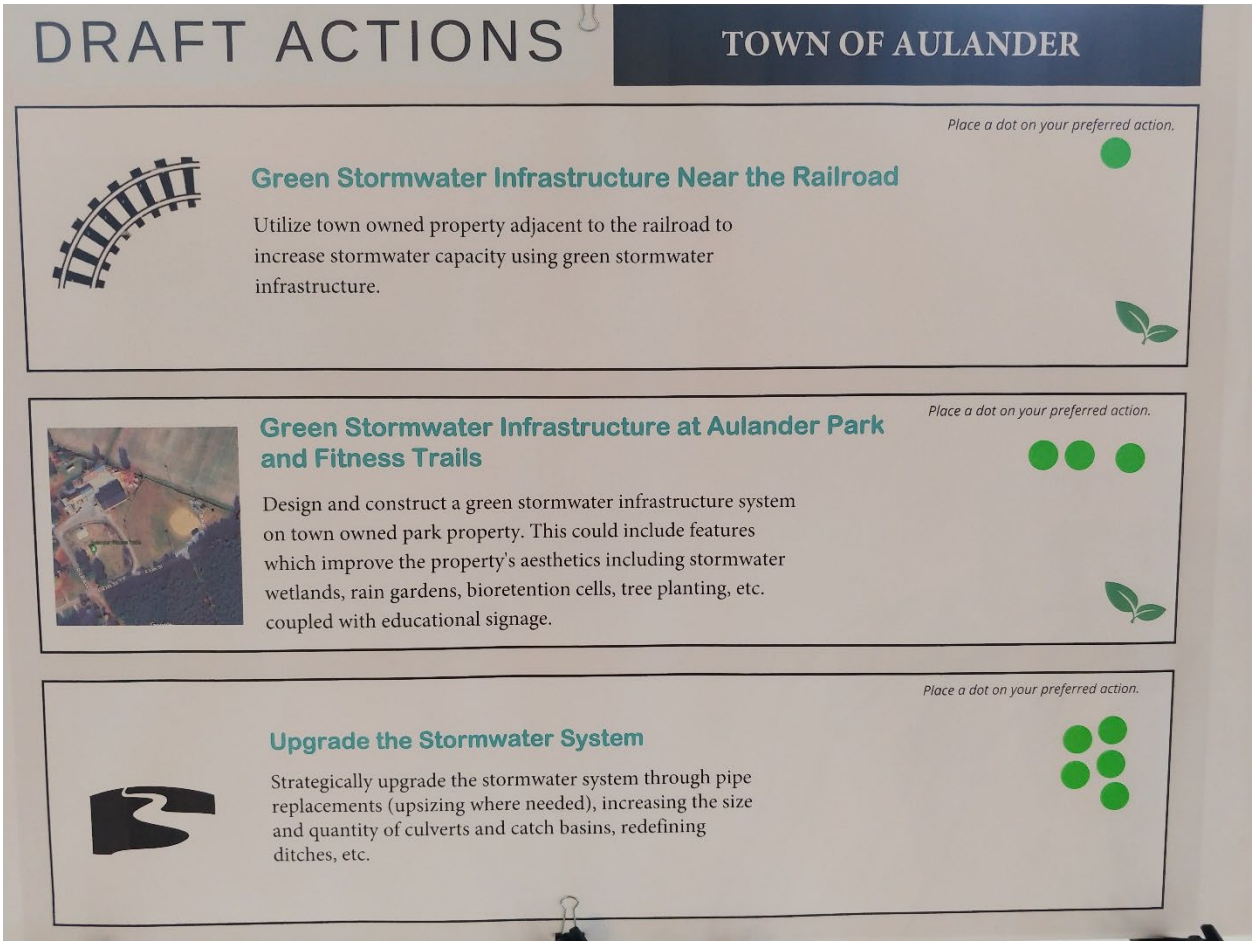
Page ___ of ___

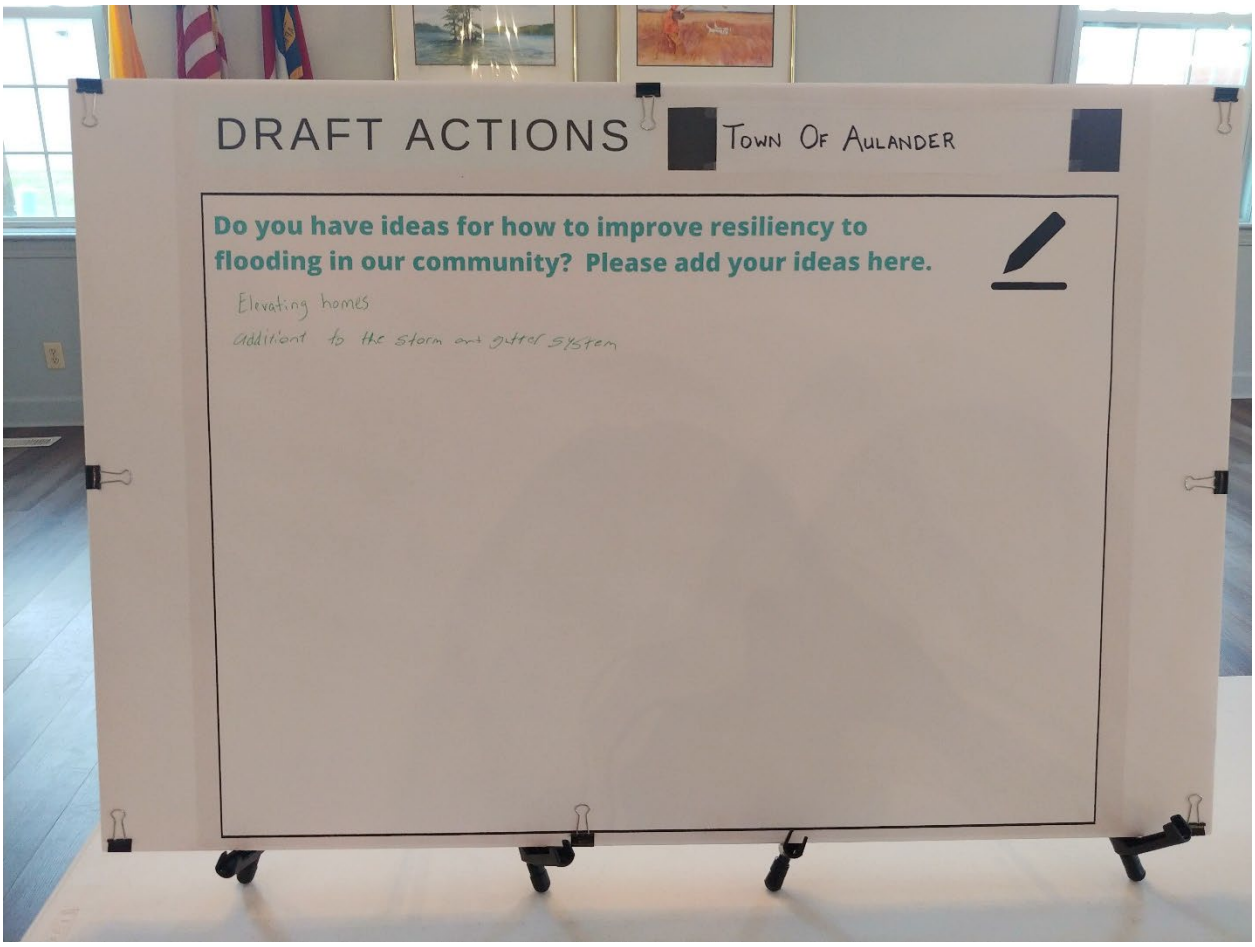
Project vote results:

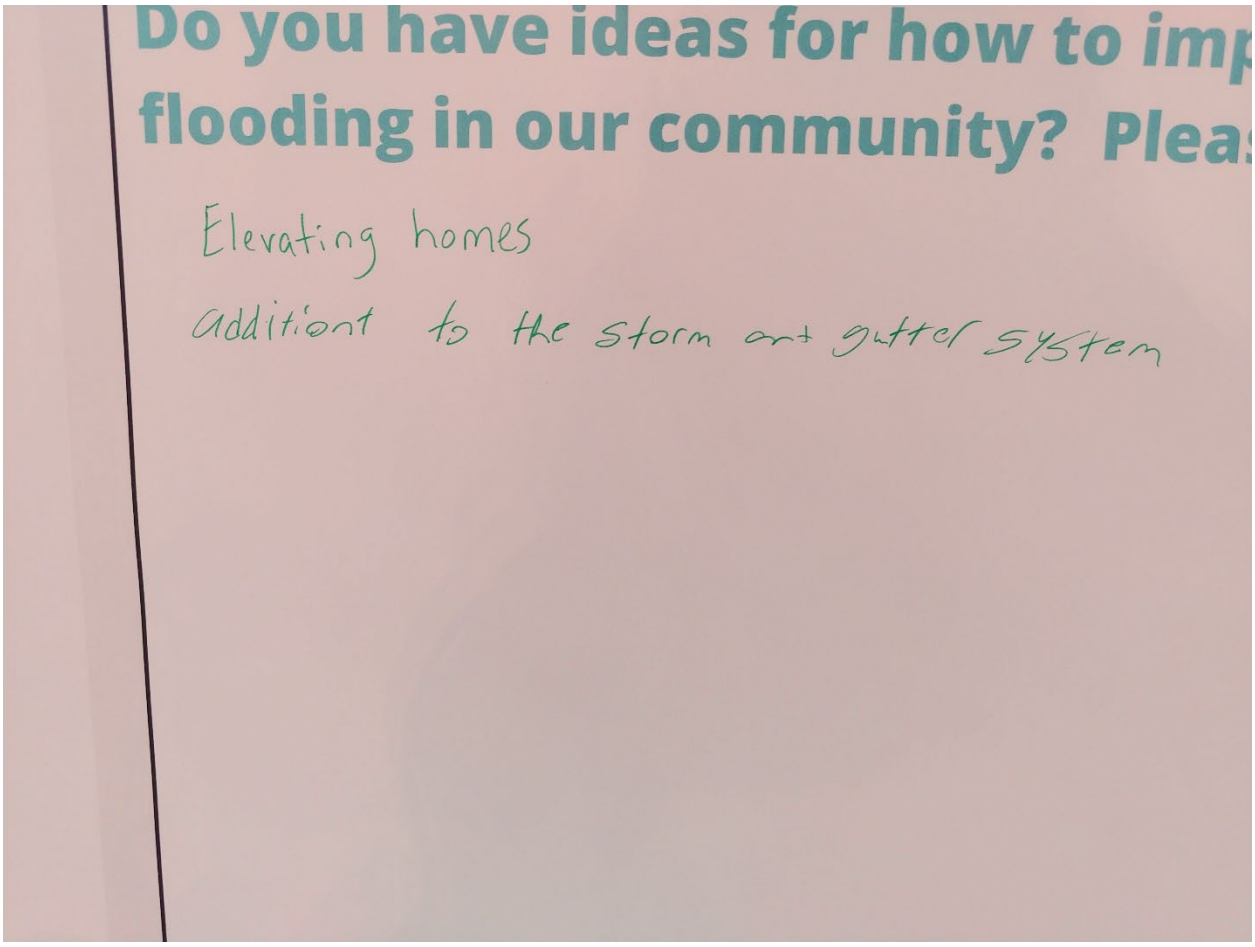



DRAFT ACTIONS
TOWN OF AULANDER
Place a dot on your preferred action.
Stormwater Coordinating Committee
Establish a coordinating committee to ensure that all parties responsible for stormwater management within the town communicate to ensure maximum cooperation in developing and maintaining stormwater drainage systems with surrounding communities.
Place a dot on your preferred action.
Back-up Generators for Critical Facilities
Acquire generators or other forms of redundant power supply to ensure that critical facilities and infrastructure remain operational where normal power supply is not available. Current generator needs include town hall, the municipal building, and sewer lift stations.
Place a dot on your preferred action.
Downtown Revitalization with Green Stormwater Infrastructure
Complete a downtown revitalization project that incorporates green stormwater infrastructure along Main and Commerce Streets. Incorporate bioswales, rain gardens, bioretention cells, bump outs, tree planting, etc.


DRAFT ACTIONS
TOWN OF AULANDER
Floodplain Improvements at Grit Chamber Entrance
Utilize the town owned property to increase floodplain capacity along Fort Branch at the entrance of the grit chamber (town sewer system facility). Partner with property owners N. of E. Main St. at grit chamber entrance to complete a stream and floodplain restoration along Fort Branch.
Place a dot on your preferred action.
Green Stormwater Infrastructure at Eddie Kane Steele property
Partner with Eddie Kane Steele property (former peanut factory) on Chestnut and W. Pearl St. to implement green stormwater infrastructure. Could include permeable parking, stormwater wetland, bioretention areas, rain gardens, bioswales, etc.
Place a dot on your preferred action.
Permeable Pavement Parking Lot and Green Stormwater Infrastructure at Old Ryan's Cafe Property
Strategically design and construct green stormwater infrastructure on town owned property. Specifically, utilize town owned property downtown (old Ryan's Café property) to develop a permeable pavement parking area which incorporates green stormwater infrastructure and public education. In addition to permeable pavement, green stormwater infrastructure could include bioretention cells and rain gardens, planting trees, etc.
Place a dot on your preferred action.


DRAFT ACTIONS
TOWN OF AULANDER
Place a dot on your preferred action.
Green Stormwater Infrastructure Near the Railroad
Utilize town owned property adjacent to the railroad to increase stormwater capacity using green stormwater infrastructure.
Place a dot on your preferred action.
Green Stormwater Infrastructure at Aulander Park and Fitness Trails
Design and construct a green stormwater infrastructure system on town owned park property. This could include features which improve the property's aesthetics including stormwater wetlands, rain gardens, bioretention cells, tree planting, etc. coupled with educational signage.
Place a dot on your preferred action.
Upgrade the Stormwater System
Strategically upgrade the stormwater system through pipe replacements (upsizing where needed), increasing the size and quantity of culverts and catch basins, redefining ditches, etc.


DRAFT ACTIONS
Town Of Aulander
Do you have ideas for how to improve resiliency to flooding in our community? Please add your ideas here.
Elevating homes
Additions to the storm and gutter system


Do you have ideas for how to imp
flooding in our community? Plea
Elevating homes
addition to the storm and gutter system

Photos from event:

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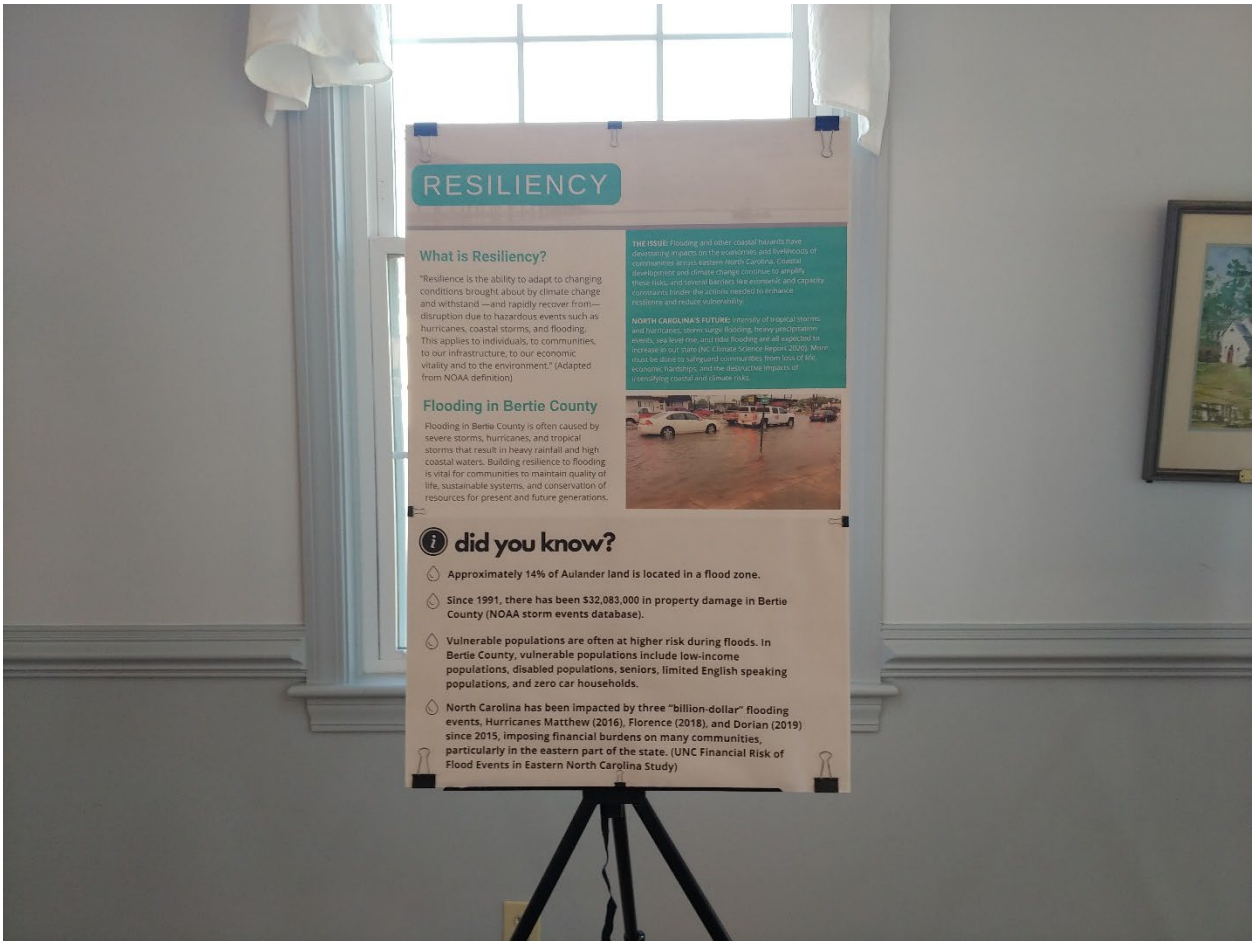

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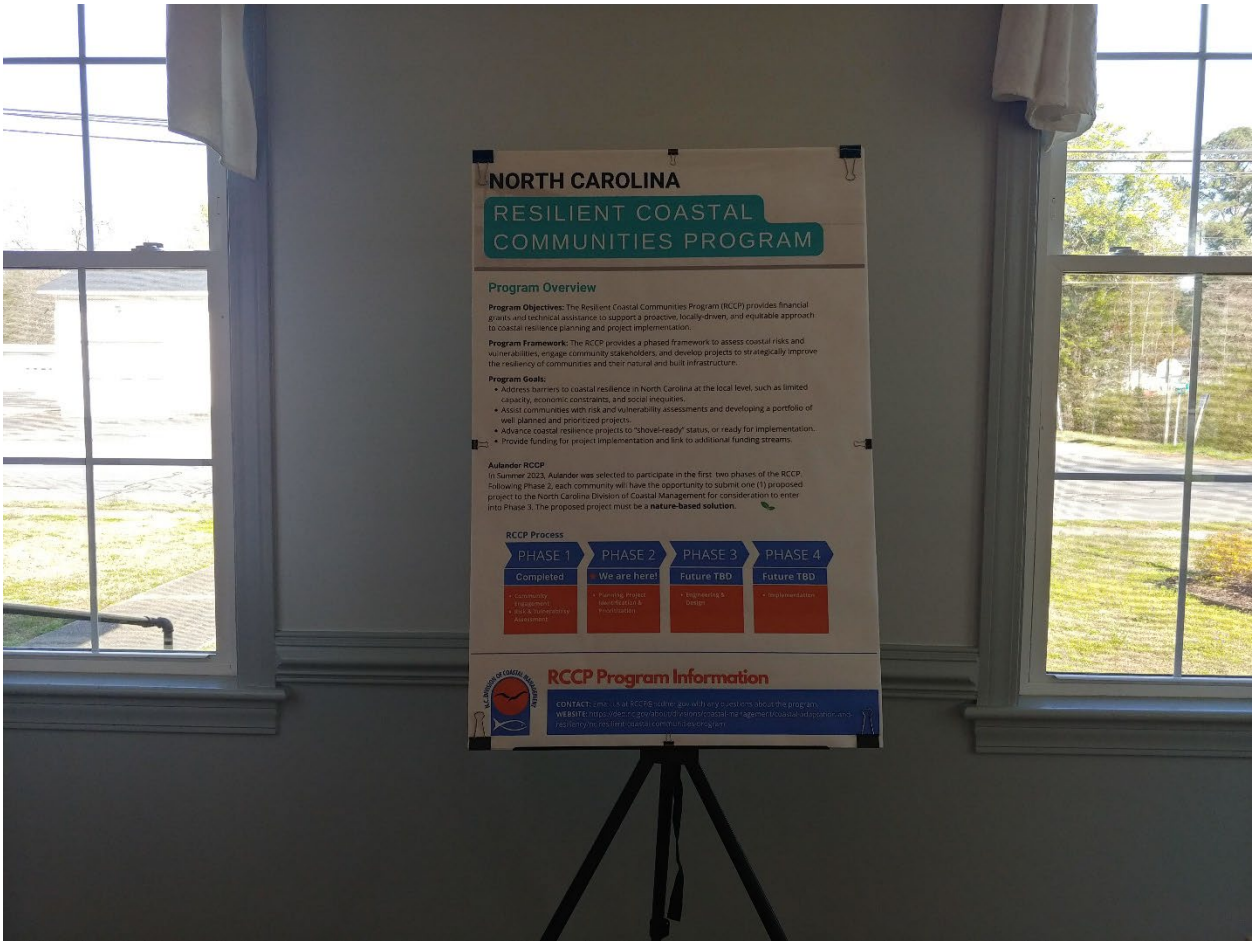

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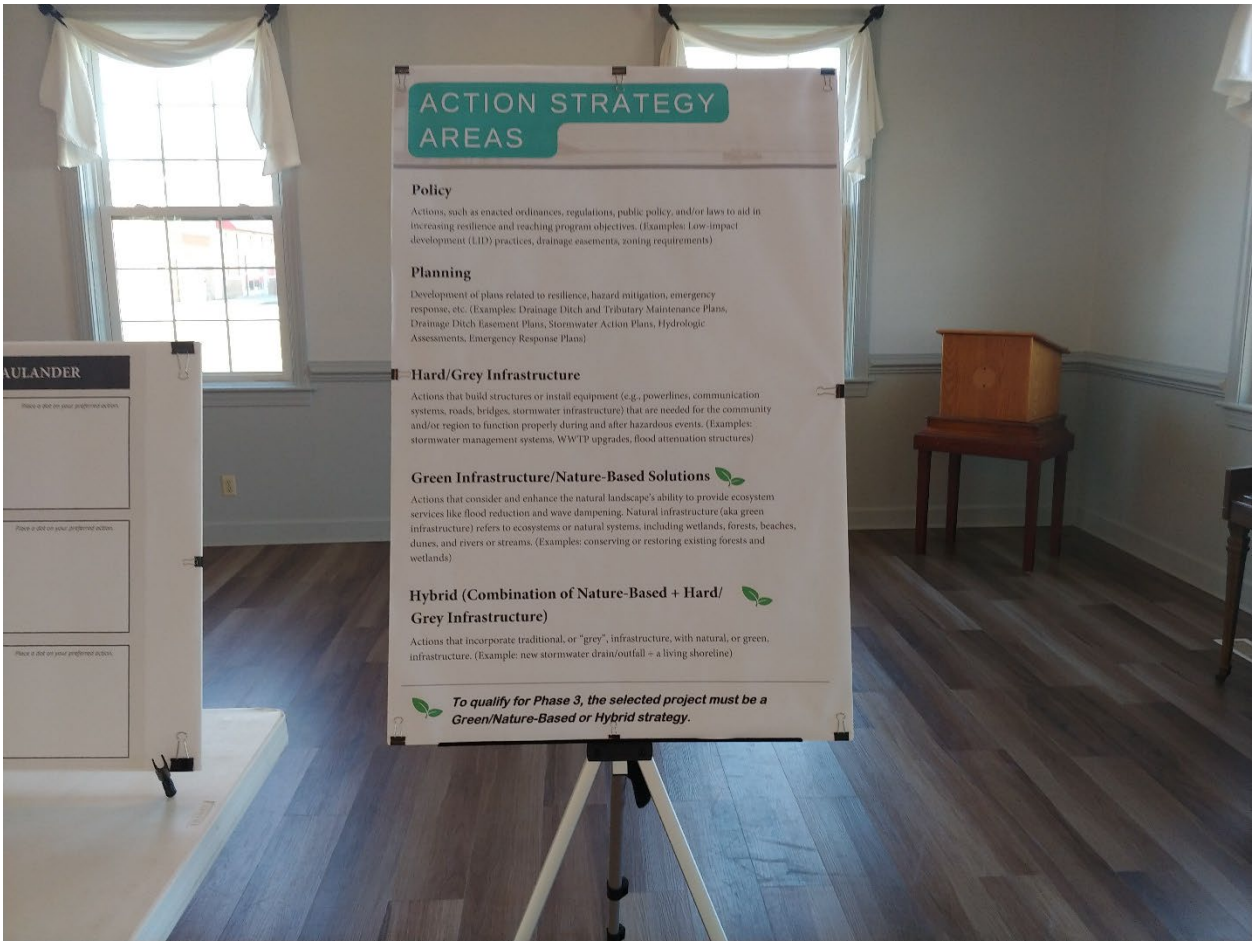

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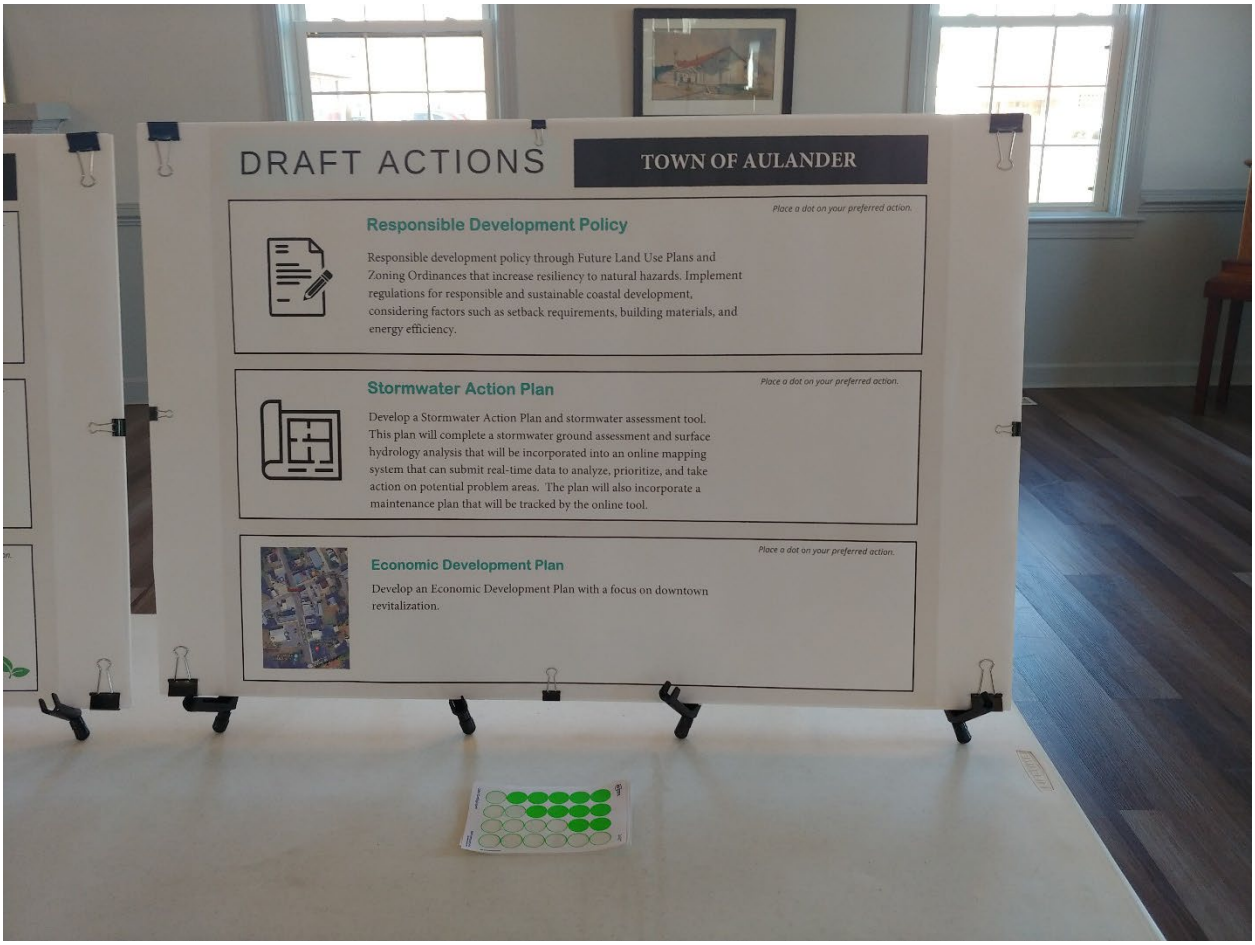

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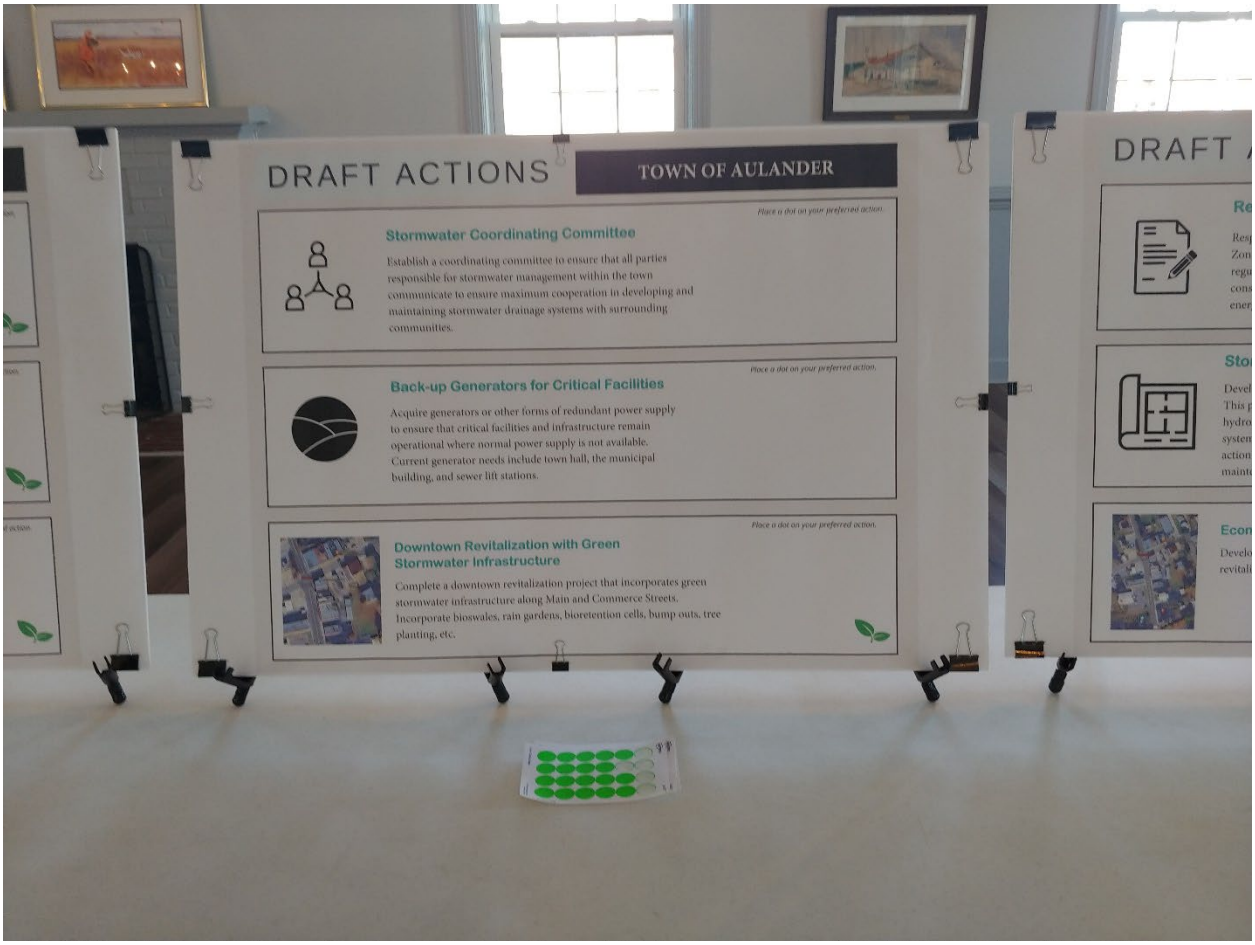

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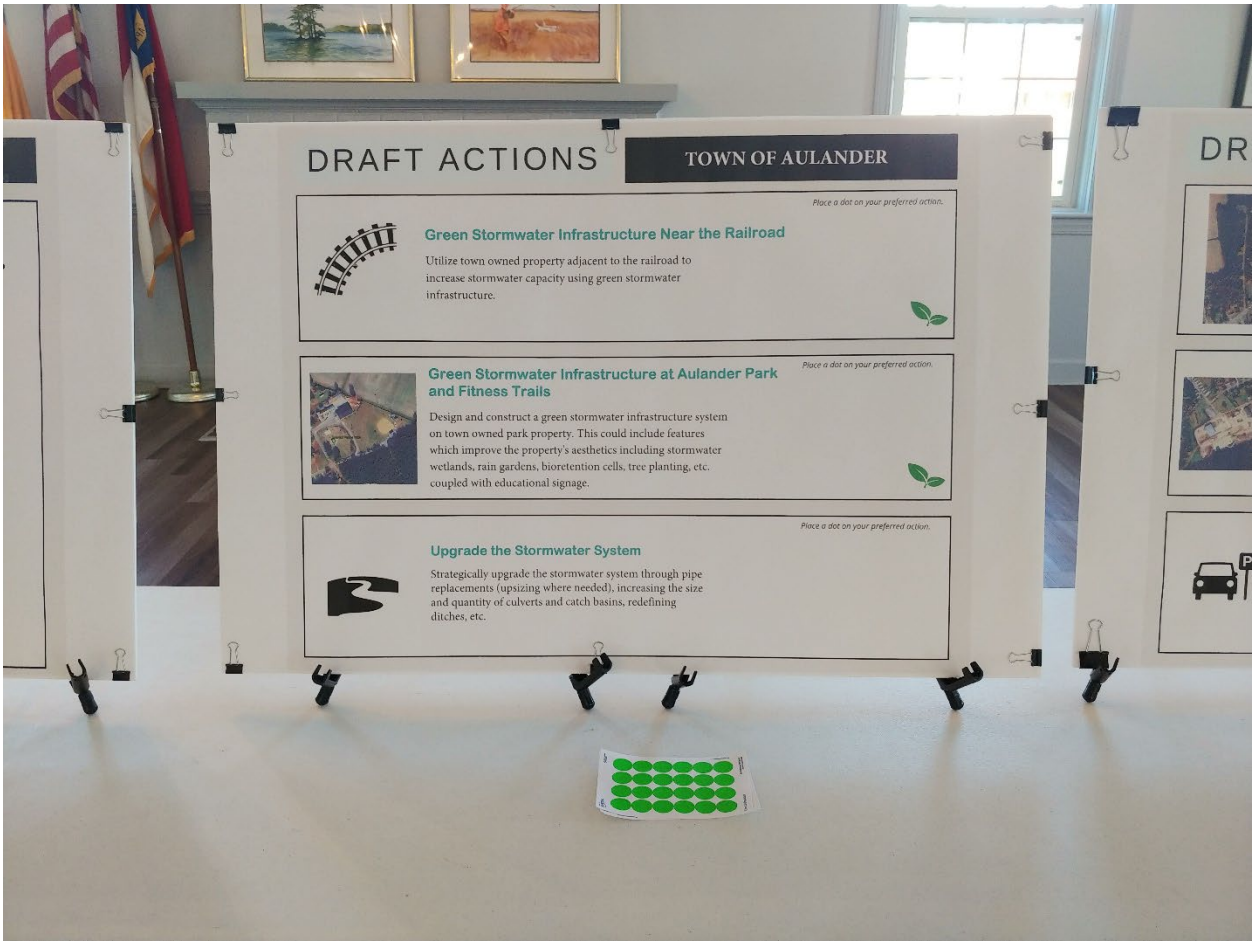


Appendix C

Risk and Vulnerability Assessment Materials

Critical Assets

Emergency Management

- None in town limits or ETJ.
  Served by:
  Bertie County Emergency Services
  106 Dundee St.
  Windsor, NC 27983

Law Enforcement

- Town of Aulander Police Department
  Located in Aulander Municipal Building
  124 W Main St.
  Aulander, NC 27805

Fire and EMS Stations

- Bertie County EMS Station 2
  133 S Commerce St.
  Aulander, NC 27805
- Aulander Municipal Volunteer Fire Department
  Located in Aulander Municipal Building
  124 W Main St.
  Aulander, NC 27805

911 Dispatch

- None in town limits or ETJ.
  Served by:
  Bertie County 911 Communications Center
  Located in Bertie County Law Enforcement Center
  222 County Farm Rd.
  Windsor, NC 27983

Government Services

- Aulander Municipal Building
  Includes Town Council meeting chambers
  124 W Main St.
  Aulander, NC 27805
- Aulander Town Hall
  119 S Commerce St.
  Aulander, NC 27805

- Aulander Public Works
  117 Rice Ave.
  Aulander, NC 27805
- Mid-East Regional Housing Authority
  760 Commerce Ct.
  Aulander, NC 27805
- US Post Office
  107 W Main St.
  Aulander, NC 27805

Food

- All God's Children United Methodist Church Food Pantry
  302 S Commerce St.
  Aulander, NC 27805
- Metropolitan Church of God Food Pantry
  118 W Main St.
  Aulander NC 27805
- Aulander Senior Nutrition Center
  204 Rice Ave.
  Aulander, NC 27805
- Family Dollar
  114 S Commerce St.
  Aulander, NC 27805
- Aulander Groceries and Tobacco Plus
  503 S Commerce T.
  Aulander, NC 27805
- Breaking Bread Family Kitchen
  111 E Main St.
  Aulander, NC 27805

Water/Wastewater

- Water and sewer service is provided by the town.
- Water system
  - Public Water Supply Water Sources (NC DEQ Div. of Water Resources data)
    - 2 supply wells owned and operated by the Town of Aulander
      - Town limits at the end of Pearl St.
      - ETJ off NC-11 near Castelloe Rd. intersection
- Sewer system
  - NPDES Non-Discharge Permits (NC DEQ Div. of Water Resources data)
    - Town of Aulander Wastewater Treatment Field (land application)
      Located approximately one mile from the town's ETJ boundary in Hertford County.

- Six pump stations.
- Grit chamber (gathers and pumps wastewater to spray field). Access via right of way connecting to Main Street across from Rice Ave.

Electric Power Grid

- Electric service provided by Dominion Energy and Roanoke Electric Membership Cooperative (EMC).

Fuel Stations

- Citgo
  101 N Commerce St.
  Aulander, NC 27805

Propane Suppliers

- No propane suppliers in Aulander's jurisdiction.

Transportation

- Road network (Bertie County data)
  - NC-11 S and NC-305 S are NCDOT designated essential coastal evacuation routes.
- Bridges (NCDOT data)
  - No bridges in Aulander's jurisdiction.
- Rail (NCDOT data)
  - The North Carolina & Virginia Railroad Company operates an active railroad that runs through the southern portion of the town limits.
- Ferry terminals
  - No ferry terminals in Aulander's jurisdiction.
- Public docks
  - No public docks in Aulander's jurisdiction.
- Airports/Airfields
  - No airports or airfields in Aulander's jurisdiction.
- Public transportation
  - No public transportation facilities in Aulander's jurisdiction. The town is served by Choanoke Public Transportation Authority, an on demand rural public transportation system.

Medical

- No medical providers in town limits or ETJ. Aulander Medical Practice is located approximately 2 miles outside the town limits.

Schools

- Aulander Elementary School
  2515 NC-305
  Aulander, NC 27805

Libraries

- Sallie Harrell Jenkins Library
  302 Broad St.
  Aulander, NC 27805

Churches

- Aulander Baptist Church
  109 Harmon St.
  Aulander, NC 27805
- All God's Children United Methodist Church
  302 S Commerce St.
  Aulander, NC 27805
- Aulander First Baptist Church
  835 S Commerce St.
  Aulander, NC 27805
- Metropolitan Church of God
  118 W Main St.
  Aulander NC 27805

Community Buildings

- Aulander Community Building
  116 S Commerce St.
  Aulander, NC 27805
- Aulander Senior Center
  204 Rice Ave.
  Aulander, NC 27805

Affordable Housing Areas

- Mid-East Regional Housing Authority (30 total units)
  Commerce Ct. Neighborhood
  and
  Chestnut Ct. Neighborhood
  Aulander, NC 27805
- See "Affordable Housing" map for approximate boundaries of other affordable neighborhoods.

Downtown Commercial District

- Aulander Downtown Commercial District
  Commerce St. from Town Hall to Main Street
  Main Street from Commerce Street to Broad Street
  Aulander, NC 27805

Natural Infrastructure

Parks/Public Land

- Aulander Fitness Trail
  Rice Ave.
- John Asa Drew Jr. Field of Dreams
  Rice Ave.
  - 28.4 acres (combined size of fitness trail and baseball field)
- Tennis courts and public open space behind Aulander Community Building
  116 S Commerce St.
  Aulander, NC 27805
  - 0.9 acres

Public Boat Ramps

- No public boat ramps in Aulander's jurisdiction.

Wetlands

- Wetlands (NC CREWS data)
  - 3,137.3 acres identified in the Aulander jurisdiction.

Forests

- Working forest lands (NC Natural Heritage Program data)
  - Many areas in the ETJ were identified.
- Rural forest landscape (NC Natural Heritage Program data)
  - Many areas in the ETJ were identified.
- Urban forest landscape (NC Natural Heritage Program data)
  - There are many areas in the town limits (outside of the impervious town core) which have been identified as priority urban forests.

Floodplains

- 100-year floodplain (FEMA data)
  - 2,237.3 acres identified in the Aulander jurisdiction.
- 500-year floodplain (FEMA data)
  - 399.8 acres identified in the Aulander jurisdiction.

Surface Water Hydrology

- Rivers and streams (NC DEQ data)
  - Fort Branch and its tributaries
- High Quality Waters (NC DEQ data)
  - None identified in the Aulander area.
- 303(d) listed waters (EPA data)
  - None identified in the Aulander area.

- Fishery Nursery Areas (NC DEQ data)
    - Primary and secondary
        - None identified in the Aulander area.

Natural Areas

- Managed Areas (NC Natural Heritage Program data)
    - Includes nature preserves, registered heritage areas, conservation easements, other protected areas, and lands under federal ownership, state ownership, or local government ownership
        - None identified in Aulander's jurisdiction.
- Natural Areas (NC Natural Heritage Program data)
    - Sites that are of special biodiversity significance. A natural area's significance may be due to the presence of rare species, exemplary natural communities, or important animal assemblages, referred to collectively as "elements" of biodiversity.
        - None identified in Aulander's jurisdiction.

Biodiversity and Wildlife Habitat Assessment

- Biodiversity and Wildlife Habitat Assessment (NC Natural Heritage Program data)
    - The Biodiversity and Wildlife Habitat Assessment was developed by the N.C. Natural Heritage Program. It provides information about the relative priority of aquatic and terrestrial habitat, landscape function and connectivity.

ASSET NAME	EXPOSURE SCORE 0-3	SENSITIVITY SCORE 0-3	ADAPTATION SCORE 0-3	VULNERABLITY SCORE 0-6
Asset Name	*0 = no exposure 1 = low 2 = medium 3 = high*	*0 = no sensitivity 1 = low 2 = medium 3 = high*	*0 = no adaptation 1 = low 2 = medium 3 = high*	*0-2 = low 3-4 = medium 5-6 = high*
LAW ENFORCEMENT				
Town of Aulander Police Dept.	2	3	1	Med
Fire and EMS Stations				
Bertie County EMS Station 2	3	2	2	Med
Aulander Municipal Volunteer Fire Dept.	2	3	1	Med
OVERALL	**3**	**3**	**2**	**Med**
Government Services				
US Post Office	3	2	2	Med
Aulander Town Hall	2	3	1	Med
Aulander Municipal Building	2	3	1	Med
Aulander Public Works	2	3	1	Med
Mid-East Regional Housing Authority	3	3	1	High
OVERALL	**3**	**3**	**2**	**Med**
Food				
Metropolitan Church of God Food Pantry	2	3	1	Med
All God's Children United Methodist Church Food Pantry	2	3	1	Med
Aulander Senior Nutrition Center	2	3	1	Med
Family Dollar	2	3	2	Med
Aulander Groceries and Tobacco Plus	2	3	2	Med
Breaking Bread Family Kitchen	3	3	2	Med
OVERALL	**3**	**3**	**2**	**Med**
Fuel Station				
Citgo	3	3	2	Med
Schools				
Aulander Elementary School	3	3	1	High
Libraries				
Sallie Harrell Jenkins Library	2	2	1	Med
Community Buildings and Museums				
Aulander Community Building	3	3	1	High
Aulander Senior Center	3	2	1	Med
OVERALL	**3**	**3**	**1**	**High**

ASSET NAME	EXPOSURE SCORE	SENSITIVITY SCORE	ADAPTATION SCORE	VULNERABLITY SCORE
Churches				
Aulander First Baptist Church	3	2	1	Med
All God's Children United Methodist Church	2	2	1	Med
Metropolitan Church of God	2	2	1	Med
Aulander Baptist Church	3	2	1	Med
OVERALL	**3**	**2**	**1**	**Med**
Low-Income Housing				
Aulander Low-Income Housing	4	3	1	High
Public Housing				
Mid-East Regional Housing Authority	3	3	1	High
Mid-East Regional Housing Authority	3	3	1	High
OVERALL	**3**	**3**	**1**	**High**
Downtown Commercial District				
Downtown Commercial District	3	3	1	High
Streams				
Fort Branch	4	2	1	High
Unnamed Tributary	4	2	2	Med
OVERALL	**4**	**2**	**2**	**Med**
Wetlands				
Wetlands < 5 ac.	4	3	1	High
Wetlands > 5 ac. and < 15 ac.	3	3	2	Med
Wetlands > 15 ac.	4	2	3	Med
OVERALL	**4**	**3**	**2**	**Med**
Parks/Public Land				
John Asa Drew Jr. Field of Dreams	3	2	1	Med
Tennis Courts and Open Space	3	2	1	Med
Aulander Fitness Trail	3	2	1	Med
OVERALL	**3**	**2**	**1**	**Med**
Water/Wastewater				
Pump Stations				
COMMERCE ST	2	2	2	Low
MAIN ST	2	1	2	Low
MAIN ST OFF ROW	3	3	1	High
PINE DR	3	2	2	Med
MEDSON LEE RD	2	1	2	Low
BELL ST	3	3	1	High
OVERALL	**3**	**2**	**2**	**Med**
Sewer System				
Manhole assessment	3	2	2	Med
Water Supply				

WELL #2	3	3	1	High
WELL #3	3	2	1	Med
OVERALL	**3**	**3**	**1**	**High**
ASSET NAME	**EXPOSURE SCORE**	**SENSITIVITY SCORE**	**ADAPTATION SCORE**	**VULNERABLITY SCORE**
Water System				
Waterline assessment	3	3	3	Med
Transportation				
Rail (NCDOT data)				
NCVA	3	2	2	Med
Road network (Most Vulnerable)				
BLANCHARD DRIVE	3	3	1	High
BRICK MILL ROAD	3	3	1	High
BUCK BRANCH ROAD	3	3	1	High
CARROLL STREET	3	3	1	High
CURTIS STREET	3	3	1	High
DUNNING ROAD	3	3	1	High
EARLY STREET	3	3	1	High
EAST MAIN STREET	3	3	1	High
HARRINGTON AVENUE	3	3	1	High
MAPLE STREET	3	3	1	High
MEDSON LEE ROAD	3	3	1	High
MELROSE STREET	3	3	1	High
NC 11 BUS HIGHWAY NORTH	3	3	1	High
NC 11 BUS HIGHWAY SOUTH	3	3	1	High
NC 11 NORTH	3	3	1	High
NC 305 HIGHWAY	3	3	1	High
NORTH LOMBARDY STREET	3	3	1	High
NORTH PINE DRIVE	**3**	**3**	**1**	High
SOUTH COMMERCE STREET	3	3	1	High
SOUTH PINE DRIVE	3	3	1	High
WEST MAIN STREET	3	3	1	High
WILLIFORD CIRCLE	3	3	1	High
OVERALL (All Roads)	**3**	**3**	**2**	**Med**

Assess Vulnerability

This assessment explores the vulnerability of critical assets, natural infrastructure, and social systems. Use your team's judgement and any available data to estimate each asset's vulnerability to combined hazards.

Critical Asset & Natural Infrastructure Vulnerability

Vulnerability of critical assets and natural infrastructure to a hazard is a function of the exposure, sensitivity, and adaptive capacity:

Exposure refers to the probability of physical contact between an asset and a hazard.

Sensitivity is the degree to which an asset is impacted by a hazard.
Adaptive Capacity is the ability of an asset to change its characteristics or behavior in response to a hazard.

Vulnerability = Exposure + Sensitivity - Adaptive Capacity

North Carolina Hurricane Evacuation Routes

Designated Evacuation Route

CRIME CONTROL & PUBLIC SAFETY
NORTH CAROLINA
Emergency Management

NORTH CAROLINA RAILROAD COMPANY

Freight Routes

- North Carolina Railroad Company
  *Norfolk Southern Class I Freight Service
- Norfolk Southern
- CSX Transportation
- Various Shortlines

Passenger Routes

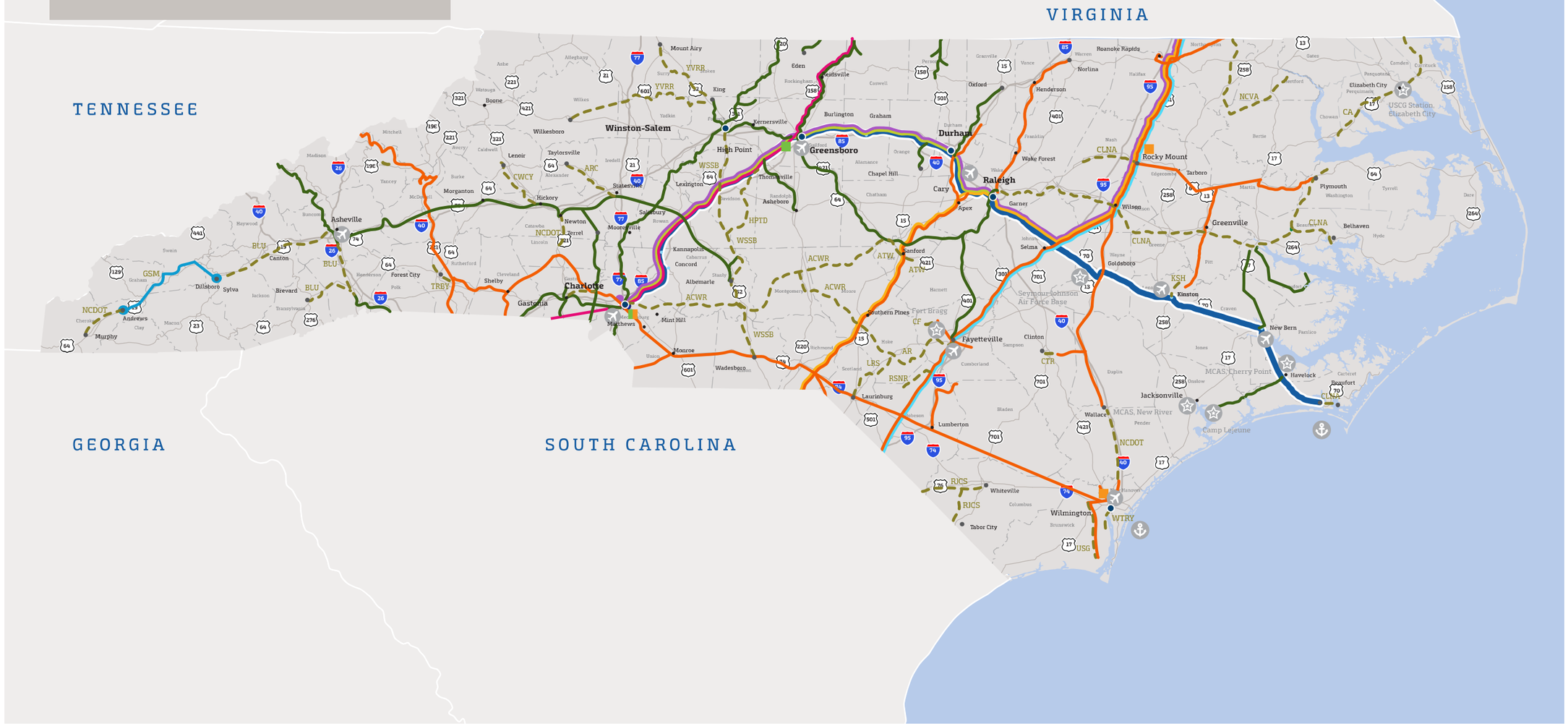
- Carolinian
- Crescent
- Piedmont
- Palmetto/Silver Meteor
- Silver Star
- Great Smoky Mountains Railroad

Intermodal Terminals

- Norfolk Southern
- CSX Transportation

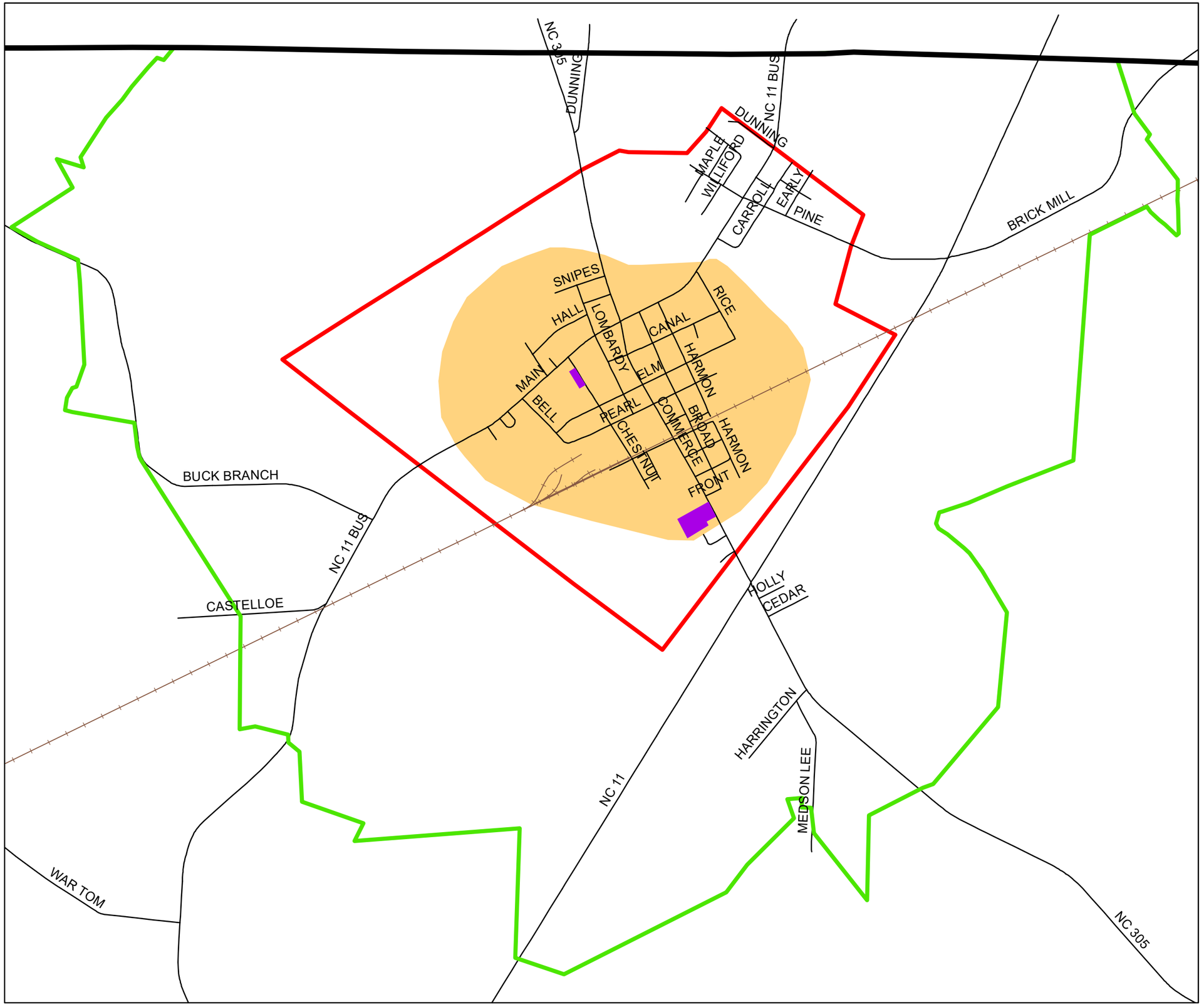
Logistical Centers

- Military Bases
- Seaports
- Airports



Aulander, NC
Resilient Coastal Communities Program

Affordable Housing



Legend

- Public Housing
- Other Affordable Housing Areas
- County Boundary
- ETJ
- Railroads
- Roads
- Town Limits

N

0 0.2 0.4 0.8 Miles

Aulander, NC
Resilient Coastal Communities Program

Critical Assets

Legend

- Churches
- Community Building
- Fire and EMS
- Food
- Fuel Stations
- Government Services
- Libraries
- Police
- Public Water Supply Wells
- Schools
- Downtown Commercial District
- Railroads
- Roads
- Town Limits
- ETJ
- County Boundary

0 0.2 0.4 0.8 Miles

Aulander, NC
Resilient Coastal Communities Program

Critical Assets
Town Core Inset

SNIPES
CURTIS
HALL
MAIN
HARMON
RICE
RICHARD
CANAL
BROAD
ELM
CHESTNUT
LOMBARDY
PEARL STREET
PEARL
COMMERCE
MITCHELL
MITCHELL
SYCAMORE
HARMON

Legend

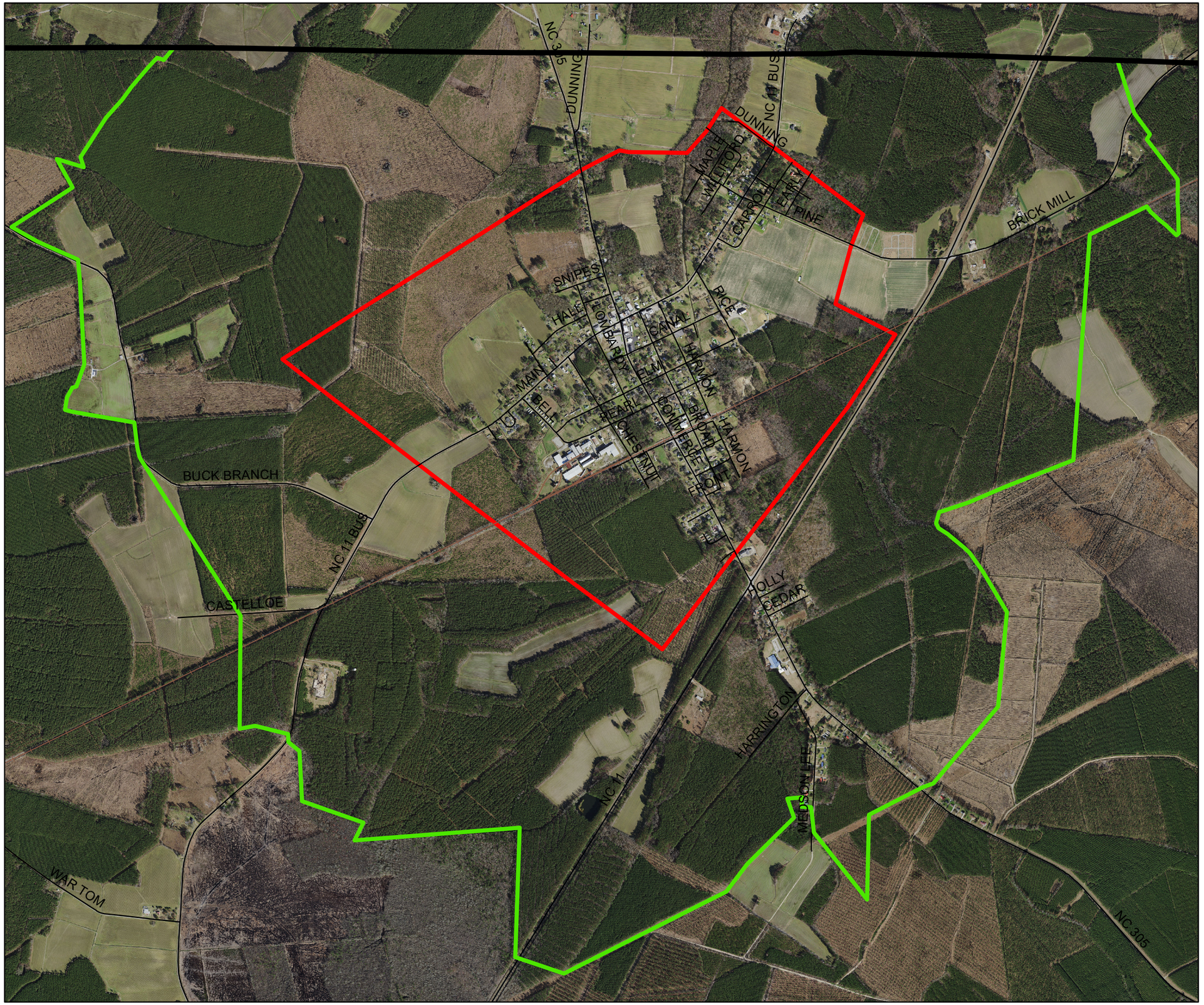
- Churches
- Community Building
- Fire and EMS
- Food
- Fuel Stations
- Government Services
- Libraries
- Police
- Public Water Supply Wells
- Downtown Commercial District
- Railroads
- Roads

N

0 180 360 720 Feet

Aulander, NC
Resilient Coastal Communities Program

Orthoimagery

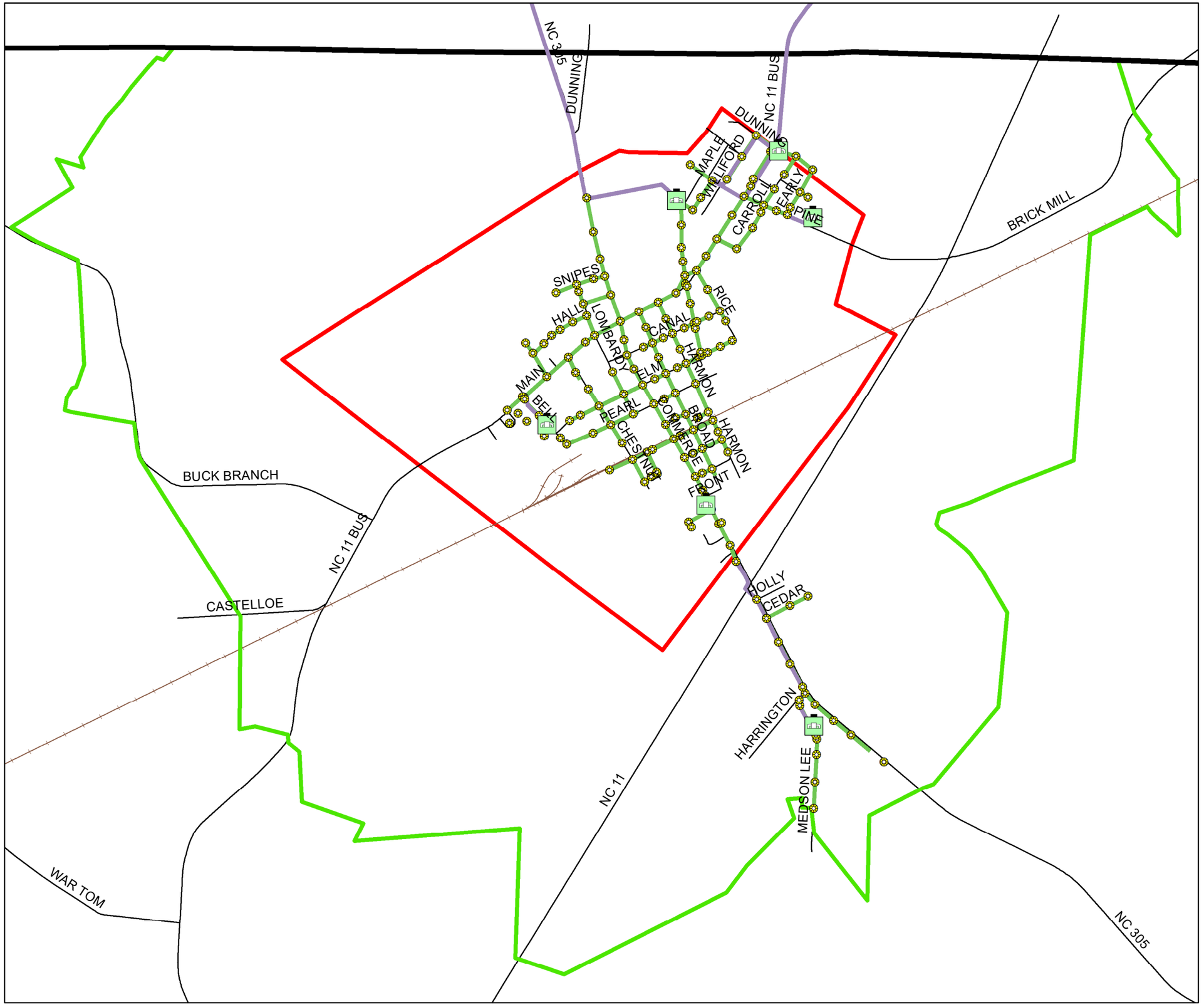


N

0 0.2 0.4 0.8 Miles

Aulander, NC
Resilient Coastal Communities Program

Sewer System



Legend

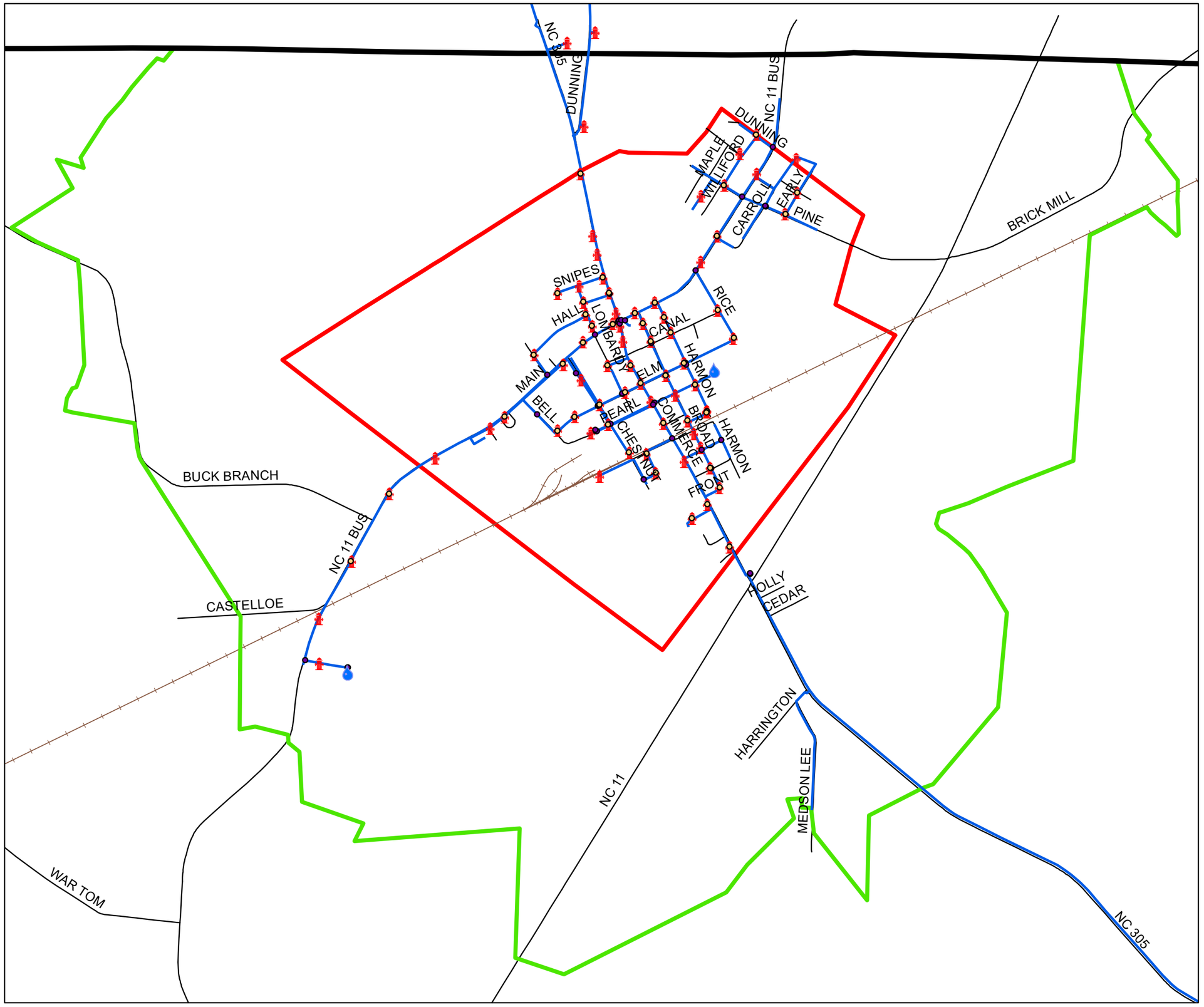
- Pump Stations
- Manholes
- Force Mains
- Gravity Mains
- Railroads
- Roads
- Town Limits
- ETJ
- County Boundary

N

0 0.2 0.4 0.8 Miles

Aulander, NC
Resilient Coastal Communities Program

Water System



Legend

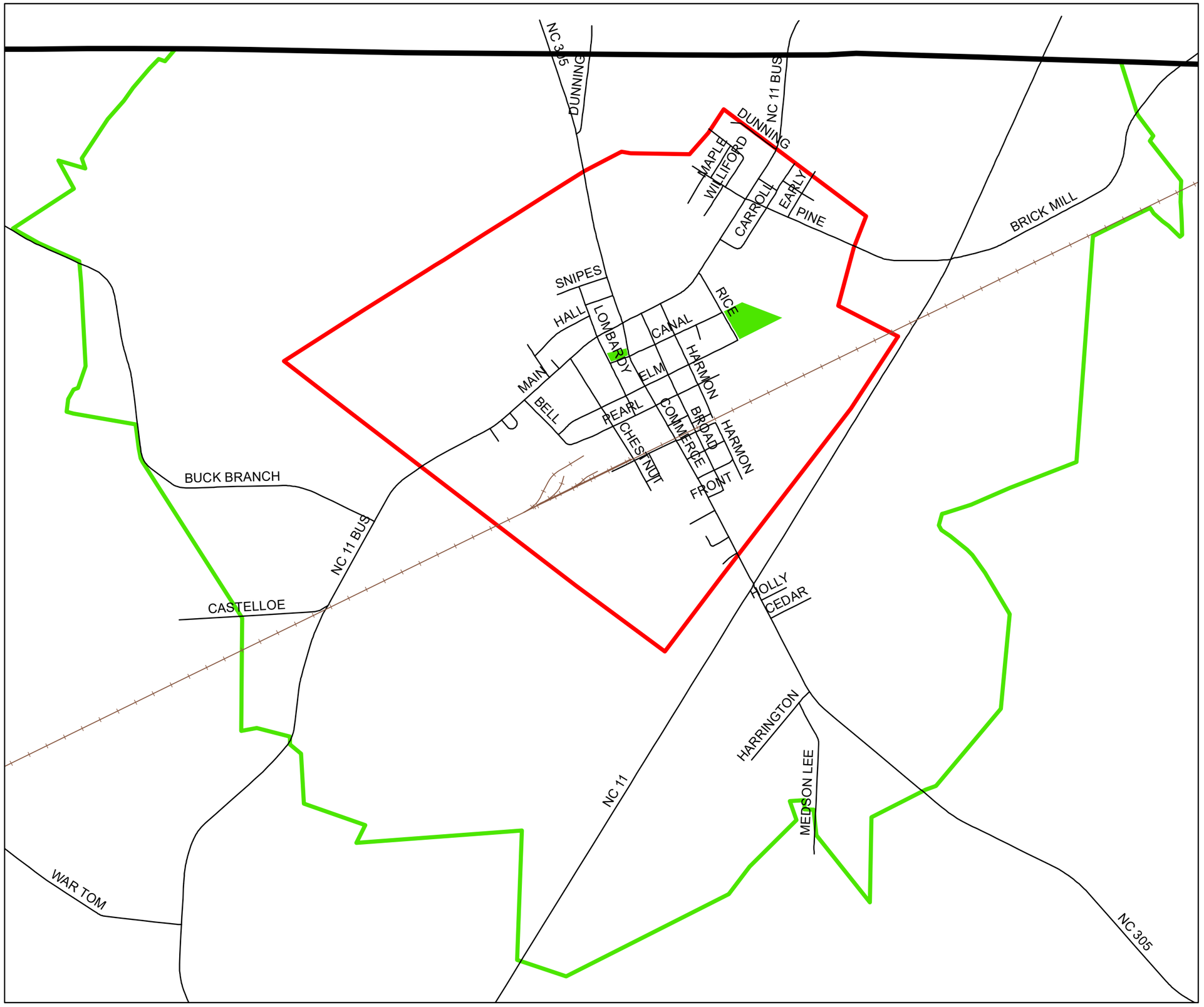
- Public Water Supply Wells
- Hydrant Valves
- System Valves
- Fire Hydrants
- Water Lines
- Railroads
- Roads
- Town Limits
- ETJ
- County Boundary

N

0 0.2 0.4 0.8 Miles

Aulander, NC
Resilient Coastal Communities Program

Natural Infrastructure
Parks and Public
Open Space



Legend

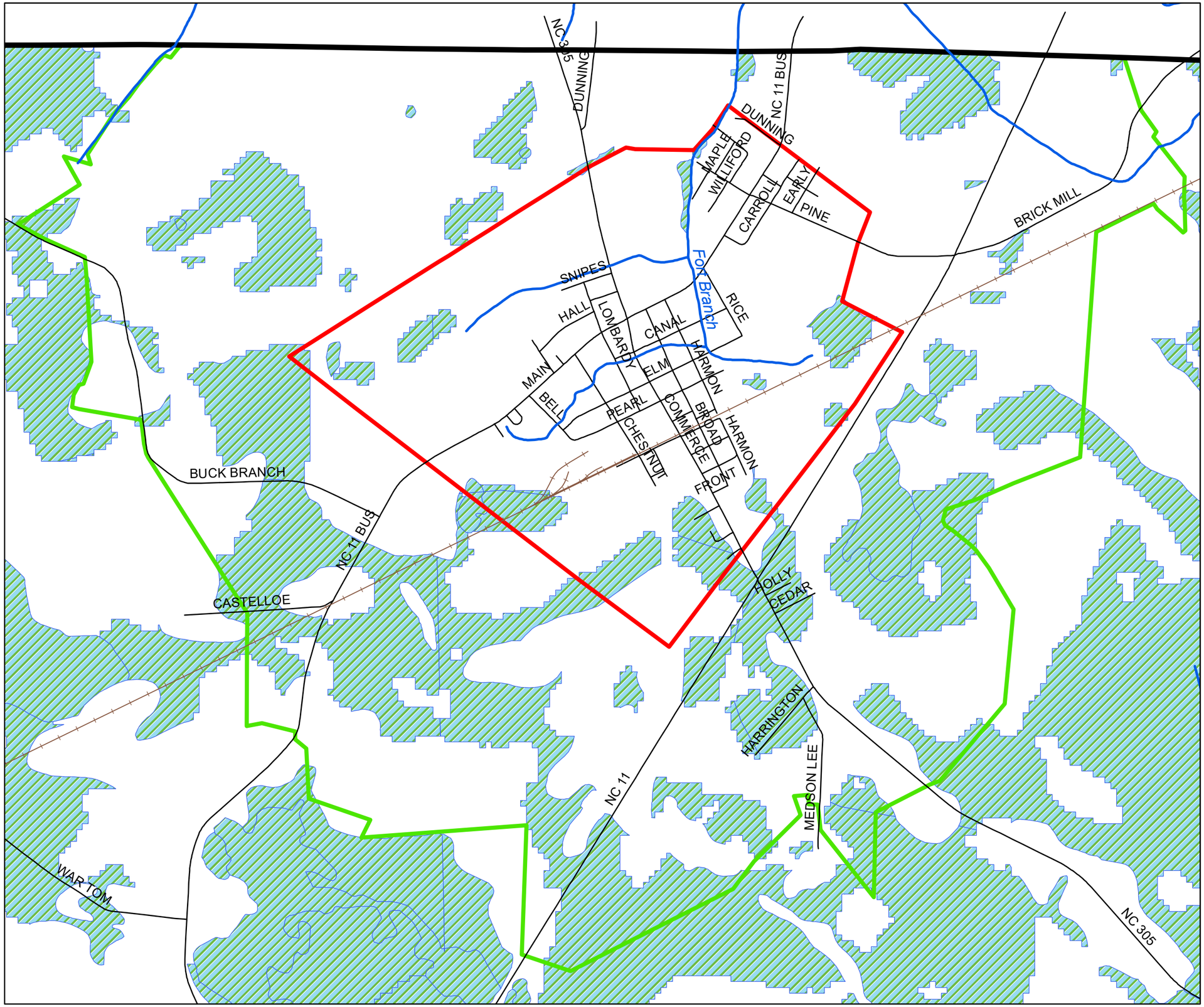
- Public Parks and Open Spaces
- Railroads
- Roads
- Town Limits
- ETJ
- County Boundary

N

0 0.2 0.4 0.8 Miles

Aulander, NC
Resilient Coastal Communities Program

Natural Infrastructure
Hydrology & Wetlands



Legend

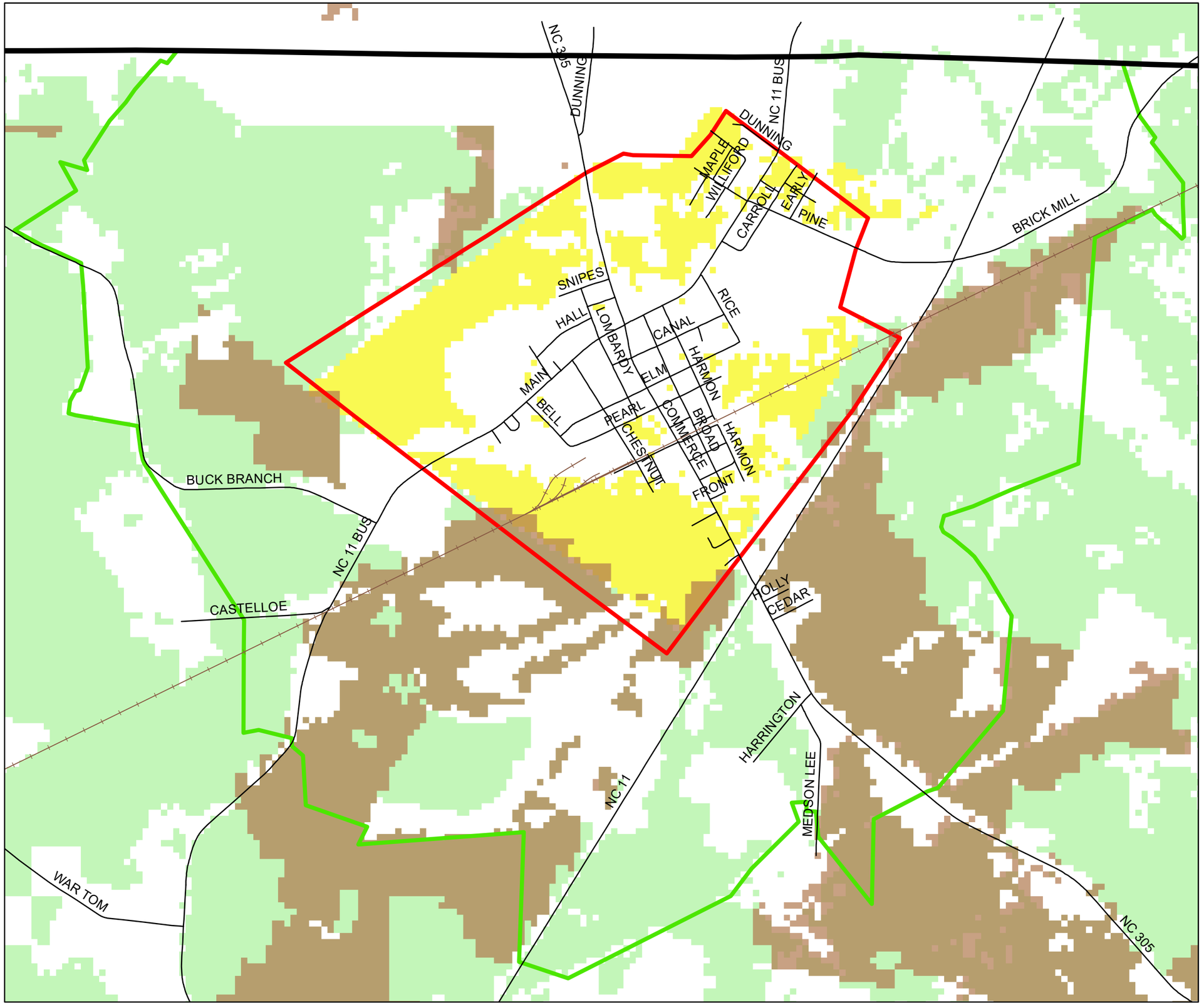
- Wetlands
- Streams
- Railroads
- Roads
- Town Limits
- ETJ
- County Boundary

N

0 0.2 0.4 0.8 Miles

Aulander, NC
Resilient Coastal Communities Program

Natural Infrastructure
Priority Forest Lands



Legend

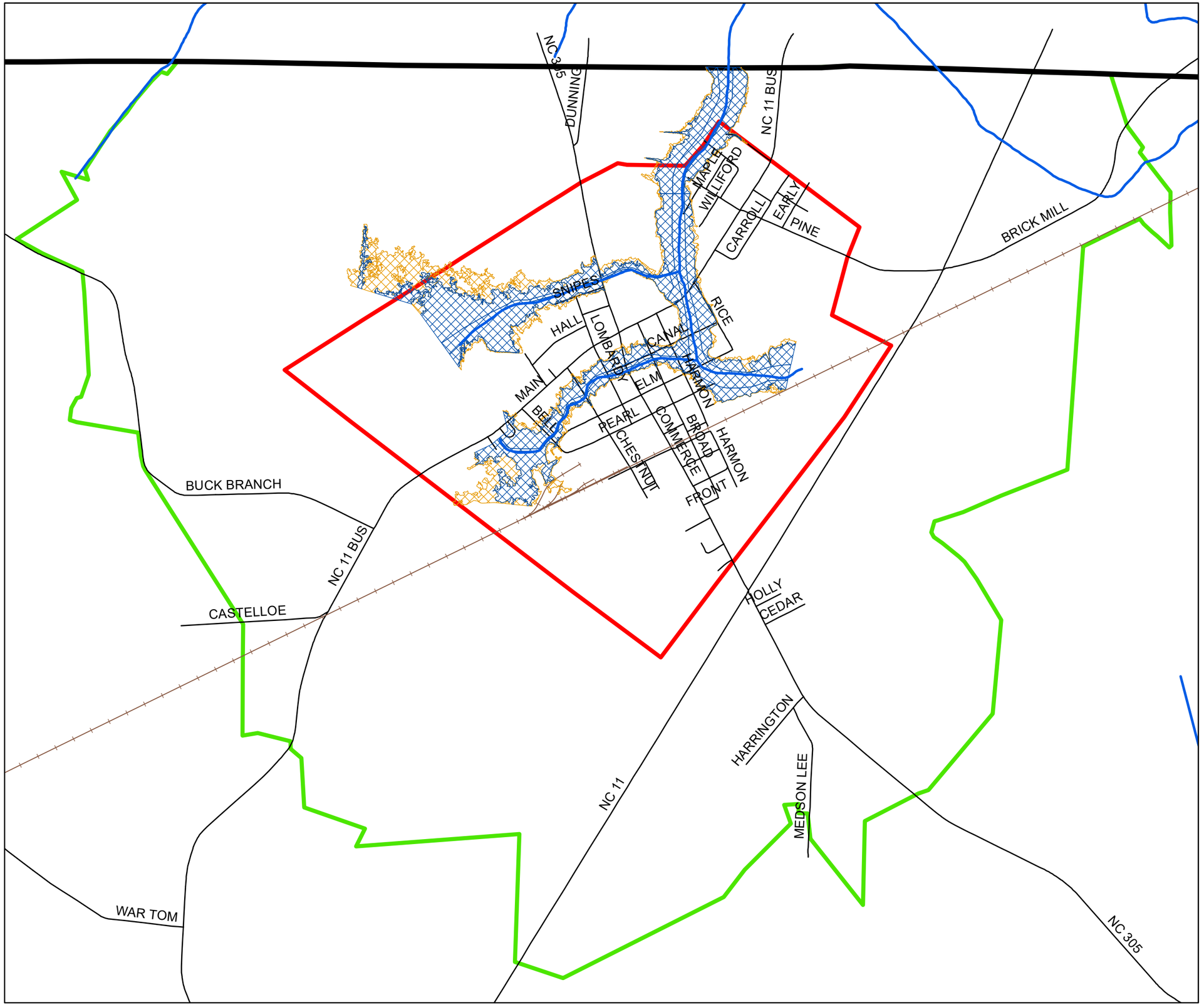
- Priority Urban Forest
- Priority Working Forest
- Priority Rural Forest
- Railroads
- Roads
- Town Limits
- ETJ
- County Boundary

N

0 0.2 0.4 0.8 Miles

Aulander, NC
Resilient Coastal Communities Program

Natural Infrastructure
FEMA Floodplains



Legend

- Streams
- 100-year floodplain (1% annual chance flood)
- 500-year floodplain (0.2% annual chance flood)
- Railroads
- Roads
- County Boundary
- Town Limits
- ETJ

N

0 0.2 0.4 0.8 Miles

Aulander, NC
Resilient Coastal Communities Program

Biodiversity and Wildlife Habitat Assessment

Legend

Streams

- Streams
- Railroads
- Roads
- Town Limits
- ETJ
- County Boundary

Biodiversity/Wildlife Habitat

Relative Conservation Value

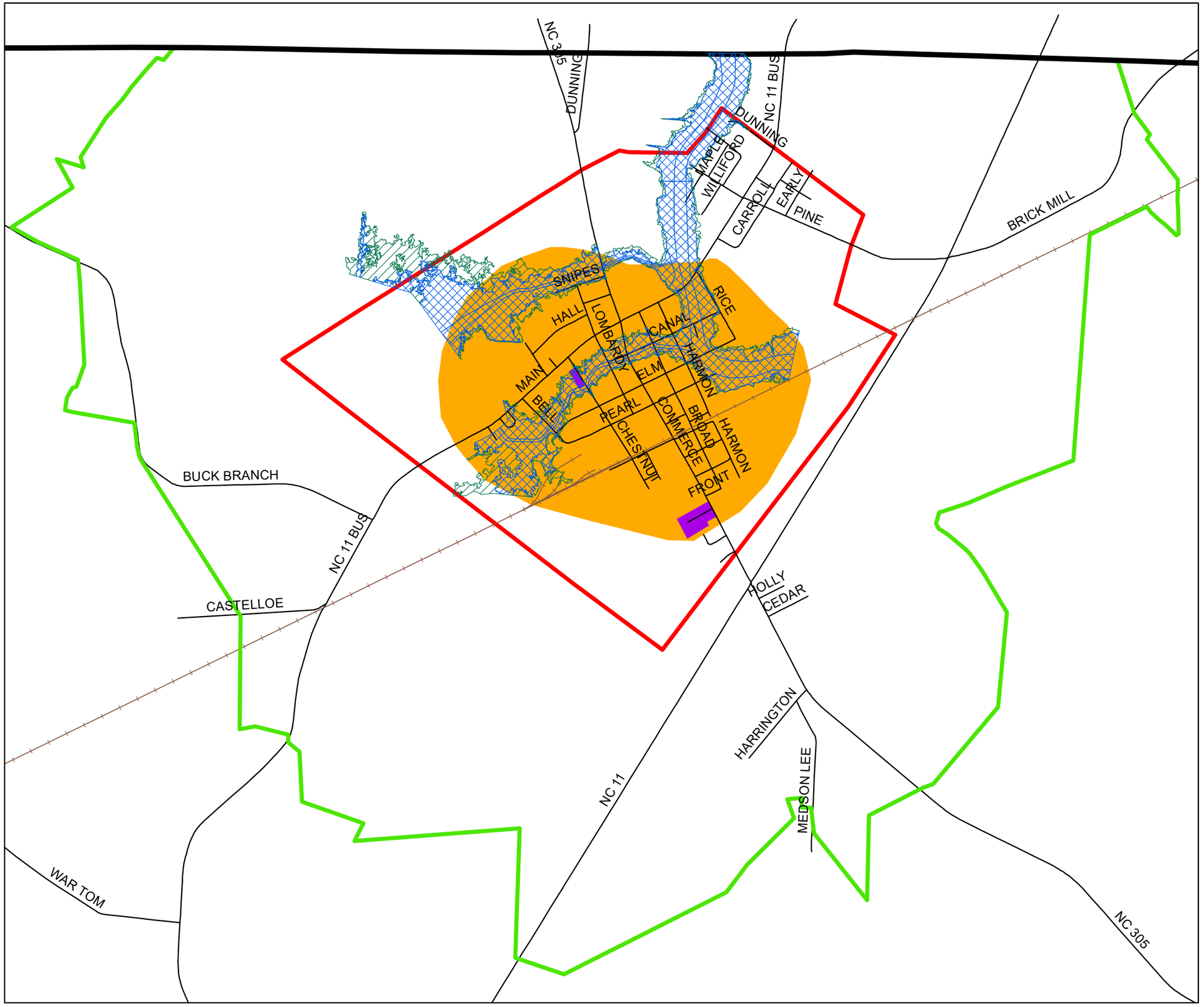
- 9-10 (Maximum)
- 8
- 7
- 6
- 5
- 2-4
- 1 (Moderate)
- 0 (Unrated)
- Impervious surface >20%

0 0.2 0.4 0.8 Miles

N

Aulander, NC
Resilient Coastal Communities Program

Affordable Housing and Floodplains



Legend

- 100-year Floodplain (1% annual chance flood)
- 500-year Floodplain (0.2% annual chance flood)
- Public Housing
- Other Affordable Housing Areas
- Railroads
- Roads
- Town Limits
- ETJ
- County Boundary

N

0 0.2 0.4 0.8 Miles

Aulander, NC
Resilient Coastal Communities Program

Affordable Housing and Wildland-Urban Interface Risk Index

Legend

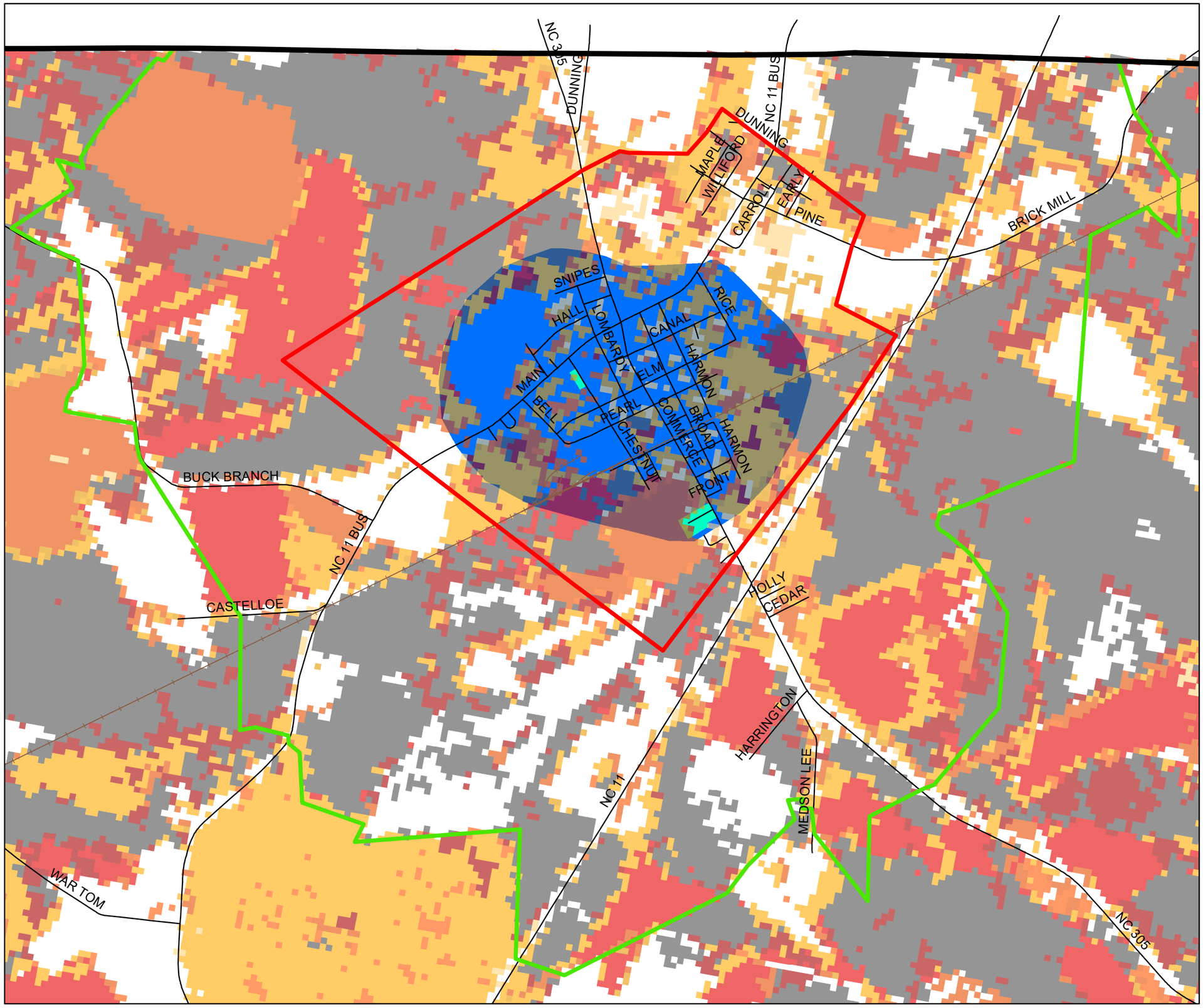
- County Boundary
- Town Limits
- ETJ
- Railroads
- Roads
- Public Housing
- Other Affordable Housing Areas

Wildland-Urban Interface Risk Index

- -9: Major Impacts
- -8
- -7
- -6
- -5: Moderate Impacts
- -4
- -3
- -2
- -1: Minor Impacts

N

0 0.2 0.4 0.8 Miles



Aulander, NC Resilient Coastal Communities Program

Affordable Housing and Characteristic Fire Intensity Scale

Legend

- County Boundary
- Town Limits
- ETJ
- Railroads
- Roads
- Public Housing
- Other Affordable Housing Areas

Characteristic Fire Intensity Scale

- 1: Lowest Intensity
- 2
- 3: Moderate Intensity
- 4
- 5: High Intensity
- 6
- 7
- 8: Highest Intensity

N

0 0.2 0.4 0.8 Miles

Aulander, NC
Resilient Coastal Communities Program

Critical Assets and Floodplains

Legend

- 100-year Floodplain (1% annual chance flood)
- 500-year Floodplain (0.2% annual chance flood)
- Churches
- Community Building
- Fire and EMS
- Food
- Fuel Stations
- Government Services
- Libraries
- Police
- Public Water Supply Wells
- Schools
- Downtown Commercial District
- Railroads
- Roads
- Town Limits
- ETJ
- County Boundary

0 0.2 0.4 0.8 Miles

N

Aulander, NC
Resilient Coastal Communities Program

Critical Assets
and Floodplains
Town Core Inset

Legend

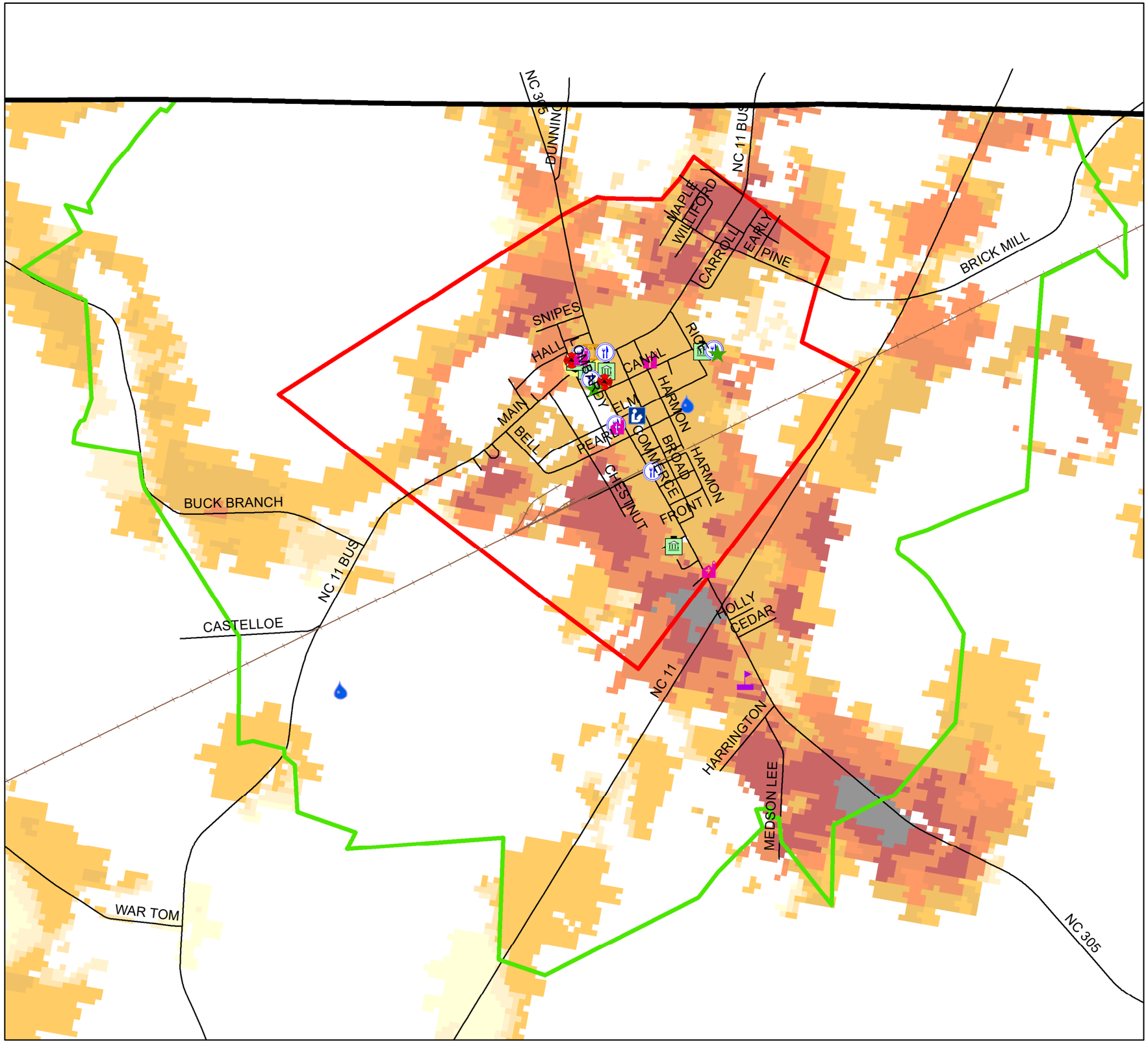
- 100-year Floodplain (1% annual chance flood)
- 500-year Floodplain (0.2% annual chance flood)
- Churches
- Community Building
- Fire and EMS
- Food
- Fuel Stations
- Government Services
- Libraries
- Police
- Public Water Supply Wells
- Downtown Commercial District
- Railroads
- Roads

0 180 360 720 Feet

N

Aulander, NC Resilient Coastal Communities Program

Critical Assets and Wildland-Urban Interface (WUI) Risk Index



Legend

- Churches
- Community Building
- Fire and EMS
- Food
- Fuel Stations
- Government Services
- Libraries
- Police
- Public Water Supply Wells
- Schools
- Downtown Commercial District
- Railroads
- Roads
- Town Limits
- ETJ
- County Boundary

WUI Risk Index

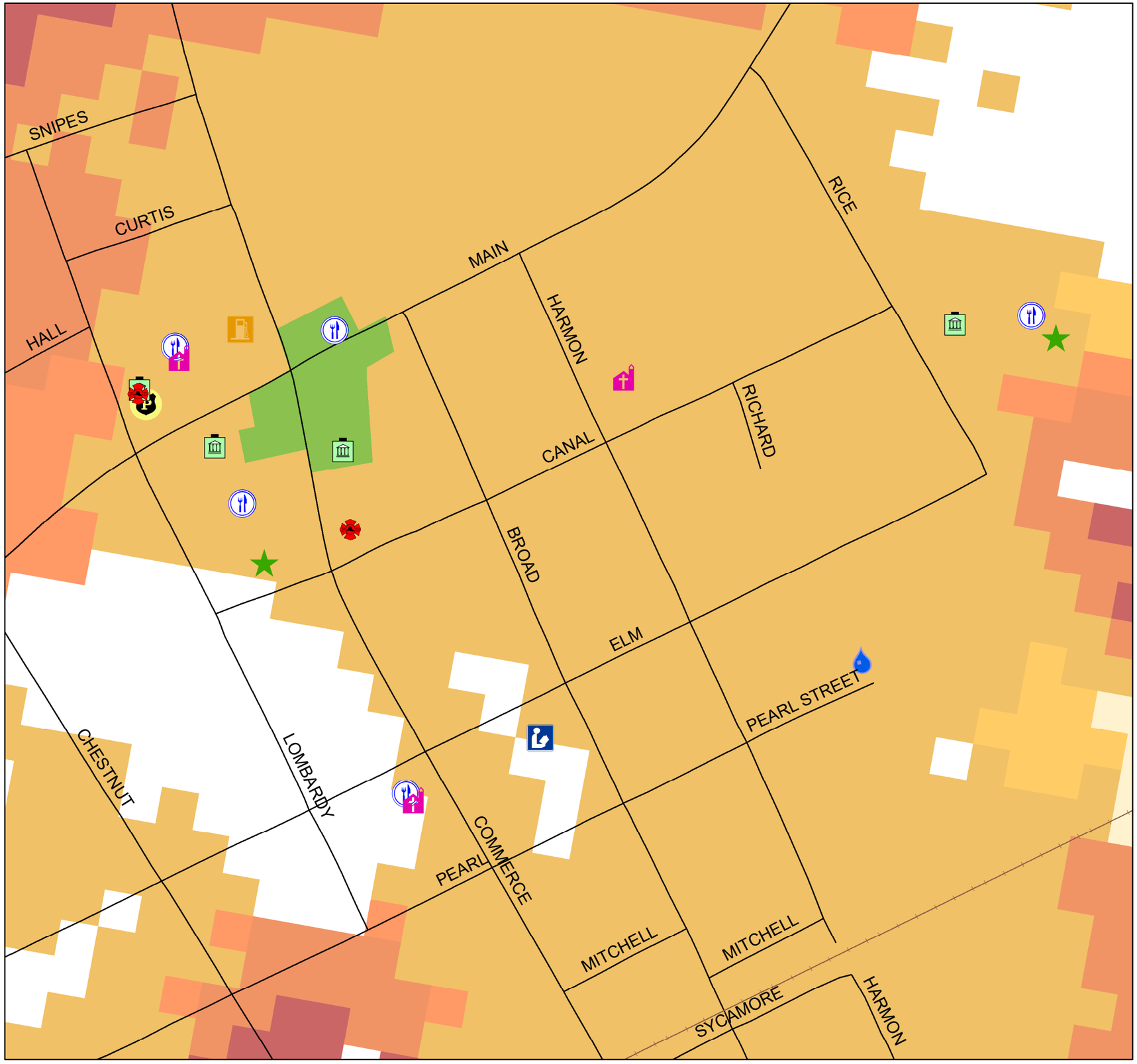
- -9: Major Impacts
- -8
- -7
- -6
- -5: Moderate Impacts
- -4
- -3
- -2
- -1: Minor Impacts

N

0 0.25 0.5 1 Miles

Aulander, NC Resilient Coastal Communities Program

Critical Assets and Wildland-Urban Interface (WUI) Risk Index
Town Core Inset



Legend

- Churches
- Community Building
- Fire and EMS
- Food
- Fuel Stations
- Government Services
- Libraries
- Police
- Public Water Supply Wells
- Downtown Commercial District
- Railroads
- Roads

WUI Risk Index

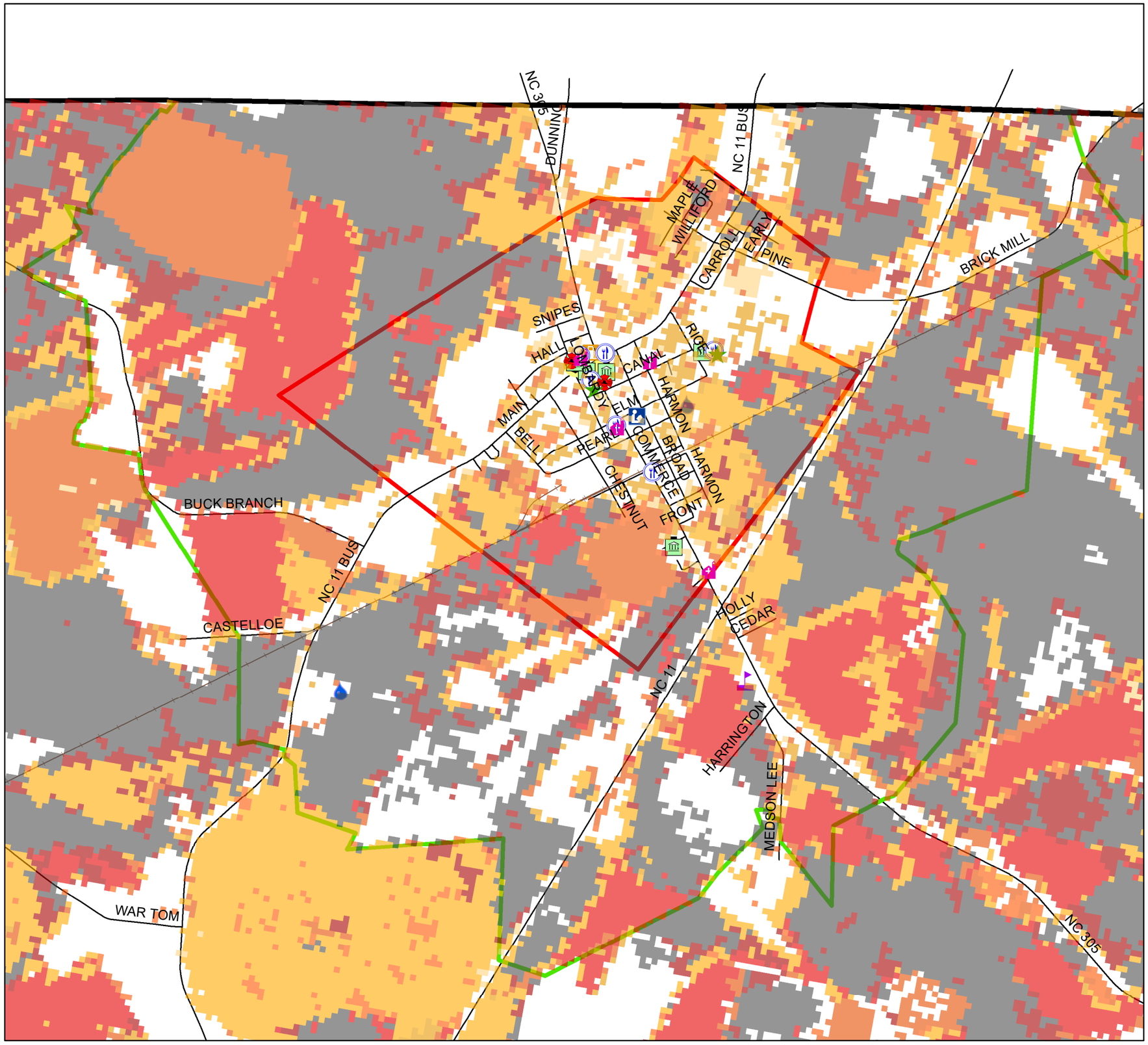
- -9: Major Impacts
- -8
- -7
- -6
- -5: Moderate Impacts
- -4
- -3
- -2
- -1: Minor Impacts

N

0 250 500 1,000 Feet

Aulander, NC Resilient Coastal Communities Program

Critical Assets and Characteristic Fire Intensity Scale



Legend

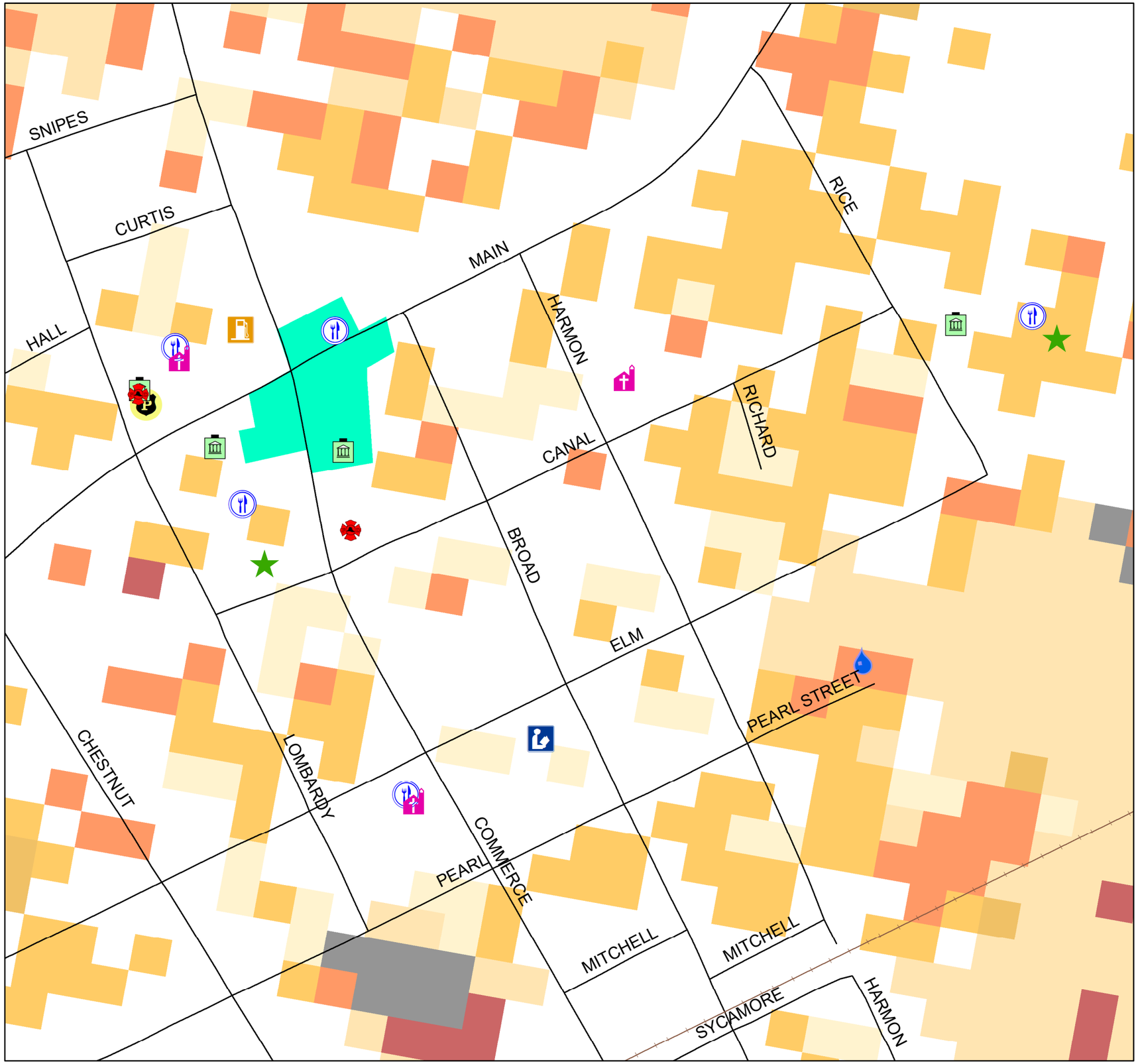
- Churches
- Community Building
- Fire and EMS
- Food
- Fuel Stations
- Government Services
- Libraries
- Police
- Public Water Supply Wells
- Schools
- Downtown Commercial District
- Railroads
- Roads
- Town Limits
- ETJ
- County Boundary

Characteristic Fire Intensity Scale

- 1: Lowest Intensity
- 2
- 3: Moderate Intensity
- 4
- 5: High Intensity
- 6
- 7
- 8: Highest Intensity

N

0 0.25 0.5 1 Miles



Aulander, NC Resilient Coastal Communities Program

Critical Assets and Characteristic Fire Intensity Scale
Town Core Inset

Legend

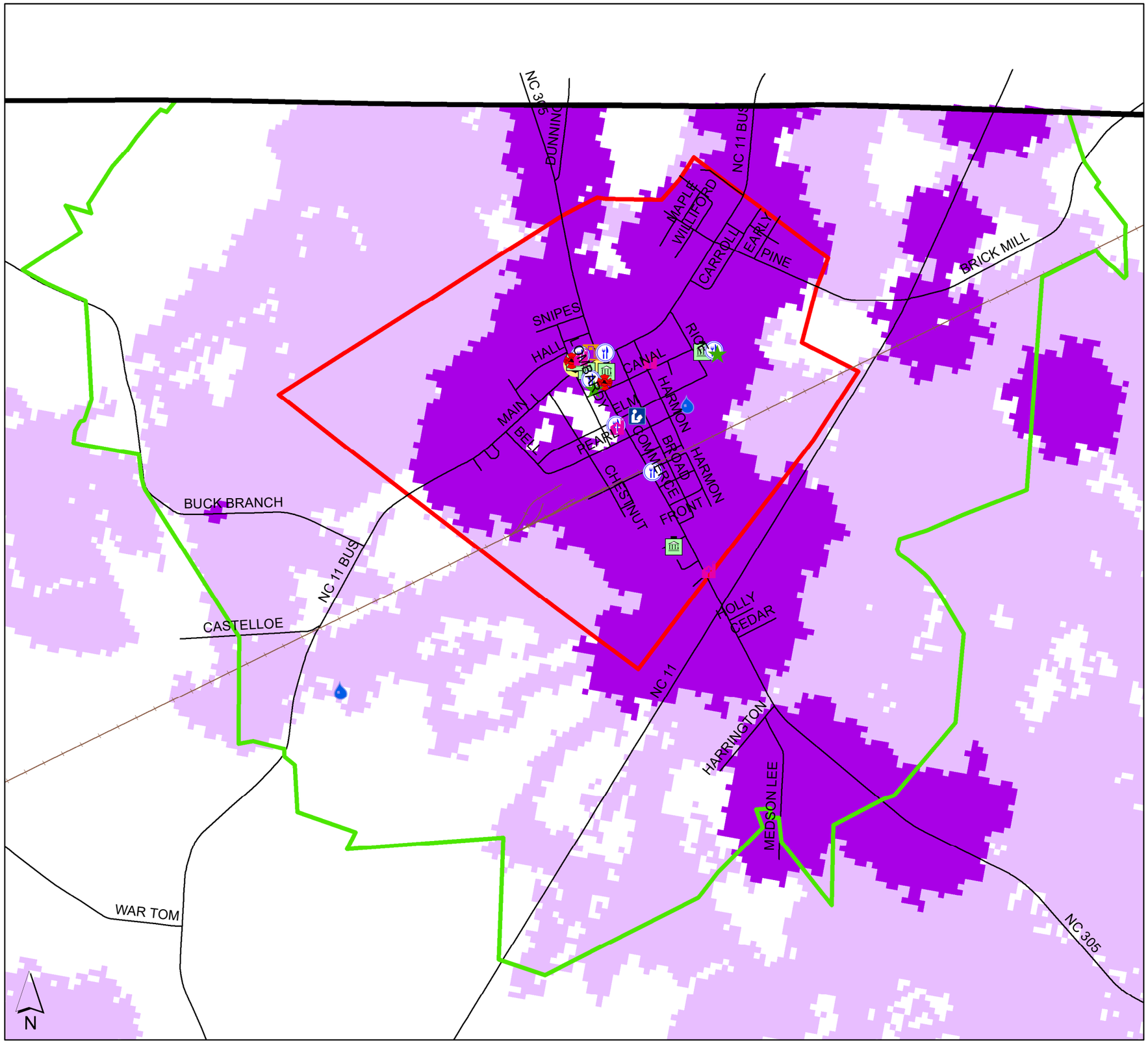
- Churches
- Community Building
- Fire and EMS
- Food
- Fuel Stations
- Government Services
- Libraries
- Police
- Public Water Supply Wells
- Downtown Commercial District
- Railroads
- Roads

Characteristic Fire Intensity Scale

- 1: Lowest Intensity
- 2
- 3: Moderate Intensity
- 4
- 5: High Intensity
- 6
- 7
- 8: Highest Intensity

N

0 250 500 1,000 Feet



Aulander, NC Resilient Coastal Communities Program

Critical Assets and Wildfire Risk Assessment Community Protection Zones (CPZs)

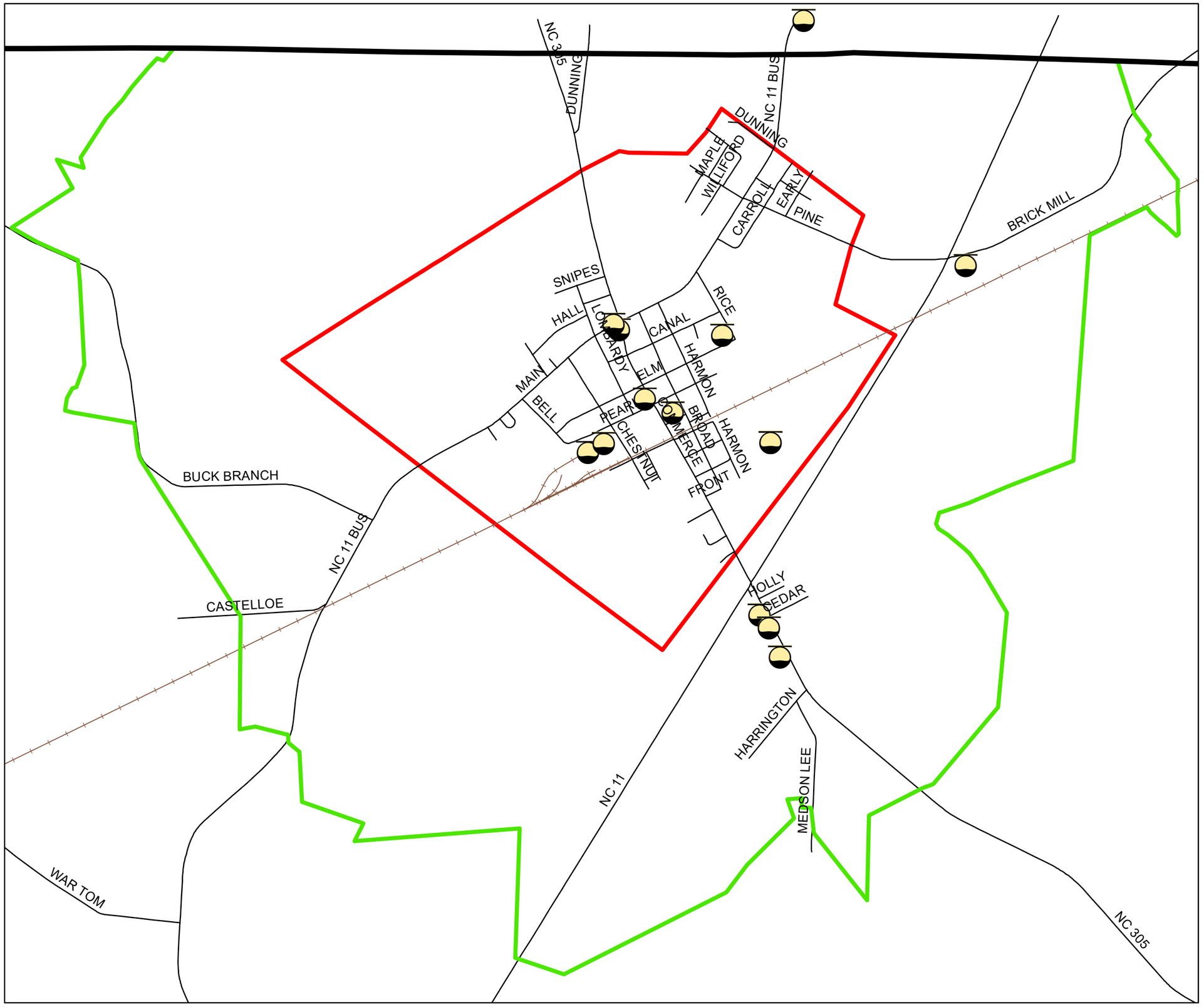
Legend

- Churches
- Community Building
- Fire and EMS
- Food
- Fuel Stations
- Government Services
- Libraries
- Police
- Public Water Supply Wells
- Schools
- Downtown Commercial District
- Railroads
- Roads
- Town Limits
- ETJ
- County Boundary
- Primary CPZ
- Secondary CPZ

0 0.25 0.5 1 Miles

Aulander, NC
Resilient Coastal Communities Program

Potentially
Hazardous Sites



Legend

- Leaking Underground Storage Tanks
- Railroads
- Roads
- Town Limits
- ETJ
- County Boundary

N

0 0.2 0.4 0.8 Miles