

Hurricane Matthew Resilient Redevelopment Plan

Martin County



May 2017

Version 1.2

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Change Log

Version	Date	Summary of Changes
1.1	6/15/17	Minor Revisions
1.2	8/25/17	Labor and unemployment data updated

Executive Summary

In October 2016, Hurricane Matthew caused widespread destruction in the Caribbean and up the Eastern Seaboard of the United States. In North Carolina, at least 25 people lost their lives, and 100,000 homes, businesses, and government buildings sustained damage estimated at \$4.8 billion.¹ At the storm's peak, 3,744 individuals fled to 109 shelters across the region. More than 800,000 households lost power and 635 roads were closed, including the major east-west and north-south corridors.

In December 2016, the North Carolina General Assembly established the North Carolina Resilient Redevelopment Planning (NCRRP) initiative as part of the 2016 Disaster Recovery Act (*Session Law 2016-124*). The purpose of the program 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 to allow each community not only to survive but also to thrive in an era when natural hazards are increasing in severity and frequency.

The NCRRP consists of planning and implementation phases and is managed through North Carolina Emergency Management.

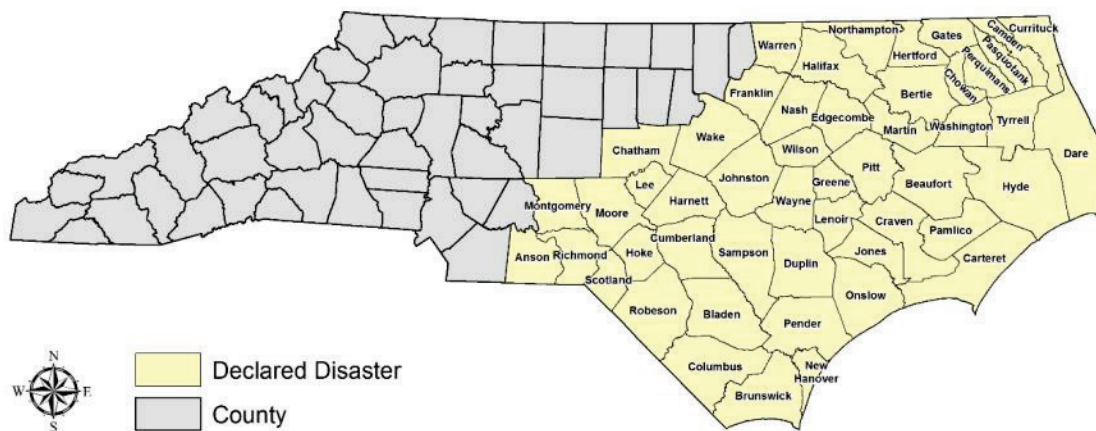


Figure 1. NCRRP Counties

This document is a snapshot of the current needs of the County regarding holistic recovery and redevelopment. The plan will evolve as the county analyzes the risk to its assets, identifies needs and opportunities, determines the potential costs and benefits of projects, and prioritizes projects. As projects are more fully defined, the potential impact on neighboring communities and the region may lead to modifications.

Implementation of the proposed projects and actions described in this plan is subject to applicable federal, state, and local laws and regulations. Proposed projects or actions may be eligible for state or federal funding, or could be accomplished with municipal, nonprofit, or private investments. However, inclusion of a project or action in this plan does not guarantee that it will be eligible for recovery funding.

¹ State of North Carolina Supplemental Request for Federal Assistance Hurricane Matthew Recovery, <https://governor-new.s3.amazonaws.com/s3fs-public/documents/files/Hurricane%20Matthew%20Relief--2017%20Federal%20Request%20%28002%29.pdf>.

After multiple public meetings, Martin County has identified 11 projects in four pillars: Housing, Economic Development, Infrastructure, and Environment. Details of these projects can be found in Section 4 of this plan.

Pillar	Project/Action Count
Housing	2
Economic Development	1
Infrastructure	5
Environment	3
Grand Total	11

Table 1. Martin County Summary of Projects by Pillar



1. Background

1. Background

Summary of Hurricane Matthew Storm Damage

Hurricane Matthew was an extraordinarily severe and sustained event that brought record-level flooding to many areas in eastern North Carolina’s coastal plain, sound, and coastal communities. Hurricane Matthew hit North Carolina on October 8, 2016, as a Category 1 storm. Communities were devastated by this slow-moving storm primarily by widespread rainfall. During a 36-hour period, up to 18 inches of heavy rainfall inundated areas in central and eastern North Carolina.

Riverine flooding began several days after Hurricane Matthew passed and lasted for more than 2 weeks. New rainfall records were set in 17 counties in the Tar, Cape Fear, Cashie, Lumber, and Neuse River watersheds. Entire towns were flooded as water levels throughout eastern North Carolina crested well beyond previously seen stages.

During the peak of the hurricane, 800,000 households lost power and 635 roads were closed, including a section of I-40 West in Johnston County that was closed for 7 days, and sections of I-95 North and South in Robeson and Cumberland Counties that were closed for 10 days.

Approximately 88,000 homes were damaged and 4,424 were completely destroyed. Losses totaled more than \$967 million, representing an economic loss as high as 68% of the damages, or \$659 million, not expected to be covered by insurance or FEMA assistance.

North Carolina Governor McCrory requested FEMA assistance on October 9, 2016, and FEMA subsequently declared a major disaster (DR-4285) for North Carolina on October 10, 2016, for 48 counties encompassing approximately 325 cities, towns, townships, and villages.

Preliminary estimates indicate more than 30,000 businesses suffered physical or economic damage, and 400,000 employees were affected as a result. Hurricane Matthew also had a significant impact on the agriculture and agribusiness economy in eastern North Carolina. The nearly 33,000 agricultural workers and 5,000 agricultural-support workers hit by the storm account for more than half of the state’s agriculture and agriculture-support workforce.

Initial economic analysis of the impacts of crop and livestock losses caused by Hurricane Matthew estimated the loss of more than 1,200 jobs and roughly \$10 million in state and local income and sales tax revenue. ²

State/Legislative Response

North Carolina’s response to Hurricane Matthew included 2,300 swift-water rescues using 79 boats and more than 90 air rescues. North Carolina also deployed over 1,000 National Guard and State Highway Patrol to assist with rescue and sheltering missions. There were 3,744 individuals transported to 109 shelters across central and eastern North Carolina during the storm’s peak.

FEMA’s disaster declaration made 50 counties eligible for FEMA assistance, 45 of which are eligible for Individual Assistance and Public Assistance and 5 of which are eligible for Public Assistance only.

- There were 81,832 individuals registered for FEMA/state assistance.

² Governor McCrory’s Request for Federal Assistance for Hurricane Matthew Recovery, November 14, 2016

- Federal/state financial assistance in the amount of \$92.5 million was approved to help flood survivors recover.
- Small Business Administration (SBA) loans approved for individuals after Hurricane Matthew totaled \$65.6 million.
- SBA loans approved for businesses after Hurricane Matthew totaled \$23.2 million.

After the immediate response period, North Carolina Governor McCrory and the North Carolina General Assembly took the steps summarized below to obtain and allocate long-term funding for Hurricane Matthew.

November 1: The Hurricane Matthew Recovery Committee is established. Preliminary damage assessments are completed, and the State Emergency Response Task Force continues to administer programs and identify needs unmet by existing federal programs.

November 14: Governor McCrory formally submits North Carolina’s request for supplemental federal disaster assistance to the delegation as Congress returns to work.

Late November/Early December: Congress appropriates supplemental disaster assistance for North Carolina. After the supplemental federal disaster recovery assistance package is received, Governor McCrory submits a supplemental state disaster assistance package (House Bill 2) recommendation to the General Assembly and calls a special session. Governor McCrory then signs the Hurricane Matthew Recovery Act to fund disaster recovery efforts.

This supplemental federal assistance was to focus on housing, infrastructure, economic development, and the environment. These four pillars were to be funded through the following programs and agencies: The U.S. Department of Housing and Urban Development’s Community Development Block Grant–Disaster Recovery (CDBG-DR) program, Army Corps of Engineers Operations and Maintenance, the FEMA National Dam Safety Program, the Federal Highway Administration’s Emergency Highway Funding, and the U.S. Department of Agriculture’s Emergency Conservation and Watershed Protection programs.

Resilient Redevelopment Planning

The purpose of the NCRRP initiative is to provide a roadmap for communities in eastern North Carolina to rebuild and revitalize after being damaged by Hurricane Matthew. The program empowers communities to prepare locally driven, resilient redevelopment plans to identify redevelopment strategies, innovative reconstruction projects, and other actions to allow each community not only to survive, but also to thrive in an era when natural hazards are increasing in severity and frequency.

The NCRRP initiative employs a holistic approach to planning that includes four pillars: housing, infrastructure, economic development, and the environment. Redevelopment strategies and reconstruction projects for each of the four pillars is included in each plan.

The NCRRP initiative consists of planning and implementation phases and is managed through North Carolina Emergency Management (NCEM).

Scope of the Plan

This document is a snapshot of the County’s current needs for achieving holistic recovery and redevelopment. The plan will evolve as the County analyzes the risk to its assets, identifies needs and opportunities, determines

the potential costs and benefits of projects, and prioritizes the projects. As projects are more fully defined, the potential impact on neighboring communities and the region may lead to modifications.

Planning objectives are to (1) develop strategic, resilient redevelopment plans and actions, and (2) to define any unmet funding needed to implement such actions after taking into account other funding sources.

The resulting resilient redevelopment plans will be the foundation for any supplemental funding received through Congress, the North Carolina General Assembly, and other funding sources. These plans will also be the basis for the state's Recovery Action Plan, which is required by the U.S. Department of Housing and Urban Development before the state can expend funds received from the CDBG-DR program.

Local Participation and Public Engagement

Stakeholder engagement and public involvement was an essential component of the NCRRP initiative. Four rounds of discovery, analysis, collaboration, and interaction were held with each affected county. Each meeting had two components: an in-depth working session with county officials, subject matter experts, and planners from the affected counties and municipalities; and a public open house. The purpose of each meeting was as follows:

Meeting 1 – Initiated the planning process and validated the existing data pertaining to damage and impacts.

Meeting 2 – NCEM presented draft documentation of resilient redevelopment strategies and received feedback from community leaders and the public.

Meeting 3 – NCEM presented refined resilient redevelopment strategies based on feedback from Meeting 2 and received additional feedback.

Meeting 4 – NCEM presented actions developed during the course of the planning process and allowed the county to rank actions; apply High, Medium, or Low Prioritization; and approve inclusion of the actions in the final plan.

Each of the 50 counties that were declared a major disaster by the President of the United States as a result of Hurricane Matthew under the Stafford Act (P.L. 93-288) participated in the resilient redevelopment planning process. Each municipality in those counties, as well as the five economic development regions that sustained damage from Hurricane Matthew, were also invited to participate. The counties impacted by the storm cover the eastern half of North Carolina and occupy parts of the piedmont, sand hills, and coastal areas of the state.

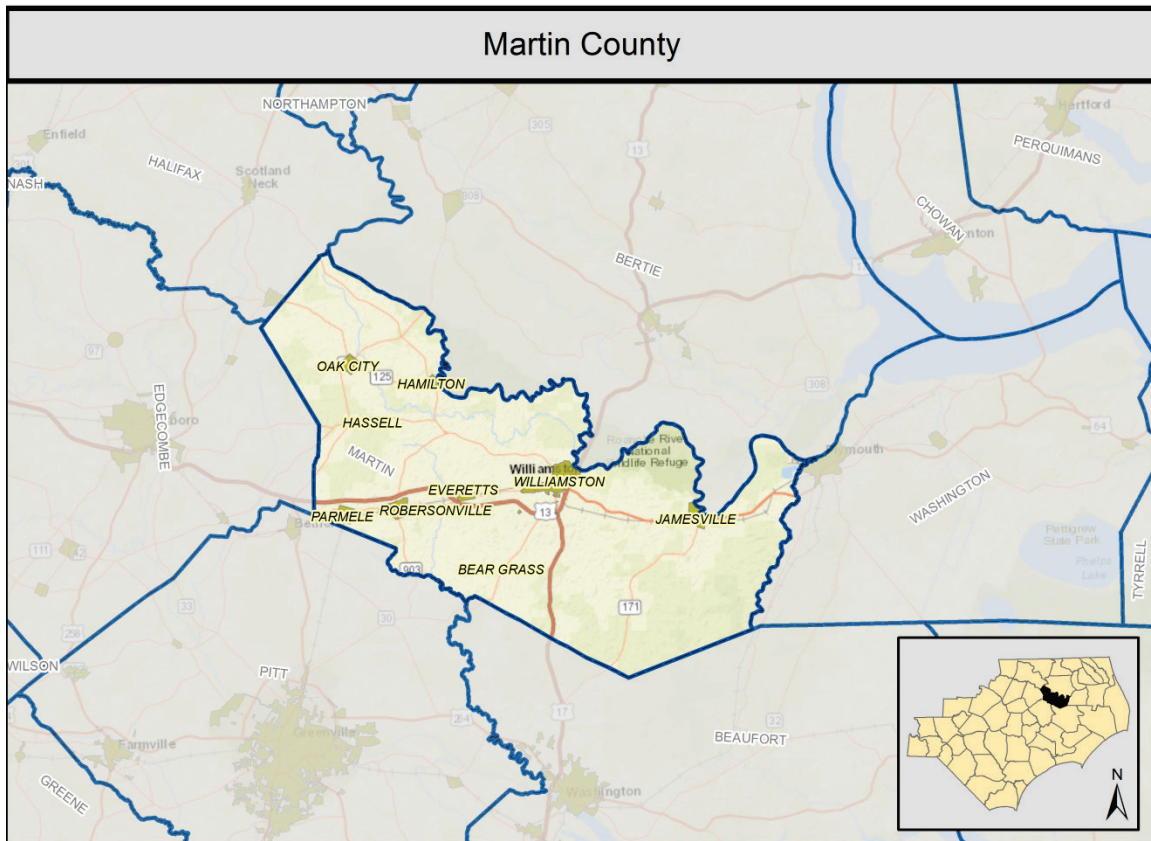


Figure 2. Martin County and Neighboring Counties

Data, Assumptions, and Methodologies

NCEM has assembled a wealth of data, resources, and technical expertise from state agencies, the private sector, and the University of North Carolina system to support the development of innovative best practice strategies.

Implementation of the proposed projects and actions described in this plan is subject to applicable federal, state, and local laws and regulations. Inclusion of a project or action in this plan does not guarantee that it will be eligible for recovery funding. However, proposed projects or actions may be eligible for state or federal funding or could be accomplished with municipal, nonprofit, or private investment.



2. County Profile

2. County Profile

Martin County is located in eastern North Carolina between Rocky Mount and the Abermarle Sound. It is comprised of nine census-designated places: the towns of Bear Grass, Everetts, Hamilton, Hassell, Jamesville, Oak City, Parmele, Robersonville, and Williamston. Its current population is 23,729. This section provides a profile of housing, economics, infrastructure, environment, and administration within Martin County.

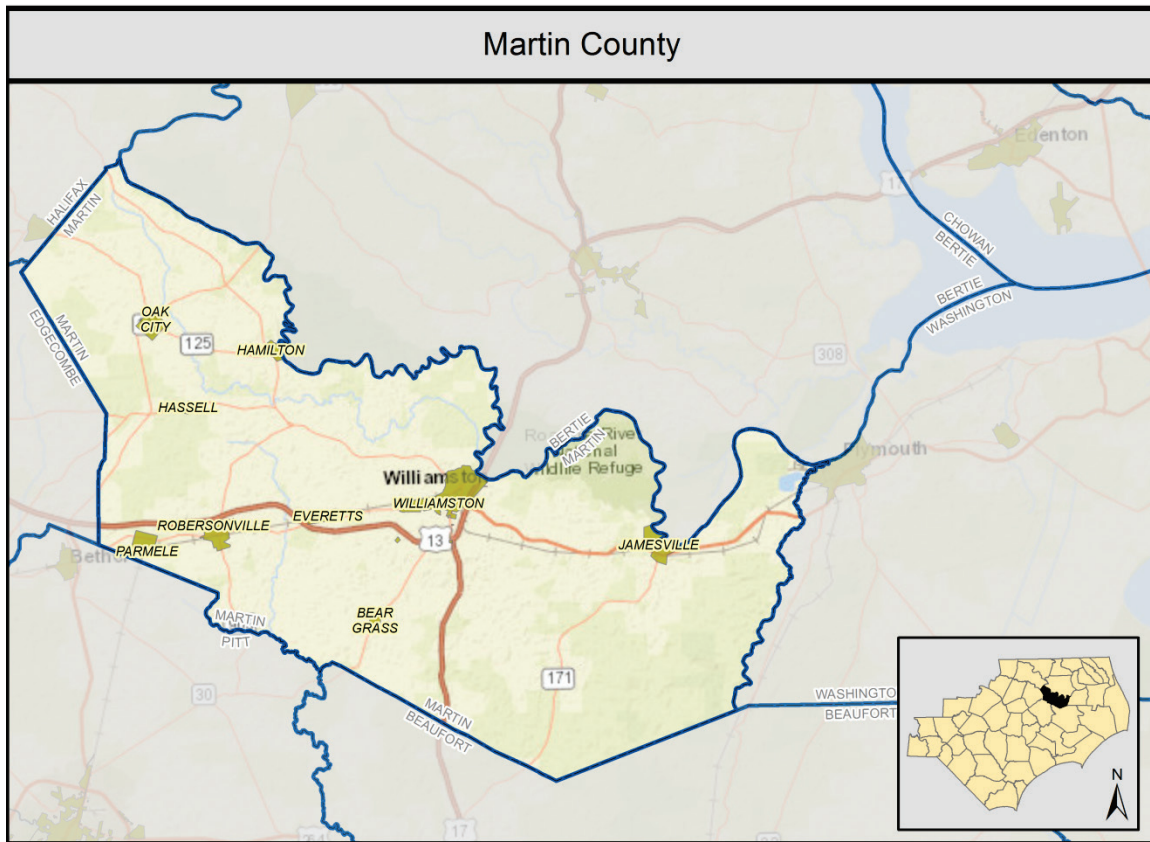


Figure 3. Martin Base Map

Demographic Profile

Demographics for Martin County and census-designated places within the county are summarized and compared to statewide averages in this profile. The demographic data is from the 2000 Census, 2010 Census, and 2011-2015 American Community Survey five-year estimates.

Population

Martin County has a population of 23,729. The Town of Williamston is the most populous place within Martin County with a population of 5,569 and the Town of Hassell is the least populous place with a population of 38. The total population of Rocky Mount is greater than the county total because Rocky Mount spans Martin and Nash counties.³

3 Source: US Census Bureau, American Community Survey 5-year Estimates (2011-2015), Table B01001, Sex by Age.

Population Change (2000 to 2010)

The Martin County population remained relatively the same between the 2000 and 2010 Census. In 2000 the population was 25,593 and in 2010 it was 24,505. The population declined by 1,088 people, or less than 5 percent. In comparison, North Carolina grew by 19 percent from 8,049,313 people in 2000 to 9,535,483 in 2010.⁴

Age

The median age in Martin County is 46, which is higher than the North Carolina median age of 42. Within Martin County, the town of Hassell's population has the oldest median age, 58, and the town of Bear Grass's population has the youngest median age, 31.³

Race and Ethnicity

Martin County is mostly African American (53 percent) and White (44 percent) with other races constituting the remaining 3 percent. In comparison, North Carolina is 70 percent White, 22 percent African American, 1 percent American Indian and Alaska Native, 3 percent Asian, less than 1 percent Native Hawaiian/Pacific Islander, 3 percent Some Other Race, and 2 percent Two or More Races. Refer to the table below.⁵

Within Martin County, the Towns of Bear Grass, Jamesville, and Hassell are predominantly White while the towns of Parmele, Robersonville, Williamston, Oak City, Everetts, and Hamilton are majority African American. In the towns of Jamesville and Robersonville 3 percent and 2 percent (respectively) of the population identifies as Some Other Race.

Geography	White	Black or African American	American Indian and Alaska Native Alone	Asian	Native Hawaiian/Pacific Islander	Some Other Race	Two or More Races	Total Non-White
Williamston town	29.4%	67.9%	0.0%	0.0%	1.6%	0.5%	0.6%	70.6%
Robersonville town	25.4%	71.9%	0.0%	0.0%	0.0%	2.4%	0.3%	74.6%
Jamesville town	72.0%	22.7%	0.4%	0.0%	1.5%	3.1%	0.4%	28.0%
Hamilton town	41.9%	57.6%	0.0%	0.0%	0.0%	0.5%	0.0%	58.1%
Oak City town	36.1%	63.9%	0.0%	0.0%	0.0%	0.0%	0.0%	63.9%
Parmele town	8.1%	91.9%	0.0%	0.0%	0.0%	0.0%	0.0%	91.9%
Everetts town	41.4%	58.6%	0.0%	0.0%	0.0%	0.0%	0.0%	58.6%
Bear Grass town	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Hassell town	60.5%	39.5%	0.0%	0.0%	0.0%	0.0%	0.0%	39.5%
Martin County	36%	30%	0%	0%	0%	1%	1%	32%
North Carolina	69.5%	21.5%	1.2%	2.5%	0.1%	3.0%	2.4%	30.5%

Table 2. Martin County Race and Ethnicity

The Latino population in Martin County is 4 percent compared to 9 percent for North Carolina. The Town of Jamesville has the largest Latino population (18 percent) while the Towns of Bear Grass, Everetts, Hassell, and

⁴ Source: Minnesota Population Center. National Historical Geographic Information System: Version 11.0 [Database]. Minneapolis: University of Minnesota. 2016. <http://doi.org/10.18128/D050.V11.0>. Census 2000/Census 2010 Time Series Tables Geographically Standardized

⁵ Source: US Census Bureau, American Community Survey 5-year Estimates (2011-2015), Table B02001, "Race" and Table B03002, "Hispanic or Latino Origin by Race."

Parmelee do not have Latino populations according to the census data. The towns of Hamilton, Roberson, Williamston, and Oak City have an average Latino population of 3 percent.

Limited English Proficiency

Limited English Proficiency (LEP) is defined as populations 18 years or older that speak English less than very well. In Martin County, most of the individuals identified as LEP speak Spanish while others speak Indo-Euro, Asian/Pacific, or other languages. Similarly, the primary language group for LEP individuals in North Carolina is Spanish. Within Martin County, Jamesville has the largest LEP population. The primary language group for LEP populations in Jamesville, Williamston, and Hamilton is Spanish. In Parmelee and Robersonville, the primary language group is Other Indo-Euro.⁶

Poverty

In Martin County, 21 percent of the population is below the poverty level compared to 17 percent of the North Carolina population. The percentages of populations below the poverty level in the following towns are: Bear Grass 49 percent, Hassell 47 percent, Jamesville 40 percent, Everetts 25 percent, Robersonville 22 percent, Williamston 21 percent, Hamilton 15 percent, Oak City 14 percent, Parmelee 14 percent.⁷

Low and Moderate Income Individuals

In Martin County, 44 percent of the population is classified as low and moderate income (LMI) individuals based on the US Department of Housing and Urban Development's definition. In comparison, 39 percent of the North Carolina population is classified as LMI.⁸

Median Household Income

The median household income of the population 25 to 64 years old is \$35,080 in Martin County and \$53,000 in North Carolina. Bear Grass has the highest median household income for this age group, \$43,125, and Parmelee the lowest: \$19,177.⁹

Zero Car Households¹⁰

In both Martin County and North Carolina 7 percent of households do not have a vehicle available. Within Martin County, the Town of Oak City has the highest percentage of households without access to a vehicle, 20 percent, while Bear Grass and Hassell have the lowest percentage: 0 percent. Not having a car available directly impacts the ability to evacuate in an emergency. The residents of Oak City would have the greatest need for assistance in the event of an evacuation.

6 Source: US Census Bureau, American Community Survey 5-year Estimates (2011-2015), Table B16004 Age by Language Spoken at Home by Ability to Speak English for the Population 5 Years and Over.

7 Source: US Census Bureau, American Community Survey 5-year Estimates (2011-2015), Table C17002 Ratio of Income to Poverty Level in the Past 12 Months.

8 Source: US Department of Housing and Urban Development, Estimate of Low and Moderate Income Individuals, <https://www.hudexchange.info/programs/acs-low-mod-summary-data/acs-low-mod-summary-data-block-groups-places/>

9 Source: US Census Bureau, American Community Survey 5-year Estimates (2011-2015), Table B19094 Median Household Income in the Past 12 Months.

10 Source: US Census Bureau, American Community Survey 5-year Estimates (2011-2015), Table B25044 Tenure by Vehicles Available.

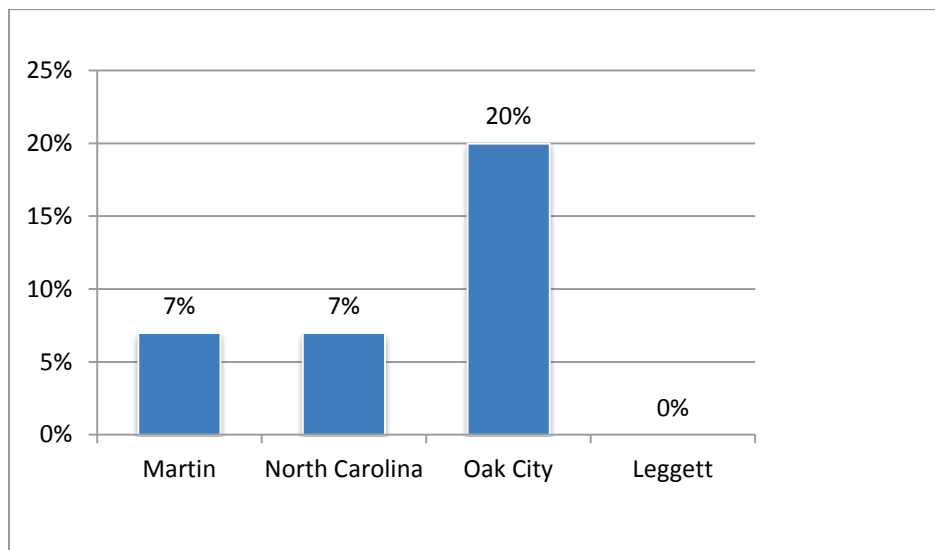


Figure 4. Zero Car Households by Percentage

Commuting: Travel Time to Work, Means of Transportation¹¹

The majority of Martin County residents commute alone to work by vehicle, 86 percent, which is higher than North Carolina average of 81 percent. Within Martin County, the Town of Hassell has the largest percentage of commuters commuting alone, 100 percent, and the Town of Oak City has the least, 69 percent.

None of the towns within Martin County commute using public transportation. In comparison, 1 percent of North Carolina commuters use public transportation. A greater percentage of the towns of Oak City, Hamilton, Jamesville, and Robersonville residents commute by walking, bike, or motorcycle than the North Carolina average of 2 percent.

The mean commute time to work for Martin County residents is 23.7 minutes. In comparison, the North Carolina mean commute time is 24.7 minutes. Within Martin County, Williamston has the shortest mean commute time at 18.2 minutes while Hamilton has the longest at 31.4 minutes.

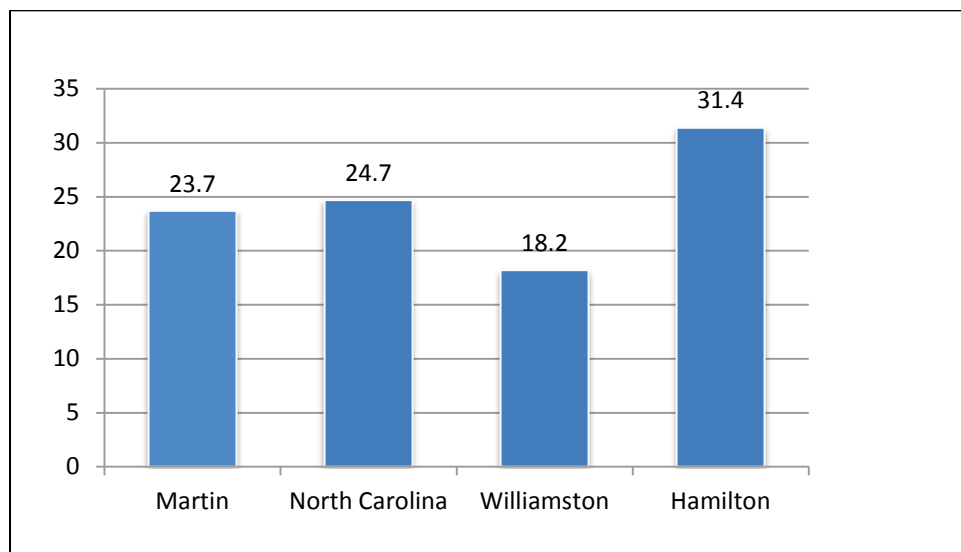


Figure 5. Mean Commute Time to Work in Minutes

¹¹ Source: US Census Bureau, American Community Survey 5-year Estimates (2011-2015), Table B08301, "Means of Transportation to Work" and Table GCT0801, "Mean Travel Time to Work of Workers 16 Years and Over Who Did Not Work at Home (Minutes)".

Housing Profile¹²

Martin County has over 7,721 housing units, 67 percent of which are single-family homes, 12 percent multi-family units, and 21 percent manufactured housing.

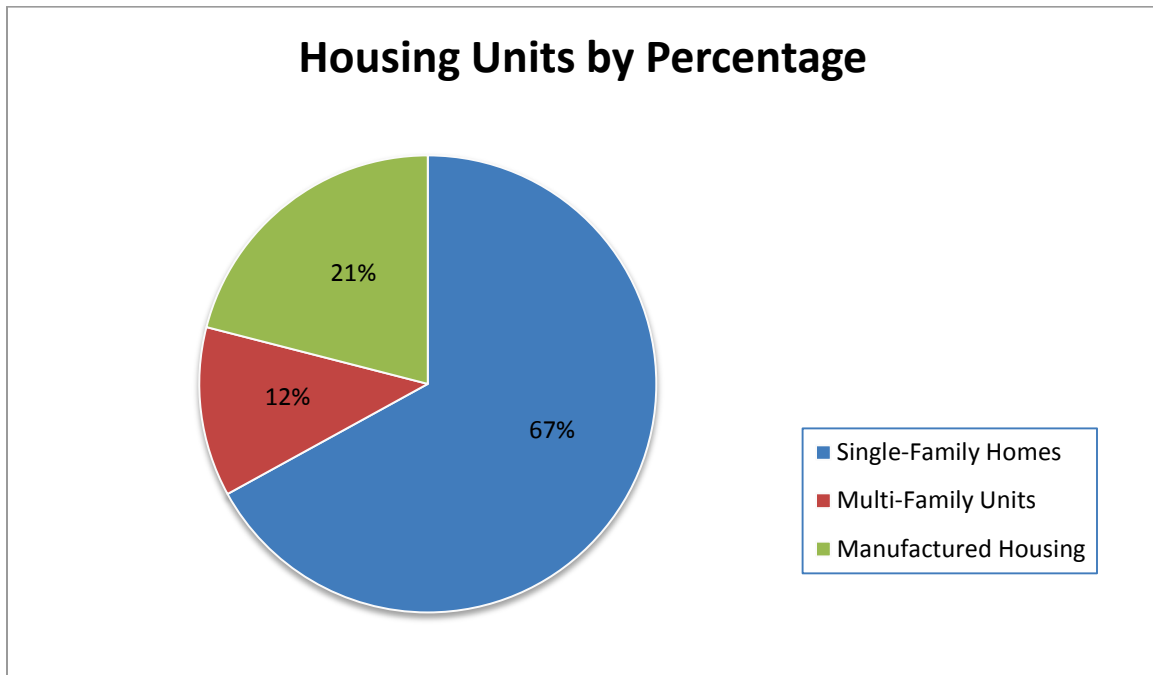


Figure 6. Housing Units by Percentage

In Martin County 20 percent of housing units are vacant, which is approximately the same percentage for North Carolina. Within Martin County, the Town of Parmele has the largest percentage of vacant housing units, 35 percent, while the Town of Bear Grass has the least: 0 percent.

Of the occupied housing units, 68 percent are owner-occupied compared to 65 percent in North Carolina; 32 percent are renter-occupied compared to 35 percent in North Carolina. The median housing value in Martin County \$85,500. In comparison, the median housing value in North Carolina is \$140,000. Within Martin County, the Town of Williamston has the highest median housing value: \$92,000. The Town of Hassell has the lowest median housing value: \$42,500.

According to the National Housing Preservation Database, Martin County has 878 affordable housing units.

¹² Sources: US Census Bureau, American Community Survey 5-year Estimates (2011-2015), Table B25002 Occupancy Status; Table B25003 Tenure; Table B25024 Units in Structure; Table B25077 Median Value (Dollars) - National Housing Preservation Database.

Economic/Business Profile

Martin County is home to a diverse array of businesses from Agriculture to healthcare companies. According to the US Census Bureau’s Longitudinal-Employer Household Dynamics Program, the largest concentrations of jobs within Martin County are in the town of Williamston, at the Highway 64 and Highway 17 intersection, and near the intersection of Highway 17 and Main Street.¹³

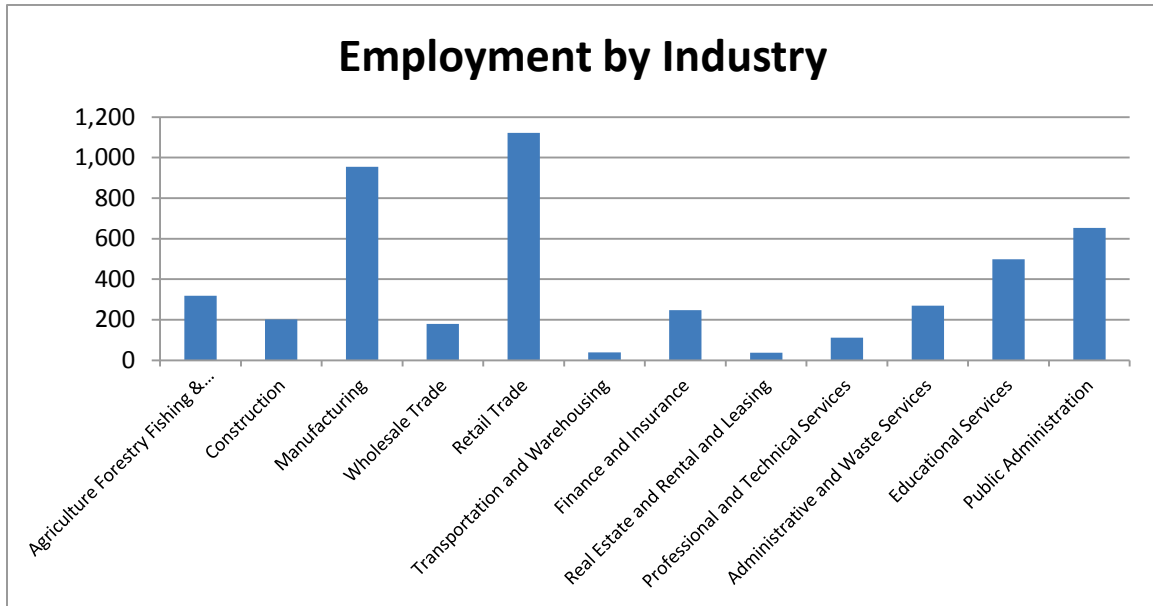


Figure 7. Employment by Industry

Labor Force

According to the local area unemployment statistics (LAUS) from the Labor and Economic Analysis Division (LEAD) for the unadjusted data for all periods in 2016, the civilian labor force population of Martin County is 9,889.¹⁴ Within Martin County, the Town of Everetts has the largest percentage of residents 16 years or over in the labor force, 62 percent, while the Town of Hassell has the smallest: 12 percent.¹⁵

The civilian unemployment rate in Martin County is 6.7 percent. In comparison, the North Carolina civilian unemployment rate is 5.1 percent.¹⁴ Within Martin County, the Town of Robersonville has the smallest civilian unemployment rate at 12 percent while Everetts has the largest: 32 percent.¹⁵

¹³ Source: AccessNC – North Carolina Department of Commerce, April 2017:
<http://accessnc.nccommerce.com/DemoGraphicsReports/pdfs/countyProfile/NC/37065.pdf>

¹⁴ Source: Civilian Population and Unemployment Rate - Labor and Economic Division (LEAD) of North Carolina Department of Commerce – Local Area Unemployment Statistics <http://d4.nccommerce.com/LausSelection.aspx>

¹⁵ Source: US Census Bureau, American Community Survey 5-year Estimates (2011-2015), Table B23025 Employment Status For The Population 16 Years And Over

Major Employers

The top ten employers in Martin County¹⁶ represent the manufacturing, public administration, education and health service industries, and are listed in order of total employees.

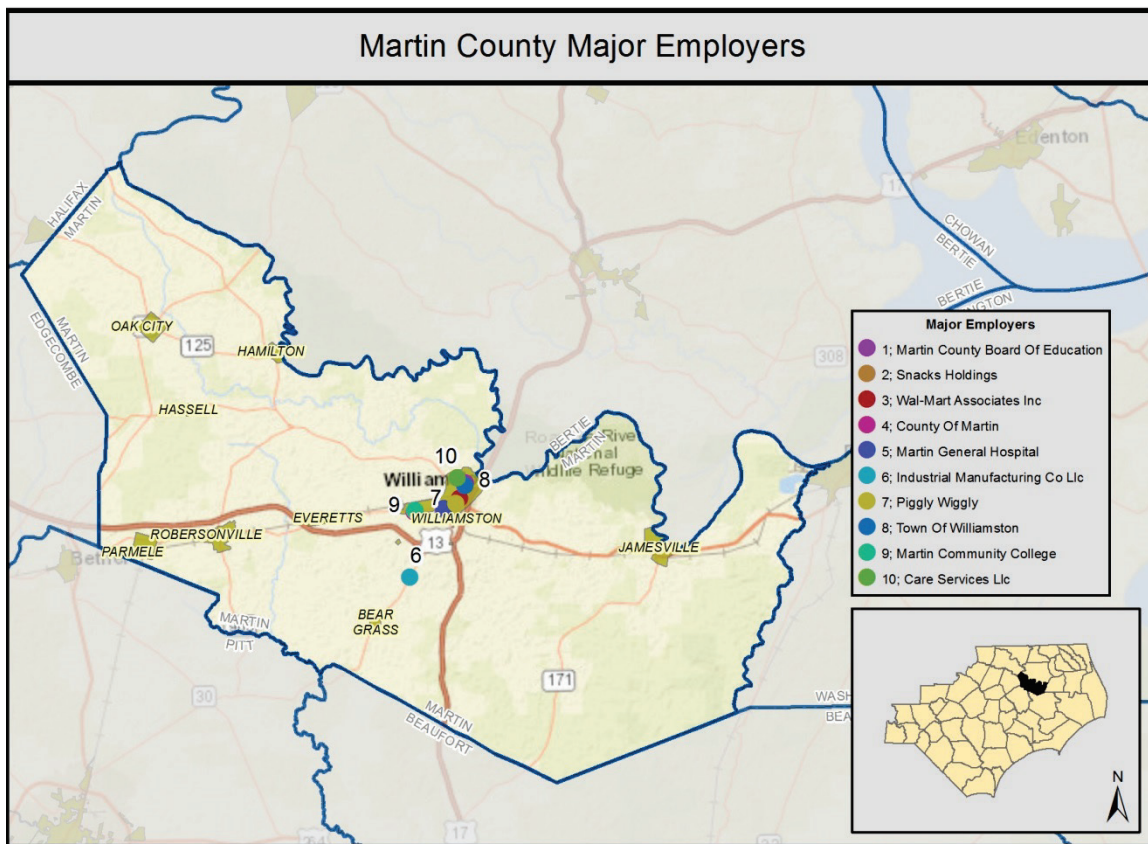


Figure 8. Major Employers by Number of Employees

Economic Development¹⁷

Martin County is located along I-87 and has both rail and barge availability. The County's logging infrastructure makes lends to a great opportunity in business for both wood products industries and bio fuel. Additionally, transportation assets located throughout the region make the area ideal for East Coast access for the purposes of distribution of goods manufactured in the area.

Martin County Economic Development Corporation is an organization aimed at bringing new jobs and investment into the county as well as finding ways to "nurture existing industry".

Martin Community College, located in Williamston, "seeks to build better futures by providing affordable, accessible, quality educational programs and workforce development in a student-centered environment in order to meet the community's needs."

¹⁶ Sources: NC Department of Commerce

¹⁷ Sources: Martin County Department of Economic Development, Rocky Mount/Martin Community Development Corporation, Martin Community College, and Visit North Carolina

Infrastructure Profile

Transportation, health, education, water, and power infrastructure are summarized for Martin County in the sections that follow.

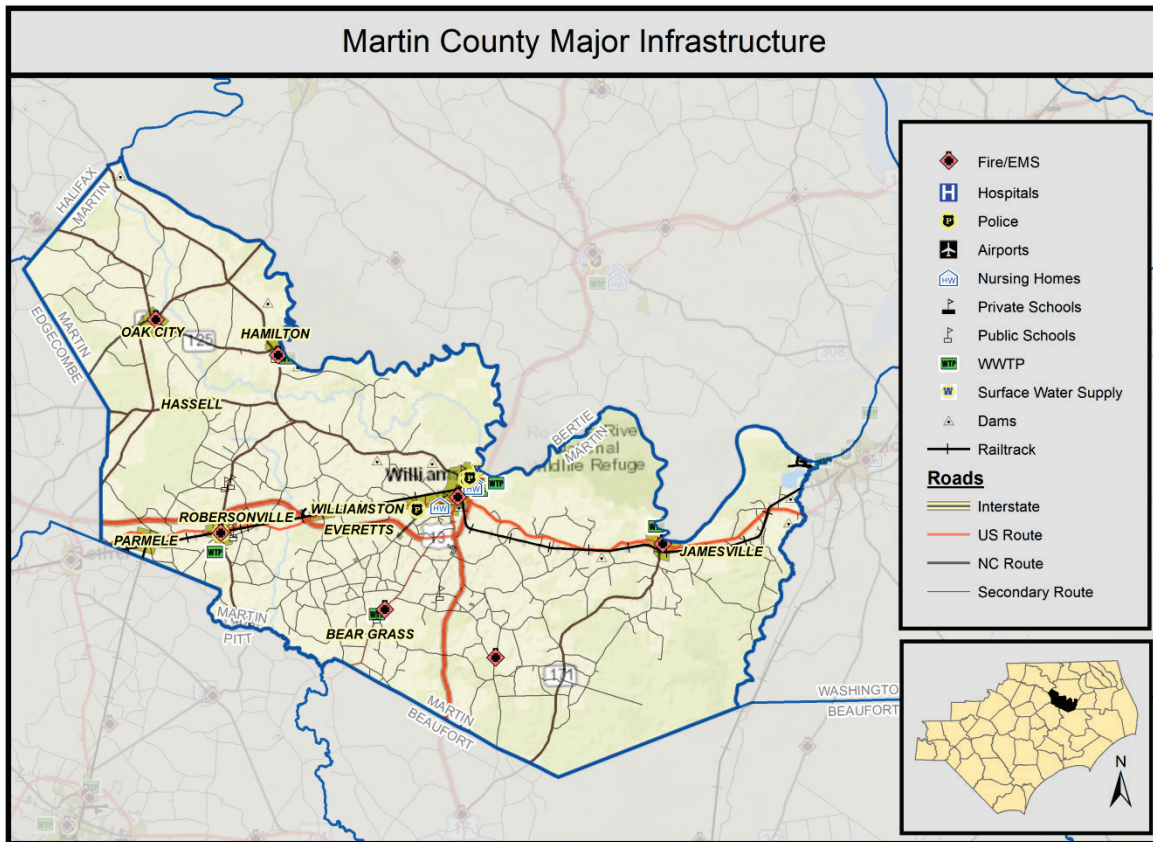


Figure 9. Martin County Major Infrastructure

Transportation

Martin County is connected to the region by US Hwy 64 and US Hwy 17. US 64 is a major east-west highway that provides Martin County with access to Rockmount and Raleigh to the west and the Abemarle Sound to the east. US 17 is a north-south highway connecting the county with the City of Washington to the south. Martin County is also served by rail from the Seaborad System Railroad and smaller regional operators. The Martin County Airport, a county owned and public use airport in Williamston, NC has a 5,000 foot runway.

Health

Martin General Hospital and Martin County Health Center are the only two health centers located in Martin County.

Education¹⁸

Martin County Schools administers six elementary, two middle, and two high schools. Martin County Community College is located in Williamston and is a member of the North Carolina Community College System.

¹⁸ Sources: Martin County Public Schools and Martin Community College

Water

The Martin County Regional Water and Sewer Authority (MCRWASA) operates the MCRWASA Water Treatment Plant, which provides drinking water to the Town of Williamston and Martin County Water Districts #1 and #2 residents. Its permitted capacity is 2 million gallons per day.¹⁹

Power

There are several solar farms located within Martin County along both US 64 and US 17 as well as one north of US 64. Most of these power plants have a net summer capacity of 5 megawatts each, with only one of them having a net of 20 MW.²⁰

Environmental Profile

Water resources, natural areas, managed areas, biodiversity, wildlife habitat, and recreation are summarized for Martin County in the sections that follow.

Water Resources

The Roanoke River borders Martin County to the north. Wetlands are present along the Roanoke River and its tributaries. The most common wetland type in Martin County is freshwater forested/shrub wetland.²¹

Natural and Managed Areas

According to the NC Natural Heritage Program, there several high and very high priority areas managed under state and private ownership within Martin County. Managed areas are properties and easements where natural resource conservation is one of the current primary management goals, or are of conservation interest. One such area is the Roanoke River National Wildlife Refuge.²¹

Biodiversity and Wildlife Habitat

The NC Natural Heritage Program produces a biodiversity and wildlife habitat assessment for the state. According to this assessment, areas with the highest rating for biodiversity and wildlife habitat are along the Roanoke River and its tributaries. These areas rank between a 7 and 10, with 10 being the highest possible score. Other areas of the county rank 5 to 6. Most of the county is unrated.²¹

Parks and Recreation

The Martin County Parks and Recreation Department maintains several parks and facilities in Martin County. Moratoc Park is located on River Road (on the Roanoke River) off Main Street in Williamston, NC. The park includes picnic facilities and a fishing pier as well as a banquet facility that includes a kitchen. Other locations and sources of recreation located within the County are the Farm Life Disc Golf Course, the Williamston Bowling Center, Roanoke and Robersonville Country Clubs, and the boating and paddling along the Roanoke River itself.²²

¹⁹ Sources: NC Division of Water Resources, Local Water Supply Plans; and the Neuse Regional Water and Sewer Authority

²⁰ Source: US Department of Energy, US Energy Mapping System

²¹ Source: NC Natural Heritage Program

²² Sources: Martin County Parks and Recreation Department and NC Natural Heritage Program

Administrative Profile

The administrative capabilities of Martin County and the municipalities within the County are discussed in great detail within Section 4 of the Northeastern NC Hazard Mitigation Plan 2015-2020. The assessment evaluates the capabilities of the County and municipalities to implement mitigation actions across the areas of administrative and technical capabilities, planning and regulatory capabilities, financial capabilities, educational and outreach capabilities and legal and political capabilities. Many more details about the capabilities of Martin County and the municipalities can be found in that document.

In terms of administrative capabilities, the County has many of the staff and the necessary plans, policies and procedures in place that are found in communities with “high” capabilities. Martin County has Emergency Services and Planning departments with the capacities to assist in implementing the resilience strategies proposed in this plan. These plans, policies and procedures help ensure that new development in the County will be done in a responsible manner and in non-hazardous areas.

The Cities of Jamesville and Williamston have Planning departments that would likely be able to assist with implementing the strategies in this plan as well. While their capabilities may not be quite as robust as those at the County level, they would still be considered to have “moderate” to “moderate-high” capabilities. Smaller communities and towns within Martin County have what would be considered “limited” capabilities and will likely need additional assistance in the administration and implementation of projects due to their limited staff capacity.

An aerial photograph showing a residential neighborhood severely impacted by flooding. The water is a murky, brownish-yellow color, covering large areas of the landscape. Numerous houses with grey roofs are visible, some partially submerged. A network of roads crisscrosses the area, with some sections completely underwater. Large green trees are scattered throughout, many of which are isolated in the floodwater. The overall scene depicts significant storm damage and inundation.

3. Storm Impact

3. Storm Impact

Rainfall Summary

Hurricane Matthew officially made landfall as a Category 1 storm southeast of McClellanville, South Carolina early on October 8, 2016. The track and speed of the storm resulted in nearly two days of heavy precipitation over much of North Carolina that caused major flooding in parts of the eastern Piedmont and Coastal Plain. The storm produced widespread rainfall of 3-8 inches in the central regions of North Carolina and 8 to more than 15 inches in parts of eastern North Carolina. A number of locations received all-time record, one-day rainfall amounts. Many locations in the Coastal Plain of North Carolina had received above normal rainfall in the month of September leading to wet antecedent conditions prior to Hurricane Matthew. Total rainfall depth for Martin County is highlighted graphically in the figure below.

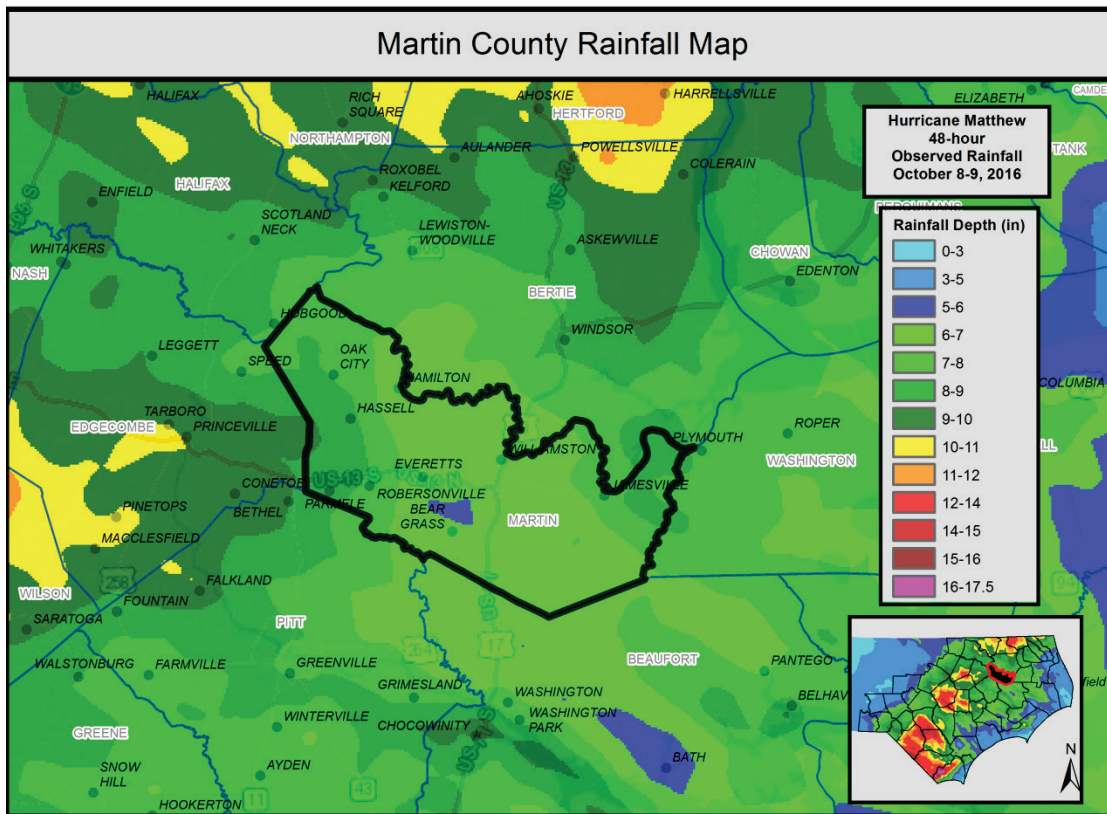


Figure 10. 48-hour Observed Rainfall Depth (October 8-9, 2016)

Riverine Flooding Summary

USGS documented stream gage data in the report “Preliminary Peak Stage and Streamflow Data at Selected Stream gaging Stations in North Carolina and South Carolina for Flooding Following Hurricane Matthew, October 2016”. Stream gage data from the USGS report for Martin County and nearby gages is summarized in Table 3.

USGS Gage	County	River Name and Location	Drainage Area (sq mi)	Peak Matthew Elevation (ft)	Previous Record (ft)
02081054	Martin	Roanoke River at Williamston, NC	9070.0	11.61	11.91
02081094	Martin	Roanoke River at Jamesville, NC	9250.0	4.96	5.87

Table 3. Martin County USGS Stream gage Data

The USGS data validates what was experienced in the county. Details of impacts categorized under housing, economic, infrastructure, and environment are included in the following sub-sections.

Housing

According to Individual Assistance claims as of March 2017, Hurricane Matthew affected 213 houses in Martin County. It should be noted that additional claims from Hurricane Matthew might still be pending, so this number may not reflect the final claims data from the event. This also does not take into account other historic impacts to the county or other areas of concern for flooding that may not have occurred during this storm. With that in mind, the planning team attempted to take a comprehensive look at both Hurricane Matthew impacts and any historic impacts that indicated areas at risk for future flooding.

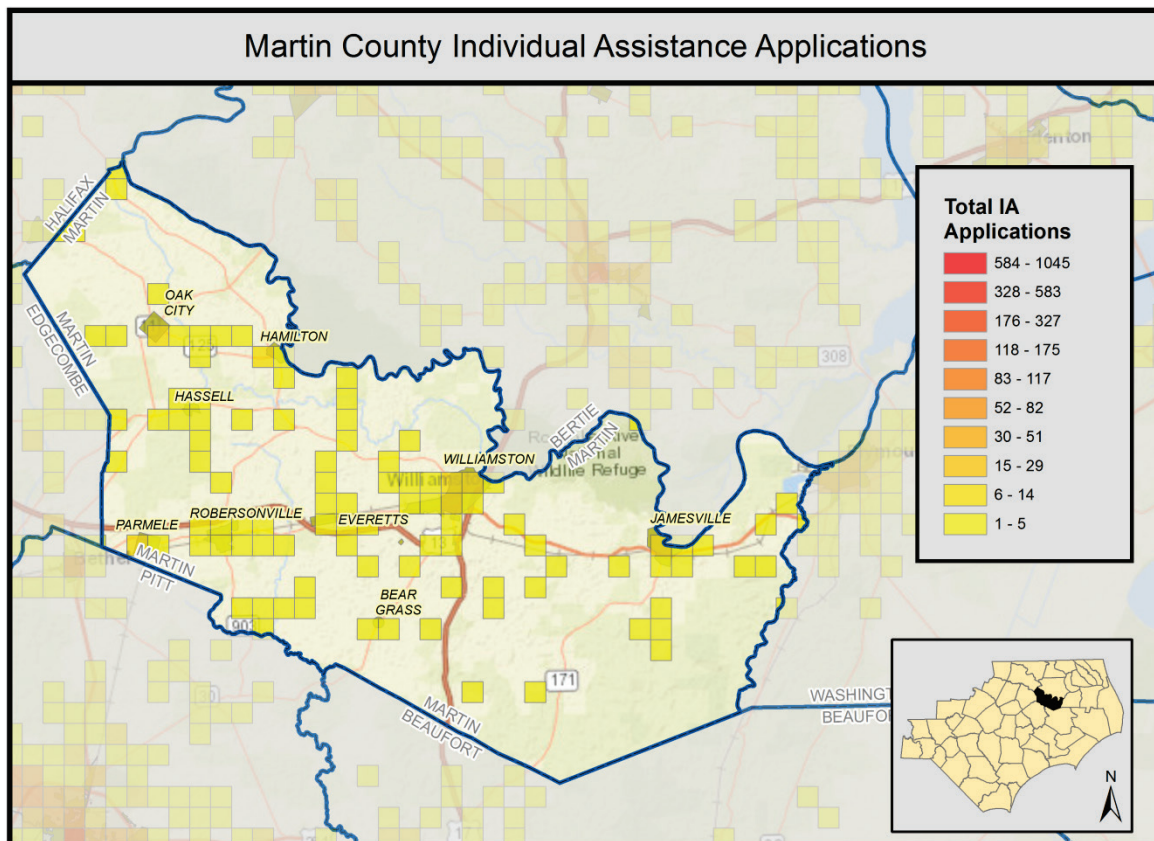


Figure 11. Martin County IA Applications by Area

The bullets below summarize some of the major impacts to housing identified by local officials in multiple meetings.

- **Houses Remain in Flood Zones:** During Hurricane Matthew, several dozen homes experienced flood damage. Many of these properties have experienced repetitive loss from this and previous storm events. Most of these properties have already undergone repairs from Hurricane Matthew damage; however, it is likely they will experience flooding again in the future.
- **Shortage of Affordable Housing Units:** Because Martin County has a shortage of affordable housing units, it has limited capacity to house people displaced by flooding. Much of Martin County is relatively rural; therefore, the only areas where existing infrastructure is capable of supporting a significant number of additional units of housing at present are Williamston, Robersville, and Jamesville.

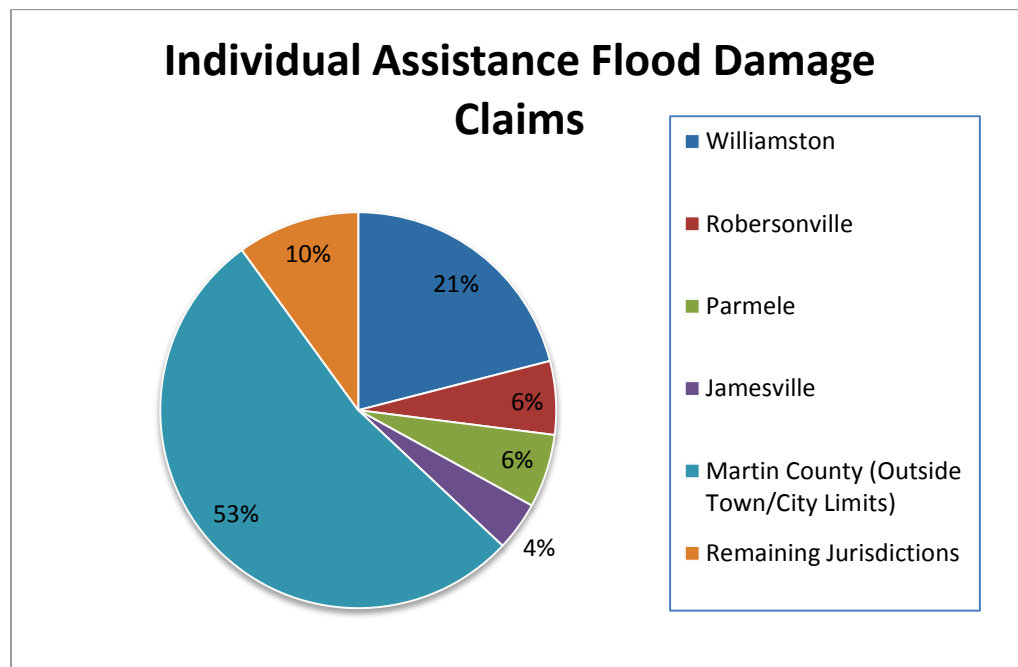


Figure 12. IA Flood Damage Claims by Area

Economics / Business / Jobs

Local officials in multiple meetings identified impacts to the economy in Martin County from Hurricane Matthew to the economy/businesses/jobs.

- Direct and Indirect Impacts to Businesses:** A number of businesses in Martin County, especially in Downtown Jamesville, were forced to close because of their inability to recover following damage from Hurricane Matthew. The damage sustained by so many businesses has also made the area less attractive for prospective new businesses. Because businesses are not reopening and new businesses are not coming in to replace them, the overall economy of Martin County continues to suffer.

Infrastructure

According to Public Assistance (PA) claims, which are often closely tied to infrastructure, as of 2017 there was \$45,255 of claims in Martin County as a result of Hurricane Matthew. It should be noted that additional claims from Hurricane Matthew might still be pending, so this number may not reflect the final claims data from the event. The majority of these countywide claims are located within the Town of Williamston.

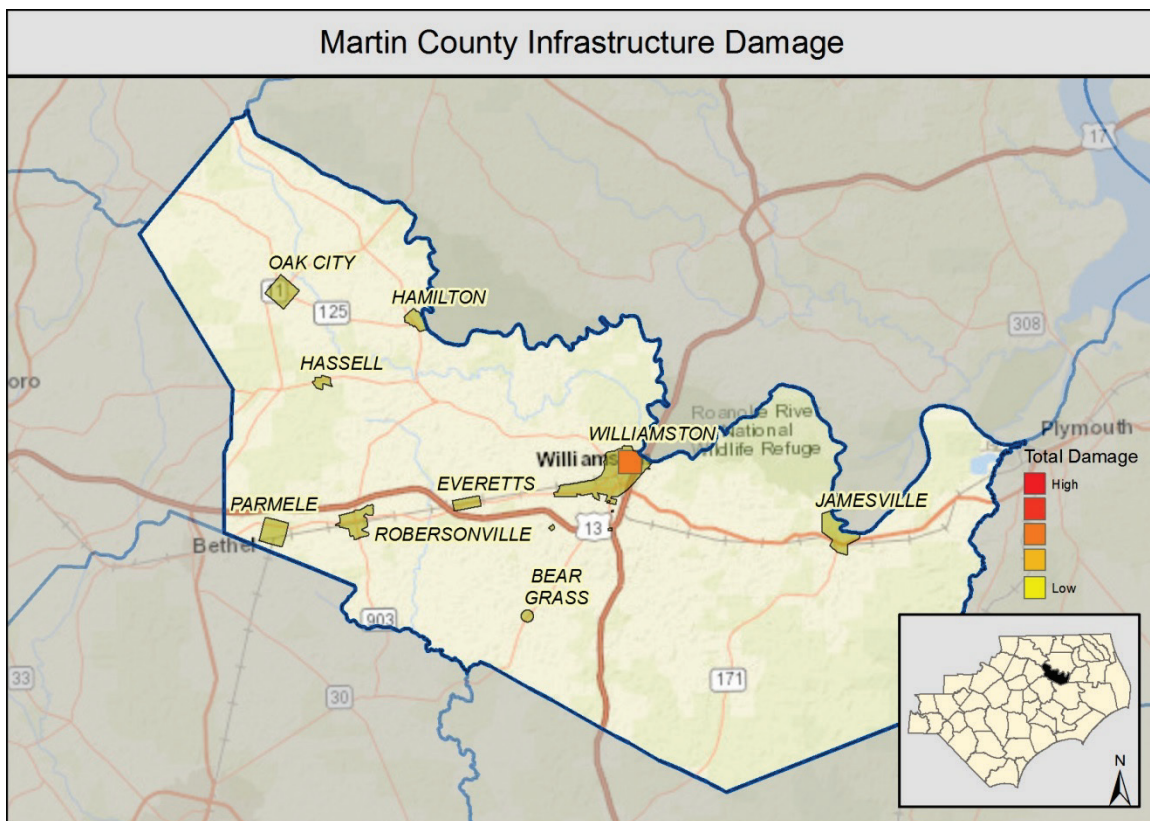


Figure 13. Martin County Infrastructure Damage

County infrastructure was one of the greatest areas of concern in the wake of Hurricane Matthew as there were several types of infrastructure that were damaged in multiple locations. The bullets below summarize some of the major impacts to infrastructure identified by local officials from multiple meetings.

- **Road/Bridge Flooding:** Road and bridge overtopping are common occurrences in Martin County, and these events affected a number of different locations during Hurricane Matthew. Many of these locations have been historical hotspots in the county and experience impacts even during more minor rainfall events. Officials noted that, at one point during Hurricane Matthew, all highways into the county were flooded.
 - One of the most significant of these areas is the intersection of Prison Camp Road and Highway 903. This area, which floods frequently, serves as a major connection between Martin County and adjacent municipalities. Thus, when it is flooded, both residential and commercial traffic is restricted. Additional points on Prison Road also flood frequently, which limits the utility of focusing improvements at this specific point.
 - Some portions of Highway 64, another major thoroughfare, were flooded under up to four feet of water.
 - Popular Point Road was damaged from severe flooding near Williamston.
 - Officials noted that much of the road and bridge flooding in the County is due in part to backup of material in drainage ditches, which restricts flows within the ditches and causes water to accumulate.

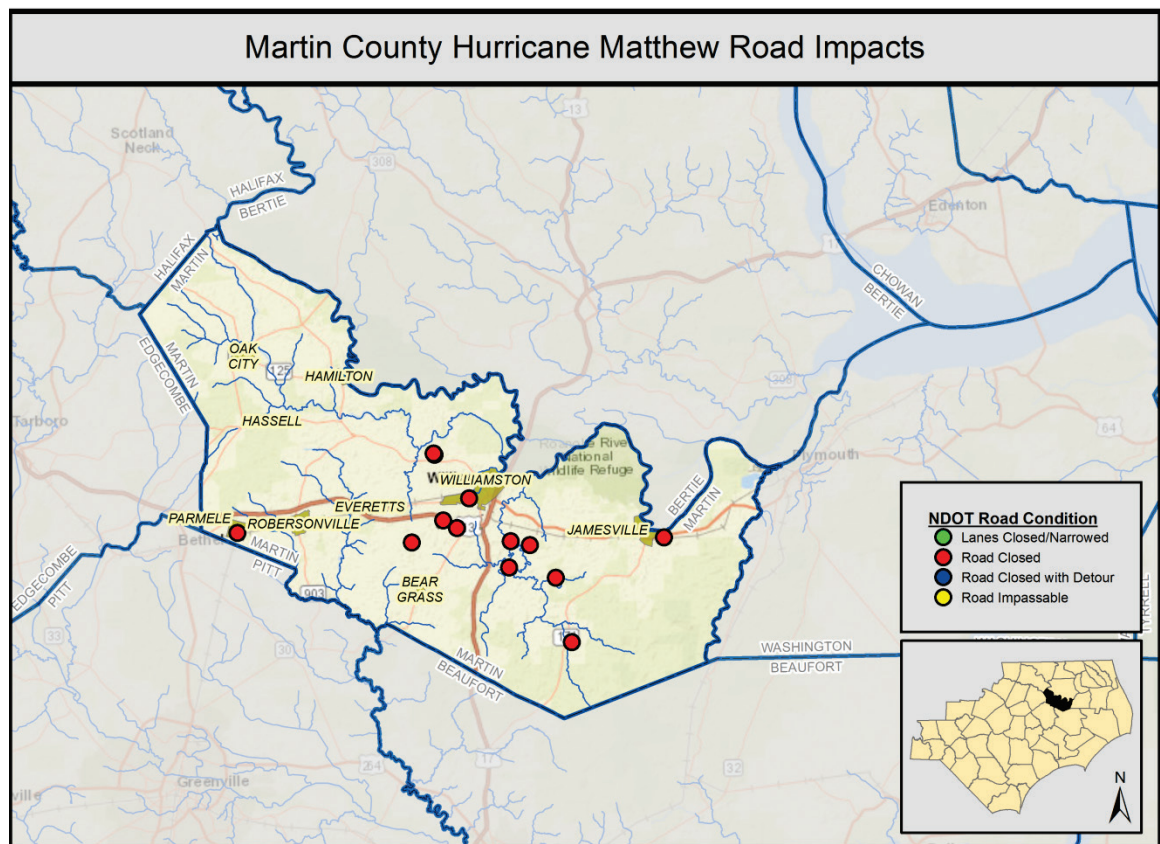


Figure 14. Impacted Martin County NCDOT Roads

- **Water/Wastewater Infrastructure:** Water and wastewater infrastructure is critical to maintaining health and well-being of the public in the wake of a storm event. A number of water/ wastewater facilities in Martin County experienced impacts from Hurricane Matthew.
 - During Hurricane Matthew, the Jamesville pump station experienced erosion of its foundation, which caused the pump station to fail. This could have resulted in wastewater spillage, as well as associated environmental and public health impacts.
 - The Robersville wastewater treatment plant also flooded during Hurricane Matthew. This resulted in a number of specific impacts within the plant, namely the flooding of the transfer station, infiltration of generator fuel tanks and failure of the filter backwash pump station.

Ecosystems / Environment

Environmental impacts in Martin County as a result of Hurricane Matthew link to other impacts in housing, economic development, and infrastructure and are broad in nature. In some cases, preexisting damage or lack of attention to forests, wetlands, and natural systems created new impacts during Hurricane Matthew. These impacts likely will recur for future storm and flood events.

- **Lack of Delineation of Environmentally Sensitive/Floodprone Areas:** In areas throughout the county, development has taken place within floodplains. Many of these areas experience frequent flooding, and properties in these areas therefore experience repetitive damage. Directing future development away from these waterfront areas would enhance natural resilience against future storm events without

requiring additional capital investments. These waterways also experience diminished function because of the buildup of debris, as described under Infrastructure above.

- **Need for Sustainable Agriculture Practices:** Local officials stated that improved land management practices for agricultural areas could have reduced flood impacts from Hurricane Matthew. Certain agricultural practices can reduce the permeability of soil, which in turn reduces soil absorption of water during rain events. Instead of water permeating soil, it instead flows overland, increasing peak flow rates and total volume discharged by local rivers and streams.

An aerial photograph showing a residential neighborhood severely affected by flooding. The water is a murky, brownish-yellow color, submerging large areas of the landscape. Numerous houses with various roof colors (blue, grey, brown) are visible, some partially submerged. A dense line of green trees runs along the bottom and right sides of the frame, with some water visible between them. The overall scene depicts significant environmental damage and displacement.

4. Strategies for Resilient Redevelopment

4. Strategies for Resilient Redevelopment

This section provides details about the resilience and revitalization strategies and actions identified in Martin County. These actions were identified and refined during three public meetings with local officials and county residents held in March and April 2017. The actions are tied to impacts from Hurricane Matthew and organized by the pillars of housing, economic development, infrastructure and environment. In addition to the public meetings, frequent coordination calls with County officials and data gathered from state agencies and organizations were utilized to formulate the actions listed below.

Meeting 1 was designed to introduce the community and County points of contact to the Resilient Redevelopment Planning process and goals. This meeting allowed the planning team to capture areas within the county that were damaged during Hurricane Matthew and to hear what potential mitigation actions had already been considered. Draft resilience actions were then presented at Meeting 2 of the planning process. This was done to garner general buy-in on the draft actions from the County-level planning teams and residents. More details on the actions were collected between Meetings 2 and 3 through research and follow-up phone calls and emails with the primary points of contact. Meeting 3 provided the opportunity to collect and finalize details for the draft actions. Meeting 4, scheduled in early May 2017, allowed the County points of contact to rank the identified actions, group them into High, Medium, and Low Priorities, and to approve their inclusion in the plan.

Pillar	Project/Action Count
Housing	2
Economic Development	1
Infrastructure	5
Environment	3
Grand Total	11

Table 4. Martin County Summary of Projects by Pillar

The following table is ordered by the rankings and priorities provided by Martin County during Meeting 4:

Pillar	Action Name	Priority	Overall Ranking
Infrastructure	Martin Infrastructure Action 1: Debris Removal and Rehab of Stormwater Drainage, Waterways, and Watersheds throughout the County	High	1
Housing	Martin Housing Action 2: Housing Rehab and Reconstruction	High	2
Infrastructure	Martin Infrastructure Action 3: Jamesville Pump Station Retrofit	High	3
Infrastructure	Martin Infrastructure Action 4: Robersonville Wastewater Treatment Plant	High	4
Infrastructure	Martin Infrastructure Action 2: Robersonville – Intersection of Prison Camp Rd and Hwy 903 and just south on 903	High	5
Housing	Martin Housing Action 1: Creation of Affordable Housing Units	Medium	6
Infrastructure	Martin Infrastructure Action 5: Roadway/Bridge/ Improvements: Upgrade culvert/bridge/roadway locations identified by local county officials and residents	Medium	7

Pillar	Action Name	Priority	Overall Ranking
Environment	Martin Environment Action 2: Restoration of Fort Branch Bluff	Medium	8
Environment	Martin Environment Action 3: Drop-In/Access Point for Gardner's Creek	Medium	9
Economic Development	Martin Economic Development Action 1: Renewal of Restaurant/Businesses Countywide	Low	10
Environment	Martin Environment Action 1: Delineation of Environmentally Sensitive Areas with the County	Low	11

Table 5. Projects by Rank

On the following pages, we have organized the projects and actions by pillar. Within each pillar, the projects are grouped by county priority. Please note that maps are provided for all projects that have a specific location within the county. Projects without maps are county-wide projects that will benefit citizens throughout the county.

Housing Strategies

High Priority Housing Strategies

Pillar	Action Name	Priority	Overall Ranking
Housing	Martin Housing Action 2: Housing Rehab and Reconstruction	High	2

Table 6. Martin High Priority Housing Summary

The below project represents the housing strategy that Martin County indicated was the highest priority to address.

- **Housing Rehab and Reconstruction:** This project will rehabilitate or reconstruct and elevate flood prone properties Countywide. The priority will be on repetitive loss properties as they reduce the most suffering to resident and are most likely to be cost effective and therefore eligible for grant funding.
- **This is a county-wide project, so no project area map has been included.**

Housing Action 2 - Repair and Elevate Floodprone Properties

County: Martin

Priority Grouping: High Priority

Priority Ranking: 2

Project Timeframe: Unknown at this time

Location: Martin County

Project Summary: This project will rehabilitate or reconstruct and elevate flood prone properties. The priority will be on repetitive loss properties as they reduce the most suffering to resident and are most likely to be cost effective and therefore eligible for grant funding.

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	Elevation of flood prone homes reduces the possibility of repetitive loss in the future as well as reducing the need for temporary or interim housing after a flooding event as their homes would suffer less damage.	N/A
Consistent with existing plans (describe points of intersection/departure)	Yes.	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	Minimal impact to the economy. Although one homes are rehabilitated or replaced homeowners will have more financial stability to participate in and contribute to the local economy.	Agree
For how long will this solution be effective?	Between 11 and 30 years	Agree
How effective is the risk reduction?	50-100 year event	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	0	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	No Impact	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	Minimal to low confidence	N/A
What impact will this action have on the local economy/tax base?	Less than 25%	Agree
What impacts to the environment of the county will result from this project?	None.	N/A
What is the capability of the local government to administer this project?	Unknown	Agree
What is the financial range of this project?	\$1M+	Agree
What is the level of public support for this project?	High	Agree
What is the technical feasibility of this project?	Between 51 and 75%	Agree
Who will administer this project?	County	Agree

Medium Priority Housing Strategies

Pillar	Action Name	Priority	Overall Ranking
Housing	Martin Housing Action 1: Creation of Affordable Housing Units	Medium	6

Table 7. Martin Medium Priority Housing Summary

These two projects represent the housing strategies that Martin County indicated are of a medium priority to address. Additional detail on the projects can be found below:

- **Creation of Affordable Housing Units:** The county will explore options to purchase land outside of the flood zones and build affordable housing units; whether those will be single family (SF) or multifamily (MF) still needs to be determined. The new housing will keep and increase the population within the county and therefore will positively affect the economy. New development would include an infrastructure component as installation of water, sewer, and electric may be necessary.
- **This is a county-wide project, so no project area map has been included.**

Housing Action 1 - Creation of Affordable Housing Units

County: Martin

Priority Grouping: Medium Priority

Priority Ranking: 6

Project Timeframe: 3 years

Location: The Towns of Robersonville and Williamston

Project Summary: Under this project, Martin County would explore options to purchase land outside of the flood zones and build affordable housing units. Whether those housing units will be single family (SF) or multifamily (MF) still needs to be determined. The new housing will maintain or increase the population within the County, and will also provide more long-term housing options for the county in a post-disaster recovery scenario.

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	Many families still need long-term affordable housing after Hurricane Matthew permanently damaged their homes. Additionally local officials expressed that there is a general need within the County for affordable housing in addition to backup support housing immediately following a disaster.	N/A
Consistent with existing plans (describe points of intersection/departure)	The current HMP does not speak to the development of additional affordable housing.	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	Providing permanent affordable housing outside of the floodplain will stabilize and possible increase the consumer base thus increasing the flow of money into the economy.	Agree
For how long will this solution be effective?	Between 11 and 30 years	Agree
How effective is the risk reduction?	Unknown	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	0	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	No Impact	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	Medium to high confidence	N/A
What impact will this action have on the local economy/tax base?	Between 51 and 75%	Agree
What impacts to the environment of the county will result from this project?		N/A
What is the capability of the local government to administer this project?	Medium	Agree
What is the financial range of this project?	\$1M+	Agree
What is the level of public support for this project?	High	Agree
What is the technical feasibility of this project?	Higher than 75%	Agree
Who will administer this project?	State	Agree

Economic Development Strategies

Low Priority Economic Development Strategies

Martin County listed only one Economic Development strategy and assigned it a low overall priority.

Pillar	Action Name	Priority	Overall Ranking
Economic Development	Martin Economic Development Action 1: Renewal of Restaurant/Businesses Countywide	Low	10

Table 8. Martin Low Priority Economic Development Summary

- **Renewal of Restaurant/Businesses Countywide:** A grant program will be created for those that would like to open a business within the County, with preference given to locally owned businesses that were previously located within the County but had to close as a result of Hurricane Matthew. The following categories of business within the County will be eligible for the grant program: those that existed prior to the hurricane but were not able to reopen, those that had an intention of opening but were not able to, and those that would like to provide a service in place of a now-closed business.
- **This is a county-wide project, so no project area map has been included.**

Economic Development Action 1 - Renewal of Restaurant/Businesses

County: Martin

Priority Grouping: Low Priority

Priority Ranking: 10

Project Timeframe: 6 months

Location: Martin County

Project Summary: A grant program will be created for those that would like to open a business within the County, with preference given to locally owned businesses that were previously located within the County but had to close as a result of Hurricane Matthew.

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	When local businesses closed following Hurricane Matthew it limited the County's capacity to generate income and economic growth. Providing grant funding will allow businesses to realize higher revenues by not requiring repayment of loan funds and interest.	N/A
Consistent with existing plans (describe points of intersection/departure)	Yes	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	Offering a grant opportunity to stimulate the establishment or re-establishment of businesses within the County will generate economic growth by increasing local spending and providing jobs to County residents.	Agree
For how long will this solution be effective?	Between 11 and 30 years	Agree
How effective is the risk reduction?	Unknown	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	0	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	No Impact	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	Unknown	N/A
What impact will this action have on the local economy/tax base?	Higher than 75%	Agree
What impacts to the environment of the county will result from this project?	The impact to the environment is likely to be minimal.	N/A
What is the capability of the local government to administer this project?	Medium	Agree
What is the financial range of this project?	\$501K - \$1M	Agree
What is the level of public support for this project?	High	Agree
What is the technical feasibility of this project?	Between 51 and 75%	Agree
Who will administer this project?	State	Agree

Infrastructure Strategies

High Priority Infrastructure Strategies

Pillar	Action Name	Priority	Overall Ranking
Infrastructure	Martin Infrastructure Action 1: Debris Removal and Rehab of Stormwater Drainage, Waterways, and Watersheds throughout the County	High	1
Infrastructure	Martin Infrastructure Action 3: Jamesville Pump Station Retrofit	High	3
Infrastructure	Martin Infrastructure Action 4: Robersonville Wastewater Treatment Plant	High	4
Infrastructure	Martin Infrastructure Action 2: Robersonville – Intersection of Prison Camp Rd and Hwy 903 and just south on 903	High	5

Table 9. Martin High Priority Infrastructure Summary

These projects represent the infrastructure strategies that Martin County indicated are the highest priority to address. Additional detail can be found below:

- **Debris Removal and Rehab of Stormwater Drainage, Waterways, and Watersheds throughout the County:** Many waterways throughout the County are so full of debris that boats and water commerce cannot get in or out of the areas necessary to continue business. Additionally, areas of drainage ditch throughout the County are clogged with debris and therefore force water on to major roadways throughout the area. Drainage ditches, waterways, and watersheds will be dredged and cleared of debris and obstruction left in the wake of Hurricane Matthew.
- **This is a county-wide project, so no project area map has been included.**

- **Jamesville Pump Station Retrofit:** Pump station will be retrofitted with appropriate measures to prevent flood water intrusion. A permanent backup generator of appropriate size will be added to the station and elevated to the appropriate height based on the 100 year flood plain.

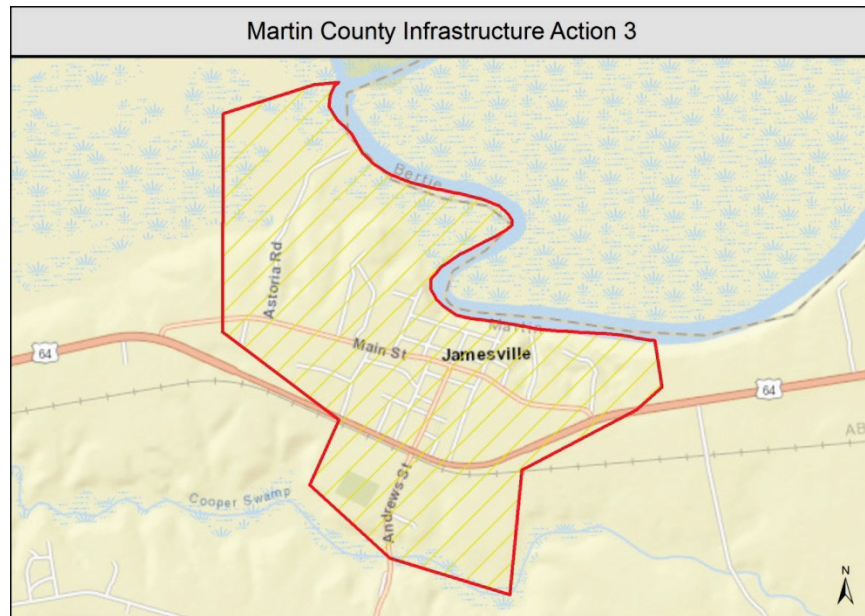


Figure 15. Infrastructure Action 3: Jamesville Pump Station Retrofit

Infrastructure Action 3 - Jamesville Pump Station Retrofit

County: Martin

Priority Grouping: High Priority

Priority Ranking: 3

Project Timeframe: 12 months

Location: Jamesville

Project Summary: Jamesville Pump Station Retrofit: Pump station will be retrofitted with appropriate measures to prevent flood water intrusion. A permanent backup generator of appropriate size will be added to the station and elevated to the appropriate height based on the 100 year flood plain.

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	During the flooding event the pump station was at severe risk of being inundated by flood water and going offline. Making these adjustments will allow the pump station to stay online with minimal risk to being negatively affected by flooding.	N/A
Consistent with existing plans (describe points of intersection/departure)	Yes	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	Preventing the pump station from going off line during a flooding event provides the business community continuity and reliable service so that the businesses can remain operational.	Agree
For how long will this solution be effective?	Between 11 and 30 years	Agree
How effective is the risk reduction?	50-100 year event	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	1-3	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	No Impact	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	Medium to high confidence	N/A
What impact will this action have on the local economy/tax base?	Less than 25%	Agree
What impacts to the environment of the county will result from this project?	Keeping the pump station online during a flooding event will prevent flood water intrusion and avoid possible environmental contamination.	N/A
What is the capability of the local government to administer this project?	High	Agree
What is the financial range of this project?	\$101K - \$250K	Agree
What is the level of public support for this project?	Unknown	Agree
What is the technical feasibility of this project?	Higher than 75%	Agree
Who will administer this project?	Local	Agree

- **Robersonville Wastewater Treatment Plant:** Assessment of effect storm had on wastewater treatment plant followed by a hardening of critical functions such as permanent backup generators and pump stations.

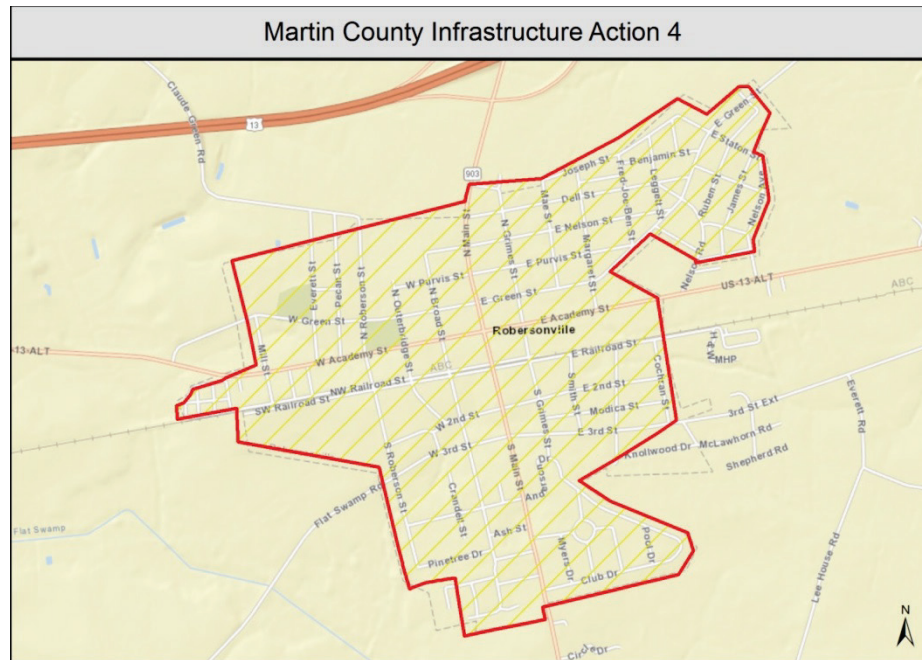


Figure 16. Infrastructure Action 4: Robersonville Wastewater Treatment Plant

Infrastructure Action 4: Robersonville Wastewater Treatment Plant Assessment

County: Martin

Priority Grouping: High Priority

Priority Ranking: 4

Project Timeframe: 6 months for assessment, 2 years for hardening/backup generators and pumps

Location: Robersonville

Project Summary: Robersonville Wastewater Treatment Plant: Assessment of effect storm had on wastewater treatment plant followed by a hardening of critical functions such as permanent backup generators and pump stations.

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	Robersonville Wastewater Treatment Plant was affected by Hurricane Matthew but the impact has not been assessed.	N/A
Consistent with existing plans (describe points of intersection/departure)	Consistent with overall goal of hazard mitigation plan to reduce adverse effects of natural hazards.	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	None	Agree
For how long will this solution be effective?	Between 31 and 50 years	Agree
How effective is the risk reduction?	Unknown	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	1-3	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	No Impact	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	Minimal to low confidence	N/A
What impact will this action have on the local economy/tax base?	No Impact	Agree
What impacts to the environment of the county will result from this project?	Avoid environmental pollution after a storm floods the wastewater treatment plant.	N/A
What is the capability of the local government to administer this project?	High	Agree
What is the financial range of this project?	\$251K - \$500K	Agree
What is the level of public support for this project?	Medium	Agree
What is the technical feasibility of this project?	Higher than 75%	Agree
Who will administer this project?	County	Agree

- **Robersonville – Intersection of Prison Camp Rd and Hwy 903 and just south on 903:** The project would look at solving the flooding problem of the intersection and the entire stretch of Prison Camp road. There are many intersections of this road that flood during large rainstorm events and that flooded during Hurricane Matthew, cutting off the entrance and exit to the County.

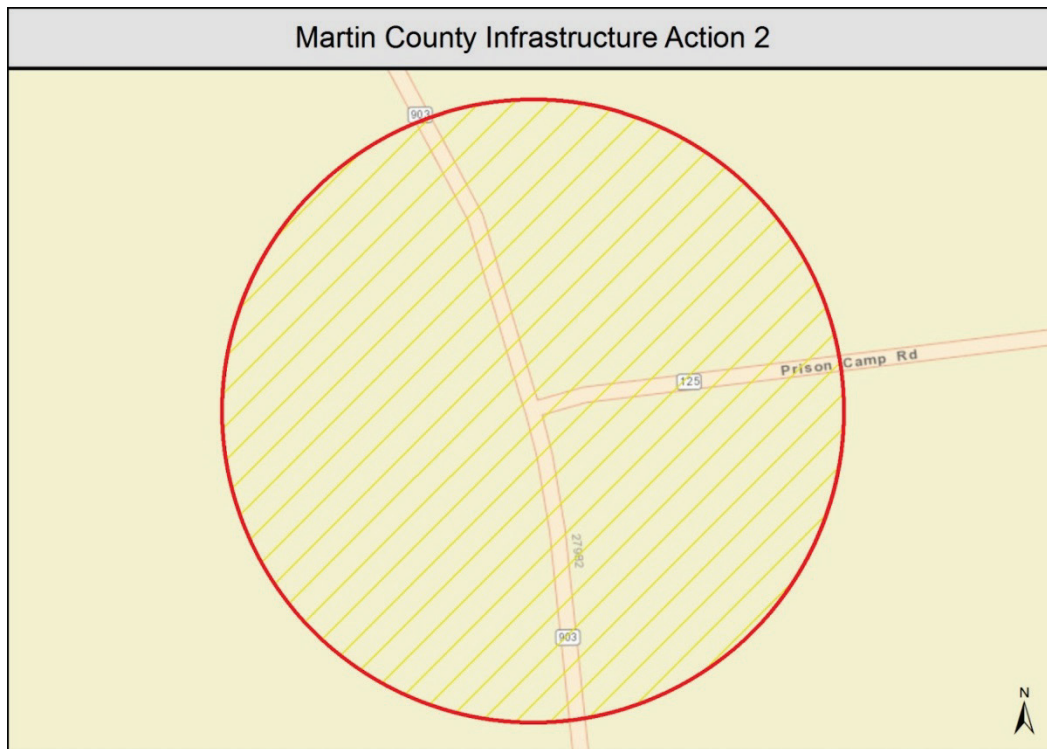


Figure 17. Infrastructure Action 2: Robersonville – Intersection of Prison Camp Rd and Hwy 903 and just south on 903

Infrastructure Action 2 - Prison Camp Road Improvements

County: Martin

Priority Grouping: High Priority

Priority Ranking: 5

Project Timeframe: 3 years

Location: Robersonville – Intersection of Prison Camp Rd and Hwy 903 and just south on 903

Project Summary: The project would look at solving the flooding problem of the intersection and the entire stretch of Prison Camp road. There are many intersections of this road that flood during large rainstorm events and that flooded during Hurricane Matthew, cutting off the entrance and exit to the County.

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	Hwy 903 joins Martin to Pitt County and the flooding of this area prevents critical emergency services goods and services from making it to those in need in the areas of the County that require it.	N/A
Consistent with existing plans (describe points of intersection/departure)	Existing HMP does not address the resiliency of the intersection of Prison Camp Rd. and Hwy 903.	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	Preventing the repetitive inundation of this intersection will allow for transport of goods across county lines.	Agree
For how long will this solution be effective?	Between 11 and 30 years	Agree
How effective is the risk reduction?	Unknown	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	1-3	Agree
Is coordination with other communities/counties needed to complete this project?	Yes	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	No Impact	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	Unknown	N/A
What impact will this action have on the local economy/tax base?	Unknown	Agree
What impacts to the environment of the county will result from this project?	Providing an alternate route for flood water to flow rather than over and through the roadway may protect riverine wildlife as well as prevent oil/gas runoff from roads into floodwater.	N/A
What is the capability of the local government to administer this project?	Low	Agree
What is the financial range of this project?	\$1M+	Agree
What is the level of public support for this project?	Medium	Agree
What is the technical feasibility of this project?	Between 26 and 50%	Agree
Who will administer this project?	Regional	Agree

Medium Priority Infrastructure Strategies

Pillar	Action Name	Priority	Overall Ranking
Infrastructure	Martin Infrastructure Action 5: Roadway/Bridge/ Improvements: Upgrade culvert/bridge/roadway locations identified by local county officials and residents	Medium	7

Table 10. Martin Medium Priority Infrastructure Summary

This project represents the infrastructure strategy that Martin County indicated is of a medium priority to address. Additional detail can be found below:

- Roadway/Bridge/ Improvements: Upgrade culvert/bridge/roadway locations identified by local county officials and residents:** Identify aging and undersized infrastructure within the county and municipalities such as bridges, culverts/pipes, ditches and other drainage facilities, and repair or replace as needed. The project would improve roadway in the County, and would reduce the likelihood of flooding associated with poor condition of infrastructure.
- This is a county-wide project, so no project area map has been included.**

Infrastructure Action 5 - Roadway/Bridge/ Improvements

County: Martin

Priority Grouping: Medium Priority

Priority Ranking: 7

Project Timeframe: 2 years

Location: Countywide

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	Many roads in the County were not passable after Hurricane Matthew because of undersized culverts.	N/A
Consistent with existing plans (describe points of intersection/departure)	Consistent with the overall goal of the hazard mitigation plan to reduce the effects of natural hazards.	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	No significant benefits/impacts	Agree
For how long will this solution be effective?	Between 31 and 50 years	Agree
How effective is the risk reduction?	Unknown	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	>6	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	No Impact	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	Low to moderate confidence	N/A
What impact will this action have on the local economy/tax base?	Less than 25%	Agree
What impacts to the environment of the county will result from this project?	No significant benefits/impacts	N/A
What is the capability of the local government to administer this project?	High	Agree
What is the financial range of this project?	\$1M+	Agree
What is the level of public support for this project?	High	Agree
What is the technical feasibility of this project?	Higher than 75%	Agree
Who will administer this project?	County	Agree

Environmental, Ecosystem and Agricultural Strategies

Medium Priority Environmental Strategies

Pillar	Action Name	Priority	Overall Ranking
Environment	Martin Environment Action 2: Restoration of Fort Branch Bluff	Medium	8
Environment	Martin Environment Action 3: Drop-In/Access Point for Gardner's Creek	Medium	9

Table 11. Martin Medium Priority Environmental Summary

These projects represent the environmental strategies that Martin County indicated are of a medium priority to address. Additional detail can be found below:

- Restoration of Fort Branch Bluff:** Fort Branch is located 3 miles southeast of Hamilton, N.C. Just off NC Hwy 125/903 at 2883 Fort Branch Road in Martin County on the Roanoke River. It is the only Fort with barriers and embankments still in place from the Civil War. The Fort has experienced heavy erosion of the Bluff on the property and would benefit from restoration of that area.

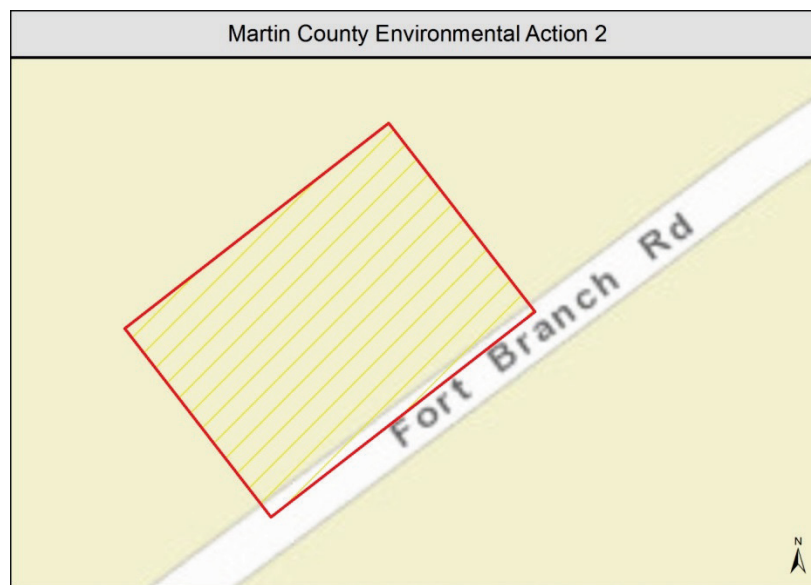


Figure 18. Environmental Action 2: Restoration of Fort Branch Bluff

Environmental Action 2 - Restoration of Fort Branch Bluff

County: Martin

Priority Grouping: Medium Priority

Priority Ranking: 8

Project Timeframe: 2 years

Location: 3 miles southeast of Hamilton, N.C. Just off NC Hwy 125/903 at 2883 Fort Branch Road in Martin County on the Roanoke River

Project Summary: Restoration of Fort Branch Bluff: Fort Branch is the only Fort with barriers and embankments still in place from the Civil War. The Fort has experienced heavy erosion of the Bluff on the property and would benefit from restoration of that area.

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	Heavy erosion of the bluff occurred during Hurricane Matthew	N/A
Consistent with existing plans (describe points of intersection/departure)	Consistent with the overall goal of the hazard mitigation plan to alleviate the effects of natural hazards.	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	Tourism may benefit from restoration of the historic property.	Agree
For how long will this solution be effective?	Between 11 and 30 years	Agree
How effective is the risk reduction?	Unknown	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	1-3	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	Unknown	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	Low to moderate confidence	N/A
What impact will this action have on the local economy/tax base?	Less than 25%	Agree
What impacts to the environment of the county will result from this project?	Positive	N/A
What is the capability of the local government to administer this project?	High	Agree
What is the financial range of this project?	\$251K - \$500K	Agree
What is the level of public support for this project?	Medium	Agree
What is the technical feasibility of this project?	Higher than 75%	Agree
Who will administer this project?	County	Agree

- **Drop-In/Access Point for Gardner's Creek:** Providing an access point to Gardner's Creek for boaters and paddlers will increase tourism as well as commerce.

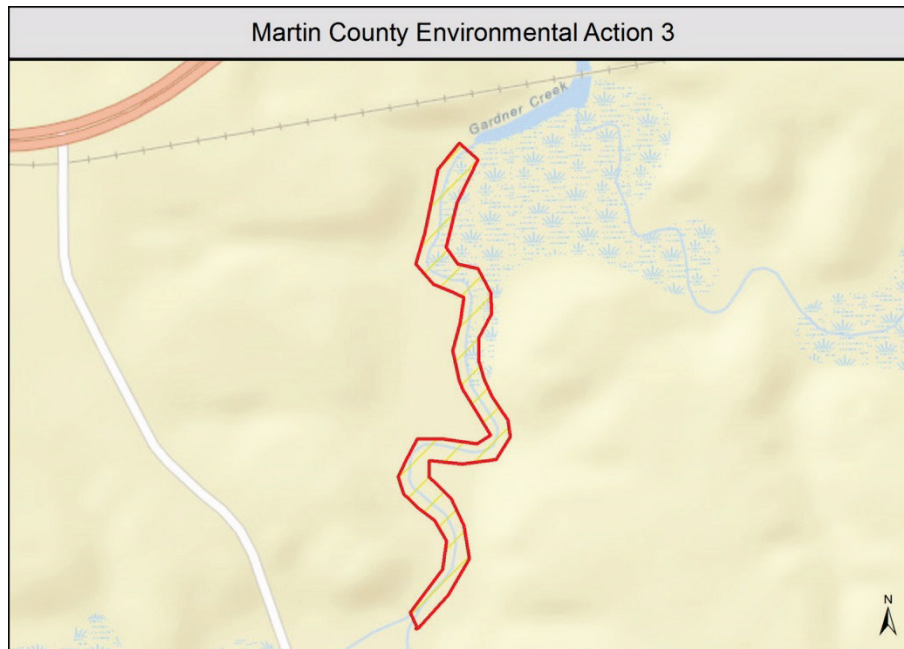


Figure 19. Environmental Action 3: Drop-In/Access Point for Gardner's Creek

Environmental Action 3 - Drop-In/Access Point for Gardner's Creek

County: Martin

Priority Grouping: Medium Priority

Priority Ranking: 9

Project Timeframe: 1 year

Location: Martin County

Project Summary: Drop-In/Access Point for Gardner's Creek: Providing an access point to Gardner's Creek for boaters and paddlers will increase tourism as well as commerce.

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	All previous areas to drop into Gardner's Creek have become overrun with debris. Creating a clean access point that allows room for all types of boats will increase eco tourism commerce and agricultural movement throughout the County's waterways.	N/A
Consistent with existing plans (describe points of intersection/departure)	Consistent with the overall quality of life goals of the County	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	Increasing tourism and recreational activities like boating fishing etc.	Agree
For how long will this solution be effective?	Between 11 and 30 years	Agree
How effective is the risk reduction?	Unknown	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	1-3	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	No Impact	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	Minimal to low confidence	N/A
What impact will this action have on the local economy/tax base?	Between 26 and 50%	Agree
What impacts to the environment of the county will result from this project?	Positive	N/A
What is the capability of the local government to administer this project?	High	Agree
What is the financial range of this project?	\$51K - \$100K	Agree
What is the level of public support for this project?	Medium	Agree
What is the technical feasibility of this project?	Higher than 75%	Agree
Who will administer this project?	County	Agree

Low Priority Environmental Strategies

Pillar	Action Name	Priority	Overall Ranking
Environment	Martin Environment Action 1: Delineation of Environmentally Sensitive Areas with the County	Low	11

Table 12. Martin Low Priority Environmental Summary

This project represents the environmental strategy that Martin County indicated is of a lower priority to address. Additional detail can be found below:

- **Delineation of Environmentally Sensitive Areas with the County:** Delineating environmentally sensitive areas will potentially allow the County to identify areas in which the CWMTF can be applied. Directing growth away from environmentally sensitive and high hazard areas, delineate environmentally sensitive areas both either they are suitable or unsuitable for growth and development through land use planning.
- **This is a county-wide project, so no project area map has been included.**

Environmental Action 1 - Delineation of Environmentally Sensitive and High Hazard Areas

County: Martin

Priority Grouping: Low Priority

Priority Ranking: 11

Project Timeframe: 1 year

Location: Martin County

Project Summary: The delineation of environmentally sensitive and high hazard areas that are unsuitable for growth will facilitate future land use planning. Directing growth away from these sensitive areas will create a buffer between development and sensitive natural resources, including any waterways contained therein.

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	This project would reduce flooding by making use of the natural flood control capacity of environmentally sensitive areas (such as wetlands) in the County.	N/A
Consistent with existing plans (describe points of intersection/departure)	Delineating environmentally sensitive areas will potentially allow the County to implement projects and utilize funding through the Clean Water Management Trust Fund (CWMTF).	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	Increasing the amount of usable greenway and blueway area in the County could invite more tourism and increase spending in the local economy.	Agree
For how long will this solution be effective?	Between 11 and 30 years	Agree
How effective is the risk reduction?	Unknown	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	0	Agree
Is coordination with other communities/counties needed to complete this project?	Yes	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	No Impact	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	Medium to high confidence	N/A
What impact will this action have on the local economy/tax base?	Less than 25%	Agree
What impacts to the environment of the county will result from this project?	Identifying and delineating these areas to prevent their development would preserve and protect flood control features.	N/A
What is the capability of the local government to administer this project?	Medium	Agree
What is the financial range of this project?	\$51K - \$100K	Agree
What is the level of public support for this project?	Medium	Agree
What is the technical feasibility of this project?	Higher than 75%	Agree
Who will administer this project?	County	Agree

Summary

Implementation has already begun for some of these actions but for those that have not already been funded, the State of North Carolina will begin a process of prioritizing the actions and seeking to match a funding stream to each action. Those that are not matched with a funding source will be added to the State's Unmet Needs Report. Funding for Unmet Needs will be sought through additional funding from Congress and from the North Carolina General Assembly. Any action that cannot be matched to a funding source should be incorporated into the County's Hazard Mitigation Plan for consideration for future funding. It is important to seek to implement as many of these actions as feasible. Doing so will significantly contribute to helping improve the resiliency of North Carolina's communities.