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BEACH

North Carolina
RESILIENT
COASTAL
COMMUNITIES
PROGRAM

NC DIVISION OF COASTAL MANAGEMENT

moffatt & nichol

North Carolina Resilient Coastal Communities Program
Resilience Strategy | July 2024

PREPARED FOR

THE TOWN OF OCEAN ISLE BEACH

FUNDED BY

N.C. DIVISION OF COASTAL MANAGEMENT

PREPARED BY

CONSULTANT

Town of Ocean Isle Beach Resilience Strategy

1.0 Executive Summary

In March 2023, the Town of Ocean Isle Beach was selected to participate in Phase 1 and 2 of the North Carolina Resilient Coastal Communities Program (RCCP), administered by the North Carolina Division of Coastal Management (NCDCM). The Program is a federal-state-local partnership designed to help overcome barriers in coastal resilience and adaptation planning, boost local government capacity, and support a proactive, sustainable, and equitable approach to coastal resilience planning and project implementation. Moffatt & Nichol (M&N), in partnership with the Town, has reviewed existing plans and resources, conducted five Community Action Team (CAT) meetings, and obtained public feedback through public surveys and two public meetings to develop a Resilience Strategy. The Resilience Strategy, as described further in this report, includes a Risk & Vulnerability Assessment Report and a Project Portfolio to help better reduce exposure, reduce sensitivity, and increase adaptability to flooding and other hazards. Phase 1 and 2 of the Program were completed in July 2024. Following completion of Phase 1 and 2, the Town will be eligible for Engineering, Design, and Implementation funding through the Program's future phases, announced in Spring 2024. The Town will continue to seek feedback from residents on priorities and implementation opportunities.

This summary report discusses the various components of the Ocean Isle Beach Resiliency Strategy. It consists of the following seven subsections:

1.1 Vision & Goals
1.2 Community Action Team
1.3 Stakeholder Engagement Strategy
1.4 Review of Existing Local and Regional Efforts
1.5 Risk and Vulnerability Assessment Report
1.6 Project Portfolio
1.7 Additional Files

Appendices are provided as follows:

A. Risk & Vulnerability Assessment Report
B. Project Portfolio
C. Community Action Team Report *(CAT roster, meeting presentations, meeting notes)*
D. Stakeholder Engagement Strategy
E. Additional Files *(Public Outreach Files (project webpage, email campaign, public survey and priority ranking exervise, public meeting presentations, sign in sheet) and Map Package)*

1.1 Vision & Goals

The Town of Ocean Isle Beach, M&N, and the Community Action Team (CAT) worked together to develop a community-specific vision and set of goals which established the local context for the RCCP program and to help guide subsequent steps. The community vision and goals drew from existing sources of information, such as:

- Previously identified goals or vision statements developed by the community as part of planning processes;
- Natural hazard events such as hurricanes, or trends such as increased flooding frequency; and
- Community demographics such as particularly vulnerable or disadvantaged populations.

The **vision** is intended to be an aspirational statement for where the Town wants to be in the future, particularly in relation to coastal hazards.

The **goals** are intended to be specific, measurable goals to help the community identify steps that can be taken to achieve the vision. The goals relate to sustainable growth, nature-based solutions, key policies and plans, infrastructure improvements, preparedness and environmental and economic aspects of resilience. The community goals reflect the triple-bottom line approach to resilience, which goes beyond traditional hazard mitigation and disaster recovery to develop a holistic strategy considering social, environmental, and economic factors.

1.1.1 Vision Statement

The approved Ocean Isle Beach RCCP Vision statement is:

“We envision a resilient future, where our community's natural and manmade beauty, sense of unity, and genuine concern for environmental stewardship serve as the foundation for adaptation, acclimation, and preparedness for challenges associated with coastal hazards.”

1.1.2 Goal Statements

The approved Ocean Isle Beach RCCP Goal Statements are:

1. Manage development and growth sustainably.
2. Implement nature-based and hybrid solutions to improve coastal resilience.
3. Review, revise, and update key plans, policies, and ordinances to strengthen resilience efforts.
4. Ensure critical infrastructure resilience.
5. Improve education and preparedness.
6. Reduce structural, environmental, and economic impacts from coastal hazards.

1.2 Community Action Team

To begin the Risk & Vulnerability component of Phase I, the Town of Ocean Isle Beach created a Community Action Team (CAT) of key stakeholders to provide targeted input and champion the effort. Building relationships, trust, and shared understanding among key stakeholders set the foundation for implementing resilience action. The CAT was developed by the Town, with guidance and support from Moffatt & Nichol (M&N). In keeping with the RCCP Planning Handbook, issued by The North Carolina Division of Coastal Management (NCDCM), the CAT members were selected based on their expertise in planning and community development, hazard mitigation, utility management, the community's economy, engaging with vulnerable and underrepresented populations, and familiarity with nature-based solutions. Members stem from roles such as municipal managers, planners, elected officials, utility managers, community and economic developers, business community representatives, and private organizations which work with the community on resilience planning.

The CAT was intended to be comprised of a diverse group of at least five members. The Town developed the CAT roster. The Town chose various individuals based on their knowledge, familiarity, and ability to contribute to the RCCP.

The following members comprised the Ocean Isle Beach RCCP Community Action Team:

Contact Name	Affiliation
Justin Whiteside	Town of Ocean Isle Beach, Town Administrator, CAT Liaison
Casey Hayes	Town of Ocean Isle Beach, Assistant Town Administrator, Town Clerk
Keith Dycus	Town of Ocean Isle Beach, Assistant Town Administrator, Development Services Director
Adam Sellers	Town of Ocean Isle Beach, Utility Systems Superintendent
Tom Athey	Town of Ocean Isle Beach, Commissioner
Wayne Rowell	Town of Ocean Isle Beach, Commissioner
Jim Hoffman	Museum of Coastal Carolina, Executive Director
David Hill	Business and Property Owner
Jonathan Williamson	Business Owner

The CAT met five times over the course of Phase I and II:

- CAT Meeting #1: October 31, 2023, from 10:00 a.m. to 11:30 a.m.
- CAT Meeting #2: December 5, 2023, from 10:00 a.m. to 11:30 a.m.
- CAT Meeting #2A: January 10, 2024, from 10:00 a.m. to 11:00 a.m.
- CAT Meeting #3: February 6, 2024, from 10:00 a.m. to 12:00 p.m.
- CAT Meeting #4: March 14, 2024, from 10:00 a.m. to 12:00 p.m.

All meeting presentations and meeting notes are listed in *Appendix C: Community Action Team Report*.

1.3 Stakeholder Engagement Strategy

To ensure participation from public stakeholders, a Stakeholder Engagement Strategy was developed to outline a plan for engaging communities during the risk and vulnerability assessment and project planning, prioritization, and selection. The stakeholder engagement process worked towards the following:

- Promoting representation and equitable outcomes for marginalized communities and vulnerable populations;
- Building trust, relationships, and partnerships;
- Providing feedback and validation of the Risk & Vulnerability Assessment developed by the Community Action Team; and
- Assisting with prioritizing projects for Phases 3 and 4 of the Program.

M&N developed a Stakeholder Engagement Strategy to create a roadmap of the planning process for Phases 1 and 2 of the Ocean Isle Beach RCCP. The strategy presented the Team's initial considerations, the roles and responsibilities of the various parties, the outreach process over the course of the two (2) phases, the project schedule, and the outreach tools, techniques, and strategies to be implemented by the Team. These tools, techniques and strategies included: a Community Action Team (CAT), (2) public meetings; a Risk & Vulnerability Assessment project webpage inclusive of interactive mapping, a public participation survey, a priority ranking exercise, and planning resources; a social media campaign, and leveraging local news outlets (newspaper, press release, and printed outreach material).

1.3.1 Project Webpage

M&N worked with Town staff to develop the project webpage content to present information on the RCCP planning process. The Town of Ocean Isle Beach built a project webpage, https://oceanislenc.municipalone.com/pview.aspx?id=20865&catid=566, which launched in October 2023, prior to CAT Meeting #1. The webpage provides latest news, project overview, an interactive map, the process forward, program sponsor, ways to stay connected, planning resources, and available presentations and downloads. The project webpage also has public meeting recordings, priority ranking exercise, and survey results. The webpage was updated throughout the planning process with relevant news, documents, and meeting material for public record. Over the course of the planning process, the project webpage garnered 1,325 views; 337 participants; 11,621 responses; 193 comments; and 55 subscribers. The Town is committed to maintaining the webpage to allow residents to receive updates on the Town's resiliency actions. The webpage outline is available in *Appendix E: Additional Files*.

1.3.2 Email Campaign

During the Stakeholder Engagement Strategy development, an email campaign was created by M&N and Town staff. The campaign included posts, images, and a posting schedule to accompany the various outreach efforts of the project and align with information presented on the project webpage. The Town of Ocean Isle Beach shared this information on their various outreach channels and were able to have others reshare the information on their respected channels for greater outreach and engagement. The email campaign is available in *Appendix E: Additional Files*.

1.3.3 Public Survey & Priority Ranking Exercise

A public survey was created, in which the goal was to obtain concerns and priorities from the public to further inform the threats and vulnerabilities the residents and business owners within the Town of Ocean Isle Beach feel are most critical to address. The survey provided valuable information to the project team, focusing on what the community felt were their top concerns and priorities. Some of the key highlights include:

- 70% of survey participants stated, in Question 4, they are very concerned about flooding caused by storm surge and/or rainfall from tropical systems.
- 86% stated, in Question 5, from a list of assets, people are most at risk from natural hazards.
- 88% indicated, in Question 6, protecting private (residential and commercial) property is very important.
- 83% stated, in Question 7, that designing and constructing nature-based barriers (dunes, beaches, living shorelines, riparian buffers, etc.) is a key step the community would like the Town take to reduce or eliminate the risk of future damages to property.
- 83% indicated, in Question 8, that prevention and natural resource protection are two community-wide activities to reduce risk from natural hazards.
- 80% indicated, in Question 9, that environmental (effects on land/water, endangered species, consistency with federal/state/local goals) is a key focus area to enhance resiliency.

The survey launched on December 1, 2023, to align with Public Meeting 1 and remained open for 30 days.

A priority ranking exercise launched on March 14, 2024, to align with Public Meeting 2 and remained open for two weeks. Participants ranked and rated their top 5 projects from a list of provided options. The top 5 projects, from highest rank to lowest with their percentages indicated, were:

1. 86%, dune infiltration project to reduce stormwater flooding; received 82% high priority rating.
2. 71%, dune building and preservation; received 88% high priority rating.
3. 50%, raise lift station control panels in flood-prone areas; received 71% high priority rating.
4. 50%, continued support and coordination for USACE federal project/terminal groin maintenance; received 53% high priority rating.
5. 43%, update CAMA land use plan to include resilience strategies; received 53% high priority rating.

The survey report and priority ranking exercise results are available in *Appendix E: Additional Files*.

1.3.4 Public Meetings

Two public meetings were held on December 5, 2023 from 6:00 to 8:00 p.m. and March 14, 2024 from 6:00 to 8:00 pm. Public meeting 1 provided an overview of the RCCP program, the Town's concerns and previous resiliency efforts, the program steps and schedule, and a request for input on the risk and vulnerability assessment and potential solutions. Public meeting 2 provided an overview of the program phases and progress, the results of the public survey, risk and vulnerability assessment results, and an overview of the candidate projects with the respective prioritization exercise. The public meeting presentations are available in *Appendix E: Additional Files*.

The Ocean Isle Beach RCCP Stakeholder Engagement Strategy is listed in *Appendix D: Stakeholder Engagement Strategy.*

1.4 Review of Existing Local and Regional Efforts

After forming the Community Action Team (CAT), the Team conducted a review of existing plans, ordinances, policies, and programs to identify work that has already been completed or is currently underway by the Town. The Team began with an inventory of relevant resources, then compiled information on the following key areas:

- Local ordinances addressing civil emergencies, environment, flood damage prevention, erosion and sedimentation control, growth, and stormwater management
- Land use and hazard mitigation planning documents
- Risk assessments
- Resilience-related projects and Capital Improvement Plans
- Existing demographic data

Once a review of existing data and information was complete, the Team identified and documented the additional data and resources necessary to complete the community's vulnerability and risk assessment, including:

- Inventory of critical assets and natural infrastructure
- Social vulnerability data
- Hazards data

The review of existing local and regional resources focused on the following areas: inventory of critical assets and available GIS data, sea level rise projections, flooding and other hazard data, and resilience-related projects. Additionally, the review identified and filled data and information gaps for risk and vulnerability assessment inputs.

The Ocean Isle Beach RCCP Review of Existing Local and Regional Efforts is included in *Appendix A: Risk and Vulnerability Assessment Report.*

1.5 Risk and Vulnerability Assessment

The risks, vulnerabilities, and degree of exposure to natural hazards within the Town of Ocean Isle Beach and its population, built environment, and natural infrastructure now and into the future was examined. Hazards affecting the Town were identified as flooding (storm surge, sea level rise, and high tide flooding), shoreline erosion, wind, tornadoes, and temperature changes. The assessment included a review of the direct impacts to critical facilities, natural infrastructure, property, and population. Responses from a community-wide public survey aided in providing information on direct impacts experienced by residents. Flooding was identified as the primary hazard of concern to the public. According to the 2016 Southeastern NC Regional Hazard Mitigation Plan, there are 2,289 parcels with a total building value of $593,404,480 that are impacted by a special Flood Hazard Area (SFHA). In Ocean Isle Beach alone, 2,555 flood insurance policies are in force, with a total value of $634,595,900, according to FEMA.

The Town of Ocean Isle Beach is highly vulnerable to natural hazards including flooding, sea level rise, and storm surge due to its barrier island location. . The methodology used in this assessment uses the exposure (i.e. overlap)

of critical assets to identified hazards in combination with an evaluation of the sensitivity and adaptive capacity of each to generate an overall vulnerability score for each asset. The highest scores reflect those assets that have the highest exposure to hazards, are most affected by the hazards (sensitivity), and have the least ability to change characteristics or behavior to respond to hazards (adaptive capacity).

Exposure was evaluated using identified critical asset and hazards data GIS mapping tools. Those assets exposed to more hazards were the highest ranked. Sensitivity and adaptive capacity were evaluated in conjunction with the CAT via a combination of an online survey and a meeting discussion to arrive at consensus rankings. This analysis helps to provide a better understanding of the degree of vulnerability of certain features as well as the associated risks, providing crucial information for land use and conservation planning.

Social vulnerability was assessed using the Center for Disease Control (CDC) guidelines. The primary concern contributing to social vulnerability in the Town is the age of its residents. More than half (57% of the population is 65 years or older.

The most vulnerable assets (scores of 5) were determined to be the protective dunes and the Odell Williamson Bridge leading to Causeway Drive (NC 904). The bridge serves as the only way on or off the island and is a critical evacuation route. The protective dunes maintain a barrier between elevated water levels and waves and the Town's infrastructure. They are vulnerable to erosion due to tropical storms, hurricanes, and other periods of elevated water levels and waves. Dune growth is promoted by existing Town projects, but dedicated projects may be needed to augment existing dunes or repair dunes impacted by storms.

The next most vulnerable assets (score of 4 or 3) include water bodies and wetlands surrounding the Town as well as a number of the water and wastewater infrastructure elements. The wetlands and water bodies surrounding the Town serve to buffer the effects of tropical storms and hurricanes, damping the effects of storm surges. However, these water bodies can be impacted by runoff and associated water quality impacts. Water quality in surrounding natural areas can also be impacted by the stormwater and sewer infrastructure being compromised due to flooding and/or power outages. A number of roadways are also vulnerable to multiple sources of flooding in several locations near the canals and east and west ends of the island. Three public beach accesses identified with relatively higher vulnerability were also linked to the protective dune vulnerability, with those locations being identified as critical access for emergencies as well as important in supporting the Town's tourism.

The Town of Ocean Isle Beach's Risk and Vulnerability Assessment is provided in *Appendix A: Risk and Vulnerability Assessment Report.*

1.6 Project Portfolio

In Phase 2, M&N worked with the Town, the CAT, and community members to identify, plan, and prioritize a combination of policy, nonstructural, structural, and hybrid actions, including the use of natural and nature-based solutions (NNBS), organized within a project portfolio.

The projects range from nature-based solutions like dune building and preservation to structural projects to elevate lift station control panels and purchase generators. The priority projects are presented below along with the corresponding community goals.

1. **East End of Ocean Isle Beach Dune Building and Preservation (Goal #2, Goal #4, Goal #6):** This project involves the construction of a dune along a portion of the Town's east end utilizing material obtained from an upland source. This dune line would mitigate flooding of private property and adjacent streets during high water events.
2. **Elevate & Empower: Resilient Infrastructure Project (Goal #4, Goal #6):** This project supports the Town of Ocean Isle Beach's infrastructure resilience by elevating sewer lift station control panels in flood-prone areas and purchasing portable generators to operate lift stations during emergency situations with power outages. The Town has applied for Phase 4 funding to accomplish this project.
3. **Living Shoreline Feasibility Study and Demonstration Project (Goal #2, Goal #4, Goal #6):** In this project, a comprehensive feasibility study to identify and prioritize suitable locations for implementing living shorelines along the estuarine shoreline of Ocean Isle Beach is performed. One living shoreline project would be designed to serve as a demonstration for the public, showcasing the effectiveness and benefits of this nature-based approach to shoreline stabilization.
4. **Update Town of Ocean Isle Beach CAMA Land Use Plan (Goal #1, Goal #3, Goal #6):** The Ocean Isle Beach CAMA Land Use Plan, which serves as a blueprint for growth, guided by policies and maps, was last updated in 2017. An update to include additional resilience considerations and other needed changes will be carried out in this project.
5. **Dune Infiltration Project to Reduce Stormwater Flooding(Goal #2, Goal #4, Goal #6):** This project includes the design of a stormwater collection and dune infiltration treatment system at Greensboro St. and East 1st St., where the Town owns two 50 ft beachfront lots. The system works by using the dune sand's natural filtering ability to remove pollutants and improve beach water quality.
6. **Native Plant Giveaway: Rooted in Community (Goal #2, Goal #6):** Native trees and shrubs will be provided to Town property owners along with planting information. These trees and shrubs will provide beauty, shade, and wildlife habitat while absorbing carbon dioxide and helping support flood water uptake.
7. **Resilient Multimodal Transportation Feasibility Study (Goal #1, Goal #3, Goal #6):** A resilient multimodal network provides benefits to reduce carbon emissions, provide public health benefits, and improve visitor's experience while visiting OIB. This project proposes a resiliency assessment of five of Ocean Isle Beach's prioritized bicycle and pedestrian projects and develop improvements to help adapt and mitigate flood and SLR hazards and provide safety, sustainability, and resilience co-benefits.

The Town submitted a Phase 3 application for Project 3: Living Shoreline Feasibility Study and Demonstration Project, and a Phase 4 application for Project 2: Elevate & Empower: Resilient Infrastructure Project on May 31, 2024. The Town has also been awarded Coastal Storm Damage Mitigation (CSDM) funding for Project 1: East End of Ocean Isle Beach Dune Building and Preservation. The Town has also met with the North Carolina Wildlife Federation to establish a partnership to conduct Project 6: Native Plant Giveaway: Rooted in Community in the spring of 2025. The Town plans to investigate other funding sources to accomplish the other projects in the portfolio.

The Town of Ocean Isle Beach's Project Portfolio is provided in *Appendix B: Project Portfolio*.

1.6.1. Funding Coastal Resilience

The RCCP has successfully leveraged funding from the North Carolina legislature and the National Fish and Wildlife Foundation to achieve the following accomplishments over the past four years (2020 to 2023):

- Awarded $1.86 M to conduct vulnerability assessments and identify projects in 41 communities.
- Funded engineering and design of 20 top-priority resilience projects at total cost of $1.4 M.
- Awarded $1.16 M to implement 5 shovel-ready projects.

The 2024 application period for Phase 3 and Phase 4 projects closed on May 31, 2024. The Town has submitted applications for two projects as described in the previous section.

1.7 Additional Files

1.7.1. Geospatial Information Systems Files

The data used in the risk and vulnerability assessment was obtained from a variety of sources, including federal, state, and local agencies, as well as nonprofit organizations. These data sources, along with their corresponding maps and feature layers are displayed in **Table 1**.

Table 1. List of Maps, feature layers displayed in each map, and data sources for each feature layer data set used for all GIS map products included in Risk and Vulnerability Assessment

Map	Data/Feature Layer	Data Source
Flood Zones	• 100 Year Flood Zone • 500 Year Flood Zone	• North Carolina Flood Risk Information System (NC FRIS) https://fris.nc.gov/fris/Download.aspx?FIPS=019&ST=NC&user=General%20Public
Previous Hurricane Flood Inundation	• Hurricane Matthew and Hurricane Florence areas of inundation	• Coastal Emergency Risks Assessment (CERA) https://cera.coastalrisk.live/#
Storm Surge Inundation	• Storm Surge Inundation (SLOSH model), hurricane categories 1-5	• National Storm Surge Hazard Maps - Version 2 https://www.nhc.noaa.gov/nationalsurge/#data
Sea Level Rise Inundation	• Sea Level Rise (1 ft)	• NOAA Sea Level Rise Data https://coast.noaa.gov/slrdata/
High Tide Flooding Inundation	• High Tide Flooding	• NOAA Technical Report NOS CO-OPS 086 https://www.tidesandcurrents.noaa.gov/publications/techrpt86_PaP_of_HTFlooding.pdf
Coastal Erosion/ Accretion and Inlet Hazard Areas	• Coastal Erosion and Accretion • Inlet Hazard Areas	• North Carolina Division of Coastal Management (NCDCM) https://data-ncdenr.opendata.arcgis.com/search?collection=Dataset

Natural Infrastructure	• Water Bodies • Dunes • Wetlands	• https://data-brunsco.opendata.arcgis.com/ • M&N (desktop analysis using aerial photography and topographic contours) • https://deq.nc.gov/about/divisions/coastal-management/coastal-management-data/setback-factor-maps-1998-shoreline/coastal-wetlands-spatial-data#Wetlands
Critical Assets	• Public Safety or Emergency Services • Community Government Service Offices • Public Beach Access Points • Grocery Stores • Gas Stations	• https://data-brunsco.opendata.arcgis.com/ and M&N
	• Water/Sewer Lines • Water/Sewer Points • Roads	• Town of Ocean Isle Beach

Additional files, such as mapping products and all outreach material, can be found in *Appendix E: Additional Files*. A digital map package is provided containing the project's geospatial data.

APPENDIX A

RISK & VULNERABILITY ASSESSMENT REPORT

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RISK AND VULNERABILITY ASSESSMENT

Town of Ocean Isle Beach, NC

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FINAL REPORT

July 17, 2024

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GLOSSARY

AEC	Area of Environmental Concern
ACS	American Community Survey
ASCE	American Society of Civil Engineers
ATSDR	Agency for Toxic Substances and Disease Registry
CAMA	Coastal Area Management Act
CDC	Centers for Disease Control and Prevention
CRC	Coastal Resources Commission
EF	Enhanced Fujita (Scale, for tornado wind speeds)
ETJ	Extra-Territorial Jurisdiction
FEMA	Federal Emergency Management Agency
GIS	Geographic Information Systems
IHA	Inlet Hazard Area
MHHW	Mean Higher High Water
NCDEQ	North Carolina Department of Environmental Quality
NOAA	National Oceanic and Atmospheric Administration
OEA	Ocean Erodible Area
SFHA	Special Flood Hazard Area
SLOSH	Sea, Lake, and Overland Surges from Hurricanes (numerical model)
SVI	Social Vulnerability Index

EXECUTIVE SUMMARY

This assessment examines the risks, vulnerabilities, and degree of exposure to natural hazards of the Town of Ocean Isle Beach, its planning area and its population, built environment, and natural infrastructure now and into the future. The Town of Ocean Isle Beach has experienced high population growth over the past few decades, and is planning for continued high growth rates. Coinciding with rapid development and population increases, future land use plans that incorporate resilience and smart growth goals of protecting the natural environment are imperative.

Natural hazard impacts to critical facilities, natural infrastructure, property, coastal resources and population are also examined in this assessment. Responses from a community-wide public survey aid in providing information on direct hazard impacts experienced by residents. In terms of natural infrastructure, the Town of Ocean Isle Beach contains four categories of Areas of Environmental Concerns (AECs), or natural areas of land or water designated as important to protect from uncontrolled or incompatible development. Coastal wetlands, estuarine waters, public trust areas, and coastal shorelines are found within the Town boundaries. Direct impacts from flooding are found throughout the barrier island and areas adjacent to the intracoastal waterway. Most private properties within the Town are located within the 100-year flood zone and are subject to impacts from multiple sources of flooding. Similarly, many critical facilities, including government buildings and water utility features, are located within the 100-year flood zone. Understanding the exposure of these facilities to flood hazards is crucial in assessing overall risk and vulnerability.

The Town of Ocean Isle Beach and its current and future residents are at risk from natural hazards including flooding from storm surge, sea level rise, and high tides, as well as shoreline erosion, and temperature changes. The methodology used in this assessment helps to provide a better understanding of the degree of vulnerability of certain assets, facilities and natural features as well as the associated risks. Critical facilities, natural infrastructure, property, and the Ocean Isle Beach residential population are in some cases, located in areas with higher risks and vulnerabilities to natural hazards, providing crucial information for land use and resilience and climate adaptation planning. These features were assessed using Geospatial Information Systems (GIS) mapping and data from a variety of sources including local, state, federal, and non-profit agencies.

This risk and vulnerability assessment utilizes a desktop GIS review to assess natural hazards vulnerability, and screen key community assets that are exposed to the selected hazards. Social vulnerability was assessed using census data and the Centers for Disease Control and Prevention (CDC)/Agency for Toxic Substances and Disease Registry (ATSDR) social vulnerability index. The CDC/ATSDR social vulnerability index score for Brunswick County indicates a low-medium level of vulnerability. Per capita income in the Town is more than 1.5 times the average of the state. The primary social vulnerability concern identified within the Town was that the Town's population is older, with more than half (57%) of the population being 65 or older.

The compiled hazard and asset data were analyzed using GIS mapping to identify exposure of each asset to the identified hazards. This analysis was combined with sensitivity and adaptive capacity scores developed by the Community Action Team (CAT) to compute an overall vulnerability score for each critical asset. The most vulnerable assets were identified as the protective dunes along the oceanfront and the Odell Williamson Bridge. The other more

vulnerable assets (score of 4) include water bodies surrounding the Town as well as a number of the water and wastewater infrastructure elements. The water bodies, including wetlands, tidal creeks, canals, and the Atlantic Intracoastal Waterway were examined as part of the assessment of natural infrastructure interactions with identified hazards. Data presented in this assessment can be utilized in future resiliency studies, CAMA Land Use Plan updates, Capital Improvement Plans, hazard mitigation planning efforts, grant funding opportunities, and more.

1. INTRODUCTION AND AREA OVERVIEW

1.1. Study Area and History

The Town of Ocean Isle Beach (Town) is located in southeastern North Carolina in Brunswick County and is approximately 4.72 square miles in size. The municipal boundaries of the Town extend from the mainland area to the barrier island that is separated by the Atlantic Intracoastal Waterway. The town boundaries of Ocean Isle Beach span from Tubbs Inlet on the west side to Shallotte Inlet on the east side. The mainland area lies north of the island along NC Highway 904 and includes several parcels at the intersection of NC Highway 1184 and NC Highway 179.

In 1989, Hurricane Hugo devastated many coastal communities of the Carolinas, including Ocean Isle Beach. Since then, the Town has experienced numerous storms and hurricanes, and has continually implemented local and federal projects to repair damages, maintain natural resources, and mitigate future impacts.

The Town of Ocean Isle Beach, like most coastal communities in Brunswick County, has seen rapid growth and development in its jurisdiction over the last couple of decades. Ocean Isle Beach's population has more than doubled between 2000 and 2022. Increases in coastal tourism and increases in the retiree population relocating to coastal areas have been the primary driving forces in the increasing development pressures in the Town. Today, Ocean Isle Beach has a residential population of approximately 809 (U.S. Census Bureau, 2022) The desire to live in and visit coastal areas has put some development at risk, and led to land uses that place stress on the natural and built environment of the Town.

1.2. Existing Resiliency Efforts

Resiliency and sustainability have been at the forefront of the Town of Ocean Isle Beach's planning efforts for the past several decades. In 2016, the Town developed a vision statement to guide land use planning, which states: "We, the residents, businesses and property owners of the Town of Ocean Isle Beach, shall maintain and enhance our community as the finest family-oriented beach community in the Unites States. This requires due diligence and working to retain our small town, family friendly character while preserving, and where possible, enhancing the quality of the natural and man-made environment. It is essential that we maintain the quality of life that makes Ocean Isle Beach a community that is desirable place for visitors and residents alike."

The Town staff reference this vision to focus on five major policy priorities for its residents and tourists: 1) protect the beach and encourage continued storm damage reduction to ensure future enjoyment of the Town's natural resources; 2) prioritize the installation of bicycle and pedestrian facilities in an effort to enhance the safety of non-motorized users for permanent and seasonal residents; 3) on the island, redevelop existing business centers and limit the construction of strip malls and box stores; 4) manage development density in both residential and commercial areas; and 5) increase parking availability and public access to amenities through facility enhancement and land acquisition to support tourism and year-round coastal lifestyle activities.

1.2.1. Current Plans and Policies

Ocean Isle Beach has enacted resiliency policies, strategies and standards through existing ordinances, local and regional plans, and programs. These measures are regularly reviewed, revised, and implemented.

Table 1 presents a list of the existing plans and policies developed and maintained by the Town.

Table 1. Existing Plans and Policies of Town of Ocean Isle Beach

Document Name (Year)	Information within Document			
	Critical Assets	Hazard Information	Potential Resilience Projects	Resilience Strategies Already in Place
Town of Ocean Isle Beach Ordinances: Chapter 18 - Civil Emergencies (1998)		✓		✓
Town of Ocean Isle Beach Ordinances: Chapter 22 - Environment (2009)		✓		✓
Town of Ocean Isle Beach Ordinances: Chapter 30 – Flood Damage Prevention Coastal Regular Phase (2018)		✓		✓
Town of Ocean Isle Beach Ordinances: Chapter 42 – Soil Erosion and Sedimentation Control (2016)		✓		✓
Town of Ocean Isle Beach Ordinances: Chapter 49 – Stormwater Management (2010)		✓	✓	✓
Town of Ocean Isle Beach Ordinances: Chapter 50 – Subdivisions (2020)				✓
Town of Ocean Isle Beach Ordinances: Chapter 66 – Zoning (2021)				✓
Southeastern NC Regional Hazard Mitigation Plan (2021)	✓	✓	✓	✓
State of North Carolina Hazard Mitigation Plan (2023)		✓		✓
North Carolina Climate Risk Assessment and Resilience Plan (2020)		✓		✓
Town of Ocean Isle Beach CAMA Land Use Plan (2017)	✓	✓	✓	✓
Town of Ocean Isle Beach CIP (FY 2023-2028)			✓	
Town of Ocean Isle Beach 30-Year Beach Management Plan (2015)	✓	✓	✓	✓

Document Name (Year)	Information within Document			
	Critical Assets	Hazard Information	Potential Resilience Projects	Resilience Strategies Already in Place
Town of Ocean Isle Beach Comprehensive System-Wide Parks & Recreation Master Plan (2018)	✓		✓	
Town of Ocean Isle Beach Emergency Response Plan (2023)	✓	✓		✓
FEMA Community Rating System (Town Joined in 1992)	✓	✓		✓

1.2.2. Existing and Future Projects

The Town has implemented a number of resilience-focused projects throughout the years to ensure that the Town can thrive for generations to come. As the Town relies on the natural protection of the beach and dune system to reduce damage from coastal storms, many of these efforts have historically focused on the beach and dunes. The Federal Coastal Storm Risk Management (CSRM) project is a federal project designed to reduce storm damage by renourishing a 3.25 mile segment of the beach on a regular basis. The Town also maintains permits as part of the 30-Year Beach Management Plan to conduct beach renourishment over any of its 5.5 miles of ocean shoreline. In addition, a terminal groin was constructed in 2022 to stabilize the eastern end of the barrier island and extend the time in between beach renourishment projects. In addition to the terminal groin and CSRM projects, the Town promotes dune building through installation of sand fencing and biannual vegetation planting projects. In addition, oceanfront property owners are provided annually with one free roll of sand fence and one additional roll at half price to promote dune building in front of private properties. The Town also conducts annual beach monitoring surveys and analysis to evaluate the need for beach renourishment outside of the federal project area.

Other efforts are focused on the estuarine shoreline and canals present within the Town. A real-time water level gauge was installed on a Town-owned dock and monitors high tides and other high water events within the Atlantic Intracoastal Waterway. Residents can sign up for alerts to be advised of projected high tides that may overtop existing bulkhead walls and cause damage to private property. The Town also recently completed a study of the canals to evaluate installation of floodgates to alleviate flooding during storm events. The anticipated cost of floodgate installation exceeded the Town's available budget, however, this may be something that could be pursued in the future.

1.3. History of Disaster Declarations

Brunswick County has had a total of 28 presidentially declared disasters in the Federal Emergency Management Agency's (FEMA) official listing of disaster declarations (

Table 2). Out of these declared disasters, two were categorized as severe storms and 23 were categorized as hurricanes, with the others being biological or other hazards. Both severe storms on record brought flooding to the area—Tropical Storm Hanna in 2008 and severe storms from remnants of Tropical Storm Nicole in 2010. Out of the 23 hurricanes that occurred, the majority (13) were in the month of September. Four of these hurricanes occurred in October, four occurred in August, one occurred in July, and one in January.

A complete list of these disasters can be found at https://www.fema.gov/disaster/declarations.

Table 2. History of disaster declarations in Brunswick County. (Source: FEMA, 2023)

Year of Declaration Date	Declaration Title	Declaration Type	Disaster Number
1984	Hurricane Diana	Hurricane	724
1989	Hurricane Hugo	Hurricane	844
1996	Hurricane Bertha	Hurricane	1127
1996	Hurricane Fran	Hurricane	1134
1998	Hurricane Bonnie	Hurricane	1240
1999	Hurricane Dennis	Hurricane	3141
1999	Hurricane Floyd Emergency Declarations	Hurricane	3146
1999	Hurricane Floyd Major Disaster Declarations	Hurricane	1292
2003	Hurricane Isabel	Hurricane	1490
2005	Hurricane Katrina Evacuation	Hurricane	3222
2005	Hurricane Ophelia	Hurricane	1608, 3254
2008	Tropical Storm Hanna	Severe Storm	1801
2010	Hurricane Earl	Hurricane	3314
2010	Severe Storms, Flooding, and Straight-Line Winds from Tropical Storm Nicole	Severe Storm	1942
2011	Hurricane Irene	Hurricane	3327, 4019
2016	Hurricane Matthew	Hurricane	3380, 4285
2018	Hurricane Florence	Hurricane	3401, 4393
2019	Hurricane Dorian	Hurricane	3423, 4465
2019	Tropical Storm Michael	Hurricane	4412
2020	Hurricane Isaias	Hurricane	3534
2022	Hurricane Ian	Hurricane	3586

2. RISK ASSESSMENT METHODOLOGY

2.1. Data Processing Methodology

The data used in this assessment were obtained from a variety of sources, including federal, state, and local agencies, as well as nonprofit organizations. These data sources, along with their corresponding maps and feature layers are displayed in **Table 3**.

Additionally, some feature layers were created manually. For instance, some critical facilities, such as government buildings, were created as new data points, due to the fact that Brunswick County GIS Data did not have all of the newly developed facilities in its data collection. For these facilities, building addresses were provided by Town staff and latitude and longitude coordinates were identified based on the address.

Some feature layer data was modified for the purpose of readability and simplification. For example, the SLOSH (Sea, Lake, and Overland Surge from Hurricanes) data obtained from the National Oceanic and Atmospheric Administration (NOAA) for use in the storm surge map displayed dozens of colors and various ranges for each hurricane category. New fields were added to the attribute table in ArcMap to aggregate any and all shapefiles within the range for each category and color coding was applied to the entire field, so that each hurricane category would be represented by a single color for easy readability. To create the municipal zoning parcels and flood zones maps, a similar methodology to the storm surge map was used.

Table 3. List of Maps, feature layers displayed in each map, and data sources for each feature layer data set used for all GIS map products included in Risk and Vulnerability Assessment

Map	Data/Feature Layer	Data Source
Flood Zones	• 100 Year Flood Zone • 500 Year Flood Zone	• North Carolina Flood Risk Information System (NC FRIS) https://fris.nc.gov/fris/Download.aspx?FIPS=019&ST=NC&user=General%20Public
Previous Hurricane Flood Inundation	• Hurricane Matthew and Hurricane Florence areas of inundation	• Coastal Emergency Risks Assessment (CERA) https://cera.coastalrisk.live/#
Storm Surge Inundation	• Storm Surge Inundation (SLOSH model), hurricane categories 1-5	• National Storm Surge Hazard Maps - Version 2 https://www.nhc.noaa.gov/nationalsurge/#data
Sea Level Rise Inundation	• Sea Level Rise (1 ft)	• NOAA Sea Level Rise Data https://coast.noaa.gov/slrdata/
High Tide Flooding Inundation	• High Tide Flooding	• NOAA Technical Report NOS CO-OPS 086 https://www.tidesandcurrents.noaa.gov/publications/techrpt86_PaP_of_HTFlooding.pdf
Coastal Erosion/ Accretion and Inlet Hazard Areas	• Coastal Erosion and Accretion • Inlet Hazard Areas	• North Carolina Division of Coastal Management (NCDCM) https://data-ncdenr.opendata.arcgis.com/search?collection=Dataset
Natural Infrastructure	• Water Bodies • Dunes • Wetlands	• https://data-brunsco.opendata.arcgis.com/ • M&N (desktop analysis using aerial photography and topographic contours) • https://deq.nc.gov/about/divisions/coastal-management/coastal-management-data/setback-factor-maps-1998-shoreline/coastal-wetlands-spatial-data#Wetlands
Critical Assets	• Public Safety or Emergency Services • Community Government Service Offices • Public Beach Access Points • Grocery Stores • Gas Stations	• https://data-brunsco.opendata.arcgis.com/ and M&N
	• Water/Sewer Lines • Water/Sewer Points • Roads	• Town of Ocean Isle Beach

2.2. Social Vulnerability Methodology

Social vulnerability refers to the inability of people, organizations, and societies to anticipate, cope with, resist, and recover from the impact of external stresses. Understanding social vulnerability can help identify communities in greatest need of resources.

To determine social vulnerability within the Town, the Social Vulnerability Index (SVI) method adopted by the Centers for Disease Control and Prevention (CDC) was used (Flanagan et al., 2011). CDC's SVI makes use of U.S. Census data to determine social vulnerability. The SVI ranks each census area on 15 socio-economic factors, and groups them into four themes (socioeconomic status, household composition, minority status/language, and housing/transportation), as listed in **Table 4**. Each census area receives a separate ranking for each of the four themes, as well as an overall ranking.

Table 4. CDC social vulnerability index themes and variables (adapted from CDC,2015)

OVERALL VULNERABILITY	Socioeconomic Status	Below Poverty
		Income per Capita
		Unemployment
		High School Education
	Household Composition	Aged 65 and Older
		Aged 17 and Younger
		Older than Age 5 with Disability
		Single-Parent Household
	Minority Status & Language	Minority
		Speaks English "Less Than Well"
	Housing & Transportation	Multi-Unit Structures
		Mobile Homes
		Crowding
		No Vehicle
		Group Quarters

2.3. Risk Exposure Methodology

Exposure refers to the presence of people, assets, and ecosystems in places where they could be adversely impacted by hazards. To evaluate risk exposure for this analysis, the hazard layers, critical assets, and natural infrastructure described in Section 2.1 were evaluated in ArcGIS Pro. Where assets and natural infrastructure fell within the boundaries of the hazard layer(s), an exposure value of 1 was assigned to a table entry corresponding to the hazard layer name. Assets and natural infrastructure falling outside of the hazard layer were assigned a table entry value of 0. This methodology was used to assess the exposure to five natural hazards: 100-year floodplain, 1 foot of sea level rise, high tide flooding, flooding from a major storm (category 3 or higher), and inlet hazard areas.

Once the exposure of each hazard was identified, a sum of the five scores was given to each asset to establish the final exposure score. The final exposure score fell between 0-3 for each asset, so if the sum of all five exposure scores was 3 or greater, the final exposure score given was a 3.

3. HAZARD IDENTIFICATION

3.1. Flooding

Flooding is defined as the accumulation of water within a water body which results in the overflow of excess water onto adjacent lands, usually floodplains. A floodplain, by definition, is the land that adjoins the channel of a water body such as a river, stream, ocean, or lake, that is susceptible to flooding. FEMA identifies and regularly updates mapping of specific flood zones based on the likelihood of the area flooding. The "1% Annual Chance Flood Zone" represents areas that have a one percent chance of being inundated by flood waters in a given year (this is also referred to as the 100-year flood). Similarly, areas depicted as the "0.2% Flood Zone" have a 0.2 percent chance of being inundated by flood waters in a given year (also referred to as the 500-year flood). It is notable that FEMA currently does not account for future sea level rise or climate change in its flood maps. The areas outside of these zones are determined to be of minimal risk. The 1% and 0.2% Flood Zones within the Town of Ocean Isle Beach are displayed in **Figure 1** below. It is apparent that the majority of the Town is within the 100-year flood zone (1% annual chance).

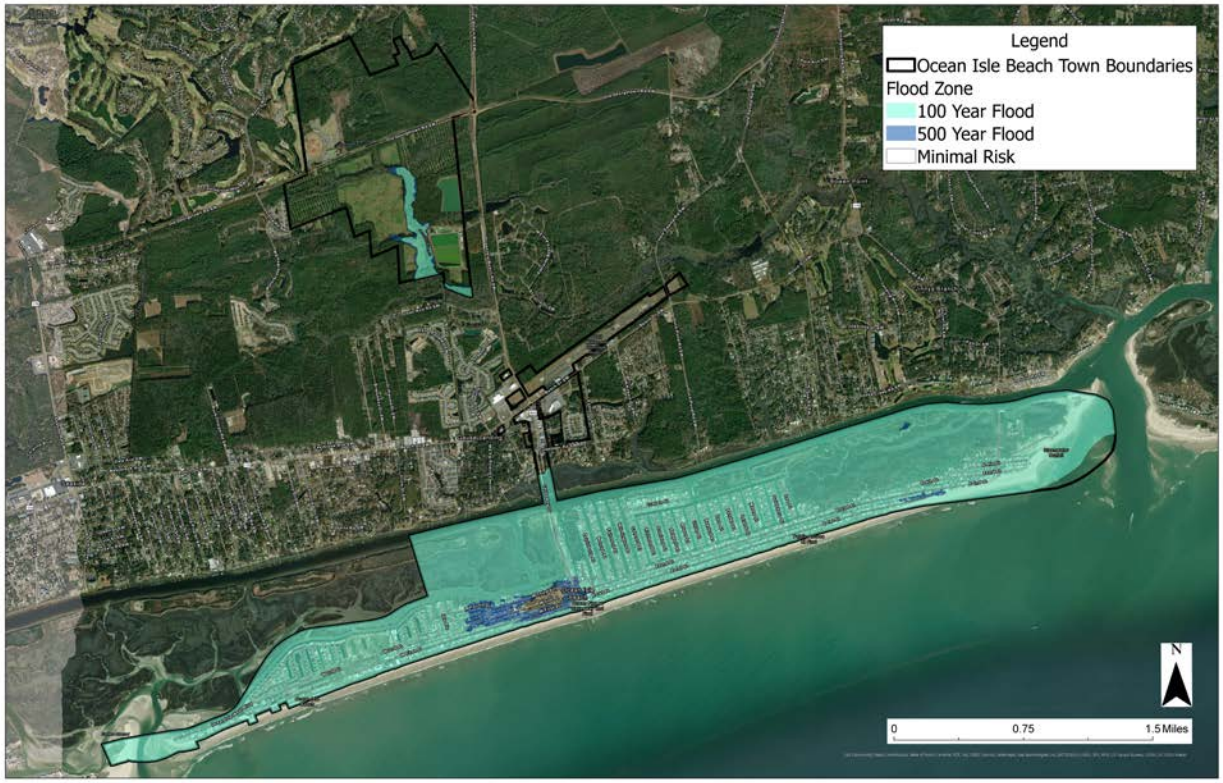


Figure 1. Map displaying the 100 Year (1% Annual Chance) Flood Zone and 500 Year (0.2% Annual Chance) Flood Zone within the Town of Ocean Isle Beach's boundaries. (Source: NC FRIS)

Flooding is a generalized term that can be categorized into many types: riverine flooding, coastal flooding, including high tide flooding, flooding from storm or heavy precipitation events, or shallow flooding. Shallow flooding refers to flooding from ponding or urban drainage. Because of its proximity to the coast and other water bodies, the Town of Ocean Isle Beach is exposed to all of the above-mentioned flood hazards. Flooding from major storm events has brought severe impacts to the Town in previous years and has become a hazard of major concern, as illustrated in **Figure 2**. The North Carolina Climate Science Report (The North Carolina Institute for Climate Studies, 2020) states that there is no long-term trend in the average annual total precipitation across the state. However, there is an upward trend in the number of heavy rainfall events, and the last four years of the data analyzed for the report (2015-2018) show the greatest number of these events since 1900 (a heavy rainfall event is any rainfall event that results in 3 inches or more of precipitation in one day). Data also suggest that it is very likely that extreme precipitation frequency and intensity in North Carolina will increase due to increases in atmospheric water vapor content due to increased temperature.

Figure 2. Map displaying areas of flood inundation within the Town of Ocean Isle Beach's boundaries from Hurricanes Matthew and Florence. (Source: Coastal Emergency Risks Assessment)

3.1.1. Storm Surge

Storm surge is defined as a large expanse of water, often 50 or more miles wide, and rising several feet during a hurricane, up to more than 30 feet in a Category 5 storm (national average). The height of a storm surge and its associated waves can be dependent upon many factors such as the shape of the offshore continental shelf and the depth of the ocean bottom offshore. For example, lower surges tend to result from a narrower continental shelf but can bring higher and more powerful storm waves. Storm surge arrives ahead of a storm or hurricane's actual landfall and will arrive sooner the more powerful the storm event is offshore. Water rise caused by storm surge can be very rapid and therefore pose a serious threat to those properties or individuals located in flood-prone areas. The area forecasted to be potentially inundated by flood waters from storm surge within the Town of Ocean Isle Beach is depicted in **Figure 3**, illustrated by each individual hurricane category. This data set was developed using the high tide scenario of NOAA's SLOSH (Sea, Lake, and Overland Surges from Hurricanes) model, Maximum of the Maximum (MOM) envelope of high water. This provides a worst-case snapshot for a particular storm category under "perfect" storm conditions. Each MOM considers combinations of forward speed, trajectory, and initial tide level. While this is a worst-case scenario it provides some indication of the potential hazard impacting the Town due to varying categories of hurricane.

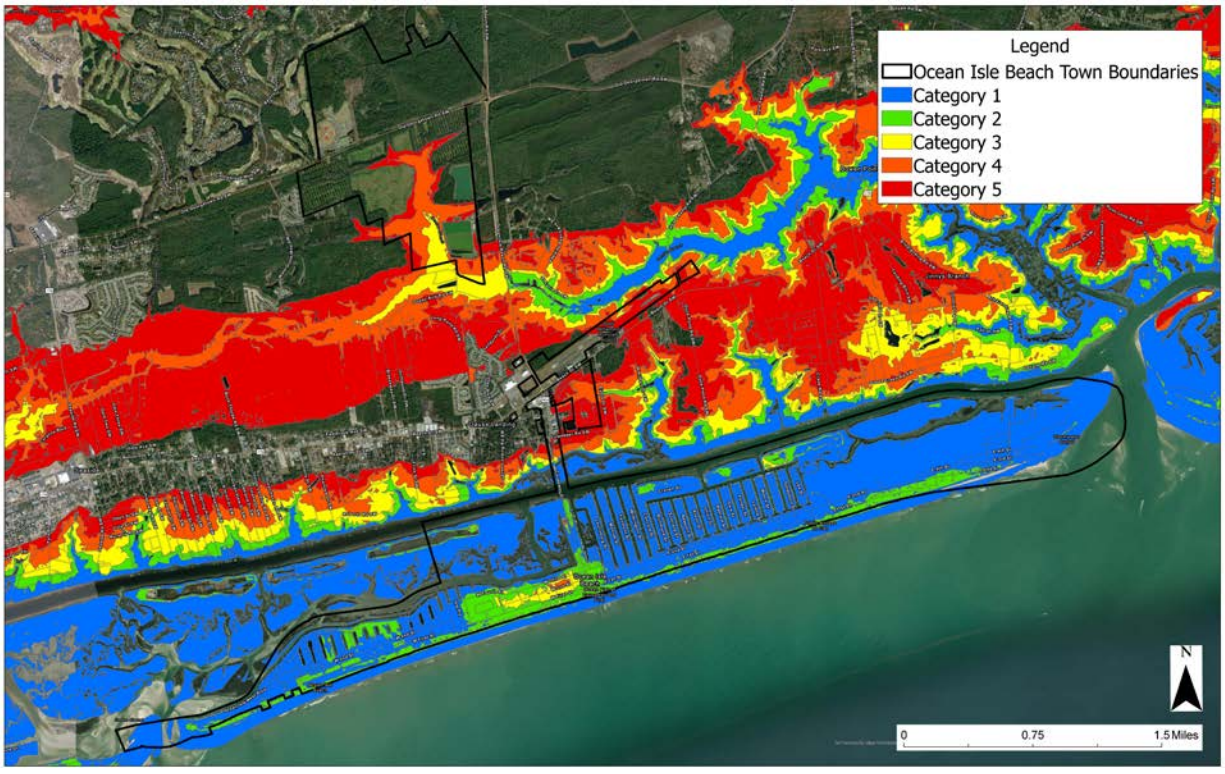


Figure 3. Map displaying areas exposed to storm surge within the Town of Ocean Isle Beach's boundaries from storm surge by hurricane category. (Source: NOAA SLOSH data)

3.1.2. Sea Level Rise

Sea level rise can be defined as the rising of the seas above their current levels due to the expansion of ocean water as it warms (thermal expansion) and the added water from land-based ice (e.g., mountain glaciers and ice sheets) as it melts. Both of these processes are driven by increased global temperatures that are associated with greenhouse gas emissions (NOAA, 2022). This can have potentially major and catastrophic impacts by not only causing inundation of areas not previously inundated with water but by exacerbating the other above-mentioned hazards. Sea level rise is a threat associated with climate change and is becoming a larger threat to communities along the coast each year. It is caused primarily by the thermal expansion of the oceans and the loss of land-based ice. Data from NOAA's Sea Level Rise Report (2022) indicates that the rate of sea level rise globally has been accelerating steadily over the past century, however the rate of acceleration is becoming more and more rapid and will have increasingly more devastating effects on coastal communities over time.

In North Carolina, the rate of local sea level rise varies depending on effects of water movement in the Gulf Stream as well as land subsidence. Studies conducted by the North Carolina Department of Environmental Quality (NCDEQ) show that southeastern North Carolina, including Brunswick County, is experiencing less land subsidence than the more northern portion of the coast, north of Cape Lookout. Therefore, southeastern North Carolina coastal counties are experiencing lower measured rates of sea level rise than those counties further north. According to tide gauge projections measured by NOAA and reported by the NC Coastal Resources Commission Science Panel (2015); the southern portion of coastline in Brunswick County is seeing an average rise of 2.4 inches in sea level every 30 years. This data was collected by tide gauges in Southport, approximately 25 miles east of Ocean Isle Beach. In comparison, parts of the northern coastline of North Carolina see more than twice this rate of sea level rise at 5.4 inches in 30 years. However, sea level rise by itself or in combination with other hazards such as storm surge or heavy precipitation events, is a serious concern for southeastern North Carolina.

NOAA's Sea Level Rise Viewer's Local Scenarios tool for the closest open ocean location to Ocean Isle Beach (Springmaid Pier, SC) indicates that for the Intermediate High scenario, local sea level rise at this station by 2040 is approximately 0.98 ft. For the purposes of this report, an estimate of 1 foot of sea level rise is used to consider potential impacts to Ocean Isle Beach by 2040. Areas that are forecasted to be inundated by sea level rise within the Town of Ocean Isle Beach by 2040 are displayed below in **Figure 4**. NOAA sea level rise flood hazard modelling data uses a modified bathtub approach to account for local and regional tidal variability as well as hydrological connectivity, mapping sea level rise on top of existing mean higher high water (MHHW) conditions.

Figure 4. Map displaying areas inundated within the Town of Ocean Isle Beach's boundaries from changes in sea level rise projected over 30 years (Source: NOAA, 2022)

3.1.3. High Tide Flooding

According to NOAA, annual occurrences of tidal flooding that causes minor impacts to infrastructure have increased since the 1960s The changes in high tide flooding over time are greatest where elevation is lower, local relative sea level rise is higher, or extreme variability is less. This issue is anticipated to increase in the future as sea level rise causes flooding to occur more frequently and last longer. **Figure 5** shows areas currently subject to tidal flooding, which is also sometimes called sunny day flooding or nuisance flooding.

Figure 5. Map of areas within the Town Boundaries of Ocean Isle Beach that are inundated by flooding from high tide events.

3.2. Shoreline Erosion

NC DCM regularly evaluates long-term erosion rates using shoreline position data developed using aerial photography and/or lidar elevation data. The purpose of these efforts is to update ocean hazard construction Setback Factors and the Ocean Erodible Area of Environmental Concern which are based on the long-term average annual oceanfront shoreline change rates. The long-term average annual shoreline change rates have been updated approximately every five years since 1980. Oceanfront construction Setback Factors are used to site oceanfront development and determine the landward extent of the Ocean Erodible Area (OEA) within the Ocean Hazard Area of Environmental Concern (AEC), or the area where there is a substantial possibility of excessive shoreline erosion. The most recent erosion rates (2020) are shown in **Figure 6**. It is noted that historical erosion along Ocean Isle Beach is localized near the inlets; this is in part due to the establishment of a long-term, federally-funded beach nourishment project along the Town's shoreline, which has stabilized the shoreline position along the project area. In addition, DCM has designated Inlet Hazard Areas (IHA), also shown in **Figure 6**. These were developed and approved by the CRC with a 1978 report for the purpose of identifying and delineating hazard areas adjacent to existing inlets for use by the Commission in designating Inlet Lands AECs in the vicinity of inlets. The IHA is defined in 15A NCAC 07H.0304(2), as locations that "are especially vulnerable to erosion, flooding and other adverse effects of sand, wind, and water because of their proximity to dynamic ocean inlets."

Figure 6. Map of Inlet Hazard Areas and areas of erosion and accretion on the shoreline of Ocean Isle Beach.

3.3. Wind

In coastal areas, storm surge and wind-driven waves are significant components of flooding. However, wind energy in and of itself is a major hazard that alone can cause severe impacts to coastal areas. Winds above 39 mph are considered a tropical storm system. When winds are at or exceed 74 mph, the tropical storm is deemed a hurricane. The forward momentum of a hurricane can vary from just a few miles per hour to up to 40 mph. This forward motion, combined with a counterclockwise surface flow, make the right front quadrant of the hurricane the location of the most potentially damaging winds.

Category 1: Winds of 74 to 95 miles per hour. Damage primarily to shrubbery, trees, foliage, and unanchored mobile homes. No appreciable wind damage to other structures. Some damage to poorly constructed signs. Storm surge possibly 3 to 5 feet above normal. Low-lying roads inundated, minor pier damage, some small craft in exposed anchorage torn from moorings.

Category 2: Winds of 96 to 110 miles per hour. Considerable damage to shrubbery and tree foliage; some trees blown down. Major damage to exposed mobile homes. Extensive damage to poorly constructed signs. some damage to roof materials of buildings; some window and door damage. No major wind damage to buildings. Storm surge possibly 6 to 8 feet above normal. Coastal roads and low-lying escape routes inland cut by rising water 2 to 4 hours before arrival of hurricane center. Considerable damage to piers. Marinas flooded. Small craft in unprotected anchorages torn from moorings. Evacuation of some shoreline residences and low-lying island areas required.

Category 3: Winds of 111 to 130miles per hour. Foliage torn from trees; large trees blown down Practically all poorly constructed signs blown down. Some damage to roofing materials of buildings; some window and door damage. Some structural damage to small buildings. Mobile homes destroyed. Storm surge possibly 9 to 12 feet above normal. Serious flooding at coast and many smaller structures near coast destroyed; larger structures near coast damaged by battering waves and floating debris. Low-lying escape routes inland cut by rising water 3 to5 hours before hurricane center arrives.

Category 4: Winds of 131 to 155 miles per hour. Shrubs and trees blown down; all signs down. Extensive damage to roofing materials, windows, and doors. Complete failure of roofs on many small residences. Complete destruction of mobile homes. Storm surge possibly 13 to 18 feet above normal. Major damage to lower floors of structures near shore due to flooding and battering by waves and floating debris. Low-lying escape routes inland cut by rising water 3 to 5 hours before hurricane center arrives. Major erosion of beaches.

Category 5: Winds greater than 155 miles per hour. Shrubs and trees blown down; considerable damage to roofs of buildings; all signs down. Very severe and extensive damage to windows and doors. Complete failure of roofs on many residences and industrial buildings. Extensive shattering of glass in windows and doors. Some complete building failures. Small buildings overturned or blown away. Complete destruction of mobile homes. Storm surge possibly greater than 18 feet above normal. Major damage to lower floors of all structures less than 15 feet above sea level. Low-lying escape routes inland cut by rising water 3 to 5 hours before hurricane center arrives.

Nor'easters share many of the same characteristics of hurricanes, but unlike hurricanes, these storms are extratropical (forming outside of the tropics), deriving their strength from horizontal gradients in temperature. Although nor'easters are typically less intense than hurricanes, they

occur more frequently and cover larger areas and longer coastal reaches at one time. The coastal counties of North Carolina are most vulnerable to the impacts of nor'easters as compared with inland counties. Since the storms often occur at night, they typically make landfall with less warning than hurricanes, catching residents at home and unprepared. On the other hand, nor'easters typically occur during the off-season when fewer non-residents are visiting the coast. As with hurricanes, vulnerability is proportional to structural strength, with mobile homes particularly vulnerable.

Ocean Isle Beach has a design wind speed of 148 mph per ASCE 7-22 for Risk Category II (typical residential and commercial) structures. This corresponds to a wind speed with a 700 year return period. The Ocean Isle Beach design wind speeds for Risk Category IV structures (i.e. essential facilities) is 161 mph, corresponding to a 3000 year return period. These values are 3-second gust wind speeds at a height of 33 ft above the ground in open terrain and are driven by the hurricane wind risk.

3.4. Tornadoes

Tornadoes are columns of rapidly rotating air, developed within a convective cloud and in contact with the ground. In North Carolina, tornadoes occur most often in association with thunderstorms in the spring and summer. Tornado wind speeds are generally higher than those occurring in hurricanes, but occur within a narrower path. When tornadoes impact a developed area, they can cause significant damage as well as loss of life, primarily via collapsing structures and debris impact.

Tornado intensity is measured via the enhanced Fujita scale (EF Scale, **Table 5**). This scale is used to assign a rating to a tornado based on estimated wind speeds and observed damage. ASCE 7-22 includes tornado wind risk maps for return periods ranging from 3,000 to 10 million years for building sizes with plan areas ranging from 2,000 to 4,000,000 square feet. Tornado risk at Ocean Isle Beach is less severe compared to the hurricane wind risk. For example, the 100,000 year tornado wind speed for a 250,000 square foot building is 160 mph – similar to the 3,000 year hurricane wind speed for Ocean Isle Beach.

Table 5. Enhanced Fujita Scale for Tornadoes, *Source:* https://www.spc.noaa.gov/

EF Number	3-Second Gust (miles per hour)
0	65-85
1	86-110
2	111-135
3	136-165
4	166-200
5	Over 200

3.5. Temperature Changes

Since the pre-industrial era (1880-1900), there has been a global average temperature increase of approximately 2 degrees Fahrenheit. This accumulated heat across the globe is driving regional and seasonal temperature extremes, and overall causing most land areas to warm even faster than most ocean areas. The North Carolina Climate Science Report states that it is virtually certain that global warming will continue, assuming greenhouse gas concentrations continue to increase. Additionally, it is projected that by the end of this century (2099), global average temperature will increase by about 4 degrees Fahrenheit, but up to 8 degrees Fahrenheit.

Specifically, in North Carolina, the annual average temperature has increased by about 1 degree Fahrenheit since 1895. However, the most recent years (2009-2018), represent the warmest 10-year period on record in North Carolina. Most recent climate data indicate that 2019 was the warmest year on record for the state. With the increase in statewide average temperatures also comes an increase in absolute humidity; therefore, summer heat index values will also increase. As of the latest data reported in the 2021 Southeastern NC Regional Hazard Mitigation Plan, the highest temperature ever recorded in Brunswick County is 103 degrees Fahrenheit. Findings from this report show that there have been 13 excessive heat events in southeastern North Carolina between 1996-2019 and future occurrences are likely.

4. COMMUNITY ASSET INVENTORY

This section describes the development of the community asset inventory, including the Town's population, natural infrastructure, property, and critical assets identified by the Town's Community Action Team. A summary of direct impacts and potential future vulnerabilities of each of these assets is discussed.

4.1. Population

The Town of Ocean Isle Beach is currently home to a population of 809 year-round residents, according to 2022 ACS Census Data. This is greater than a 300% increase since 1980, indicating that during the period of 1980-2014, the Town's population grew faster than that of Brunswick County as a whole. Since 2000, however, the population has increased by approximately 80% and this rate has steadied. The Town's 2017 CAMA Land Use Plan states that this trend of a steadier population increase is likely to continue as more and more individuals are attracted to the lifestyle in Ocean Isle Beach and Brunswick County. As of most recent (2022) U.S. Census data, there are 402 households within the Town boundaries; however, 3,188 total housing units. Of these housing units, the majority (87%) are considered vacant, characteristic of the seasonal fluctuations in tourist population and the nature of rental properties in a town driven by summer tourism. During the summer months, the peak seasonal overnight population in the Town of Ocean Isle Beach is estimated to be 19,977 people. This equates to a peak seasonal overnight population that is greater than 33 times higher than the permanent population.

The average age of residents in the Town of Ocean Isle Beach is 67.6, which is greater than 1.5 times that of the state as a whole (39), and about 1.4 times higher than that of its surrounding Myrtle Beach metropolitan area (49.4). The majority of residents in Ocean Isle Beach identify as White (95%), with approximately 1% Asian, 1% White Hispanic, and 3% Other. Only 3.7% of the population are living below the poverty line, which is about one-quarter that of the rate in North Carolina (13.7%).

4.1.1. Direct Impacts

Out of all 322 participants in a public survey distributed online to residents of the Town of Ocean Isle Beach (from December 5, 2023 to January 15, 2024), approximately 71% own residential property in Ocean Isle Beach, 38% reside in Ocean Isle Beach, 46% patronize businesses and participate in activities occurring in Ocean Isle Beach. A majority (70%) of survey respondents stated that they were very concerned with the possibility of their community being impacted by flooding caused by storm surge and/or rainfall from tropical systems, and over half of respondents (58%) stated that they were very concerned with flooding caused by tidal surge. Out of all respondents, 86% believed that people (injuries and/or loss of life) are the asset most at risk from natural hazards in the community, followed by environmental assets (dunes, wetlands, water bodies, habitat areas, etc.), and infrastructure (roads, bridges, utilities, schools, etc.). Survey respondents also stated which hazards they have already experienced or been directly impacted by while living or working in Ocean Isle Beach or its vicinity. **Table 6** illustrates the types of hazards experienced by these individuals and the percent of occurrences according to their answers. Additional input on risks and vulnerabilities identified by the community are provided in the final resilience strategy package. See Appendix A for complete survey results.

Table 6. Survey results of natural hazards impacting residents of the Town of Ocean Isle Beach

Natural Hazard	Percent of Respondents
Flooding caused by storm surge and/or rainfall from tropical systems	83%
Flooding caused by tidal surge (king tides and/or higher than normal tides)	68%
Flooding caused by thunderstorms and intense rainfall	53%
Stormwater	43%
Sea level rise	28%
Other	5%
Wildfires	4%

4.1.2. Future Vulnerability

As mentioned previously, the average age of residents within the Town of Ocean Isle Beach is 67.6 years old. In 2000, about 20% of the population consisted of individuals age 65 and older, whereas in 2014, about 42% of the population were of this age range. This increase in population is a result of people who have moved into the Town as retirees, rather than an aging population, according to Town records. From 2000 to 2014, the greatest increase in age groups of new residents were in the 55-64 and 65 and above age cohorts. As this trend continues and an older population moves into the area, the proportion of younger people is decreasing. Housing and services that support this aging population must be addressed and considered in future land use planning. Understanding how to plan for future development and critical services to support the Ocean Isle Beach community requires looking at the exposure, risks, and vulnerabilities of features in the Town including: natural infrastructure and recreational areas, properties, structures and land use parcels, and critical facilities.

Additionally, housing pressures will only be exacerbated as areas of higher exposure and vulnerability are developed. To address natural hazard concerns, however, the Town has policies and ordinances in place to address development in flood-prone areas and protect natural infrastructure that is essential for helping to safeguard properties from flood impacts. For example, Policy 3.2.A.2: Flood Prone Areas states: “All uses allowed in the Town’s Zoning Ordinance shall be permissible in the 100-year flood zones, provided that all new construction and substantial improvements comply strictly to the Town’s Flood Damage Prevention Ordinance, which has been adopted in conjunction with Ocean Isle Beach’s participation in the National Flood Insurance Program”.

4.2. Natural Infrastructure

The North Carolina CRC identifies four types of AECs, or natural areas of land or water designated as important to protect from uncontrolled or incompatible development. These four types are: Estuarine and Ocean Systems, Ocean Hazard Systems, Public Water Supplies, and Natural and Cultural Resource Areas. The Town of Ocean Isle Beach contains two of the four: Estuarine and Ocean Systems, and Ocean Hazard Systems.

Estuarine and Ocean Systems can be classified into four categories that are all found within the Town boundaries: coastal wetlands, estuarine waters, public trust areas, and coastal shorelines.

Coastal wetlands are defined as any marsh subject to tidal influence, regular or occasional tidal flooding, not including hurricane or tropical storm tides. Estuarine waters include all the waters of the bays, sounds, rivers, and tributaries seaward of the dividing line between coastal and fishing waters. Public Trust areas are defined in the Coastal Areas Management Act as those waters of the Atlantic Ocean and the lands lying under from the mean high-water mark to the three-mile seaward limit, all natural bodies of water subject to tides and lands laying under, and all navigable natural bodies of water and lands lying under to the normal high-water mark. Coastal Shorelines include estuarine shorelines and public trust shorelines, referring to those areas of non-ocean shorelines extending from the normal high-water level along the estuarine waters for a distance of 75 feet landward, and those areas of non-ocean shoreline immediately contiguous to public trust areas located inland of the dividing line between coastal fishing waters and inland fishing waters and extending 30 feet landward of the normal high-water level.

Ocean Hazard Systems can be classified into three categories: ocean erodible areas, inlet hazard areas, and unvegetated beach areas. Ocean erodible areas are located along the beach strand where there is significant risk of excessive beach erosion and significant shoreline fluctuation due to the natural processes such as hurricanes and tropical storms. Inlet hazard areas include the land at the eastern and western ends of the island and represent the areas where the state reasonably expects the inlet could migrate in the future. Unvegetated beach areas are lands where no stable natural vegetation is present, so it is subject to rapid and unpredictable landform change from wind and wave action. This is the only category as classified by the North Carolina Division of Coastal Management within the Ocean Hazard Systems that is not found within town boundaries.

The Town of Ocean Isle Beach land area contains hydric soils, or types of soils that are formed under conditions of saturation, flooding, or ponding long enough to develop anaerobic conditions in the upper portion. The soils found within the Town typically have limited development potential for onsite sewage disposal systems due to poor filtration or being wet. Along the oceanfront and along the northern portion of the island, soil is gently sloping and consists of excessively drained sands. Fine sands are found in areas around the central portion of the island and are more poorly drained. Additionally, dredge spoil is often found in the soils on the mainland and around canals, due to the dredging of the canals to create the current configuration of the island.

The Town of Ocean Isle Beach contains numerous streams and tidal creeks, as well an expanse of wetland areas surrounding these water bodies. Along with coastal wetlands, dunes help to mitigate impacts from natural hazards including storm surge, tidal flooding, and flooding from precipitation events. Understanding the geography of this natural infrastructure is important for understanding the relative ecological importance of these areas and the overall hydrologic functions of the surrounding natural environment. This is displayed in **Figure 7** below.

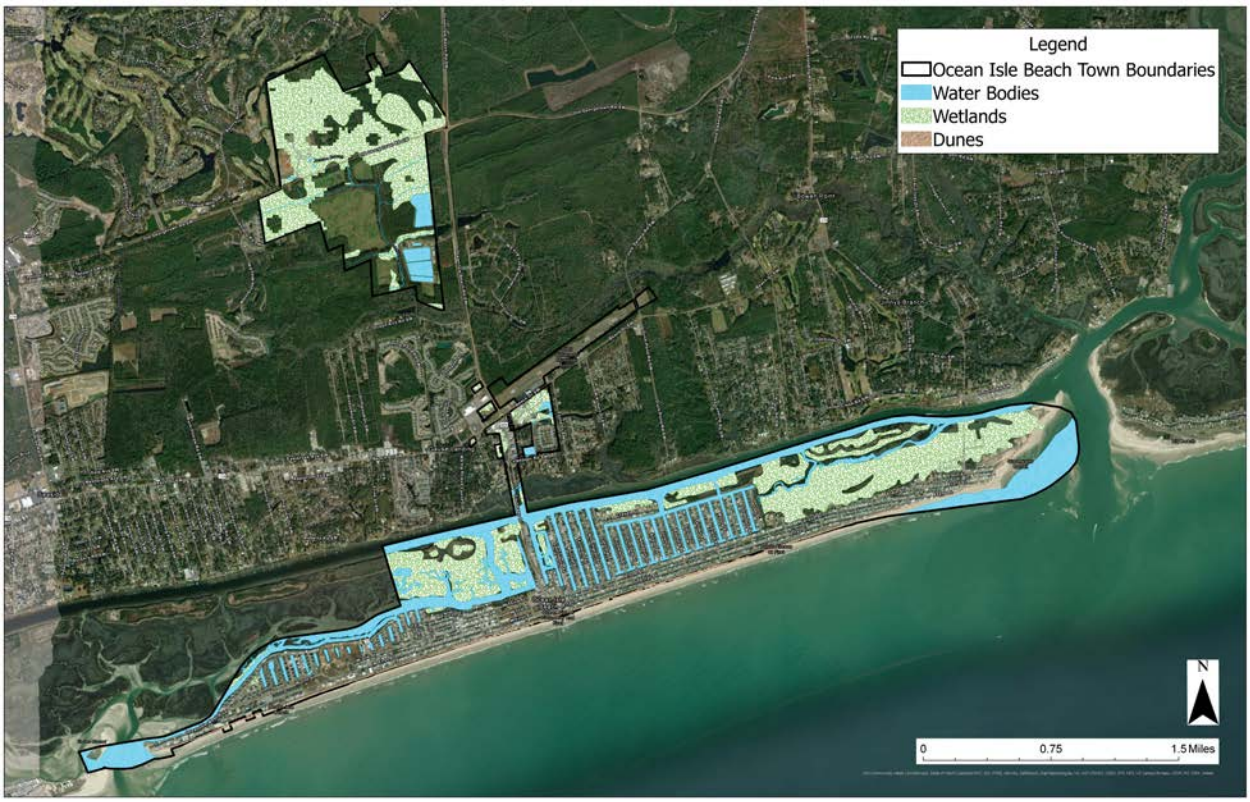


Figure 7. Map displaying the natural infrastructure located within the Town of Ocean Isle Beach's boundaries. (Sources: NCDEQ; Brunswick County)

4.2.1. Direct Impacts

Within the current municipal boundaries of Ocean Isle Beach, there are large expanses of coastal wetlands throughout the island as well as the southern portion of the mainland. Additionally, there are approximately 798 acres of non-coastal wetlands, with the majority of these wetlands (62%) being managed pineland. Between the mainland and the island, there may be acreage of land above the mean high-water line in the marsh islands, but this area is characterized by the Town as highly unsuitable for development due to low elevation and presence of coastal wetlands. These wetland areas help to mitigate impacts from natural hazards to the surrounding properties and residences and are structurally important for maintaining the hydrological patterns of the surrounding streams and water bodies.

4.2.2. Future Vulnerability

Not only are these types of natural infrastructure deemed to be of high value for town planners and residents for recreational purposes, but the stream margins and wetland areas within the Town of Ocean Isle Beach are of ecological significance to the entire surrounding area. The Town of Ocean Isle Beach has made it clear in planning efforts that protecting environmentally sensitive areas is an essential framework for future land use planning in the current municipal boundaries and in the extraterritorial jurisdiction (ETJ). Additionally, the Town has adopted policies and plans that emphasize this, and future land use plans are consistent with the Coastal Area Management

Act (CAMA) where development potential is concerned. Policy 5.1.A.13: Coastal Wetlands states: "It shall be the policy of Ocean Isle Beach to restrict land uses in coastal wetlands and freshwater marshes to those that ensure wetland conservation and which do not affect their delicate balance". Furthermore, other town policies are in place to enforce development occurring within the Town to be compatible so as to minimize the likelihood of significant loss of private property and public resources, including estuarine systems, protect marshes and freshwater wetlands, and minimize damage to marshes from bulkheads.

4.3. Property

On both the mainland and the island, the predominant land use pattern consists of single-family residential development, while two-family and multi-family residential properties are also present. As stated previously, within Ocean Isle Beach's municipal boundaries, there are currently an estimated 3,188 housing units. As of most recent data in the 2017 CAMA Land Use Plan, multi-family residential properties accounted for 58.6 acres of land, or 1.72% of land parcels in the town boundaries, and single-family residential properties accounted for 704.47 acres, or 20.73% of land parcels. It is noted that while many of the privately-owned residential properties are vulnerable to natural hazards, they are not explicitly evaluated as a part of this assessment. The present evaluation is focused on the Town's critical assets as described in the following section.

4.3.1. Direct Impacts

According to the 2016 Southeastern NC Regional Hazard Mitigation Plan, there are 2,289 parcels with a total building value of $593,404,480 that are impacted by a special Flood Hazard Area (SFHA). In Ocean Isle Beach alone, 2,555 flood insurance policies are in force, with a total value of $634,595,900, according to FEMA. Additionally, FEMA records indicate that since 1978, there have been 1,595 documented losses with payments exceeding $7,679,138 (as of the 2017 Town of Ocean Isle Beach 2017 Land Use Plan).

4.3.2. Future Vulnerability

Based on a schematic analysis conducted of vacant land by zoning district as a part of the CAMA Future Land Use Plan, as of 2017 it was possible that within the Town's planning jurisdiction (corporate limits & ETJ/island & mainland), an additional 9,275 dwelling units could be constructed at build-out with the Town's current regulations. It should be noted that this calculation is based merely upon the total vacant acreage, and with the assumption that it will be dedicated solely to residential uses. However, local, state, and federal policies protect the natural infrastructure that is already in place that maintains a certain level of resiliency to flooding. For example, portions of vacant land just west of the Lowe's Foods shopping center show an expanse of wetlands that are environmentally constrained to future development.

4.4. Critical Assets

Critical assets identified by the Town have been divided into multiple categories: public safety/emergency services, community/government service offices, gas stations, grocery stores, public beach accesses, roads, and water/sewer infrastructure. The Town Hall for the Town of Ocean Isle Beach is located at 111 Causeway Drive, and the police department is located within Town Hall and oversees a single precinct that covers the Town. The Town of Ocean Isle Beach Fire Department is located at 105 Causeway Drive protects the island, mainland, waterways, and neighboring communities. Other public safety/emergency service assets identified by the Town

include Ferry Landing Park, the Odell Williamson Municipal Airport, Town Center Park (which acts as a helicopter landing area in case of emergencies), a private doctor office, and the Hohonu tide gauge. Community/government service assets include the Town Hall, the two Town Operations Centers, the Community Center, the First Bank of Ocean Isle Beach, and the Museum of Coastal Carolina. These critical assets are shown in **Figure 8**. In addition to these identified facilities, the Town's transportation and water infrastructure is also considered critical. Roads and bridges serve as evacuation routes for residents and water and wastewater utilities are essential. Stormwater infrastructure mitigates flooding impacts on roads and buildings.

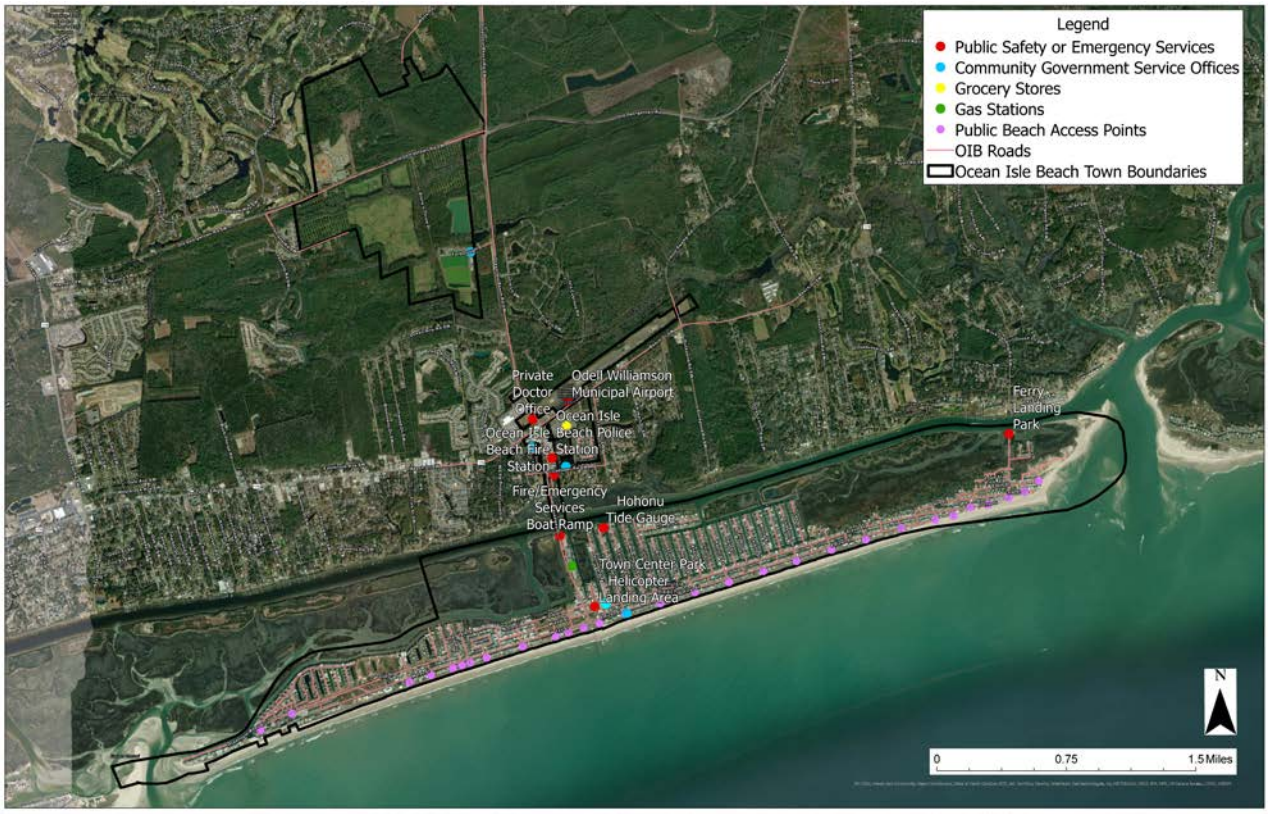


Figure 8. Map displaying critical facilities within the Town of Ocean Isle Beach (Sources: Brunswick County; Town of Ocean Isle Beach).

Figure 9 displays locations of water and sewer infrastructure.

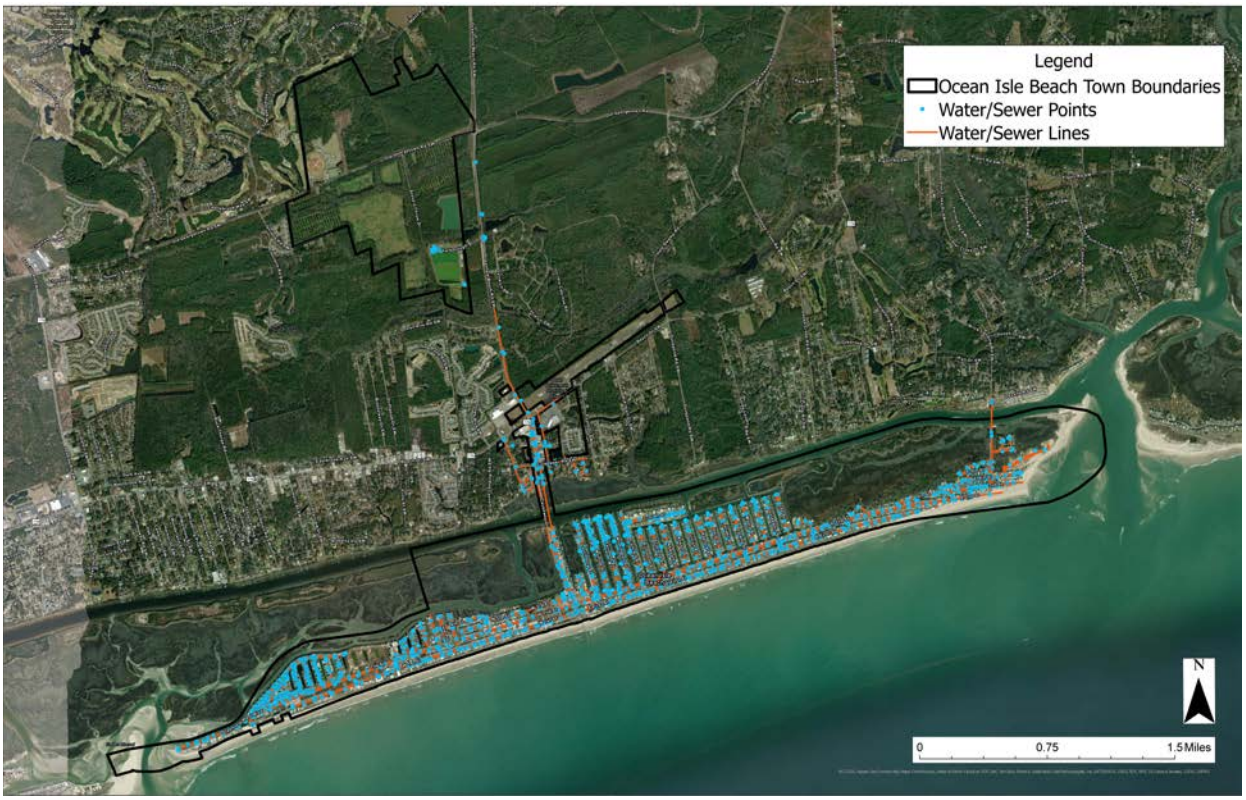


Figure 9. Map displaying water and sewer infrastructure within the Town of Ocean Isle Beach (source: Brunswick County)

4.5. Social Vulnerability

To construct the CSC SVI for census blocks within the Town of Ocean Isle Beach, American Community Survey (ACS), 2018-2022 (5-year) census data was used. The Town is considered to be part of the Myrtle Beach-Conway-North Myrtle Beach SC-NC Metro Area and is comprised of a single census block group. The Center for Disease Control (CDC)/Agency for Toxic Substances and Disease Registry (ATSDR) assigns a social vulnerability index to counties in the U.S. between 0 (lowest vulnerability) and 1 (highest vulnerability). This score is based on 16 U.S. census variables that help to identify communities that may need support before, during, or after an emergency or natural disaster. The CDC/ATSDR National Overall social vulnerability index score for Brunswick County is 0.4083, as of 2020 data. This puts Brunswick County as a low-medium level of vulnerability, based on census variables such as income, age, education, and more. As stated previously, less than 4% of the year-round population in Ocean Isle Beach falls under the poverty line. Furthermore, the per capita income in the Town is more than 1.5 times the amount in the metro area and in North Carolina. The primary concern that contributes to the social

vulnerability of the Town's population is the age of its residents. More than half (57%) of the population are 65 years old or older (see **Figure 10** below).

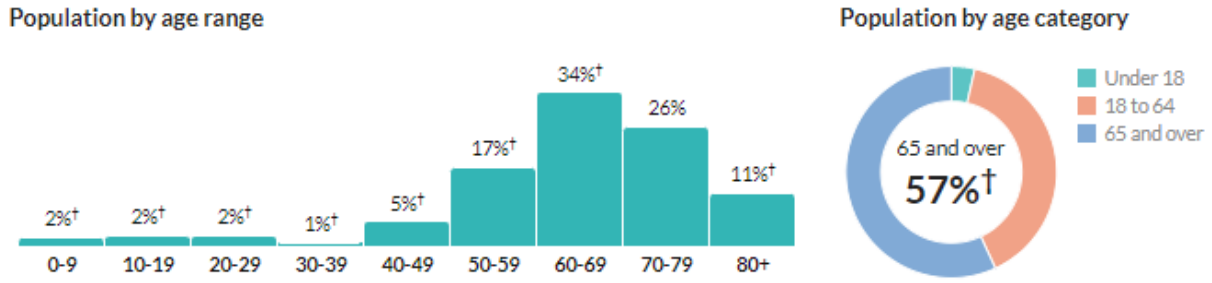


Figure 10. Age distribution of Ocean Isle Beach residents, according to 2022 ACS data (Source: https://censusreporter.org/profiles/16000US3748700-ocean-isle-beach-nc/)

4.5.1. Direct Impacts

In the same public survey mentioned in section **4.1.1 Direct Impacts** completed by property owners in the Town of Ocean Isle Beach, emergency/medical services ranked fourth in the list of community assets that respondents feel are most at risk from natural hazards, and governance (public amenities and services) ranked fifth. Protecting critical facilities was ranked by 75% of respondents as "very important", falling as second priority after protecting private property when it comes to impacts from natural hazard. In the eyes of the community members, protecting existing critical facilities from natural hazards ranked higher on the priority list than the option of strengthening emergency services. This information is critical in understanding the public's concern for their safety and wellbeing during times of disasters from natural hazards, and how residents and property owners feel that resiliency efforts should be focused. For complete survey results, see Appendix A.

4.5.2. Future Vulnerability

One of the Town's major goals is: "To ensure that public infrastructure systems are appropriately sized, located, and managed so that the quality and productivity of the Areas of Environmental Concern (AEC) and other fragile areas are protected and restored". As part of this goal, the Town has policies in place to work with multiple departments within Brunswick County, as well supporting state and federal bridge and road improvement programs. Additionally, the Town will continue to support public access and work towards increasing safe public access to the oceanfront and other waterways by seeking state or federal financial assistance to improve existing access facilities. This is especially crucial as natural hazards such as storm surge, sea level rise, and flooding from storms and tropical systems increase in frequency and severity with climate change. Similarly, as dunes become increasingly vulnerable to natural hazards, the Town's policies to minimize damage to dunes and their vegetation is key in maintaining a level of protection from natural hazards to the private residences and critical facilities on the island.

5. VULNERABILITY ASSESSMENT

This section describes the assessment that utilizes the information provided in previous sections and identifies vulnerable populations and assets. In doing so the Town can better understand the relationship between vulnerable populations, assets, and specific hazards, and can develop hazard mitigation policies, projects and plans accordingly.

5.1. Vulnerability Score of Critical Assets

Vulnerability of critical assets to natural hazards can be conceptualized as a combination of three vulnerability components: exposure, sensitivity and adaptive capacity. In this report, exposure refers to the probability of physical contact between an asset and a hazard. Sensitivity is the degree to which an asset's function is impacted by a hazard. Adaptive capacity is the ability of an asset to change its characteristics or behavior in response to a hazard. These definitions are then aggregated to generate an overall vulnerability ''score'' for each critical asset using the following formula:

$$\text{Vulnerability} = \text{Exposure} + \text{Sensitivity} - \text{Adaptive Capacity}$$

A survey was distributed to the CAT of the Town (from December 5th, 2023 to January 15th, 2024) to elicit the sensitivity and adaptive capacity scores for each critical asset, and average scores were generated for each. The scores were then refined in a meeting on January 10, 2024, with discussion by the CAT, and are presented in **Table 7**.

Table 7. Sensitivity and Adaptive Capacity scores for critical assets.

Critical Asset	Final Sensitivity Score	Final Adaptive Capacity Score
Roads/Evacuation Routes		
Roads (NCDOT, Town, Private)	2	2
Bridge	3	1
Utility Infrastructure		
Water Infrastructure (lines, valves)	3	2
Water Towers	3	1
Fire Hydrants	2	2
Sewer Infrastructure (lines, manholes)	3	2
Pump Stations	3	2
Wastewater Treatment Plant	2	2
Stormwater Infrastructure (lines, manholes, catch basins)	2	2
Gas Stations		
Gas Stations - On Mainland	2	2
Gas Stations - On Barrier Island	2	1
Grocery Stores		

Critical Asset	Final Sensitivity Score	Final Adaptive Capacity Score
Grocery Stores	2	2
Medical Facilities		
Private Doctor Office	1	2
Banks		
Bank	2	2
Community/Government Offices		
Town Hall	3	3
Town Operations Centers	3	2
Community Center	2	2
Museum of Coastal Carolina	2	2
Public Safety/Emergency Services		
Fire Station	3	3
Police Station	3	3
Airport	2	2
Boat Ramp	2	2
Town Center Park	2	2
Ferry Landing Park	2	2
Hohonu Tide Gauge	2	2
Public Beach Access Points	2	2
Natural Infrastructure		
Dunes	3	1
Streams	2	2
Wetlands	2	2
Water Bodies	3	2

A GIS desktop analysis of each asset in relation to each hazard was conducted to investigate which asset is affected by each hazard. A score of 1 was assigned for every hazard that an individual asset encountered, and a sum of all “1’s” was calculated for each asset to represent how many hazards each are exposed to as described in Section 2.3. This final exposure score was then used in the above formula to generate an overall vulnerability score for each critical asset. Each critical asset, displayed by their overall vulnerability score, is shown in **Figure 11**. **Figure 12** shows the major categories of assets along with the distribution of vulnerability scores. A table of all assets with associated vulnerability scores is presented in Appendix B.

The majority of the critical assets had vulnerability scores of 2 or less, indicating a lower level of vulnerability. The assets with scores of 3 or higher are listed in **Table 8**. The most vulnerable assets (scores of 5) were determined to be the protective dunes and the Odell Williamson Bridge leading to Causeway Drive (NC 904). The bridge serves as the only way on or off the island and is a critical evacuation route. This bridge is maintained by the North Carolina Department of Transportation and was last repaired and rehabilitated in 2022. The protective dunes maintain a

barrier between elevated water levels and waves and the Town's infrastructure. They are vulnerable to erosion due to tropical storms, hurricanes, and other periods of elevated water levels and waves. Dune growth is promoted by existing Town projects as described in Section 1.2.2, but dedicated projects may be needed to augment existing dunes or repair dunes impacted by storms.

The next most vulnerable assets (score of 4 or 3) include water bodies and wetlands surrounding the Town as well as a number of the water and wastewater infrastructure elements. The wetlands and water bodies surrounding the Town serve to buffer the effects of tropical storms and hurricanes, damping the effects of storm surges. However, these water bodies can be impacted by runoff and potential water quality impacts. Water quality in surrounding natural areas can also be impacted by the stormwater and sewer infrastructure being compromised due to flooding and/or power outages. Sewer pump stations have control panels at grade and need to be pumped out with generators during power outages. This ensures that the sewer system does not cause overflow pollution of the adjacent high quality water bodies (classified as SA/HQW (Market Shellfishing, Tidal Salt Water/High Quality Waters) by the NC Division of Environmental Quality.) The Town has been working on a plan to elevate the pump station control panels and obtain additional generators to support these efforts. A number of roadways are also vulnerable to multiple sources of flooding in several locations near the canals and east and west ends of the island. Potential solutions to these issues include construction of living shorelines on the estuarine shorelines and potential dune infiltration projects where flooded roads are located near the ocean side shorelines. Public beach access vulnerability is also linked to the protective dune vulnerability, with those locations being identified as critical access for emergencies as well as important in supporting the Town's tourism.

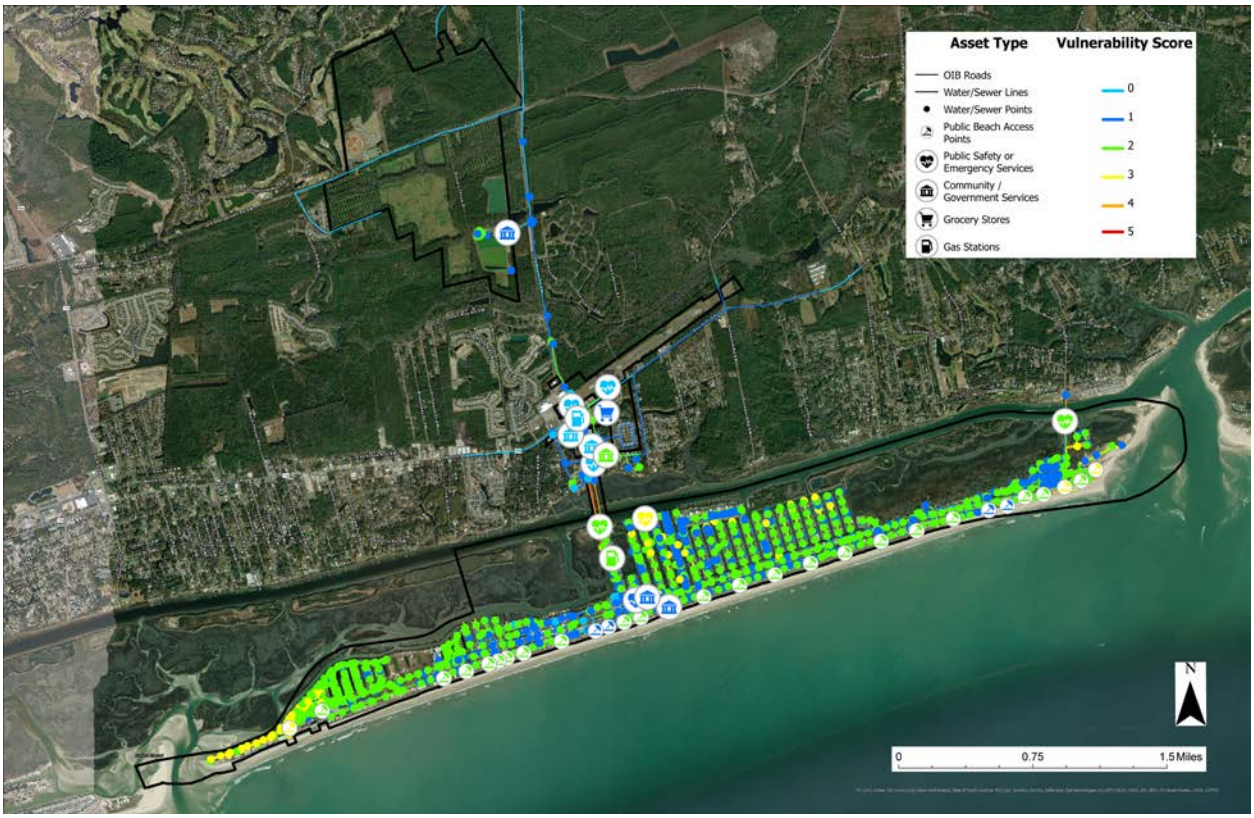


Figure 11. Map of critical assets in the Town of Ocean Isle Beach and their overall vulnerability scores.

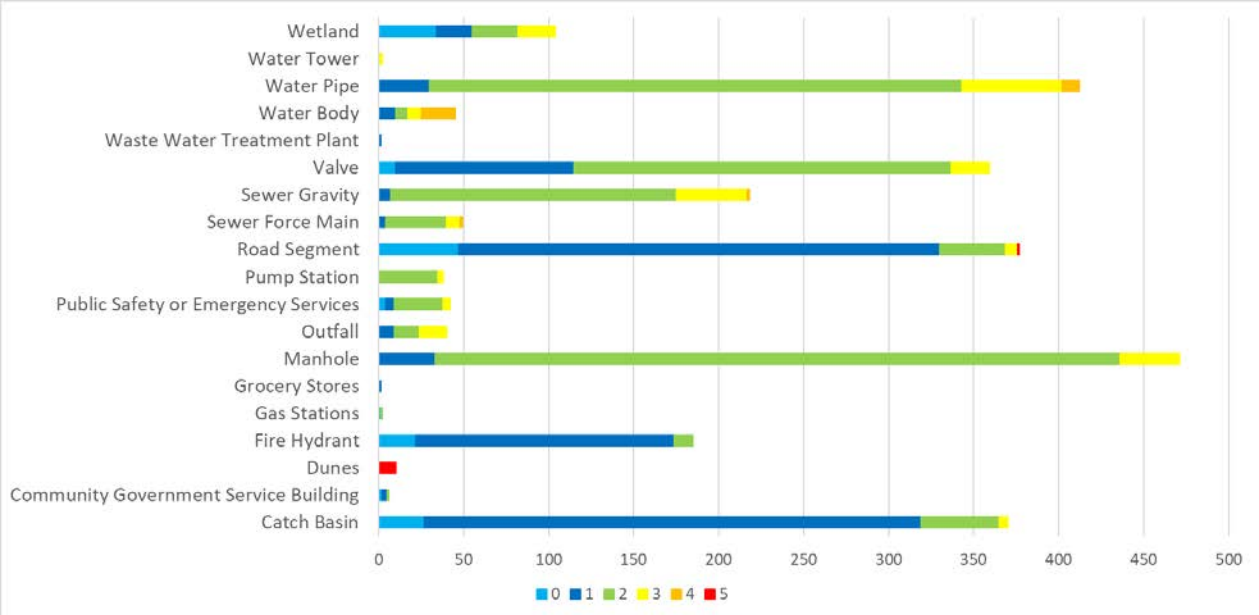


Figure 12. Critical assets in the Town of Ocean Isle Beach with distribution of vulnerability scores.

Table 8. Assets with vulnerability scores of 3 or greater.

Asset	Exposure	Sensitivity	Adaptive Capacity	Vulnerability Score
Causeway Drive (Bridge)	3	3	1	5
Dunes	3	3	1	5
Water Bodies (20)	3	3	2	4
Sewer Force Main	3	3	2	4
Sewer Gravity	3	3	2	4
Water Pipes (10)	3	3	2	4
Roads (7)	3	2	2	3
Water Pipes (59)	2	3	2	3
Sewer Gravity (42)	2	3	2	3
Sewer Force Main (8)	2	3	2	3
Valves (22)	2	3	2	3
Manhole (35)	2	3	2	3
Water Tower	2	3	1	3
Outfalls (16)	2	3	2	3
Catch Basins (5)	3	2	2	3
Pump Stations (3)	2	3	2	3
Hohunu Tide Gauge	3	2	2	3
Wetlands (22)	3	2	2	3
Water Bodies (8)	2	3	2	3
Public Beach Accesses (3)	3	2	2	3

6. CONCLUSION

The Town of Ocean Isle Beach has enacted resiliency and flood mitigation measures through existing ordinances, local and regional plans, policies, and programs, as well as participated in larger scale efforts. Larger scale information on natural hazards can be found in the Southeastern NC Regional Hazard Mitigation Plan and the State of North Carolina Hazard Mitigation Plan. The assessment presented in this report offers information on a localized scale on not only the natural hazards that the town is facing, but how the Town's assets, natural infrastructure, and people are being directly impacted and how to better understand risks and vulnerabilities into the future. In conjunction with larger scale hazard mitigation plans that provide information on historical hazards and events, this assessment can be used to plan for the specific stressors that put the town at risk and provide guidance to localize resiliency efforts. Understanding who and what is the most vulnerable within the community is crucial to understanding how to plan for minimizing future risks and building community-wide resiliency. The data presented in this assessment can be utilized in future resiliency studies, hazard mitigation planning efforts, grant funding opportunities, and more.

This is intended to be a living document, identifying where potential projects are needed to address vulnerabilities identified in this assessment and in future efforts. The Town continues to work with the Division of Coastal Management and other partners to implement measures to proactively build the community's resilience.

7. REFERENCES

American Community Survey, 2022. Census Reporter. https://censusreporter.org/profiles/16000US3748700-ocean-isle-beach-nc/

American Society of Civil Engineers (ASCE), 2022. Minimum Design Loads and Associated Criteria for Buildings and Other Structures, ASCE 7-22.

Brunswick County Economic Development and Planning, 2017. Brunswick County Data Book. Available online: https://www.brunswickcountync.gov/files/planning/2015/04/Brunswick-County-Data-Book-1.pdf

Centers for Disease Control and Prevention (CDC). 2015. Planning for an Emergency: Strategies for Identifying and Engaging At-Risk Groups: A guidance document for Emergency Managers: First edition. Atlanta (GA): CDC; 2015.

ESP Associates, Inc.. 2021. Southeastern North Carolina Regional Hazard Mitigation Plan.

Federal Emergency Management Agency. Disaster Declarations for States and Counties. Available online: https://www.fema.gov/data-visualization/disaster-declarations-states-and-counties

Flanagan, B., Gregory, E., Hallisey, E., Heitgerd, J. & Lewis, B. 2011. A Social Vulnerability Index for Disaster Management. *Journal of Homeland Security and Emergency Management*, *8*(1), 000010220215477355179 2. https://doi.org/10.2202/1547-7355.1792

Kunkel, K.E., D.R. Easterling, A. Ballinger, S. Bililign, S.M. Champion, D.R. Corbett, K.D. Dello, J. Dissen, G.M. Lackmann, R.A. Luettich, Jr., L.B. Perry, W.A. Robinson, L.E. Stevens, B.C. Stewart, and A.J. Terando, 2020: North Carolina Climate Science Report. North Carolina Institute for Climate Studies, 233 pp. https://ncics.org/nccsr

N.C. Coastal Resources Commission Science Panel, 2015. *North Carolina Sea Level Rise Assessment Report, 2015 Update to the 2010 Report and 2012 Addendum.* North Carolina Department of Environmental Quality, Division of Coastal Management. https://deq.nc.gov/media/5975/download. March 31, 2015.

N.C. State University North Carolina Institute for Climate Studies, 2020. North Carolina Climate Science Report. https://ncics.org/wp-content/uploads/2020/10/NC_Climate_Science_Report_FullReport_Final_revised_September2020.pdf

NOAA, 2022. (Sweet, W.V., B.D. Hamlington, R.E. Kopp, C.P. Weaver, P.L. Barnard, D. Bekaert, W. Brooks, M. Craghan, G. Dusek, T. Frederikse, G. Garner, A.S. Genz, J.P. Krasting, E. Larour, D. Marcy, J.J. Marra, J. Obeysekera, M. Osler, M. Pendleton, D. Roman, L. Schmied, W. Veatch, K.D. White, and C. Zuzak, authors). Global and Regional Sea Level Rise Scenarios for the United States: Updated Mean Projections and Extreme Water Level Probabilities Along U.S. Coastlines. NOAA Technical Report NOS 01. National Oceanic and Atmospheric Administration, National Ocean Service, Silver Spring, MD, 111 pp.

NOAA, 2024. Climate Change: Global Temperature. https://www.climate.gov/news-features/understanding-climate/climate-change-global-

temperature#:~:text=According%20to%20NOAA's%202021%20Annual,0.18%20%C2%B0C)%20per%20decade.

Zachry, B. C., W. J. Booth, J. R. Rhome, and T. M. Sharon, 2015: A National View of Storm Surge Risk and Inundation. Weather, Climate, and Society, 7(2), 109–117. DOI: http://dx.doi.org/10.1175/WCAS–D–14–00049.1

APPENDIX A
Survey Results

Ocean Isle Beach - Resilient Coastal Communities Program

Project Engagement

VIEWS	PARTICIPANTS	RESPONSES	COMMENTS	SUBSCRIBERS
1,132	322	11,319	191	54

How will the Town of Ocean Isle Beach become more resilient to natural coastal hazards? What assets do we need to protect? What areas concern you? Where are the areas for improvement? We'd love to "see" your thoughts on the interactive map below!

Please "drag and drop" your idea pins onto the map below, using the themes as a guide. You can also provide comments, after dropping the pins onto the map, to further explain your thoughts.

Need for OIB to take over Ocean Isle Blvd on the west end of OIb. We now have alot of walkers, bikers, stroller and people In general on the road. Need Bike lanes. We pay taxes and there is a HUGE tax base from the Water tower west on OIB

2 months ago

1 Agree

Preserve for Beach parking an add restroom facility for beach goers

2 months ago

1 Agree

A second access on and off the beach may be wise to protect access to the island.

2 months ago

1 Agree

Overdeveloping is a concern. The island feels like it is past maximum capacity for new homes and the island may become compromised by so much development.

2 months ago

1 Agree

Might a program of regular dredging of Jink's Creek create a buffer against storm surge and high tide flooding?

2 months ago

1 Agree

Preserve for wildlife

2 months ago

Continue dune restoration

2 months ago

Good site for destination restaraunt

2 months ago

Preserve for high quality retail. No hotels or residential.

2 months ago

Ferry area could be a nice pocket park,

2 months ago

Keep waterfront along jinks creek clean and monitor runoff from island to not contaminate crrek

2 months ago

Protect the east end with dunes and barriers

2 months ago

The wildlife habitat grassy area in the creek area needs preserved, even if the waterways are widened and deeper for small boat access

2 months ago

Jinx creek dredging from west side of bridge to inlet between Sunset and OIB

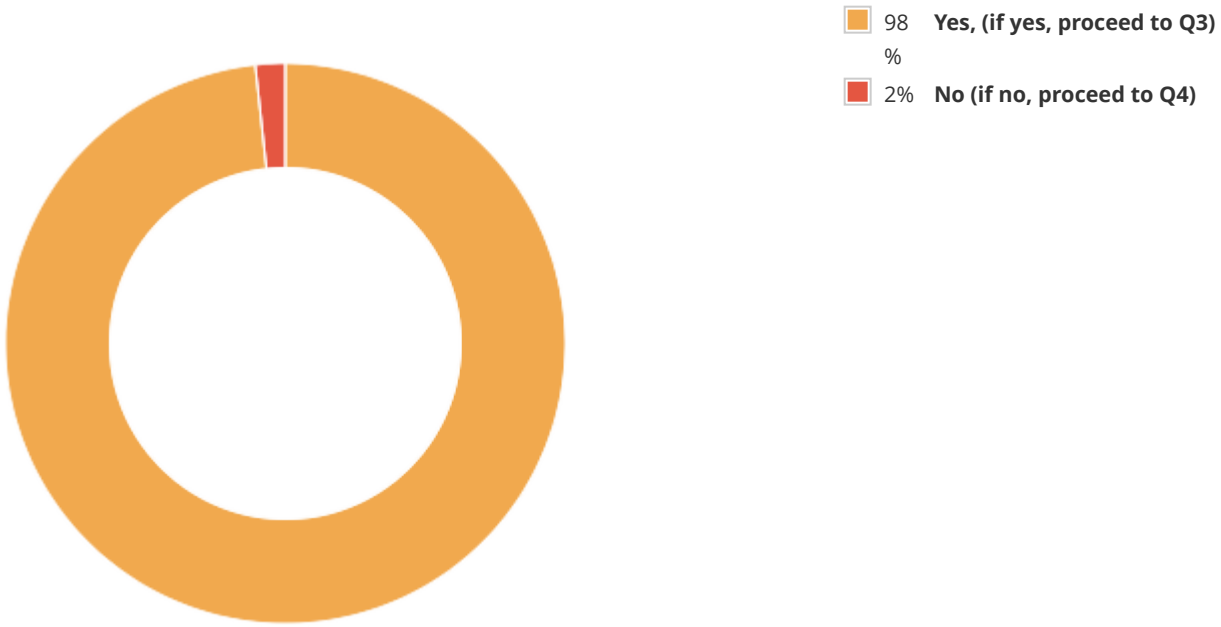
2 months ago

* 1. What is your relationship to Ocean Isle Beach? (Select all that apply)

71%	I own residential property in Ocean Isle Beach	209 ✓
46%	I patronize businesses and participate in activities occurring in Ocean Isle Beach	135 ✓
38%	I live in Ocean Isle Beach	112 ✓
5%	I work in Ocean Isle Beach	14 ✓
4%	I own a business in Ocean Isle Beach	11 ✓
2%	I own commercial property in Ocean Isle Beach	6 ✓

294 Respondents

2. I patronize businesses and participate in activities occurring in Ocean Isle Beach



291 respondents

No data to display...

3. If yes, which of these types of natural hazards have you experienced or been impacted by while living or working in Ocean Isle Beach or its vicinity? (Select all that apply)

83%	Flooding caused by storm surge and/or rainfall from tropical systems	210 ✓
68%	Flooding caused by tidal surge (king tides and/or higher than normal tides)	172 ✓
53%	Flooding caused by thunderstorms and intense rainfall	134 ✓
43%	Stormwater	108 ✓
28%	Sea level rise	70 ✓
5%	Other	12 ✓
4%	Wildfires	10 ✓

252 Respondents

Comments Made In The "Other" Field

Wind - 5, Fire - 3, Storm Debris - 1, Loss of Power - 1

* 4. How concerned are you about the possibility of your community being impacted by each of these hazards?

	Very Concerned	Somewhat Concerned	Not Concerned
Flooding caused by storm surge and/or rainfall from tropical systems	70% Very Concerned	28% Somewhat Concerned	2% Not Concerned
Flooding caused by tidal surge (king tides and/or higher than normal tides)	58% Very Concerned	35% Somewhat Concerned	7% Not Concerned
Flooding caused by thunderstorms and intense rainfall	33% Very Concerned	47% Somewhat Concerned	20% Not Concerned
Sea level rise	39% Very Concerned	39% Somewhat Concerned	22% Not Concerned
Wildfires	8% Very Concerned	29% Somewhat Concerned	63% Not Concerned
Stormwater	28% Very Concerned	50% Somewhat Concerned	22% Not Concerned
Other	11% Very Concerned	17% Somewhat Concerned	72% Not Concerned

263 respondents

* 5. In your opinion, which of the following types of assets (i.e. a place or thing that is of use and value) are most at risk from natural hazards in your community? (Rank the community assets in order of vulnerability, most vulnerable to least vulnerable.) Please drag your answers up to the oval at the top that says "Your Top Priority" and subsequently "Next Priority". Please note, the list will automatically re-order itself as you make your selections. You can also drag and drop the items on the list to reorder them. When you are finished, please click the green button to Confirm Priorities.

86%	People: Injuries and/or loss of life	Rank: 2.17	184 ✓
81%	Environmental: Damage, contamination or loss of dunes, wetlands, waterways, habitats, etc.	Rank: 2.37	174 ✓
73%	Infrastructure: Damage/loss of roads, bridges, utilities, schools, etc.	Rank: 2.63	158 ✓
62%	Emergency/Medical Services: Doctor's offices, urgent care facilities, pharmacies, etc.	Rank: 4.78	133 ✓
62%	Economic: Business interruptions/closures, event cancellations, job losses, etc	Rank: 5.16	134 ✓
61%	Governance: Ability to maintain order and/or provide public amenities and services	Rank: 5.86	132 ✓
61%	Experiences: Damage, contamination or loss of landside and waterside recreation such as docks, walking/biking trails, etc.	Rank: 6.18	131 ✓
61%	Cultural/Historic: Damage or loss of libraries, museums, cultural institutions, historic properties and designated sites, etc.	Rank: 6.89	132 ✓
60%	Community: Damage or loss of Town Hall and government buildings, library, public parks, etc.	Rank: 6.95	128 ✓

215 Respondents

* 6. Natural hazards can have a significant impact on a community but planning for these types of events can help lessen the impacts. The following statements will help us determine the community's priorities regarding planning for environmental and climate related hazards in your community. Please tell us how each statement is important to you by checking the appropriate circle for each.

	Very Important	Somewhat Important	Neutral	Not Very Important	Not Important
Protecting private (residential and commercial) property	88% Very Important	8% Somewhat Important	3% Neutral	- Not Very Important	- Not Important
Protecting critical facilities (for example: doctor's offices, police stations, fire stations, etc.	75% Very Important	20% Somewhat Important	4% Neutral	- Not Very Important	- Not Important
Preventing development in flood hazard areas	66% Very Important	22% Somewhat Important	9% Neutral	2% Not Very Important	1% Not Important
Enhancing the function of natural features (for example: dunes, beaches, streams, wetlands, open spaces, etc.)	78% Very Important	18% Somewhat Important	4% Neutral	- Not Very Important	- Not Important
Protecting historic and cultural landmarks and districts	25% Very Important	46% Somewhat Important	25% Neutral	3% Not Very Important	2% Not Important
Protecting and reducing damage to utilities	79% Very Important	19% Somewhat Important	2% Neutral	- Not Very Important	- Not Important
Strengthening emergency services (for example: police, fire, ambulance)	66% Very Important	26% Somewhat Important	7% Neutral	- Not Very Important	- Not Important
Promoting cooperation among public agencies, citizens, non-profit organizations, and businesses	42% Very Important	43% Somewhat Important	13% Neutral	2% Not Very Important	- Not Important

227 respondents

* 7. What are some steps that you would like to see your local government take to reduce or eliminate the risk of future damages to your property from natural hazards? (Select all that apply)

83%	Design and construct nature-based barriers (dunes, beaches, living shorelines, riparian buffers, etc.)	181 ✓
74%	Restrict new development/ redevelopment in flood prone areas	162 ✓
72%	Regulate new construction/ redevelopment to incorporate flood protection measures	158 ✓
54%	Design and construct permanent structural protection systems (flood walls, flood pumps, backflow preventers, stormwater system upgrades, cisterns, etc.)	118 ✓
50%	Incentivize developers to practice smart growth tools and strategies (building up to conserve green space, use green infrastructure when feasible, etc.	108 ✓
35%	Create an economic incentive educational program to educate property owners on a variety of floodproofing strategies and assisting them with mitigating or adapting their property to reduce flood risk.	76 ✓
24%	Fund temporary storm protection systems (flood barriers, sandbags, building wraps) to protect public spaces	53 ✓
1%	Other	3 ✓

218 Respondents

Comments Made In The "Other" Field

1) Scientific Engineering Studies for recommendations.

2) Change the concrete bulkheads on the canal homes to a more permanent, reliable system to prevent sloughing of sand after storms, king tides, dredging, etc. A more verticle bulkhead that goes deeper in the canal would be much more capable of handling wash outs behind bulkheads.

3) Government wasting tax money on things it can not control.

* 8. A number of community-wide activities can reduce risk from natural hazards. In general, these activities fall into one of the following broad categories. Please tell us how important you think each one is for your community to consider pursuing.

	Very Important	Neutral	Not Important
Prevention: These are administrative or regulatory actions (such as zoning, land use, and building codes) that influence the way land is developed and buildings are built. These types of actions can help prevent exposure to environmental hazards in the first place, and therefore reduce losses in the future.	83% Very Important	14% Neutral	2% Not Important
Property Protection: These are actions that involve modifying existing buildings (such as dry floodproofing, elevating buildings, and relocating buildings outside of the floodplain) to protect them from hazards.	47% Very Important	46% Neutral	6% Not Important
Natural Resource Protection: These are actions that, in addition to minimizing flood losses, also preserve or restore the functions of natural systems (such as living shorelines, wetlands, open space easements, etc.)	83% Very Important	17% Neutral	- Not Important
Structural Projects: These are actions that are intended to lessen the impacts of environmental hazards by building a structure or device that protects against water (such as floodwalls, raising roads/sidewalks, expanding culverts, etc.)	63% Very Important	35% Neutral	2% Not Important
Emergency Services: These are actions or equipment that protect people and property during and immediately after a hazard event (such as police, fire, rescue, emergency medical, etc.)	81% Very Important	18% Neutral	1% Not Important
Public Education and Awareness: These are activities that inform citizens about flooding and the techniques they can use to protect themselves and their property.	54% Very Important	41% Neutral	5% Not Important

209 respondents

* 9. Prioritizing the different activities and projects that can be done to enhance resiliency involves understanding the needs of a community, which can fall into multiple categories. Please rank the areas in which you feel the community demonstrates the most need in order of priority (with the first one being the highest priority). Please drag your answers up to the oval at the top that says "Your Top Priority" and subsequently "Next Priority". Please note, the list will automatically re-order itself as you make your selections. You can also drag and drop the items on the list to reorder them. When you are finished, please click the green button to Confirm Priorities.

80%	Environmental (Effects on land/water, endangered species, consistency with federal/ state/ local goals	Rank: 2.17	151 ✓
70%	Technical (secondary impacts to town, long-term solutions)	Rank: 2.97	132 ✓
73%	Economic (Benefits/costs of project, need for outside funding)	Rank: 2.99	138 ✓
65%	Social (Community acceptance, effects on segments of population)	Rank: 4.13	123 ✓
66%	Administrative (Staffing, funding, maintenance of projects)	Rank: 4.15	124 ✓
60%	Legal (Potential legal challenges, existing local authority)	Rank: 4.96	113 ✓
63%	Political (Public and political support)	Rank: 5.09	118 ✓
27%	Other (transportation, historical, etc.)	Rank: 6.63	51 ✓

188 Respondents

Comments Made In The "Other" Field

1) Transportation, egress

2) Open public use - beach is for everyone not just a few homeowners

3) Historical

4) Can it become self sufficient

5) Traffic

6) Infrastructure

7) Transportation

10. We would also like to understand your thoughts on existing projects or programs that you would like to see continued or further enhanced in the future.

Stop building in flood prone areas r.e. the east end.

4 days ago

Continued beach renourishment

8 days ago

Maintain a certain percentage of open, green space on the island to decrease impervious space usage. New developments will not be approved if the percentage is met for green space. Break up the island into four sections and have each section maintain the same percentage of pervious space reserved.

12 days ago

Canal homes get flooded by sea water running up the drain pipes into the street. Pipes should be removed or fixed to prevent backflow

17 days ago

Dune protection and beach renourishment projects

20 days ago

I can't think of anything at this time.

21 days ago

Sea turtles

23 days ago

Monitor the terminal groin and carefully dredge waterways

23 days ago

None

24 days ago

I love the fact that the town rolls garbage and recycling cans back to the houses instead of letting them sit at the street. It keeps things neat and looking nice. I wish new construction was restricted.

25 days ago

The groin in OIB was a great help! Love the bike lane, too.

25 days ago

beach renourishment as needed. maintain jetty and dune system.

25 days ago

environmental enhancements/beach renurishment projects

26 days ago

Planning for the future should have implemented years ago. We are already way behind on having proper infrastructure (i.e. roads, water & sewer systems) in place to support the growth we are already seeing.

27 days ago

Beach renourishment

27 days ago

Over building has already occurred.

27 days ago

Continue to provide sand fencing annually. Continue to improve stormwater drainage, especially on 1st and 2nd streets. Consider adding bike lanes to 2nd street. Also, the island needs more public restrooms for non-residents.

27 days ago

More storm drains. More natural beautification. Add small public restrooms at public accesses.

27 days ago

Put more time and funding into protecting private property and less on parks and bike lanes.

28 days ago

Very concerning about over building, water utilities and infrastructure for our water, loss off green spaces

28 days ago

Beach replenishment and terminal groin are critically important
Public parks and events are important
Reducing taxes to property owners should be a priority

28 days ago

1

28 days ago

Stop over-development

28 days ago

Keep up the beach protection, building dunes, reducing impact to our dunes, green space

28 days ago

Environmental education

28 days ago

Continue beach recovery and canal dredging as needed.

28 days ago

Status quo is good

28 days ago

The oak trees that are established should not be destroyed for buildings

28 days ago

Tubbs Inlet is rapidly closing up to to erosion, shifting sands due to storm/tidal activity. Based on the success of the terminal groin at Shalotte Inlet, similar consideration should be given to address the situation at Tubbs Inlet. Otherwise, OIB and Sunset Beach will soon become one island and we can have a naming party for the new island. How about Ocean Sunset Beach?

28 days ago

I would like to see the completion of Ferry Landing park
I would like to see less, much less development on the west end. You can still find road debris from past storms and very large homes are being built in those area and close to wetlands/marshlands

28 days ago

canal drains flow water back to streets and homes in high tides

28 days ago

maintaining and growing our dune system

28 days ago

Right now there are no programs to mitigate flooding on the island; development of every square inch of land without planning for consequences (wetland removal and flooding) has continued unabated, and without taking into consideration the concerns of full time homeowners. As well, the natural beauty of the island (flora and fauna) is disappearing.

28 days ago

Environmental protection policies strengthened/enhanced

28 days ago

As a resident and property owner in neighboring Sunset Beach, I frequent Ocean Isle daily. It is imperative we begin restricting development in the area. Protection of the environment is a top priority.

28 days ago

We need more preservation and conservation of our marshes, wetlands, trees, and wildlife. We need clean, PFAS-free, running water for everyone. I would like to see this program extended to the Shallotte area (including Shallotte Point), Sunset Beach, Holden Beach, Oak Island, Ash, and actually all of Brunswick County. There has been a tremendous amount of destruction to the natural environment, including different types of wetlands, due to the velocity of developments going up. Today, there is no requirement for an environmental assessment nor impact study to understand how this destruction and deforestation will impact our communities and wildlife long term. Today, there are more protections for developers/developments than there are for affected communities who have little to no say in the decisions that will directly impact them,

28 days ago

Stop approving building in currently flooding areas. Stop removing prior approved flood mitigation restrictions such as the storm drainage that was required at The Point on the east end but later allowed to be removed from the final plan.

28 days ago

Maintaining natural habitat on the coast. Better flood management on island roads.

28 days ago

Buildings are too close together. Also New Building should be limited, more green space for water to absorb into the ground.

28 days ago

continue to monitor erosion and ways to strengthen the dune structure

28 days ago

Don’t turn OIB into Myrtle Beach. Too much development is not good.

28 days ago

protection of the natural dune line on the beach front by relocation of existing structures or refusal to permit rebuilding of structutres lost to erosion

28 days ago

Not aware of existing projects/programs. Living here only since 6/2023

28 days ago

Beach revitalization

28 days ago

planting sea grass and sand fencing
fix road drainage problems

28 days ago

There has been so much development with little requirement of home builders to plant vegetation that helps reduce erosion and adds back green space to the island. Please consider an island-wide tree/bush planting program. Some options would be wax myrtle, yaupon or other native large-growing plants or palms. It is absurd to have so much concrete allowed with so little planting required. Please take steps to bring back the vegetation.

28 days ago

terminal groin was great idea

28 days ago

beach restorations on periodic timely schedule

28 days ago

Town take over the road ownership down to Island Park to the high rise and to the gate.

28 days ago

Stop overdeveloping the island. Preserve greenspace. There is no place for stormwater to go.

28 days ago

We paid money to replenish the beach. Now a few builders and homeowners are trying to make the end of the beach private. We paid for that sand, not so a few people could control the beach and intercoastal waterfront space. The stripped the end of the island of plants that stabilize the area, now it is already shifting.

28 days ago

Being a barrier island, maintenance and enhancement of the dune system is extremely important. That should certainly be continued.

28 days ago

I don't see any programs that are of benefit. Zoning is changed, CAMA amended, forests destroyed, no focus on cluster developments and their importance, no incentives for anyone to respect the land, air, water, coastline. No concern for wildlife, wetlands, forests the dunes. The only project being noticed is the rapid development with unsustainable irresponsible building practices with no concern for anything else. Lack of infostructure, toxic poison water, developing every inch of our barrier island, off market land deals brokered by city officials. What happens when we start flooding, when the mainland floods because the island is destroyed, residents and tourists leave, then will you decide to plant trees, build dunes, rehabilitate the wetlands?

28 days ago

more environment impact education - stop letting builders clear cut land and build on land that the ocean is going to reclaim

28 days ago

No comment

28 days ago

I would like to see the main area of the island near the pier and shops to continue to expand and grow to feel more like a Main Street with better pedestrian control
Speed humps on second street would also be helpful to slow traffic

28 days ago

Planting of Sea Oats at shoreline.

28 days ago

It's hard to see all the open spaces getting developed. An aerial view of the island, especially, looks like OIB has already negatively impacted their longevity with all the housing.

28 days ago

We should do what they did in Charleston, SC (Isle of Palms) and put natural barriers out in the ocean to help stop the severe beach erosion and then re-nourish the main beaches.

28 days ago

We should restrict construction at the east end of the island where a new private community is being built in an area that will flood with every storm. Should have stayed a natural area.

Would also like to see golf cart enforcement improved and no golf carts allowed to cross the ICW bridge, particularly in season. Only adds to significant traffic congestion

Improve stormwater issues to reduce flooding, particularly at the lower ends of the canal streets and all the natural canals

28 days ago

28 days ago

N/c

28 days ago

Maintain beach sand. Keep waterways and canals open. Improve storm water controls to prevent or reduce flooding during and after storms.

28 days ago

Renourishment of beaches and flood barriers. Enforcement of speed limits and fireworks laws.

28 days ago

Educate tourist of rules which they do not use

28 days ago

Beach renourishment,

28 days ago

Beach renourishment, dune & seagrass augmentation, lifting streets & enhancing storm water capture, tighter restrictions on density on the island

28 days ago

I'm not aware of much info about your programs and I look on the Ocean Isle Beach website as well as social media.

28 days ago

Dune/beach restoration

28 days ago

There needs to be conservation and parks of natural areas as Sunset Beach has done. It seems that the goal is to sell every inch with no natural areas. You've run off the deer and wildlife and there is no natural coastline that is undeveloped.

28 days ago

Slow down the land development!!!

28 days ago

I'm really not aware of the programs you have. You are pretty invisible on this issue!

28 days ago

I think there should be a restriction on building any more housing in this area.

28 days ago

Living dunes

28 days ago

Beach renurishment

28 days ago

Dune Creation and Dune/Beach vegetation.

one month ago

storm drains on roads that are floofing

one month ago

Comment Summary for Question 10

Overdevelopment - 23, Beach Renourishment - 14, Dunes Preservation - 13, Preservation in General - 9, Terminal Groin - 5, Storm Water - 5, Development - 4, Water Infrastructure - 3, Dredging - 1, Storm Debris - 1

11. In what ways could the Town of Ocean Isle Beach promote representation and equitable outcomes for vulnerable populations?

I don’t know. We can’t pick who buys homes here.

4 days ago

Reach out to ALL Property Owners to ensure they have feedback mechanisms that are as convenient to them as possible.

8 days ago

They could have someone from this population to attend these community meetings and eventually become a member of city council.

21 days ago

DK

23 days ago

Apartments

24 days ago

Comment Summary for Question 11

Include the Vulnerable - 16, Don't understand what is meant by Vulnerability - 14, Low/No Priority - 10, Wildlife/Vegetation is Vulnerable - 7, Overdevelopment Creates Problem - 6, Beach is Vulnerable - 6, Create Affordable Housing for the Vulnerable - 4, Provide Free Access to the Vulnerable - 2, Educate the Vulnerable - 2

* 12. How knowledgeable are you on environmental and climate related hazards and their impacts to coastal communities?

193 respondents

* 13. What are your preferred distribution channels to receive information about how to make your home, business, and community more resilient to natural hazards?

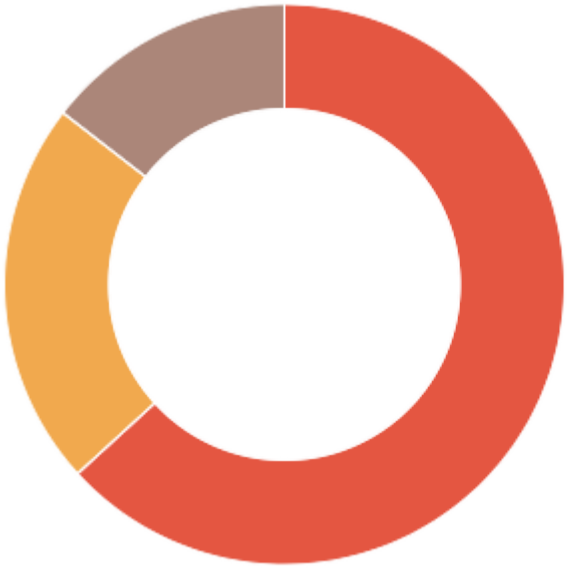
78%	Internet (Web Pages)	151 ✓
51%	Internet (Social Media)	98 ✓
50%	Mobile Messages/Alerts	96 ✓
38%	Mail	74 ✓
33%	Public meetings/workshops	64 ✓
8%	Newspaper	16 ✓
7%	Brochures or Flyers in Public Buildings	13 ✓
6%	Other	12 ✓
5%	Word of Mouth	9 ✓
2%	Church Bulletins	3 ✓

193 Respondents

Comments Made In The "Other" Field

Email - 10, Weather Channel - 1

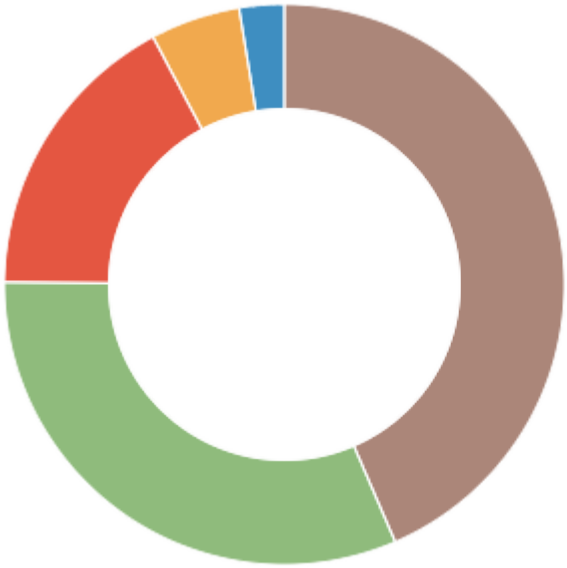
* 14. How satisfied are you with the level of public involvement in decision-making in the Ocean Isle Beach community relating to resilience and natural hazards?



63 % **Somewhat satisfied**
22 % **Very satisfied**
15 % **Unsatisfied**

193 respondents

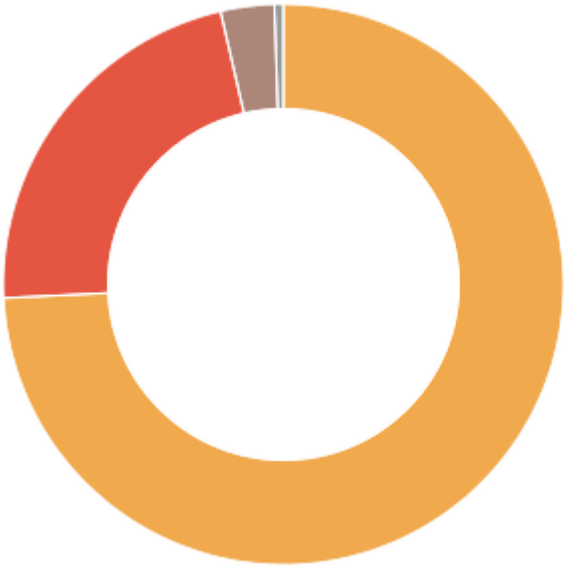
* 15. What is your age range?



44 % **56-69**
32 % **70 or older**
17 % **40-55**
5% **18-39**
3% **Prefer not to answer**

193 respondents

* 16. How many people live in your household?



74% **0 to 2**
22% **3 to 4**
3% **5 to 6**
1% **Others**

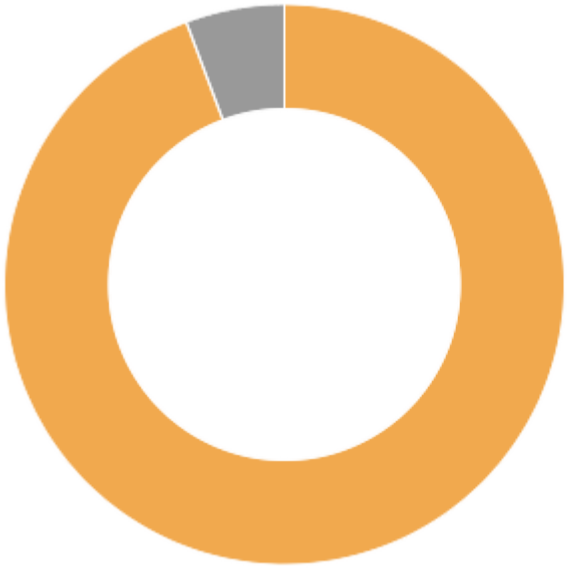
194 respondents

* 17. How long have you lived in Ocean Isle Beach?

22% **1-5 years**
21% **20 years or more**
20% **Do not live on Ocean Isle Beach**
17% **6-9 years**
17% **10-19 years**
4% **Less than one year**

194 respondents

* 18. What is your living situation?

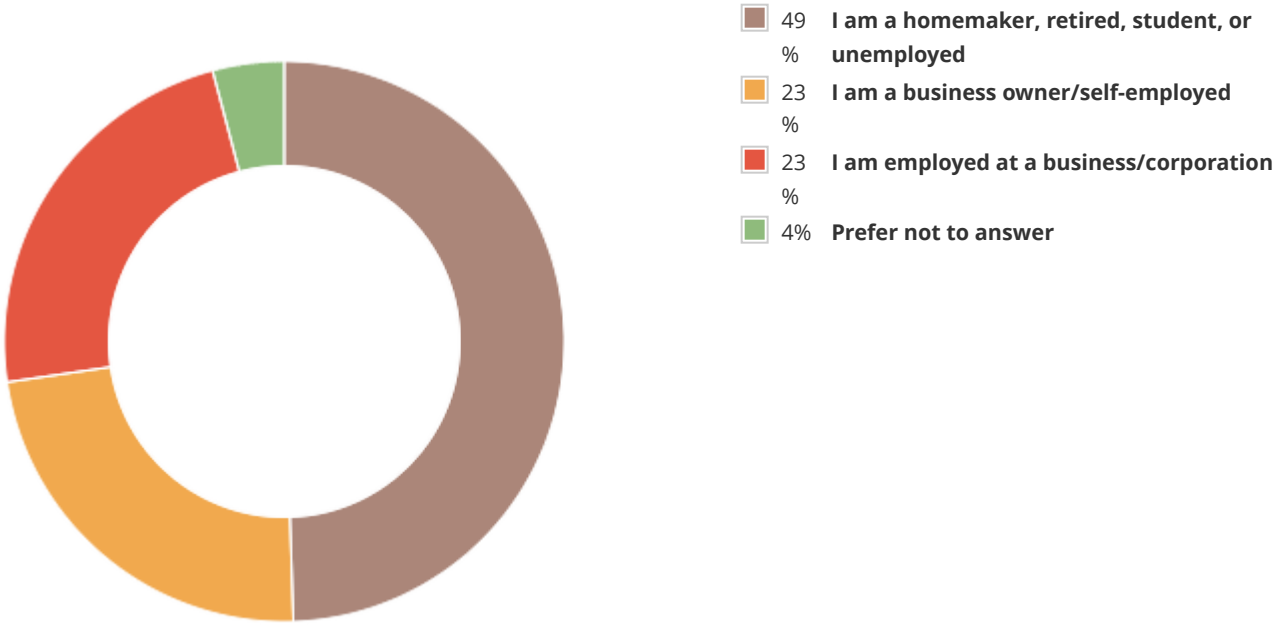


193 respondents

Comments Made In The "Other" Field

Condo Owners - 2, Shared Vacation Property - 1

* 19. What best describes your employment situation?



194 respondents

Dune Creation and Dune/Beach vegetation.

one month ago

Will this meeting be recorded?

one month ago

Was the terminal groin ultimately beneficial to our resilience? Are renourishments helpful and worth the expense?

2 months ago

APPENDIX B
Critical Asset Vulnerability Scores

ASSET_TYPE	ASSET_NAME	LOCATION_X	LOCATION_Y	OWNERSHIP	COST_UNIT	EST_VALUE	COST_SOURCE	EXP_SLR	EXP_FP	EXP_HT	EXP_MS	EXP_IHA	EXPSUM	Final Exposure	SENS	ADCAP	Vulnerability Score
Community Government Service Office	First Bank OIB	-78.44215	33.9023	First Bank	Tax Value	$927,600	Brunswick County GIS	0	0	0	0	0	0	0	2	2	0
Community Government Service Office	Museum of Coastal Carolina	-78.43479355	33.88913046	Ocean Isle Museum Foundation, Inc	Tax Value	$2,812,170	Brunswick County GIS	0	1	0	0	0	1	1	2	2	1
Community Government Service Office	Ocean Isle Beach Community Center	-78.43268741	33.88831139	Town	Tax Value	$182,990	Brunswick County GIS	0	1	0	0	0	1	1	2	2	1
Community Government Service Office	Ocean Isle Beach Town Hall	-78.44012877	33.90134695	Town	Tax Value	$3,299,480	Brunswick County GIS	0	0	0	0	0	0	0	3	3	0
Community Government Service Office	Ocean Isle Beach Town Operations Center (1)	-78.44821346	33.91868224	Town	Tax Value	$117,570	Brunswick County GIS	0	0	0	0	0	0	0	3	2	1
Community Government Service Office	Ocean Isle Beach Town Operations Center (2)	-78.43873194	33.90063272	Town	Tax Value	$131,210	Brunswick County GIS	0	0	0	1	0	1	1	3	2	2
Gas Stations	Marathon Gas	-78.44146792	33.90361205	Private	Tax Value	$178,640	Brunswick County GIS	0	0	0	0	0	0	0	2	2	0
Gas Stations	Sunoco Gas	-78.43819537	33.892288	Private	Tax Value	$184,260	Brunswick County GIS	0	1	0	0	0	1	1	2	1	2
Grocery Stores	Publix	-78.43865895	33.90408012	Private	Tax Value	$3,884,710	Brunswick County GIS	0	0	0	1	0	1	1	2	2	1
Natural Infrastructure	Dunes	-78	34	Public	No Data	No Data	No Data	1	1	1	1	1	5	3	3	1	5
Natural Infrastructure	Water Body	-78.46102824	33.88227038	Public	No Data	No Data	No Data	0	1	1	0	0	2	2	3	2	3
Natural Infrastructure	Water Body	-78.46579241	33.88192308	Public	No Data	No Data	No Data	0	1	1	1	0	3	3	3	2	4
Natural Infrastructure	Water Body	-78.46476756	33.88241874	Public	No Data	No Data	No Data	0	1	1	1	0	3	3	3	2	4
Natural Infrastructure	Water Body	-78.46366018	33.88263731	Public	No Data	No Data	No Data	0	1	1	1	0	3	3	3	2	4
Natural Infrastructure	Water Body	-78.4625498	33.88290534	Public	No Data	No Data	No Data	0	1	1	1	0	3	3	3	2	4
Natural Infrastructure	Water Body	-78.46147245	33.88315614	Public	No Data	No Data	No Data	0	1	1	1	0	3	3	3	2	4
Natural Infrastructure	Water Body	-78.46034311	33.88344865	Public	No Data	No Data	No Data	0	1	1	1	0	3	3	3	2	4
Natural Infrastructure	Water Body	-78.45926621	33.88380247	Public	No Data	No Data	No Data	0	1	1	1	0	3	3	3	2	4
Natural Infrastructure	Water Body	-78.45817329	33.88406715	Public	No Data	No Data	No Data	0	1	1	1	0	3	3	3	2	4
Natural Infrastructure	Water Body	-78.4570069	33.88422349	Public	No Data	No Data	No Data	0	1	1	1	0	3	3	3	2	4
Natural Infrastructure	Water Body	-78.45579637	33.88433219	Public	No Data	No Data	No Data	0	1	1	1	0	3	3	3	2	4
Natural Infrastructure	Water Body	-78.45470857	33.8845322	Public	No Data	No Data	No Data	0	1	1	1	0	3	3	3	2	4
Natural Infrastructure	Water Body	-78.45368729	33.88499665	Public	No Data	No Data	No Data	0	1	1	1	0	3	3	3	2	4
Natural Infrastructure	Water Body	-78.45269846	33.88557551	Public	No Data	No Data	No Data	0	1	1	1	0	3	3	3	2	4
Natural Infrastructure	Water Body	-78.44592596	33.88940152	Public	No Data	No Data	No Data	1	1	0	0	0	2	2	3	2	3
Natural Infrastructure	Water Body	-78.44317787	33.89104088	Public	No Data	No Data	No Data	1	1	0	0	0	2	2	3	2	3
Natural Infrastructure	Water Body	-78.41494607	33.89648709	Public	No Data	No Data	No Data	1	1	1	1	0	4	3	3	2	4
Natural Infrastructure	Water Body	-78.41495631	33.89654267	Public	No Data	No Data	No Data	1	1	0	0	0	2	2	3	2	3
Natural Infrastructure	Water Body	-78.41158491	33.89849455	Public	No Data	No Data	No Data	1	1	1	0	0	3	3	3	2	4
Natural Infrastructure	Water Body	-78.40645787	33.90044144	Public	No Data	No Data	No Data	1	1	0	0	0	2	2	3	2	3
Natural Infrastructure	Water Body	-78.43846423	33.90111675	Public	No Data	No Data	No Data	0	0	0	1	0	1	1	3	2	2
Natural Infrastructure	Water Body	-78.43815041	33.90328088	Public	No Data	No Data	No Data	0	0	0	1	0	1	1	3	2	2
Natural Infrastructure	Water Body	-78.44308695	33.9039565	Public	No Data	No Data	No Data	0	0	0	0	0	0	0	3	2	1
Natural Infrastructure	Water Body	-78.43624152	33.90421047	Public	No Data	No Data	No Data	0	0	0	1	0	1	1	3	2	2
Natural Infrastructure	Water Body	-78.43672808	33.90488247	Public	No Data	No Data	No Data	0	0	0	1	0	1	1	3	2	2
Natural Infrastructure	Water Body	-78.44931603	33.91578432	Public	No Data	No Data	No Data	0	0	0	0	0	0	0	3	2	1
Natural Infrastructure	Water Body	-78.44944126	33.91666791	Public	No Data	No Data	No Data	0	0	0	0	0	0	0	3	2	1
Natural Infrastructure	Water Body	-78.44979352	33.91788039	Public	No Data	No Data	No Data	0	0	0	1	0	1	1	3	2	2
Natural Infrastructure	Water Body	-78.44982713	33.91872698	Public	No Data	No Data	No Data	0	0	0	1	0	1	1	3	2	2
Natural Infrastructure	Water Body	-78.44925138	33.92167332	Public	No Data	No Data	No Data	0	0	0	0	0	0	0	3	2	1
Natural Infrastructure	Water Body	-78.46190945	33.9239364	Public	No Data	No Data	No Data	0	0	0	0	0	0	0	3	2	1
Natural Infrastructure	Water Body	-78.46270238	33.92440172	Public	No Data	No Data	No Data	0	0	0	0	0	0	0	3	2	1
Natural Infrastructure	Water Body	-78.46223014	33.92448073	Public	No Data	No Data	No Data	0	0	0	0	0	0	0	3	2	1
Natural Infrastructure	Water Body	-78.46026723	33.9254718	Public	No Data	No Data	No Data	0	0	0	0	0	0	0	3	2	1
Natural Infrastructure	Water Body	-78.46080053	33.92588437	Public	No Data	No Data	No Data	0	0	0	0	0	0	0	3	2	1
Natural Infrastructure	Water Body	-78.46049078	33.92605934	Public	No Data	No Data	No Data	0	0	0	0	0	0	0	3	2	1
Natural Infrastructure	Water Body	-78.45241701	33.91502855	Public	No Data	No Data	No Data	0	1	0	1	0	2	2	3	2	3
Natural Infrastructure	Water Body	-78.45178649	33.88744616	Public	No Data	No Data	No Data	1	1	1	1	1	5	3	3	2	4
Natural Infrastructure	Water Body	-78.43710355	33.90389732	Public	No Data	No Data	No Data	0	0	0	1	0	1	1	3	2	2
Natural Infrastructure	Water Body	-78.44948498	33.91378317	Public	No Data	No Data	No Data	0	1	0	1	0	2	2	3	2	3
Natural Infrastructure	Water Body	-78.40342407	33.90053652	Public	No Data	No Data	No Data	1	1	1	1	1	5	3	3	2	4
Natural Infrastructure	Water Body	-78.3951546	33.89646434	Public	No Data	No Data	No Data	1	1	0	1	0	3	3	3	2	4
Natural Infrastructure	Water Body	-78.38987986	33.89661476	Public	No Data	No Data	No Data	1	1	0	0	0	2	2	3	2	3
Natural Infrastructure	Water Body	-78.47934722	33.87556753	Public	No Data	No Data	No Data	1	1	1	1	1	5	3	3	2	4
Natural Infrastructure	Water Body	-78.38605577	33.89938739	Public	No Data	No Data	No Data	1	1	1	1	1	5	3	3	2	4
Natural Infrastructure	Wetland	-78.45065364	33.93390883	Public	No Data	No Data	No Data	0	0	0	0	0	0	0	2	2	0
Natural Infrastructure	Wetland	-78.4496542	33.93271246	Public	No Data	No Data	No Data	0	0	0	0	0	0	0	2	2	0
Natural Infrastructure	Wetland	-78.45635646	33.92745006	Public	No Data	No Data	No Data	0	0	0	1	0	1	1	2	2	1
Natural Infrastructure	Wetland	-78.45021846	33.92370147	Public	No Data	No Data	No Data	0	0	0	1	0	1	1	2	2	1
Natural Infrastructure	Wetland	-78.45365731	33.93355759	Public	No Data	No Data	No Data	0	0	0	0	0	0	0	2	2	0
Natural Infrastructure	Wetland	-78.45877519	33.93297245	Public	No Data	No Data	No Data	0	0	0	0	0	0	0	2	2	0
Natural Infrastructure	Wetland	-78.45399453	33.93356783	Public	No Data	No Data	No Data	0	0	0	0	0	0	0	2	2	0
Natural Infrastructure	Wetland	-78.45895107	33.93240123	Public	No Data	No Data	No Data	0	0	0	0	0	0	0	2	2	0
Natural Infrastructure	Wetland	-78.45404348	33.93189329	Public	No Data	No Data	No Data	0	0	0	0	0	0	0	2	2	0
Natural Infrastructure	Wetland	-78.45938481	33.93331775	Public	No Data	No Data	No Data	0	0	0	0	0	0	0	2	2	0
Natural Infrastructure	Wetland	-78.46313029	33.93341003	Public	No Data	No Data	No Data	0	0	0	0	0	0	0	2	2	0
Natural Infrastructure	Wetland	-78.44935302	33.93256737	Public	No Data	No Data	No Data	0	0	0	0	0	0	0	2	2	0
Natural Infrastructure	Wetland	-78.4490158	33.93218139	Public	No Data	No Data	No Data	0	0	0	0	0	0	0	2	2	0
Natural Infrastructure	Wetland	-78.46138497	33.93132878	Public	No Data	No Data	No Data	0	0	0	0	0	0	0	2	2	0
Natural Infrastructure	Wetland	-78.4532171	33.93079767	Public	No Data	No Data	No Data	0	0	0	0	0	0	0	2	2	0
Natural Infrastructure	Wetland	-78.45145833	33.92983037	Public	No Data	No Data	No Data	0	0	0	0	0	0	0	2	2	0
Natural Infrastructure	Wetland	-78.44876425	33.9302405	Public	No Data	No Data	No Data	0	0	0	0	0	0	0	2	2	0
Natural Infrastructure	Wetland	-78.44782236	33.93057247	Public	No Data	No Data	No Data	0	0	0	0	0	0	0	2	2	0
Natural Infrastructure	Wetland	-78.44728974	33.93009096	Public	No Data	No Data	No Data	0	0	0	0	0	0	0	2	2	0
Natural Infrastructure	Wetland	-78.45754407	33.9296088	Public	No Data	No Data	No Data	0	0	0	0	0	0	0	2	2	0
Natural Infrastructure	Wetland	-78.44885563	33.92960089	Public	No Data	No Data	No Data	0	0	0	0	0	0	0	2	2	0
Natural Infrastructure	Wetland	-78.46294796	33.92902857	Public	No Data	No Data	No Data	0	0	0	0	0	0	0	2	2	0
Natural Infrastructure	Wetland	-78.44922178	33.92879124	Public	No Data	No Data	No Data	0	0	0	0	0	0	0	2	2	0
Natural Infrastructure	Wetland	-78.44859639	33.92395573	Public	No Data	No Data	No Data	0	0	0	0	0	0	0	2	2	0
Natural Infrastructure	Wetland	-78.45107635	33.92546634	Public	No Data	No Data	No Data	0	0	0	1	0	1	1	2	2	1
Natural Infrastructure	Wetland	-78.44883497	33.9239856	Public	No Data	No Data	No Data	0	0	0	0	0	0	0	2	2	0
Natural Infrastructure	Wetland	-78.45684065	33.92393785	Public	No Data	No Data	No Data	0	0	0	1	0	1	1	2	2	1
Natural Infrastructure	Wetland	-78.46342549	33.92211021	Public	No Data	No Data	No Data	0	0	0	0	0	0	0	2	2	0
Natural Infrastructure	Wetland	-78.46056303	33.92267205	Public	No Data	No Data	No Data	0	0	0	0	0	0	0	2	2	0

ASSET_TYPE	ASSET_NAME	LOCATION_X	LOCATION_Y	OWNERSHIP	COST_UNIT	EST_VALUE	COST_SOURCE	EXP_SLR	EXP_FP	EXP_HT	EXP_MS	EXP_IHA	EXPSUM	Final Exposure	SENS	ADCAP	Vulnerability Score
Natural Infrastructure	Wetland	-78.46064536	33.92257491	Public	No Data	No Data	No Data	0	0	0	0	0	0	0	2	2	0
Natural Infrastructure	Wetland	-78.46064894	33.92240354	Public	No Data	No Data	No Data	0	0	0	0	0	0	0	2	2	0
Natural Infrastructure	Wetland	-78.46095084	33.9223394	Public	No Data	No Data	No Data	0	0	0	0	0	0	0	2	2	0
Natural Infrastructure	Wetland	-78.46128398	33.92212964	Public	No Data	No Data	No Data	0	0	0	0	0	0	0	2	2	0
Natural Infrastructure	Wetland	-78.45009229	33.91950075	Public	No Data	No Data	No Data	0	1	0	1	0	2	2	2	2	2
Natural Infrastructure	Wetland	-78.45026838	33.9192867	Public	No Data	No Data	No Data	0	0	0	1	0	1	1	2	2	1
Natural Infrastructure	Wetland	-78.45023784	33.91927552	Public	No Data	No Data	No Data	0	0	0	1	0	1	1	2	2	1
Natural Infrastructure	Wetland	-78.45158851	33.91903587	Public	No Data	No Data	No Data	0	1	0	1	0	2	2	2	2	2
Natural Infrastructure	Wetland	-78.45167803	33.91893198	Public	No Data	No Data	No Data	0	1	0	1	0	2	2	2	2	2
Natural Infrastructure	Wetland	-78.45647107	33.91792373	Public	No Data	No Data	No Data	0	0	0	1	0	1	1	2	2	1
Natural Infrastructure	Wetland	-78.45209212	33.91822122	Public	No Data	No Data	No Data	0	1	0	1	0	2	2	2	2	2
Natural Infrastructure	Wetland	-78.45248404	33.91829377	Public	No Data	No Data	No Data	0	1	0	1	0	2	2	2	2	2
Natural Infrastructure	Wetland	-78.45300303	33.91775194	Public	No Data	No Data	No Data	0	1	0	1	0	2	2	2	2	2
Natural Infrastructure	Wetland	-78.45217873	33.91772522	Public	No Data	No Data	No Data	0	1	0	1	0	2	2	2	2	2
Natural Infrastructure	Wetland	-78.44756466	33.91583564	Public	No Data	No Data	No Data	0	0	0	1	0	1	1	2	2	1
Natural Infrastructure	Wetland	-78.45221978	33.91548994	Public	No Data	No Data	No Data	0	1	0	1	0	2	2	2	2	2
Natural Infrastructure	Wetland	-78.45178279	33.91494161	Public	No Data	No Data	No Data	0	1	0	1	0	2	2	2	2	2
Natural Infrastructure	Wetland	-78.45264947	33.91472839	Public	No Data	No Data	No Data	0	1	0	1	0	2	2	2	2	2
Natural Infrastructure	Wetland	-78.44763169	33.91346652	Public	No Data	No Data	No Data	0	1	0	1	0	2	2	2	2	2
Natural Infrastructure	Wetland	-78.43500816	33.90856413	Public	No Data	No Data	No Data	0	0	0	0	0	0	0	2	2	0
Natural Infrastructure	Wetland	-78.44284254	33.90481545	Public	No Data	No Data	No Data	0	0	0	0	0	0	0	2	2	0
Natural Infrastructure	Wetland	-78.44015034	33.90697841	Public	No Data	No Data	No Data	0	0	0	0	0	0	0	2	2	0
Natural Infrastructure	Wetland	-78.44023805	33.90693345	Public	No Data	No Data	No Data	0	0	0	0	0	0	0	2	2	0
Natural Infrastructure	Wetland	-78.43809483	33.90490268	Public	No Data	No Data	No Data	0	0	0	1	0	1	1	2	2	1
Natural Infrastructure	Wetland	-78.40127398	33.89992135	Public	No Data	No Data	No Data	1	1	1	1	1	5	3	2	2	3
Natural Infrastructure	Wetland	-78.43717003	33.90386365	Public	No Data	No Data	No Data	0	0	0	1	0	1	1	2	2	1
Natural Infrastructure	Wetland	-78.40392091	33.90096665	Public	No Data	No Data	No Data	1	1	1	1	0	4	3	2	2	3
Natural Infrastructure	Wetland	-78.40525664	33.90179494	Public	No Data	No Data	No Data	1	1	1	1	0	4	3	2	2	3
Natural Infrastructure	Wetland	-78.44134195	33.90175169	Public	No Data	No Data	No Data	0	0	0	0	0	0	0	2	2	0
Natural Infrastructure	Wetland	-78.40083401	33.90259315	Public	No Data	No Data	No Data	0	1	1	0	0	2	2	2	2	2
Natural Infrastructure	Wetland	-78.40213276	33.90241563	Public	No Data	No Data	No Data	0	1	1	0	0	2	2	2	2	2
Natural Infrastructure	Wetland	-78.40174986	33.90261723	Public	No Data	No Data	No Data	0	1	0	0	0	1	1	2	2	1
Natural Infrastructure	Wetland	-78.40316167	33.90201712	Public	No Data	No Data	No Data	0	1	0	0	0	1	1	2	2	1
Natural Infrastructure	Wetland	-78.4034293	33.90197774	Public	No Data	No Data	No Data	0	1	0	0	0	1	1	2	2	1
Natural Infrastructure	Wetland	-78.40347358	33.90180381	Public	No Data	No Data	No Data	0	1	0	0	0	1	1	2	2	1
Natural Infrastructure	Wetland	-78.40375441	33.90175562	Public	No Data	No Data	No Data	0	1	0	0	0	1	1	2	2	1
Natural Infrastructure	Wetland	-78.40014916	33.89882449	Public	No Data	No Data	No Data	1	1	1	0	0	3	3	2	2	3
Natural Infrastructure	Wetland	-78.3890851	33.90132645	Public	No Data	No Data	No Data	1	1	1	0	0	3	3	2	2	3
Natural Infrastructure	Wetland	-78.40902304	33.90108321	Public	No Data	No Data	No Data	1	1	1	1	0	4	3	2	2	3
Natural Infrastructure	Wetland	-78.39102067	33.90075843	Public	No Data	No Data	No Data	0	1	1	0	0	2	2	2	2	2
Natural Infrastructure	Wetland	-78.39098652	33.90066796	Public	No Data	No Data	No Data	0	1	1	0	0	2	2	2	2	2
Natural Infrastructure	Wetland	-78.41292034	33.89903361	Public	No Data	No Data	No Data	1	1	1	1	0	4	3	2	2	3
Natural Infrastructure	Wetland	-78.39245594	33.90011559	Public	No Data	No Data	No Data	0	1	1	0	0	2	2	2	2	2
Natural Infrastructure	Wetland	-78.39466313	33.90015755	Public	No Data	No Data	No Data	0	1	1	0	0	2	2	2	2	2
Natural Infrastructure	Wetland	-78.39505237	33.89957472	Public	No Data	No Data	No Data	0	1	1	0	0	2	2	2	2	2
Natural Infrastructure	Wetland	-78.39417713	33.90000381	Public	No Data	No Data	No Data	0	1	0	0	0	1	1	2	2	1
Natural Infrastructure	Wetland	-78.394149	33.89994644	Public	No Data	No Data	No Data	0	1	0	0	0	1	1	2	2	1
Natural Infrastructure	Wetland	-78.39587789	33.89941336	Public	No Data	No Data	No Data	0	1	0	0	0	1	1	2	2	1
Natural Infrastructure	Wetland	-78.39636981	33.89931754	Public	No Data	No Data	No Data	0	1	0	0	0	1	1	2	2	1
Natural Infrastructure	Wetland	-78.42057854	33.89804637	Public	No Data	No Data	No Data	1	1	1	1	0	4	3	2	2	3
Natural Infrastructure	Wetland	-78.39805291	33.89847099	Public	No Data	No Data	No Data	0	1	0	0	0	1	1	2	2	1
Natural Infrastructure	Wetland	-78.40013245	33.89819201	Public	No Data	No Data	No Data	0	1	1	0	0	2	2	2	2	2
Natural Infrastructure	Wetland	-78.43923167	33.89714005	Public	No Data	No Data	No Data	1	1	1	1	0	4	3	2	2	3
Natural Infrastructure	Wetland	-78.43999918	33.89683915	Public	No Data	No Data	No Data	1	1	1	1	0	4	3	2	2	3
Natural Infrastructure	Wetland	-78.42388382	33.89656824	Public	No Data	No Data	No Data	1	1	1	1	0	4	3	2	2	3
Natural Infrastructure	Wetland	-78.42869545	33.89642351	Public	No Data	No Data	No Data	1	1	1	1	0	4	3	2	2	3
Natural Infrastructure	Wetland	-78.40527522	33.89668764	Public	No Data	No Data	No Data	0	1	1	0	0	2	2	2	2	2
Natural Infrastructure	Wetland	-78.40611437	33.89646721	Public	No Data	No Data	No Data	0	1	1	0	0	2	2	2	2	2
Natural Infrastructure	Wetland	-78.4061573	33.89640292	Public	No Data	No Data	No Data	0	1	1	0	0	2	2	2	2	2
Natural Infrastructure	Wetland	-78.40842047	33.89587459	Public	No Data	No Data	No Data	0	1	1	0	0	2	2	2	2	2
Natural Infrastructure	Wetland	-78.40821275	33.8959233	Public	No Data	No Data	No Data	0	1	0	0	0	1	1	2	2	1
Natural Infrastructure	Wetland	-78.44070611	33.89267049	Public	No Data	No Data	No Data	1	1	1	1	0	4	3	2	2	3
Natural Infrastructure	Wetland	-78.43745834	33.89447067	Public	No Data	No Data	No Data	1	1	1	1	0	4	3	2	2	3
Natural Infrastructure	Wetland	-78.44069786	33.89460777	Public	No Data	No Data	No Data	1	1	1	1	0	4	3	2	2	3
Natural Infrastructure	Wetland	-78.43696955	33.89269035	Public	No Data	No Data	No Data	1	1	1	1	0	4	3	2	2	3
Natural Infrastructure	Wetland	-78.44427769	33.89035657	Public	No Data	No Data	No Data	1	1	1	1	0	4	3	2	2	3
Natural Infrastructure	Wetland	-78.4473328	33.8932795	Public	No Data	No Data	No Data	1	1	1	1	0	4	3	2	2	3
Natural Infrastructure	Wetland	-78.44544531	33.89277047	Public	No Data	No Data	No Data	1	1	1	0	0	3	3	2	2	3
Natural Infrastructure	Wetland	-78.44827052	33.89239802	Public	No Data	No Data	No Data	0	1	0	1	0	2	2	2	2	2
Natural Infrastructure	Wetland	-78.45162733	33.89201289	Public	No Data	No Data	No Data	0	1	0	1	0	2	2	2	2	2
Natural Infrastructure	Wetland	-78.45246086	33.8917189	Public	No Data	No Data	No Data	0	1	0	1	0	2	2	2	2	2
Natural Infrastructure	Wetland	-78.43966649	33.88977916	Public	No Data	No Data	No Data	1	1	1	1	0	4	3	2	2	3
Natural Infrastructure	Wetland	-78.44813434	33.88767485	Public	No Data	No Data	No Data	1	1	1	1	0	4	3	2	2	3
Natural Infrastructure	Wetland	-78.46737532	33.88258281	Public	No Data	No Data	No Data	1	1	1	1	1	5	3	2	2	3
Natural Infrastructure	Wetland	-78.46669658	33.88161014	Public	No Data	No Data	No Data	0	1	1	0	0	2	2	2	2	2
Public Safety or Emergency Services	Ferry Landing Park	-78.39408469	33.9031542	Town	Tax Value	$100,190	Brunswick County GIS	0	1	1	0	0	2	2	2	2	2
Public Safety or Emergency Services	Fire/Emergency Services Boat Ramp	-78.43938154	33.89483985	Town & NC Wildlife	Tax Value	$2,461,450	Brunswick County GIS	0	1	1	0	0	2	2	2	2	2
Public Safety or Emergency Services	Hohonu Tide Gauge	-78.43496685	33.89546825	Town	Each	$500	SECOORA Website	1	1	1	0	0	3	3	2	2	3
Public Safety or Emergency Services	Ocean Isle Beach Fire Station	-78.43994894	33.89992492	Town	Tax Value	$583,160	Brunswick County GIS	0	0	0	0	0	0	0	3	3	0
Public Safety or Emergency Services	Ocean Isle Beach Police Station	-78.44012877	33.90134695	Town	Tax Value	$3,299,480	Brunswick County GIS	0	0	0	0	0	0	0	3	3	0
Public Safety or Emergency Services	Odell Williamson Municipal Airport	-78.438522	33.90612552	Town	Tax Value	$1,150,400	Brunswick County GIS	0	0	0	0	0	0	0	2	2	0
Public Safety or Emergency Services	Private Doctor Office	-78.44205	33.90461	Private	Tax Value	$1,280,080	Brunswick County GIS	0	0	0	0	0	0	0	1	2	0
Public Safety or Emergency Services	Public Beach Access	-78.39110656	33.89921232	Town	Replacement Cost	$388,000	Recent M&N Project	0	1	1	1	0	3	3	2	2	3
Public Safety or Emergency Services	Public Beach Access	-78.39414196	33.8978028	Town	Replacement Cost	$388,000	Recent M&N Project	0	1	1	1	0	3	3	2	2	3

ASSET_TYPE	ASSET_NAME	LOCATION_X	LOCATION_Y	OWNERSHIP	COST_UNIT	EST_VALUE	COST_SOURCE	EXP_SLR	EXP_FP	EXP_HT	EXP_MS	EXP_IHA	EXPSUM	Final Exposure	SENS	ADCAP	Vulnerability Score
Public Safety or Emergency Services	Public Beach Access	-78.40154842	33.89599292	Town	Replacement Cost	$388,000	Recent M&N Project	0	0	0	1	0	1	1	2	2	1
Public Safety or Emergency Services	Public Beach Access	-78.40500302	33.89530687	Town	Replacement Cost	$388,000	Recent M&N Project	0	1	0	1	0	2	2	2	2	2
Public Safety or Emergency Services	Public Beach Access	-78.40856153	33.89436295	Town	Replacement Cost	$388,000	Recent M&N Project	0	1	0	1	0	2	2	2	2	2
Public Safety or Emergency Services	Public Beach Access	-78.41203023	33.8935284	Town	Replacement Cost	$388,000	Recent M&N Project	0	1	0	1	0	2	2	2	2	2
Public Safety or Emergency Services	Public Beach Access	-78.41555591	33.89259076	Town	Replacement Cost	$388,000	Recent M&N Project	0	1	0	1	0	2	2	2	2	2
Public Safety or Emergency Services	Public Beach Access	-78.41890219	33.89176524	Town	Replacement Cost	$388,000	Recent M&N Project	0	1	0	1	0	2	2	2	2	2
Public Safety or Emergency Services	Public Beach Access	-78.42238051	33.89085889	Town	Replacement Cost	$388,000	Recent M&N Project	0	1	0	1	0	2	2	2	2	2
Public Safety or Emergency Services	Public Beach Access	-78.4258075	33.8900303	Town	Replacement Cost	$388,000	Recent M&N Project	0	1	0	1	0	2	2	2	2	2
Public Safety or Emergency Services	Public Beach Access	-78.42930573	33.88911456	Town	Replacement Cost	$388,000	Recent M&N Project	0	1	0	1	0	2	2	2	2	2
Public Safety or Emergency Services	Public Beach Access	-78.43288379	33.88827723	Town	Replacement Cost	$388,000	Recent M&N Project	0	1	0	1	0	2	2	2	2	2
Public Safety or Emergency Services	Public Beach Access	-78.43705403	33.88710631	Town	Replacement Cost	$388,000	Recent M&N Project	0	1	0	1	0	2	2	2	2	2
Public Safety or Emergency Services	Public Beach Access	-78.43858226	33.8867193	Town	Replacement Cost	$388,000	Recent M&N Project	0	0	0	1	0	1	1	2	2	1
Public Safety or Emergency Services	Public Beach Access	-78.43983812	33.88639746	Town	Replacement Cost	$388,000	Recent M&N Project	0	0	0	1	0	1	1	2	2	1
Public Safety or Emergency Services	Public Beach Access	-78.44315967	33.8855715	Town	Replacement Cost	$388,000	Recent M&N Project	0	1	0	1	0	2	2	2	2	2
Public Safety or Emergency Services	Public Beach Access	-78.44683979	33.88463777	Town	Replacement Cost	$388,000	Recent M&N Project	0	1	0	1	0	2	2	2	2	2
Public Safety or Emergency Services	Public Beach Access	-78.44848132	33.88423957	Town	Replacement Cost	$388,000	Recent M&N Project	0	1	0	1	0	2	2	2	2	2
Public Safety or Emergency Services	Public Beach Access	-78.44929372	33.88401254	Town	Replacement Cost	$388,000	Recent M&N Project	0	1	0	1	0	2	2	2	2	2
Public Safety or Emergency Services	Public Beach Access	-78.45022579	33.88378148	Town	Replacement Cost	$388,000	Recent M&N Project	0	1	0	1	0	2	2	2	2	2
Public Safety or Emergency Services	Public Beach Access	-78.45243021	33.8831949	Town	Replacement Cost	$388,000	Recent M&N Project	0	1	0	1	0	2	2	2	2	2
Public Safety or Emergency Services	Public Beach Access	-78.45461685	33.8826338	Town	Replacement Cost	$388,000	Recent M&N Project	0	1	0	1	0	2	2	2	2	2
Public Safety or Emergency Services	Public Beach Access	-78.46646975	33.88005538	Town	Replacement Cost	$388,000	Recent M&N Project	0	1	0	1	0	2	2	2	2	2
Public Safety or Emergency Services	Public Beach Access	-78.46963501	33.87867153	Town	Replacement Cost	$388,000	Recent M&N Project	0	1	0	1	1	3	3	2	2	3
Public Safety or Emergency Services	Public Beach Access	-78.43543246	33.88746573	Town	Replacement Cost	$388,000	Recent M&N Project	0	1	0	1	0	2	2	2	2	2
Public Safety or Emergency Services	Public Beach Access	-78.39800146	33.8970268	Town	Replacement Cost	$388,000	Recent M&N Project	0	1	0	1	0	2	2	2	2	2
Public Safety or Emergency Services	Public Beach Access	-78.39800621	33.89703016	Town	Replacement Cost	$388,000	Recent M&N Project	0	1	0	1	0	2	2	2	2	2
Public Safety or Emergency Services	Public Beach Access	-78.45022579	33.88378148	Town	Replacement Cost	$388,000	Recent M&N Project	0	1	0	1	0	2	2	2	2	2
Public Safety or Emergency Services	Public Beach Access	-78.45022579	33.88378148	Town	Replacement Cost	$388,000	Recent M&N Project	0	1	0	1	0	2	2	2	2	2
Public Safety or Emergency Services	Public Beach Access	-78.40500302	33.89530687	Town	Replacement Cost	$388,000	Recent M&N Project	0	1	0	1	0	2	2	2	2	2
Public Safety or Emergency Services	Public Beach Access	-78.42238051	33.89085889	Town	Replacement Cost	$388,000	Recent M&N Project	0	1	0	1	0	2	2	2	2	2
Public Safety or Emergency Services	Public Beach Access	-78.39255408	33.89832349	Town	Replacement Cost	$388,000	Recent M&N Project	0	1	0	1	0	2	2	2	2	2
Public Safety or Emergency Services	Public Beach Access	-78.39619866	33.89722945	Town	Replacement Cost	$388,000	Recent M&N Project	0	1	0	1	0	2	2	2	2	2
Public Safety or Emergency Services	Public Beach Access	-78.39972553	33.89631431	Town	Replacement Cost	$388,000	Recent M&N Project	0	0	0	1	0	1	1	2	2	1
Public Safety or Emergency Services	Town Center Park - Helicopter Landing Area	-78.43590461	33.88888691	Town	Tax Value	$3,860,520	Brunswick County GIS	0	1	0	0	0	1	1	2	2	1
Road	ANSON ST	-78.42583572	33.89319297	Town	per mile	$1,800,000	Recent M&N Project	1	1	0	0	0	2	2	2	2	2
Road	ASHEVILLE ST	-78.45220222	33.88582548	Town	per mile	$1,800,000	Recent M&N Project	1	1	1	0	0	3	3	2	2	3
Road	ATLANTIC WAY	-78.46404924	33.88196255	Private	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	ATLANTIC WAY	-78.4643436	33.88301852	Private	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	ATLANTIC WAY	-78.46404552	33.88101852	Private	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	ATLANTIC WAY	-78.46373883	33.88142708	Private	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	BARNACLE CT	-78.46966279	33.87937793	Private	per mile	$1,800,000	Recent M&N Project	0	1	0	0	1	2	2	2	2	2
Road	BAYBERRY DR	-78.469726	33.87913547	Private	per mile	$1,800,000	Recent M&N Project	0	1	0	0	1	2	2	2	2	2
Road	BAYBERRY DR	-78.46857239	33.8799363	Private	per mile	$1,800,000	Recent M&N Project	0	1	1	0	0	2	2	2	2	2
Road	BAYBERRY DR	-78.46934988	33.87942834	Private	per mile	$1,800,000	Recent M&N Project	0	1	1	0	1	3	3	2	2	3
Road	BAYBERRY DR	-78.46901015	33.87970708	Private	per mile	$1,800,000	Recent M&N Project	0	1	1	0	0	2	2	2	2	2
Road	BAYWATCH DR	-78.39206856	33.90169513	Town	per mile	$1,800,000	Recent M&N Project	0	1	1	0	0	2	2	2	2	2
Road	BEACH DR SW	-78.44086387	33.90430373	State	per mile	$1,800,000	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Road	BEACH DR SW	-78.43853378	33.90568028	State	per mile	$1,800,000	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Road	BEACH DR SW	-78.4362887	33.90699446	State	per mile	$1,800,000	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Road	BEACH DR SW	-78.42808407	33.91178433	State	per mile	$1,800,000	Recent M&N Project	0	0	0	1	0	1	1	2	2	1
Road	BEACH DR SW	-78.4343451	33.90812697	State	per mile	$1,800,000	Recent M&N Project	0	0	0	1	0	1	1	2	2	1
Road	BEACH DR SW	-78.43089635	33.91014612	State	per mile	$1,800,000	Recent M&N Project	0	0	0	1	0	1	1	2	2	1
Road	BEACH DR SW	-78.41995783	33.91331518	State	per mile	$1,800,000	Recent M&N Project	0	0	0	1	0	1	1	2	2	1
Road	BEACH DR SW	-78.41558461	33.91451571	State	per mile	$1,800,000	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Road	BEACH DR SW	-78.42457702	33.91264697	State	per mile	$1,800,000	Recent M&N Project	0	0	0	1	0	1	1	2	2	1
Road	BEAUFORT ST	-78.45523667	33.8842015	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	BEAUFORT ST	-78.45490195	33.88330221	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	BECKY ST	-78.46424666	33.8805936	Private	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	CHADBOURN ST	-78.41324954	33.8951972	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	CHADBOURN ST	-78.41249157	33.89459817	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	CHADBOURN ST	-78.41230459	33.8940768	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	CHANNEL DR	-78.46445339	33.88100259	Private	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	CHANNEL DR	-78.46492958	33.88137015	Private	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	CHANNEL DR	-78.46551853	33.88281206	Private	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	CHANNEL DR	-78.46523524	33.88198332	Private	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	CHAPEL HILL ST	-78.42790108	33.89015356	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	CHARLOTTE ST	-78.3965399	33.89947848	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	CHARLOTTE ST	-78.39636369	33.89822843	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	CHARLOTTE ST	-78.39646413	33.89894016	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	CHARLOTTE ST	-78.39626697	33.89752128	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	CLINTON ST	-78.43842836	33.88785537	Town	per mile	$1,800,000	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Road	COGGESHALL DR W	-78.46995553	33.87853678	Private	per mile	$1,800,000	Recent M&N Project	0	1	0	0	1	2	2	2	2	2
Road	COLUMBIA ST	-78.39269323	33.89915569	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	COLUMBIA ST	-78.39262556	33.89862571	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	CONCORD ST	-78.43178178	33.89564053	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	CONCORD ST	-78.42963931	33.88971354	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	CONCORD ST	-78.43069353	33.89262955	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	COQUINA CT	-78.46535077	33.88235667	Private	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	CRAVEN ST	-78.42853026	33.89568871	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	CULPEPPER RD SW	-78.4386287	33.90037109	State	per mile	$1,800,000	Recent M&N Project	0	0	0	1	0	1	1	2	2	1
Road	CULPEPPER RD SW	-78.43815511	33.90041554	State	per mile	$1,800,000	Recent M&N Project	0	0	0	1	0	1	1	2	2	1
Road	CULPEPPER RD SW	-78.43769915	33.90045833	State	per mile	$1,800,000	Recent M&N Project	0	0	0	1	0	1	1	2	2	1
Road	CULPEPPER RD SW	-78.43718882	33.90050491	State	per mile	$1,800,000	Recent M&N Project	0	0	0	1	0	1	1	2	2	1
Road	CULPEPPER RD SW	-78.44224839	33.9000234	State	per mile	$1,800,000	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Road	CULPEPPER RD SW	-78.43993672	33.90025288	State	per mile	$1,800,000	Recent M&N Project	0	0	0	1	0	1	1	2	2	1

ASSET_TYPE	ASSET_NAME	LOCATION_X	LOCATION_Y	OWNERSHIP	COST_UNIT	EST_VALUE	COST_SOURCE	EXP_SLR	EXP_FP	EXP_HT	EXP_MS	EXP_IHA	EXPSUM	Final Exposure	SENS	ADCAP	Vulnerability Score
Road	CULPEPPER RD SW	-78.43908041	33.90032935	State	per mile	$1,800,000	Recent M&N Project	0	0	0	1	0	1	1	2	2	1
Road	CULPEPPER RD SW	-78.43629229	33.90058884	State	per mile	$1,800,000	Recent M&N Project	0	0	0	1	0	1	1	2	2	1
Road	CULPEPPER RD SW	-78.43524705	33.90068058	State	per mile	$1,800,000	Recent M&N Project	0	0	0	1	0	1	1	2	2	1
Road	CULPEPPER RD SW	-78.44109952	33.90013695	State	per mile	$1,800,000	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Road	CUMBERLAND ST	-78.41772515	33.8951491	Town	per mile	$1,800,000	Recent M&N Project	0	1	1	0	0	2	2	2	2	2
Road	DARE ST	-78.42236302	33.89400485	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	DAWSON ST	-78.46353596	33.88055738	Private	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	DAWSON ST	-78.4636535	33.88090537	Private	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	DOLPHIN CT	-78.46863623	33.88027997	Private	per mile	$1,800,000	Recent M&N Project	0	1	1	0	0	2	2	2	2	2
Road	DRIFTWOOD DR	-78.4513437	33.88677603	Town	per mile	$1,800,000	Recent M&N Project	1	1	1	0	0	3	3	2	2	3
Road	DRIFTWOOD DR	-78.45049102	33.88443167	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	DRIFTWOOD DR	-78.45086771	33.88545912	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	DUNE CT	-78.46510973	33.88164444	Private	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	DUNESIDE DR	-78.44950184	33.88700768	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	DUNESIDE DR	-78.44901035	33.88555534	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	DURHAM ST	-78.39806333	33.89733114	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E FIFTH ST	-78.39690527	33.89925821	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E FIFTH ST	-78.39532672	33.89942211	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E FIRST ST	-78.43384553	33.88826387	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E FIRST ST	-78.4321183	33.88870982	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E FIRST ST	-78.4303859	33.88915483	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E FIRST ST	-78.42864852	33.88959615	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E FIRST ST	-78.40599501	33.89515295	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E FIRST ST	-78.40421671	33.89545806	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E FIRST ST	-78.40780224	33.8948375	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E FIRST ST	-78.40957802	33.8943987	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E FIRST ST	-78.41131465	33.89395446	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E FIRST ST	-78.41303732	33.89351754	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E FIRST ST	-78.41476189	33.89308327	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E FIRST ST	-78.4164985	33.89264807	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E FIRST ST	-78.41823215	33.89221515	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E FIRST ST	-78.4164985	33.89264807	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E FIRST ST	-78.41823215	33.89221515	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E FIRST ST	-78.40599501	33.89515295	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E FIRST ST	-78.41131465	33.89395446	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E FIRST ST	-78.40421671	33.89545806	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E FIRST ST	-78.40242453	33.89576548	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E FIRST ST	-78.40342049	33.89596104	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E FIRST ST	-78.41996616	33.89177981	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E FIRST ST	-78.42170443	33.89134243	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E FIRST ST	-78.4321183	33.88870982	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E FIRST ST	-78.4303859	33.88915483	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E FIRST ST	-78.42691221	33.89003495	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E FIRST ST	-78.42864852	33.88959615	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E FIRST ST	-78.42517121	33.89046617	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E FIRST ST	-78.42343744	33.89090154	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E FIRST ST	-78.40780224	33.8948375	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E FIRST ST	-78.40957802	33.8943987	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E FIRST ST	-78.43384553	33.88826387	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E FIRST ST	-78.41823215	33.89221515	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E FIRST ST	-78.4164985	33.89264807	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E FIRST ST	-78.41476189	33.89308327	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E FIRST ST	-78.41303732	33.89351754	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E FIRST ST	-78.43558813	33.88782654	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E FOURTH ST	-78.40357194	33.89669017	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E FOURTH ST	-78.39709755	33.89847646	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E FOURTH ST	-78.39781928	33.89806358	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E FOURTH ST	-78.39889005	33.89810597	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E FOURTH ST	-78.39742796	33.89827422	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E FOURTH ST	-78.39832965	33.89809119	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E FOURTH ST	-78.39962037	33.89754517	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E FOURTH ST	-78.3993164	33.89779884	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E FOURTH ST	-78.40031106	33.89743721	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E FOURTH ST	-78.40215561	33.89705609	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E FOURTH ST	-78.39663767	33.89855658	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E FOURTH ST	-78.39179499	33.89909136	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E FOURTH ST	-78.39341129	33.89889606	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E FOURTH ST	-78.39527978	33.89869958	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E SECOND ST	-78.4084025	33.89560395	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E SECOND ST	-78.43586283	33.88850019	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E SECOND ST	-78.43034024	33.88990498	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E SECOND ST	-78.4317851	33.88953963	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E SECOND ST	-78.43265272	33.88931945	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E SECOND ST	-78.43380452	33.88902616	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E SECOND ST	-78.42830877	33.89041608	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E SECOND ST	-78.42918117	33.89019939	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E SECOND ST	-78.40071931	33.89668859	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E SECOND ST	-78.40257457	33.8964711	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E SECOND ST	-78.40439941	33.89616082	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E SECOND ST	-78.40982223	33.89508014	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E SECOND ST	-78.4132889	33.89420247	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E SECOND ST	-78.4153079	33.89369084	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E SECOND ST	-78.41876825	33.89281535	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E SECOND ST	-78.41645334	33.89339987	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1

ASSET_TYPE	ASSET_NAME	LOCATION_X	LOCATION_Y	OWNERSHIP	COST_UNIT	EST_VALUE	COST_SOURCE	EXP_SLR	EXP_FP	EXP_HT	EXP_MS	EXP_IHA	EXPSUM	Final Exposure	SENS	ADCAP	Vulnerability Score
Road	E SECOND ST	-78.41790722	33.89303254	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E SECOND ST	-78.419915	33.89252621	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E SECOND ST	-78.42136258	33.89216068	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E SECOND ST	-78.42222976	33.89194219	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E SECOND ST	-78.42339918	33.89164883	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E SECOND ST	-78.42484679	33.89127386	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E SECOND ST	-78.42572089	33.89107207	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E SECOND ST	-78.42687124	33.89077971	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E SECOND ST	-78.39891451	33.89688015	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E SECOND ST	-78.40616316	33.8958578	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E SECOND ST	-78.40800614	33.89553562	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E SECOND ST	-78.40982223	33.89508014	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E SECOND ST	-78.41645334	33.89339987	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E SECOND ST	-78.41732478	33.89317933	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E SECOND ST	-78.41790722	33.89303254	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E SECOND ST	-78.41876825	33.89281535	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E SECOND ST	-78.4317851	33.88953963	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E SECOND ST	-78.40071931	33.89668859	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E SECOND ST	-78.419915	33.89252621	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E SECOND ST	-78.42078469	33.89230662	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E SECOND ST	-78.42136258	33.89216068	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E SECOND ST	-78.43034024	33.88990498	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E SECOND ST	-78.43120599	33.88968585	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E SECOND ST	-78.42830877	33.89041608	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E SECOND ST	-78.42773603	33.89056154	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E SECOND ST	-78.42426594	33.89143247	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E SECOND ST	-78.41155886	33.89464044	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E SECOND ST	-78.4132889	33.89420247	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E SECOND ST	-78.41444473	33.89390981	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E SECOND ST	-78.39711703	33.89707089	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E SECOND ST	-78.40257457	33.8964711	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E SECOND ST	-78.40439941	33.89616082	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E SECOND ST	-78.43265272	33.88931945	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E SECOND ST	-78.43380452	33.88902616	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E SECOND ST	-78.4346708	33.88880574	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E SECOND ST	-78.43586283	33.88850019	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E SEVENTH ST	-78.39244554	33.90116076	Town	per mile	$1,800,000	Recent M&N Project	0	1	1	0	0	2	2	2	2	2
Road	E SEVENTH ST	-78.39350919	33.90105112	Town	per mile	$1,800,000	Recent M&N Project	0	1	1	0	0	2	2	2	2	2
Road	E SIXTH ST	-78.3965442	33.89971794	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E SIXTH ST	-78.39491161	33.90016868	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E SIXTH ST	-78.39552319	33.89985937	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E SIXTH ST	-78.3952174	33.90001402	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E SIXTH ST	-78.39603975	33.89979531	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E SIXTH ST	-78.39447459	33.90022425	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E THIRD ST	-78.39892676	33.89763484	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E THIRD ST	-78.3991926	33.89777353	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E THIRD ST	-78.39842556	33.89765353	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E THIRD ST	-78.39721979	33.89778093	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E THIRD ST	-78.39522802	33.89799141	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E THIRD ST	-78.39207885	33.89831822	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	E THIRD ST	-78.39335661	33.898186	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	EGRET CT	-78.46715233	33.88160729	Private	per mile	$1,800,000	Recent M&N Project	0	1	1	0	0	2	2	2	2	2
Road	EYOTA DR SW	-78.43502233	33.90223773	State	per mile	$1,800,000	Recent M&N Project	0	0	0	1	0	1	1	2	2	1
Road	EYOTA DR SW	-78.43566687	33.90543474	State	per mile	$1,800,000	Recent M&N Project	0	0	0	1	0	1	1	2	2	1
Road	FAIRMONT ST	-78.4331915	33.8925552	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	FERN CT	-78.46685951	33.88189273	Private	per mile	$1,800,000	Recent M&N Project	0	1	1	0	0	2	2	2	2	2
Road	GATHA LN	-78.43585856	33.88924596	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	GATHA LN	-78.43652133	33.88908002	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	GOLDSBORO ST	-78.4165576	33.89543647	Town	per mile	$1,800,000	Recent M&N Project	0	1	1	0	0	2	2	2	2	2
Road	GOLDSBORO ST	-78.41575378	33.89320554	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	GRAND VIEW DR	-78.39273534	33.89953231	Private	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	GRAND VIEW DR	-78.39044272	33.90057314	Private	per mile	$1,800,000	Recent M&N Project	0	1	1	0	0	2	2	2	2	2
Road	GREENSBORO ST	-78.4051955	33.89565734	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	HALE SWAMP RD SW	-78.42793742	33.91473108	State	per mile	$1,800,000	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Road	HALE SWAMP RD SW	-78.42713639	33.91270084	State	per mile	$1,800,000	Recent M&N Project	0	0	0	1	0	1	1	2	2	1
Road	HALE SWAMP RD SW	-78.42732885	33.91317616	State	per mile	$1,800,000	Recent M&N Project	0	0	0	1	0	1	1	2	2	1
Road	HALE SWAMP RD SW	-78.42751163	33.91363681	State	per mile	$1,800,000	Recent M&N Project	0	0	0	1	0	1	1	2	2	1
Road	HALE SWAMP RD SW	-78.42772634	33.91418488	State	per mile	$1,800,000	Recent M&N Project	0	0	0	1	0	1	1	2	2	1
Road	HALIFAX ST	-78.43483661	33.88838672	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	HARBOR DR	-78.46636887	33.88124128	Private	per mile	$1,800,000	Recent M&N Project	0	1	1	0	0	2	2	2	2	2
Road	HARBOR DR	-78.46615366	33.88081206	Private	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	HARBOR DR	-78.46599573	33.88049764	Private	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	HERON CT	-78.46897733	33.87997782	Private	per mile	$1,800,000	Recent M&N Project	0	1	1	0	0	2	2	2	2	2
Road	HIGH POINT ST	-78.40167024	33.89687828	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	HIGH POINT ST	-78.40157032	33.89624179	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	INDIGO CT	-78.46697598	33.88052831	Private	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	ISLE PLAZA	-78.45043387	33.88685768	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	ISLE PLAZA	-78.44987367	33.88533423	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	JAN ST	-78.46302197	33.88095203	Private	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	JENRETTE RD SW	-78.46379763	33.91934681	State	per mile	$1,800,000	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Road	JUNIPER CT	-78.46741837	33.88038132	Private	per mile	$1,800,000	Recent M&N Project	0	1	1	0	0	2	2	2	2	2
Road	LAGRANGE ST	-78.42442532	33.89102135	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	LAURINBURG ST	-78.43563845	33.89232879	Town	per mile	$1,800,000	Recent M&N Project	0	1	1	0	0	2	2	2	2	2
Road	LAURINBURG ST	-78.43450475	33.88921725	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1

ASSET_TYPE	ASSET_NAME	LOCATION_X	LOCATION_Y	OWNERSHIP	COST_UNIT	EST_VALUE	COST_SOURCE	EXP_SLR	EXP_FP	EXP_HT	EXP_MS	EXP_IHA	EXPSUM	Final Exposure	SENS	ADCAP	Vulnerability Score
Road	LEE ST	-78.41541231	33.89572766	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	LELAND ST	-78.41921669	33.89233557	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	LELAND ST	-78.42004913	33.89458021	Town	per mile	$1,800,000	Recent M&N Project	0	1	1	0	0	2	2	2	2	2
Road	LUMBERTON ST	-78.39976421	33.89643199	Town	per mile	$1,800,000	Recent M&N Project	1	1	1	0	0	3	3	2	2	3
Road	MONROE ST	-78.43434585	33.89225806	Town	per mile	$1,800,000	Recent M&N Project	0	1	1	0	0	2	2	2	2	2
Road	MONROE ST	-78.43311074	33.88882699	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	MOORE ST	-78.41888512	33.89486321	Town	per mile	$1,800,000	Recent M&N Project	0	1	1	0	0	2	2	2	2	2
Road	MT OLIVE ST	-78.41749324	33.89276806	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	MYRTLE CT	-78.46653125	33.88068847	Private	per mile	$1,800,000	Recent M&N Project	0	1	1	0	0	2	2	2	2	2
Road	NEWPORT ST	-78.42701555	33.89292602	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	NEWPORT ST	-78.42616485	33.89058923	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	OAK RIDGE ST	-78.42095807	33.89189623	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	OCEAN ISLE BEACH RD SW	-78.44385674	33.9088924	State	per mile	$1,800,000	Recent M&N Project	0	0	0	1	0	1	1	2	2	1
Road	OCEAN ISLE BEACH RD SW	-78.44309229	33.9068179	State	per mile	$1,800,000	Recent M&N Project	0	0	0	1	0	1	1	2	2	1
Road	OCEAN ISLE BEACH RD SW	-78.44570294	33.91807471	State	per mile	$1,800,000	Recent M&N Project	0	0	0	1	0	1	1	2	2	1
Road	OCEAN ISLE BEACH RD SW	-78.44498888	33.91423466	State	per mile	$1,800,000	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Road	OCEAN ISLE BEACH RD SW	-78.44141089	33.90436646	State	per mile	$1,800,000	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Road	OCEAN ISLE BEACH RD SW	-78.44189202	33.90506432	State	per mile	$1,800,000	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Road	OCEAN ISLE BEACH RD SW	-78.44951683	33.94015334	State	per mile	$1,800,000	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Road	OCEAN ISLE BEACH RD SW	-78.44674828	33.93490331	State	per mile	$1,800,000	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Road	OCEAN ISLE BEACH RD SW	-78.44643553	33.92419775	State	per mile	$1,800,000	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Road	OCEAN ISLE BEACH RD SW	-78.44423989	33.91069084	State	per mile	$1,800,000	Recent M&N Project	0	0	0	1	0	1	1	2	2	1
Road	OCEAN ISLE WEST BLVD	-78.47369847	33.8772897	Private	per mile	$1,800,000	Recent M&N Project	1	1	1	0	1	4	3	2	2	3
Road	OCEAN ISLE WEST BLVD	-78.46909914	33.87922581	Private	per mile	$1,800,000	Recent M&N Project	0	1	0	0	1	2	2	2	2	2
Road	OCEAN ISLE WEST BLVD	-78.46700059	33.87996189	Private	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	OCEAN ISLE WEST BLVD	-78.46497851	33.8806473	Private	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	OLD CAUSEWAY DR	-78.43886741	33.89309526	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	OLD CAUSEWAY DR	-78.43893014	33.89390745	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	OLD CAUSEWAY DR	-78.44015498	33.89929225	State	per mile	$1,800,000	Recent M&N Project	0	0	0	1	0	1	1	2	2	1
Road	OLD GEORGETOWN RD	-78.45641424	33.92615528	State	per mile	$1,800,000	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Road	OLD GEORGETOWN RD	-78.44778798	33.92855738	State	per mile	$1,800,000	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Road	OLD GEORGETOWN RD SW	-78.46744231	33.92237978	State	per mile	$1,800,000	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Road	OLD GEORGETOWN RD SW	-78.46485196	33.92317022	State	per mile	$1,800,000	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Road	OLD GEORGETOWN RD SW	-78.46806947	33.92084723	State	per mile	$1,800,000	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Road	OLD MARINA DR	-78.39291529	33.90151467	Town	per mile	$1,800,000	Recent M&N Project	0	1	1	0	0	2	2	2	2	2
Road	OLEANDER LN	-78.46547938	33.88088368	Private	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	OXFORD ST	-78.44003416	33.88707951	Town	per mile	$1,800,000	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Road	PALM CT	-78.46415744	33.88229834	Private	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	PELICAN CT	-78.46832848	33.88060574	Private	per mile	$1,800,000	Recent M&N Project	0	1	1	0	0	2	2	2	2	2
Road	PENDER ST	-78.42120271	33.89429535	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	PRIVATE DR	-78.44724208	33.88537673	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	PRIVATE DR	-78.44712197	33.8850538	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	PRIVATE DR	-78.44722024	33.88559219	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	RAEFORD ST	-78.42351502	33.8937184	Town	per mile	$1,800,000	Recent M&N Project	0	1	1	0	0	2	2	2	2	2
Road	RAEFORD ST	-78.42269499	33.89145925	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	RALEIGH ST	-78.40718833	33.8961395	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	RALEIGH ST	-78.40711477	33.89589139	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	RALEIGH ST	-78.40747207	33.89627472	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	RALEIGH ST	-78.40699206	33.89534711	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	RICHMOND ST	-78.42937322	33.89247718	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	RICK ST SW	-78.43778916	33.90212638	Private	per mile	$1,800,000	Recent M&N Project	0	0	0	1	0	1	1	2	2	1
Road	RICK ST SW	-78.44020603	33.90177966	State	per mile	$1,800,000	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Road	RICK ST SW	-78.43932097	33.90190401	State	per mile	$1,800,000	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Road	RICK ST SW	-78.43856351	33.90201855	State	per mile	$1,800,000	Recent M&N Project	0	0	0	1	0	1	1	2	2	1
Road	SAND HARBOR CIR	-78.43608534	33.90232641	Private	per mile	$1,800,000	Recent M&N Project	0	0	0	1	0	1	1	2	2	1
Road	SANDPIPER CT	-78.46786501	33.88121704	Private	per mile	$1,800,000	Recent M&N Project	0	1	1	0	0	2	2	2	2	2
Road	SANDPIPER DR	-78.46433456	33.88380208	Private	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	SANDPIPER DR	-78.46511507	33.88357613	Private	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	SANDPIPER DR	-78.46612927	33.88285012	Private	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	SANFORD ST	-78.41056948	33.89451813	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	SCHOONER DR	-78.46762872	33.88104309	Private	per mile	$1,800,000	Recent M&N Project	0	1	1	0	0	2	2	2	2	2
Road	SCHOONER DR	-78.46800284	33.88064631	Private	per mile	$1,800,000	Recent M&N Project	0	1	1	0	0	2	2	2	2	2
Road	SCHOONER DR	-78.46634807	33.8821637	Private	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	SCHOONER DR	-78.46656302	33.88194757	Private	per mile	$1,800,000	Recent M&N Project	0	1	1	0	0	2	2	2	2	2
Road	SCHOONER DR	-78.46719498	33.8813737	Private	per mile	$1,800,000	Recent M&N Project	0	1	1	0	0	2	2	2	2	2
Road	SCHOONER DR	-78.46685602	33.88165298	Private	per mile	$1,800,000	Recent M&N Project	0	1	1	0	0	2	2	2	2	2
Road	SCHOONER DR	-78.46830786	33.88036463	Private	per mile	$1,800,000	Recent M&N Project	0	1	1	0	0	2	2	2	2	2
Road	SCHOONER DR	-78.46834754	33.88010796	Private	per mile	$1,800,000	Recent M&N Project	0	1	1	0	0	2	2	2	2	2
Road	SCHOONER DR	-78.4681949	33.87980168	Private	per mile	$1,800,000	Recent M&N Project	0	1	1	0	0	2	2	2	2	2
Road	SCOTLAND ST	-78.42819624	33.89271016	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	SEA TURTLE PATH	-78.44576113	33.88658839	Town	per mile	$1,800,000	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Road	SEA TURTLE PATH	-78.44542824	33.88571577	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	SEABROOK RD	-78.46682725	33.88075907	Private	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	SEABROOK RD	-78.46642	33.88090397	Private	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	SEABROOK RD	-78.46726443	33.88059983	Private	per mile	$1,800,000	Recent M&N Project	0	1	1	0	0	2	2	2	2	2
Road	SEABROOK RD	-78.46790852	33.8802793	Private	per mile	$1,800,000	Recent M&N Project	0	1	1	0	0	2	2	2	2	2
Road	SEAGULL CT	-78.46655302	33.88219266	Private	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	SHALLOTEE BLVD	-78.39414456	33.89918068	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	SHALLOTEE BLVD	-78.39413262	33.89990195	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	SHALLOTEE BLVD	-78.39412093	33.90062501	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	SHALLOTEE BLVD	-78.39414318	33.89846184	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	SHALLOTEE BLVD	-78.39413876	33.89789609	Town	per mile	$1,800,000	Recent M&N Project	1	1	1	0	0	3	3	2	2	3
Road	SHALLOTTE BLVD	-78.39409685	33.90209836	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	SHELBY ST	-78.44376348	33.8868807	Town	per mile	$1,800,000	Recent M&N Project	0	0	0	0	0	0	0	2	2	0

ASSET_TYPE	ASSET_NAME	LOCATION_X	LOCATION_Y	OWNERSHIP	COST_UNIT	EST_VALUE	COST_SOURCE	EXP_SLR	EXP_FP	EXP_HT	EXP_MS	EXP_IHA	EXPSUM	Final Exposure	SENS	ADCAP	Vulnerability Score
Road	SHELBY ST	-78.44350363	33.88619934	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	SHELL CT	-78.46393238	33.88163506	Private	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	SKIMMER CT	-78.46935191	33.87969291	Private	per mile	$1,800,000	Recent M&N Project	0	1	1	0	1	3	3	2	2	3
Road	SOUTHPORT ST	-78.41402213	33.89364308	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	STARBOARD ST	-78.45269039	33.88386575	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	TARBORO ST	-78.43137565	33.88927373	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	THE PENINSULA	-78.43597929	33.88995613	Private	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	TROY ST	-78.4420235	33.88732113	Town	per mile	$1,800,000	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Road	TROY ST	-78.44176796	33.8866409	Town	per mile	$1,800,000	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Road	UNION ST	-78.42466631	33.89343842	Town	per mile	$1,800,000	Recent M&N Project	0	1	1	0	0	2	2	2	2	2
Road	VIA DOLOROSA	-78.46185673	33.88270815	Private	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	VIA DOLOROSA	-78.46150501	33.88182124	Private	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	VIA MARSH LAGOON DR	-78.46370037	33.88389613	Private	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	VIA OLD SOUND BLVD	-78.46228222	33.8839487	Private	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	VIA OLD SOUND BLVD	-78.46080042	33.8830014	Private	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	VIA OLD SOUND BLVD	-78.46302507	33.88257724	Private	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	VIA SOUNDSIDE DR	-78.46063207	33.88408709	Private	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	W FIRST ST	-78.45751815	33.8821441	Private	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	W FIRST ST	-78.45833273	33.88189496	Private	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	W FIRST ST	-78.46102447	33.88108136	Private	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	W FIRST ST	-78.45146629	33.88380513	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	W FIRST ST	-78.44993217	33.88419673	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	W FIRST ST	-78.44906805	33.88441741	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	W FIRST ST	-78.44785452	33.88472499	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	W FIRST ST	-78.43904832	33.88695413	State	per mile	$1,800,000	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Road	W FIRST ST	-78.43732042	33.88739158	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	W FIRST ST	-78.44619065	33.8851452	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	W FIRST ST	-78.44433966	33.88560898	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	W FIRST ST	-78.44250796	33.88607988	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	W FIRST ST	-78.45146629	33.88380513	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	W FIRST ST	-78.44993217	33.88419673	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	W FIRST ST	-78.44906805	33.88441741	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	W FIRST ST	-78.45495557	33.88291535	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	W FIRST ST	-78.45577129	33.88267935	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	W FIRST ST	-78.45668249	33.88240183	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	W FIRST ST	-78.45366947	33.88324134	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	W FIRST ST	-78.44078075	33.88651815	State	per mile	$1,800,000	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Road	W FIRST ST	-78.43904832	33.88695413	State	per mile	$1,800,000	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Road	W FIRST ST EXT	-78.45918601	33.88201998	Private	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	W FOURTH ST	-78.44790781	33.88691321	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	W FOURTH ST	-78.45067988	33.88625186	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	W FOURTH ST	-78.4498186	33.88647172	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	W SECOND ST	-78.44459137	33.88630308	Town	per mile	$1,800,000	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Road	W SECOND ST	-78.44276496	33.88676087	Town	per mile	$1,800,000	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Road	W SECOND ST	-78.44102729	33.88720273	Town	per mile	$1,800,000	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Road	W SECOND ST	-78.45392248	33.88392546	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	W SECOND ST	-78.45226527	33.88434977	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	W SECOND ST	-78.45116667	33.88463458	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	W SECOND ST	-78.43759524	33.88805926	Town	per mile	$1,800,000	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Road	W SECOND ST	-78.46258078	33.88137255	Private	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	W SECOND ST	-78.45825039	33.88268433	Private	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	W SECOND ST	-78.46386403	33.88098393	Private	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	W SECOND ST	-78.43929162	33.88763506	Private	per mile	$1,800,000	Recent M&N Project	0	0	0	1	0	1	1	2	2	1
Road	W THIRD ST	-78.44609132	33.88720897	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	W THIRD ST	-78.44480556	33.88701821	Town	per mile	$1,800,000	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Road	W THIRD ST	-78.44301753	33.88744063	Town	per mile	$1,800,000	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Road	W THIRD ST	-78.44128429	33.88788263	Town	per mile	$1,800,000	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Road	W THIRD ST	-78.43874171	33.88851977	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	WATTS RD SW	-78.45394389	33.93720105	State	per mile	$1,800,000	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Road	WILMINGTON ST	-78.43201321	33.89277961	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	WINNABOW ST	-78.4088301	33.89496077	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	WINSTON SALEM ST	-78.40354965	33.89647188	Town	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road	YARBOROUGH ST SW	-78.44685367	33.91919532	Town	per mile	$1,800,000	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Road/Evacuation Route	BEACH DR SW	-78.44352962	33.90276902	State	per mile	$1,800,000	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Road/Evacuation Route	BEACH DR SW	-78.4421299	33.90357463	State	per mile	$1,800,000	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Road/Evacuation Route	BEACH DR SW	-78.44637949	33.90120457	State	per mile	$1,800,000	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Road/Evacuation Route	BEACH DR SW	-78.44466712	33.90211034	State	per mile	$1,800,000	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Road/Evacuation Route	BEACH DR SW	-78.4512342	33.90072976	State	per mile	$1,800,000	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Road/Evacuation Route	BEACH DR SW	-78.44866436	33.90091066	State	per mile	$1,800,000	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Road/Evacuation Route	CAUSEWAY DR	-78.44095088	33.90290625	State	per mile	$1,800,000	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Road/Evacuation Route	CAUSEWAY DR	-78.44054449	33.90095998	State	per mile	$1,800,000	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Road/Evacuation Route	CAUSEWAY DR	-78.43691271	33.88860486	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road/Evacuation Route	CAUSEWAY DR	-78.43662123	33.8879349	State	per mile	$1,800,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Road/Evacuation Route	CAUSEWAY DR (BRIDGE)	-78.4394181	33.8944596	State	Rehabilitation Costs	$2,800,000	NCDOT contract Freyssinet, Inc.	1	1	1	0	0	3	3	3	1	5
Water/Sewer Infrastructure	AS-BUILT Valve	-78.46351647	33.88095746	Town	Each	$1,500	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	AS-BUILT Valve	-78.46351268	33.88094779	Town	Each	$1,500	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	AS-BUILT Valve	-78.46820074	33.88001188	Town	Each	$1,500	NCDOT Bid Tabs	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	AS-BUILT Valve	-78.46627847	33.8809879	Town	Each	$1,500	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	AS-BUILT Valve	-78.46477228	33.88097724	Town	Each	$1,500	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	AS-BUILT Valve	-78.46560168	33.88319161	Town	Each	$1,500	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	AS-BUILT Valve	-78.46634742	33.88202951	Town	Each	$1,500	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	AS-BUILT Valve	-78.46701229	33.88069015	Town	Each	$1,500	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Blow-off Valve	-78.43549721	33.89536935	Town	Each	$2,200	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Blow-off Valve	-78.43549683	33.89966482	Town	Each	$2,200	NCDOT Bid Tabs	0	0	0	1	0	1	1	3	2	2

ASSET_TYPE	ASSET_NAME	LOCATION_X	LOCATION_Y	OWNERSHIP	COST_UNIT	EST_VALUE	COST_SOURCE	EXP_SLR	EXP_FP	EXP_HT	EXP_MS	EXP_IHA	EXPSUM	Final Exposure	SENS	ADCAP	Vulnerability Score
Water/Sewer Infrastructure	Blow-off Valve	-78.44664275	33.92604384	Town	Each	$2,200	NCDOT Bid Tabs	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Blow-off Valve	-78.43406657	33.89574546	Town	Each	$2,200	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Blow-off Valve	-78.44960363	33.88732883	Town	Each	$2,200	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Blow-off Valve	-78.39987973	33.89675908	Town	Each	$2,200	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Blow-off Valve	-78.42411108	33.89549955	Town	Each	$2,200	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Blow-off Valve	-78.42557862	33.89610607	Town	Each	$2,200	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Blow-off Valve	-78.44194338	33.88698118	Town	Each	$2,200	NCDOT Bid Tabs	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Blow-off Valve	-78.46425154	33.88376061	Town	Each	$2,200	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Bypass Valve	-78.43475115	33.88884691	Town	Each	$1,300	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Bypass Valve	-78.43471119	33.8887317	Town	Each	$1,300	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Catch Basin	-78.43625344	33.89064412	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.45337725	33.88453748	Town	Each	$2,800	NCDOT Bid Tabs	0	1	1	0	0	2	2	2	2	2
Water/Sewer Infrastructure	Catch Basin	-78.45079626	33.88626969	Town	Each	$2,800	NCDOT Bid Tabs	1	1	1	0	0	3	3	2	2	3
Water/Sewer Infrastructure	Catch Basin	-78.4507953	33.88626659	Town	Each	$2,800	NCDOT Bid Tabs	1	1	1	0	0	3	3	2	2	3
Water/Sewer Infrastructure	Catch Basin	-78.39592985	33.89799483	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.39565323	33.89802083	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.39516689	33.89808586	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.39479239	33.89812117	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.39478922	33.89813362	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.39440177	33.89816251	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.3962256	33.89780538	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.3962041	33.89762937	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.39618023	33.89743393	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.45315368	33.88404258	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.45081539	33.88464735	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.45096441	33.88467726	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.45066771	33.88477412	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.45088578	33.8854518	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.45113442	33.88613446	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.4505264	33.88732577	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.44952501	33.88728637	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.43777304	33.88866221	Town	Each	$2,800	NCDOT Bid Tabs	0	0	0	0	0	0	0	2	2	0
Water/Sewer Infrastructure	Catch Basin	-78.43789884	33.88877977	Town	Each	$2,800	NCDOT Bid Tabs	0	0	0	0	0	0	0	2	2	0
Water/Sewer Infrastructure	Catch Basin	-78.43768649	33.88883748	Town	Each	$2,800	NCDOT Bid Tabs	0	0	0	0	0	0	0	2	2	0
Water/Sewer Infrastructure	Catch Basin	-78.43789093	33.88920243	Town	Each	$2,800	NCDOT Bid Tabs	0	0	0	0	0	0	0	2	2	0
Water/Sewer Infrastructure	Catch Basin	-78.43802226	33.88916542	Town	Each	$2,800	NCDOT Bid Tabs	0	0	0	0	0	0	0	2	2	0
Water/Sewer Infrastructure	Catch Basin	-78.44614826	33.88510243	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.44645526	33.88501604	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.44691507	33.88489257	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.44711359	33.88484757	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.44772112	33.88468214	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.44821167	33.88456485	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.4496972	33.88418987	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.45024143	33.88404669	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.45179885	33.88364268	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.45203412	33.88359271	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.45224616	33.88353553	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.45244786	33.88348932	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.45324912	33.88336645	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.4548869	33.88285866	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.45545763	33.88269795	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.45615543	33.88248603	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.45677825	33.88228282	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.45505588	33.88301892	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.45510365	33.88316206	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.43311515	33.88910658	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.43318792	33.88908647	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.42964484	33.88998837	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.42973495	33.88996367	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.42607907	33.89034705	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.42599822	33.89036564	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.42617386	33.89086687	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.42626536	33.89084814	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.4227989	33.89172358	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.42271699	33.89175275	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.42261419	33.89122244	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.42251934	33.89124351	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.41914302	33.89212951	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.41922586	33.8923462	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.41578116	33.89328886	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.41573589	33.89311937	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.41573532	33.89312014	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.41568578	33.8932519	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.40154609	33.89605061	Town	Each	$2,800	NCDOT Bid Tabs	0	0	0	0	0	0	0	2	2	0
Water/Sewer Infrastructure	Catch Basin	-78.40513198	33.8953004	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.4116106	33.89388961	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.41242586	33.89368816	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.41570009	33.89284457	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.41616795	33.8927225	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.41654273	33.89263801	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.41837177	33.89217686	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.41900092	33.89201565	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.41993778	33.89176658	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.4199352	33.89186402	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1

ASSET_TYPE	ASSET_NAME	LOCATION_X	LOCATION_Y	OWNERSHIP	COST_UNIT	EST_VALUE	COST_SOURCE	EXP_SLR	EXP_FP	EXP_HT	EXP_MS	EXP_IHA	EXPSUM	Final Exposure	SENS	ADCAP	Vulnerability Score
Water/Sewer Infrastructure	Catch Basin	-78.42182001	33.89128779	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.42231858	33.89116237	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.42294371	33.89101783	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.42357117	33.8908655	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.42389565	33.89077845	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.42168891	33.89142653	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.42421328	33.89069082	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.42487655	33.89051908	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.42547204	33.89036105	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.42524972	33.89052075	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.42611002	33.89020541	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.42674025	33.89003965	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.42729886	33.88989279	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.42795759	33.88972488	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.42875963	33.88952242	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.42937012	33.88936702	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.43000457	33.88920645	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.43065	33.88904035	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.43066313	33.88911801	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.43110756	33.88891666	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.43136758	33.88886226	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.43206301	33.88868627	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.43269884	33.88852582	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.43337761	33.88835401	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.43394709	33.88820819	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.43451409	33.88806016	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.43948227	33.88679065	Town	Each	$2,800	NCDOT Bid Tabs	0	0	0	0	0	0	0	2	2	0
Water/Sewer Infrastructure	Catch Basin	-78.44007113	33.88664484	Town	Each	$2,800	NCDOT Bid Tabs	0	0	0	0	0	0	0	2	2	0
Water/Sewer Infrastructure	Catch Basin	-78.44074617	33.88647203	Town	Each	$2,800	NCDOT Bid Tabs	0	0	0	0	0	0	0	2	2	0
Water/Sewer Infrastructure	Catch Basin	-78.44168227	33.88623545	Town	Each	$2,800	NCDOT Bid Tabs	0	0	0	0	0	0	0	2	2	0
Water/Sewer Infrastructure	Catch Basin	-78.44270279	33.88597601	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.44325386	33.8858385	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.44371592	33.88571498	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.42197128	33.89243208	Town	Each	$2,800	NCDOT Bid Tabs	1	1	1	0	0	3	3	2	2	3
Water/Sewer Infrastructure	Catch Basin	-78.45337725	33.88453748	Town	Each	$2,800	NCDOT Bid Tabs	0	1	1	0	0	2	2	2	2	2
Water/Sewer Infrastructure	Catch Basin	-78.45079626	33.88626969	Town	Each	$2,800	NCDOT Bid Tabs	1	1	1	0	0	3	3	2	2	3
Water/Sewer Infrastructure	Catch Basin	-78.4507953	33.88626659	Town	Each	$2,800	NCDOT Bid Tabs	1	1	1	0	0	3	3	2	2	3
Water/Sewer Infrastructure	Catch Basin	-78.43640937	33.88777952	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.43689529	33.88881818	Town	Each	$2,800	NCDOT Bid Tabs	0	0	0	0	0	0	0	2	2	0
Water/Sewer Infrastructure	Catch Basin	-78.43754356	33.89017552	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.43831916	33.89169496	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.43860676	33.89230994	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.43900387	33.89328167	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	1	0	2	2	2	2	2
Water/Sewer Infrastructure	Catch Basin	-78.43901343	33.89329775	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	1	0	2	2	2	2	2
Water/Sewer Infrastructure	Catch Basin	-78.44044658	33.89907127	Town	Each	$2,800	NCDOT Bid Tabs	0	0	0	0	0	0	0	2	2	0
Water/Sewer Infrastructure	Catch Basin	-78.44052809	33.89980544	Town	Each	$2,800	NCDOT Bid Tabs	0	0	0	0	0	0	0	2	2	0
Water/Sewer Infrastructure	Catch Basin	-78.44066947	33.90194268	Town	Each	$2,800	NCDOT Bid Tabs	0	0	0	0	0	0	0	2	2	0
Water/Sewer Infrastructure	Catch Basin	-78.44071229	33.90205958	Town	Each	$2,800	NCDOT Bid Tabs	0	0	0	0	0	0	0	2	2	0
Water/Sewer Infrastructure	Catch Basin	-78.44090031	33.90292968	Town	Each	$2,800	NCDOT Bid Tabs	0	0	0	0	0	0	0	2	2	0
Water/Sewer Infrastructure	Catch Basin	-78.44108155	33.90303436	Town	Each	$2,800	NCDOT Bid Tabs	0	0	0	0	0	0	0	2	2	0
Water/Sewer Infrastructure	Catch Basin	-78.44100472	33.90290215	Town	Each	$2,800	NCDOT Bid Tabs	0	0	0	0	0	0	0	2	2	0
Water/Sewer Infrastructure	Catch Basin	-78.44077646	33.90190581	Town	Each	$2,800	NCDOT Bid Tabs	0	0	0	0	0	0	0	2	2	0
Water/Sewer Infrastructure	Catch Basin	-78.44061799	33.90117226	Town	Each	$2,800	NCDOT Bid Tabs	0	0	0	0	0	0	0	2	2	0
Water/Sewer Infrastructure	Catch Basin	-78.44060093	33.9007495	Town	Each	$2,800	NCDOT Bid Tabs	0	0	0	0	0	0	0	2	2	0
Water/Sewer Infrastructure	Catch Basin	-78.44061356	33.90041443	Town	Each	$2,800	NCDOT Bid Tabs	0	0	0	0	0	0	0	2	2	0
Water/Sewer Infrastructure	Catch Basin	-78.44048382	33.89874535	Town	Each	$2,800	NCDOT Bid Tabs	0	0	0	0	0	0	0	2	2	0
Water/Sewer Infrastructure	Catch Basin	-78.4382704	33.89133787	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.43804022	33.89090248	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.43766293	33.89014201	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.4372212	33.88922479	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.43701355	33.88879818	Town	Each	$2,800	NCDOT Bid Tabs	0	0	0	0	0	0	0	2	2	0
Water/Sewer Infrastructure	Catch Basin	-78.43670363	33.88813049	Town	Each	$2,800	NCDOT Bid Tabs	0	0	0	0	0	0	0	2	2	0
Water/Sewer Infrastructure	Catch Basin	-78.43652643	33.88775218	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.45342731	33.88323157	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.42822711	33.89304623	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.4344495	33.88891949	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.43443112	33.88899079	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.43437919	33.88909816	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.43535749	33.89146137	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.43549836	33.89211904	Town	Each	$2,800	NCDOT Bid Tabs	0	1	1	0	0	2	2	2	2	2
Water/Sewer Infrastructure	Catch Basin	-78.43555057	33.89226093	Town	Each	$2,800	NCDOT Bid Tabs	0	1	1	0	0	2	2	2	2	2
Water/Sewer Infrastructure	Catch Basin	-78.43560021	33.89239357	Town	Each	$2,800	NCDOT Bid Tabs	0	1	1	0	0	2	2	2	2	2
Water/Sewer Infrastructure	Catch Basin	-78.43563805	33.89251436	Town	Each	$2,800	NCDOT Bid Tabs	0	1	1	0	0	2	2	2	2	2
Water/Sewer Infrastructure	Catch Basin	-78.43577985	33.89292837	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.43583685	33.89305119	Town	Each	$2,800	NCDOT Bid Tabs	0	1	1	0	0	2	2	2	2	2
Water/Sewer Infrastructure	Catch Basin	-78.4358903	33.89318009	Town	Each	$2,800	NCDOT Bid Tabs	0	1	1	0	0	2	2	2	2	2
Water/Sewer Infrastructure	Catch Basin	-78.43643	33.89475452	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.43343564	33.88948477	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.43503208	33.89438103	Town	Each	$2,800	NCDOT Bid Tabs	0	1	1	0	0	2	2	2	2	2
Water/Sewer Infrastructure	Catch Basin	-78.43513891	33.89466661	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.43533151	33.8951928	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.43536617	33.89529627	Town	Each	$2,800	NCDOT Bid Tabs	0	1	1	0	0	2	2	2	2	2
Water/Sewer Infrastructure	Catch Basin	-78.4355327	33.89535984	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.43549762	33.89526844	Town	Each	$2,800	NCDOT Bid Tabs	0	1	1	0	0	2	2	2	2	2

ASSET_TYPE	ASSET_NAME	LOCATION_X	LOCATION_Y	OWNERSHIP	COST_UNIT	EST_VALUE	COST_SOURCE	EXP_SLR	EXP_FP	EXP_HT	EXP_MS	EXP_IHA	EXPSUM	Final Exposure	SENS	ADCAP	Vulnerability Score
Water/Sewer Infrastructure	Catch Basin	-78.43545186	33.89513934	Town	Each	$2,800	NCDOT Bid Tabs	0	1	1	0	0	2	2	2	2	2
Water/Sewer Infrastructure	Catch Basin	-78.43541672	33.89500884	Town	Each	$2,800	NCDOT Bid Tabs	0	1	1	0	0	2	2	2	2	2
Water/Sewer Infrastructure	Catch Basin	-78.43375282	33.89398231	Town	Each	$2,800	NCDOT Bid Tabs	0	1	1	0	0	2	2	2	2	2
Water/Sewer Infrastructure	Catch Basin	-78.43358698	33.89389268	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.43412377	33.89533406	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.43418536	33.89550023	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.42982329	33.88998985	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.43325828	33.8891094	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.43101758	33.88997087	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.43114925	33.89036731	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.43124588	33.89061446	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.43173916	33.89178646	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.43158678	33.89182681	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.43196074	33.89258474	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.4318509	33.89261051	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.43192288	33.89276093	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.43181857	33.89249296	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.43172536	33.89219483	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.43200446	33.89299863	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.43212988	33.89299045	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.43219758	33.89353514	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.4321471	33.89341144	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.43209919	33.89327018	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.43240707	33.89370192	Town	Each	$2,800	NCDOT Bid Tabs	0	1	1	0	0	2	2	2	2	2
Water/Sewer Infrastructure	Catch Basin	-78.43252517	33.89444434	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.43258182	33.89458948	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.43262706	33.89471533	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.43267444	33.89484377	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.43272675	33.89499126	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.43283048	33.8952605	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.43291272	33.89550134	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.43296388	33.89564592	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.43301235	33.89577228	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.43079386	33.89277387	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.43104739	33.89356508	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.4311231	33.89405192	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.4311696	33.89418951	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.43120867	33.89429926	Town	Each	$2,800	NCDOT Bid Tabs	0	1	1	0	0	2	2	2	2	2
Water/Sewer Infrastructure	Catch Basin	-78.43128083	33.8944385	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.4313335	33.89457864	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.43138275	33.89472327	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.43143472	33.89485039	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.43149793	33.8951202	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.43151181	33.89505684	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.43147209	33.89494853	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.4311556	33.89530913	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.43113805	33.89524671	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.43097258	33.89528009	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.42850946	33.89574104	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.4284854	33.89564077	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.42818754	33.89568683	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.42800795	33.89571165	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.42736817	33.89581833	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.42722682	33.89582023	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.42670306	33.8959197	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.42653318	33.89594951	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.41810014	33.89639048	Town	Each	$2,800	NCDOT Bid Tabs	0	1	1	0	0	2	2	2	2	2
Water/Sewer Infrastructure	Catch Basin	-78.41813647	33.8964931	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.41823441	33.89676878	Town	Each	$2,800	NCDOT Bid Tabs	0	1	1	0	0	2	2	2	2	2
Water/Sewer Infrastructure	Catch Basin	-78.41830442	33.89696542	Town	Each	$2,800	NCDOT Bid Tabs	0	1	1	0	0	2	2	2	2	2
Water/Sewer Infrastructure	Catch Basin	-78.41841482	33.89708557	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.4207219	33.89639829	Town	Each	$2,800	NCDOT Bid Tabs	0	1	1	0	0	2	2	2	2	2
Water/Sewer Infrastructure	Catch Basin	-78.42279306	33.89516717	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.42315442	33.89291079	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.42325531	33.89318764	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.42333958	33.89341668	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.42529258	33.89533556	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.42798189	33.89208681	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.42885645	33.89449171	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.42890711	33.89462872	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.42915378	33.89181662	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.42997127	33.89430483	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.40168714	33.89699285	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.40161772	33.89699802	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.39809086	33.89738116	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.39801959	33.89738888	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.3962257	33.89799798	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.39622051	33.89797562	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.39594565	33.8980042	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.39567878	33.89803428	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.39518346	33.89808567	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.39480868	33.89812354	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.39442928	33.89816283	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.39472219	33.89878826	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1

ASSET_TYPE	ASSET_NAME	LOCATION_X	LOCATION_Y	OWNERSHIP	COST_UNIT	EST_VALUE	COST_SOURCE	EXP_SLR	EXP_FP	EXP_HT	EXP_MS	EXP_IHA	EXPSUM	Final Exposure	SENS	ADCAP	Vulnerability Score
Water/Sewer Infrastructure	Catch Basin	-78.39472886	33.89884416	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.39527694	33.8987876	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.39526814	33.89873035	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.3957301	33.89868209	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.3957423	33.89873858	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.39627777	33.89862503	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.39628778	33.89868097	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.39625114	33.89934573	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.39625828	33.89940256	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.39560263	33.89946897	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.39559529	33.89941655	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.3949541	33.89953726	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.39494392	33.89948258	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.39709437	33.89858499	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.39764662	33.89828145	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.3982383	33.89821201	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.40880018	33.89507215	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.40886498	33.89525564	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.40893895	33.89523634	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.40886471	33.89504928	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.41212651	33.89387886	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.4122483	33.89420334	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.41231249	33.89439244	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.41240129	33.89435461	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.41233886	33.89419373	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.41221856	33.89385062	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.44341699	33.88592672	Town	Each	$2,800	NCDOT Bid Tabs	0	0	0	0	0	0	0	2	2	0
Water/Sewer Infrastructure	Catch Basin	-78.44333487	33.88596154	Town	Each	$2,800	NCDOT Bid Tabs	0	0	0	0	0	0	0	2	2	0
Water/Sewer Infrastructure	Catch Basin	-78.44528697	33.88544893	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.44536512	33.88542648	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.45021696	33.88611964	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.44991181	33.88528106	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.44956229	33.88477668	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.44969993	33.88471479	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin	-78.45319836	33.88411893	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 118	-78.43651841	33.89500479	Town	Each	$2,800	NCDOT Bid Tabs	0	1	1	0	0	2	2	2	2	2
Water/Sewer Infrastructure	Catch Basin 120	-78.43601213	33.89328156	Town	Each	$2,800	NCDOT Bid Tabs	0	1	1	0	0	2	2	2	2	2
Water/Sewer Infrastructure	Catch Basin 121	-78.43597269	33.89316457	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 122	-78.43587607	33.89289038	Town	Each	$2,800	NCDOT Bid Tabs	0	1	1	0	0	2	2	2	2	2
Water/Sewer Infrastructure	Catch Basin 123	-78.43582303	33.89275029	Town	Each	$2,800	NCDOT Bid Tabs	0	1	1	0	0	2	2	2	2	2
Water/Sewer Infrastructure	Catch Basin 124	-78.43578132	33.89263786	Town	Each	$2,800	NCDOT Bid Tabs	0	1	1	0	0	2	2	2	2	2
Water/Sewer Infrastructure	Catch Basin 125	-78.43571991	33.89249096	Town	Each	$2,800	NCDOT Bid Tabs	0	1	1	0	0	2	2	2	2	2
Water/Sewer Infrastructure	Catch Basin 126	-78.43568528	33.89237894	Town	Each	$2,800	NCDOT Bid Tabs	0	1	1	0	0	2	2	2	2	2
Water/Sewer Infrastructure	Catch Basin 127	-78.43562595	33.89222253	Town	Each	$2,800	NCDOT Bid Tabs	0	1	1	0	0	2	2	2	2	2
Water/Sewer Infrastructure	Catch Basin 128	-78.43558541	33.89210011	Town	Each	$2,800	NCDOT Bid Tabs	0	1	1	0	0	2	2	2	2	2
Water/Sewer Infrastructure	Catch Basin 129	-78.43552432	33.89195735	Town	Each	$2,800	NCDOT Bid Tabs	0	1	1	0	0	2	2	2	2	2
Water/Sewer Infrastructure	Catch Basin 130	-78.43547913	33.89181162	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 131	-78.43542359	33.89168894	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 132	-78.43538427	33.89157944	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 134	-78.43528623	33.89131665	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 135	-78.43524081	33.89119315	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 136	-78.43468144	33.88960147	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 137	-78.43446961	33.88914347	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 138	-78.4331677	33.88941317	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 139	-78.43445636	33.89283702	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 140	-78.43458891	33.89321127	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 141	-78.4346816	33.89346754	Town	Each	$2,800	NCDOT Bid Tabs	0	1	1	0	0	2	2	2	2	2
Water/Sewer Infrastructure	Catch Basin 142	-78.43479003	33.8937478	Town	Each	$2,800	NCDOT Bid Tabs	0	1	1	0	0	2	2	2	2	2
Water/Sewer Infrastructure	Catch Basin 143	-78.43539095	33.89538471	Town	Each	$2,800	NCDOT Bid Tabs	0	1	1	0	0	2	2	2	2	2
Water/Sewer Infrastructure	Catch Basin 144	-78.43534282	33.89489315	Town	Each	$2,800	NCDOT Bid Tabs	0	1	1	0	0	2	2	2	2	2
Water/Sewer Infrastructure	Catch Basin 145	-78.43529038	33.89476399	Town	Each	$2,800	NCDOT Bid Tabs	0	1	1	0	0	2	2	2	2	2
Water/Sewer Infrastructure	Catch Basin 146	-78.43523492	33.89463541	Town	Each	$2,800	NCDOT Bid Tabs	0	1	1	0	0	2	2	2	2	2
Water/Sewer Infrastructure	Catch Basin 147	-78.43519505	33.89450308	Town	Each	$2,800	NCDOT Bid Tabs	0	1	1	0	0	2	2	2	2	2
Water/Sewer Infrastructure	Catch Basin 148	-78.43515184	33.8943606	Town	Each	$2,800	NCDOT Bid Tabs	0	1	1	0	0	2	2	2	2	2
Water/Sewer Infrastructure	Catch Basin 149	-78.43509738	33.89423536	Town	Each	$2,800	NCDOT Bid Tabs	0	1	1	0	0	2	2	2	2	2
Water/Sewer Infrastructure	Catch Basin 150	-78.43504991	33.89410608	Town	Each	$2,800	NCDOT Bid Tabs	0	1	1	0	0	2	2	2	2	2
Water/Sewer Infrastructure	Catch Basin 151	-78.43500259	33.8939774	Town	Each	$2,800	NCDOT Bid Tabs	0	1	1	0	0	2	2	2	2	2
Water/Sewer Infrastructure	Catch Basin 152	-78.43465963	33.89304772	Town	Each	$2,800	NCDOT Bid Tabs	0	1	1	0	0	2	2	2	2	2
Water/Sewer Infrastructure	Catch Basin 153	-78.43307543	33.89246546	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 155	-78.43421254	33.89559981	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 156	-78.43433596	33.8955713	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 157	-78.43429144	33.89547201	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 158	-78.43423205	33.89533475	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 159	-78.43418236	33.89519523	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 160	-78.43413405	33.89506835	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 161	-78.4340872	33.89493418	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 162	-78.43403567	33.894779	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 163	-78.43398807	33.8946775	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 164	-78.4339231	33.89452097	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 165	-78.43388313	33.89440762	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 166	-78.43381611	33.89424967	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 167	-78.43377948	33.89413101	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 169	-78.43368602	33.89388113	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 170	-78.4336437	33.8937508	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1

ASSET_TYPE	ASSET_NAME	LOCATION_X	LOCATION_Y	OWNERSHIP	COST_UNIT	EST_VALUE	COST_SOURCE	EXP_SLR	EXP_FP	EXP_HT	EXP_MS	EXP_IHA	EXPSUM	Final Exposure	SENS	ADCAP	Vulnerability Score
Water/Sewer Infrastructure	Catch Basin 172	-78.4335611	33.8934953	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 173	-78.4334995	33.89335937	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 174	-78.43346039	33.89322452	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 175	-78.43343116	33.8931235	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 177	-78.43218575	33.89355134	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 178	-78.43314878	33.89574626	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 179	-78.43300155	33.89576205	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 180	-78.43291844	33.89521318	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 181	-78.43288274	33.89511093	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 182	-78.43282256	33.89494169	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 183	-78.43277915	33.89482757	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 184	-78.43273537	33.89468829	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 185	-78.4326794	33.89457884	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 186	-78.43264481	33.89442891	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 187	-78.43259204	33.89430838	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 188	-78.43254821	33.89416489	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 189	-78.43225767	33.89338191	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 190	-78.43221664	33.89325736	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 191	-78.43211131	33.89299853	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 201	-78.43129819	33.89419108	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 202	-78.42881185	33.89559558	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 203	-78.42863465	33.89562518	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 205	-78.42832808	33.89567047	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 206	-78.42817188	33.89569699	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 208	-78.4278519	33.89575091	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 209	-78.42767486	33.89577069	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 212	-78.42719923	33.89584877	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 213	-78.42702133	33.89587502	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 214	-78.4268501	33.89590964	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 215	-78.42668634	33.89593034	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 217	-78.42637119	33.89598552	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 218	-78.42622779	33.89600365	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 220	-78.43001776	33.89462221	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 221	-78.42869196	33.89436772	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 222	-78.42874699	33.89451662	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 223	-78.42894931	33.8946668	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 224	-78.42881606	33.89433997	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 226	-78.42648265	33.89516367	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 227	-78.42518027	33.89481882	Town	Each	$2,800	NCDOT Bid Tabs	0	1	1	0	0	2	2	2	2	2
Water/Sewer Infrastructure	Catch Basin 228	-78.42536305	33.89532382	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 231	-78.42307514	33.89594897	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 232	-78.42180466	33.89624614	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Catch Basin 233	-78.42058907	33.89599628	Town	Each	$2,800	NCDOT Bid Tabs	0	1	1	0	0	2	2	2	2	2
Water/Sewer Infrastructure	Catch Basin 234	-78.42076183	33.89650724	Town	Each	$2,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant	-78.44298317	33.90183855	Town	Each	$5,500	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Water/Sewer Infrastructure	Fire Hydrant	-78.43883876	33.90539577	Town	Each	$5,500	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Water/Sewer Infrastructure	Fire Hydrant	-78.44434702	33.91194497	Town	Each	$5,500	Recent M&N Project	0	0	0	1	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant	-78.44213188	33.90566426	Town	Each	$5,500	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Water/Sewer Infrastructure	Fire Hydrant	-78.44142894	33.90466237	Town	Each	$5,500	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Water/Sewer Infrastructure	Fire Hydrant	-78.44153098	33.90378004	Town	Each	$5,500	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Water/Sewer Infrastructure	Fire Hydrant	-78.38855426	33.90120514	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant	-78.39104883	33.9004115	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant	-78.39216837	33.89993723	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 10	-78.43776462	33.90051223	Town	Each	$5,500	Recent M&N Project	0	0	0	1	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 100	-78.4208976	33.89164006	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 101	-78.42153206	33.89146337	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 102	-78.42436935	33.89073966	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 103	-78.42671822	33.89014983	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 104	-78.43006217	33.88929028	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 105	-78.43287994	33.88857612	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 106	-78.43474501	33.88810077	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 107	-78.43595301	33.88781023	Town	Each	$5,500	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Water/Sewer Infrastructure	Fire Hydrant 108	-78.43742589	33.88741719	Town	Each	$5,500	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Water/Sewer Infrastructure	Fire Hydrant 109	-78.44001548	33.88676503	Town	Each	$5,500	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Water/Sewer Infrastructure	Fire Hydrant 11	-78.43657035	33.89961459	Town	Each	$5,500	Recent M&N Project	0	0	0	1	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 110	-78.44332807	33.88590333	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 111	-78.44522407	33.88543357	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 112	-78.44852026	33.88459567	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 113	-78.45026944	33.88413651	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 114	-78.45247953	33.88356913	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 115	-78.45487399	33.88297388	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 116	-78.45700774	33.88230545	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 117	-78.46179824	33.88088699	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 118	-78.46352164	33.88036946	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 119	-78.46567473	33.87974986	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 12	-78.43579549	33.90029661	Town	Each	$5,500	Recent M&N Project	0	0	0	1	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 120	-78.47739632	33.87606645	Town	Each	$5,500	Recent M&N Project	0	1	0	0	1	2	2	2	2	2
Water/Sewer Infrastructure	Fire Hydrant 121	-78.4747856	33.8768424	Town	Each	$5,500	Recent M&N Project	0	1	0	0	1	2	2	2	2	2
Water/Sewer Infrastructure	Fire Hydrant 122	-78.47277027	33.87742694	Town	Each	$5,500	Recent M&N Project	0	1	0	0	1	2	2	2	2	2
Water/Sewer Infrastructure	Fire Hydrant 123	-78.47114543	33.87810625	Town	Each	$5,500	Recent M&N Project	0	1	0	0	1	2	2	2	2	2
Water/Sewer Infrastructure	Fire Hydrant 124	-78.46985608	33.87821666	Town	Each	$5,500	Recent M&N Project	0	1	0	0	1	2	2	2	2	2
Water/Sewer Infrastructure	Fire Hydrant 125	-78.46963832	33.87890395	Town	Each	$5,500	Recent M&N Project	0	1	0	0	1	2	2	2	2	2
Water/Sewer Infrastructure	Fire Hydrant 126	-78.46921941	33.87936042	Town	Each	$5,500	Recent M&N Project	0	1	0	0	1	2	2	2	2	2
Water/Sewer Infrastructure	Fire Hydrant 127	-78.46795775	33.87949978	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1

ASSET_TYPE	ASSET_NAME	LOCATION_X	LOCATION_Y	OWNERSHIP	COST_UNIT	EST_VALUE	COST_SOURCE	EXP_SLR	EXP_FP	EXP_HT	EXP_MS	EXP_IHA	EXPSUM	Final Exposure	SENS	ADCAP	Vulnerability Score
Water/Sewer Infrastructure	Fire Hydrant 128	-78.46831658	33.88035759	Town	Each	$5,500	Recent M&N Project	0	1	1	0	0	2	2	2	2	2
Water/Sewer Infrastructure	Fire Hydrant 129	-78.46649079	33.88000787	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 13	-78.44183951	33.89797633	Town	Each	$5,500	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Water/Sewer Infrastructure	Fire Hydrant 130	-78.46698626	33.8807363	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 131	-78.46741472	33.88115304	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 132	-78.46493698	33.88103592	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 133	-78.46618917	33.8821322	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 134	-78.46558922	33.88258913	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 135	-78.46372979	33.8808899	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 136	-78.46390543	33.88181651	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 137	-78.46448168	33.8834765	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 138	-78.46295853	33.88253127	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 139	-78.46332844	33.88384894	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 14	-78.44104457	33.89904226	Town	Each	$5,500	Recent M&N Project	0	0	0	1	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 140	-78.46127203	33.88161766	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 141	-78.46203402	33.88296766	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 142	-78.46085853	33.88328534	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 143	-78.46129392	33.88389659	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 144	-78.45894933	33.88231273	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 145	-78.4566475	33.88302941	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 146	-78.4551023	33.8841066	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 147	-78.45402472	33.88394467	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 148	-78.45259858	33.8842965	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 149	-78.45163347	33.88457539	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 15	-78.43989005	33.89860042	Town	Each	$5,500	Recent M&N Project	0	0	0	1	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 150	-78.45210812	33.8858699	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 151	-78.45095545	33.88606008	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 152	-78.44982693	33.88547771	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 153	-78.4493567	33.88643915	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 154	-78.44770417	33.88698957	Town	Each	$5,500	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Water/Sewer Infrastructure	Fire Hydrant 155	-78.44815604	33.88546007	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 156	-78.44646329	33.88645792	Town	Each	$5,500	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Water/Sewer Infrastructure	Fire Hydrant 157	-78.4454701	33.88611032	Town	Each	$5,500	Recent M&N Project	0	0	0	1	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 158	-78.44568984	33.88699293	Town	Each	$5,500	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Water/Sewer Infrastructure	Fire Hydrant 159	-78.44353081	33.88660777	Town	Each	$5,500	Recent M&N Project	0	0	0	1	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 16	-78.43860099	33.89290662	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 160	-78.44373919	33.88716019	Town	Each	$5,500	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Water/Sewer Infrastructure	Fire Hydrant 161	-78.44199084	33.88760242	Town	Each	$5,500	Recent M&N Project	0	0	0	1	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 162	-78.44105497	33.8872374	Town	Each	$5,500	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Water/Sewer Infrastructure	Fire Hydrant 163	-78.44026419	33.88804174	Town	Each	$5,500	Recent M&N Project	0	0	0	1	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 164	-78.43848341	33.88787929	Town	Each	$5,500	Recent M&N Project	0	0	0	1	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 165	-78.43796054	33.88877139	Town	Each	$5,500	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Water/Sewer Infrastructure	Fire Hydrant 166	-78.41384875	33.8950956	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 167	-78.40769934	33.8964235	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 168	-78.40343007	33.8964856	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 169	-78.40253434	33.89708015	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 17	-78.43849039	33.89159126	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 170	-78.40101362	33.89746856	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 171	-78.3992178	33.89806776	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 172	-78.39783858	33.897857	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 173	-78.39670902	33.89868419	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 174	-78.39520615	33.89884539	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 175	-78.39561083	33.89951939	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 176	-78.39732357	33.89928793	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 177	-78.39578946	33.89998058	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 18	-78.43792488	33.89109144	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 19	-78.43760993	33.88984304	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 2	-78.44380938	33.90969064	Town	Each	$5,500	Recent M&N Project	0	0	0	1	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 20	-78.43690756	33.88888191	Town	Each	$5,500	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Water/Sewer Infrastructure	Fire Hydrant 21	-78.43600929	33.88927283	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 22	-78.43599486	33.89030412	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 23	-78.43454003	33.88920039	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 24	-78.43546403	33.89170661	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 25	-78.43624837	33.89377928	Town	Each	$5,500	Recent M&N Project	0	1	1	0	0	2	2	2	2	2
Water/Sewer Infrastructure	Fire Hydrant 26	-78.43377039	33.890548	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 27	-78.43449763	33.89250069	Town	Each	$5,500	Recent M&N Project	0	1	1	0	0	2	2	2	2	2
Water/Sewer Infrastructure	Fire Hydrant 28	-78.43522878	33.8944789	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 29	-78.43223999	33.88981623	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 3	-78.44087796	33.90407959	Town	Each	$5,500	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Water/Sewer Infrastructure	Fire Hydrant 30	-78.43314282	33.89227685	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 31	-78.43392064	33.89437331	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 32	-78.43145796	33.89113701	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 33	-78.43218622	33.8931014	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 34	-78.43289628	33.89507116	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 35	-78.42978042	33.8904137	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 36	-78.43061421	33.89272454	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 37	-78.43145158	33.89498677	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 38	-78.42911016	33.89553932	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 39	-78.42589887	33.89604911	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 4	-78.44388235	33.90231166	Town	Each	$5,500	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Water/Sewer Infrastructure	Fire Hydrant 40	-78.42889122	33.8914472	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 41	-78.42941723	33.89287237	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 42	-78.42739005	33.89073323	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 43	-78.42813702	33.89281339	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1

ASSET_TYPE	ASSET_NAME	LOCATION_X	LOCATION_Y	OWNERSHIP	COST_UNIT	EST_VALUE	COST_SOURCE	EXP_SLR	EXP_FP	EXP_HT	EXP_MS	EXP_IHA	EXPSUM	Final Exposure	SENS	ADCAP	Vulnerability Score
Water/Sewer Infrastructure	Fire Hydrant 44	-78.42876173	33.8945081	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 45	-78.42655705	33.89197311	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 46	-78.42708683	33.89335217	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 47	-78.42552033	33.8925871	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 48	-78.42608664	33.89416168	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 49	-78.42457252	33.89144472	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 5	-78.44091261	33.9020414	Town	Each	$5,500	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Water/Sewer Infrastructure	Fire Hydrant 50	-78.4243434	33.89290889	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 51	-78.42494387	33.89447027	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 52	-78.42272489	33.89193291	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 53	-78.42320579	33.89319123	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 54	-78.42377666	33.89475523	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 55	-78.42203818	33.89348515	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 56	-78.42262407	33.89504218	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 57	-78.42119784	33.89230027	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 58	-78.42089531	33.89375887	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 59	-78.42147453	33.895335	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 6	-78.43971691	33.90215165	Town	Each	$5,500	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Water/Sewer Infrastructure	Fire Hydrant 60	-78.41928323	33.89281468	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 61	-78.41972522	33.89408176	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 62	-78.42032699	33.89562483	Town	Each	$5,500	Recent M&N Project	0	1	1	0	0	2	2	2	2	2
Water/Sewer Infrastructure	Fire Hydrant 63	-78.4185845	33.89435556	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 64	-78.41916174	33.89593239	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 65	-78.41696637	33.89337603	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 66	-78.41762287	33.89517102	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 67	-78.41829817	33.89699616	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 68	-78.4158228	33.89366963	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 69	-78.41645829	33.89547592	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 7	-78.44040077	33.90081892	Town	Each	$5,500	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Water/Sewer Infrastructure	Fire Hydrant 70	-78.41700126	33.89691404	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 71	-78.41467161	33.89396846	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 72	-78.41529607	33.89574658	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 73	-78.41595903	33.89757077	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 74	-78.41418309	33.89391831	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 75	-78.41325274	33.89432059	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 76	-78.4111731	33.89484728	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 77	-78.41021419	33.89509719	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 78	-78.40773984	33.89570265	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 79	-78.40619709	33.8959704	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 8	-78.44069578	33.90026761	Town	Each	$5,500	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Water/Sewer Infrastructure	Fire Hydrant 80	-78.40521394	33.89614396	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 81	-78.40255032	33.89658342	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 82	-78.39891029	33.89699787	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 83	-78.39614076	33.89731694	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 84	-78.39553423	33.89808941	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 85	-78.3939118	33.8981159	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 86	-78.39248416	33.89843756	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 87	-78.39130083	33.89925916	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 88	-78.39423369	33.90008307	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 89	-78.39400394	33.90241908	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 9	-78.4402281	33.90001146	Town	Each	$5,500	Recent M&N Project	0	0	0	1	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 90	-78.39189094	33.90134331	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 91	-78.3927993	33.90201491	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 92	-78.39228796	33.90224834	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 93	-78.40403509	33.89561496	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 94	-78.40695589	33.89510006	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 95	-78.40924994	33.89460579	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 96	-78.41176769	33.89395599	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 97	-78.4142871	33.89332926	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 98	-78.41665618	33.89273312	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Fire Hydrant 99	-78.41900582	33.8921238	Town	Each	$5,500	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Gate Valve	-78.43933691	33.90034528	Town	Each	$3,500	Recent M&N Project	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.43991627	33.89858643	Town	Each	$3,500	Recent M&N Project	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.4371381	33.88888524	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.4332733	33.88918903	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.43325432	33.88922222	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.43225767	33.88948675	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.43210555	33.88953439	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.4343006	33.89551047	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.43119962	33.88899093	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.43118428	33.88901431	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.41558115	33.89297606	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.41556438	33.8929694	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.40863729	33.89474137	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.40863381	33.89473809	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.40372539	33.89565345	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.40170859	33.89594213	Town	Each	$3,500	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Gate Valve	-78.40151544	33.89657981	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.39423993	33.89745447	Town	Each	$3,500	Recent M&N Project	1	1	0	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Gate Valve	-78.3942445	33.89822471	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.39562355	33.89805724	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.39317586	33.89820166	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.39393529	33.89811106	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.40889254	33.89540725	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2

ASSET_TYPE	ASSET_NAME	LOCATION_X	LOCATION_Y	OWNERSHIP	COST_UNIT	EST_VALUE	COST_SOURCE	EXP_SLR	EXP_FP	EXP_HT	EXP_MS	EXP_IHA	EXPSUM	Final Exposure	SENS	ADCAP	Vulnerability Score
Water/Sewer Infrastructure	Gate Valve	-78.41023891	33.89507247	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.41422705	33.89405978	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.41580379	33.89364175	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.41929693	33.89276169	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.4204573	33.89247445	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.4239166	33.89160379	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.42508368	33.89132214	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.42857945	33.89041392	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.42971718	33.89015719	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.42968885	33.89011802	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.43153559	33.89514193	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.43100422	33.88985245	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.43668032	33.88760151	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.44527791	33.88538614	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.44528516	33.88541159	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.44700563	33.88497661	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.44942106	33.88435695	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.45483134	33.8829645	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.45700233	33.8823136	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.45903467	33.88171795	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.46334564	33.88039457	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.46399517	33.88084426	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.46985246	33.87883666	Town	Each	$3,500	Recent M&N Project	0	1	0	0	1	2	2	3	2	3
Water/Sewer Infrastructure	Gate Valve	-78.47559282	33.87662659	Town	Each	$3,500	Recent M&N Project	0	1	0	0	1	2	2	3	2	3
Water/Sewer Infrastructure	Gate Valve	-78.4615116	33.8818662	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.46153833	33.88197411	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.46345327	33.88391079	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.46341321	33.88392035	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.46914085	33.87950876	Town	Each	$3,500	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Gate Valve	-78.4665514	33.88084728	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.46609909	33.88058694	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.46616325	33.88221271	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.46541826	33.88331592	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.44868828	33.88454815	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.43848955	33.88785868	Town	Each	$3,500	Recent M&N Project	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.43716768	33.88897839	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.43713789	33.88888426	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.44042614	33.88802625	Town	Each	$3,500	Recent M&N Project	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.44040318	33.88799548	Town	Each	$3,500	Recent M&N Project	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.44388205	33.88715494	Town	Each	$3,500	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Gate Valve	-78.45032715	33.88633773	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.4550262	33.88344305	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.46483282	33.88101299	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.46573073	33.88307194	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.46454957	33.88371449	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.46378971	33.88159575	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.4641062	33.88106907	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.46421024	33.88103354	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.43861165	33.89290959	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.43875752	33.89299002	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.44068109	33.90024329	Town	Each	$3,500	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Gate Valve	-78.44090034	33.90018217	Town	Each	$3,500	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Gate Valve	-78.44267043	33.90000641	Town	Each	$3,500	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Gate Valve	-78.44273386	33.90001347	Town	Each	$3,500	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Gate Valve	-78.44105786	33.89902869	Town	Each	$3,500	Recent M&N Project	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.44002168	33.89905012	Town	Each	$3,500	Recent M&N Project	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.43932804	33.90018416	Town	Each	$3,500	Recent M&N Project	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.43913794	33.89957963	Town	Each	$3,500	Recent M&N Project	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.43760161	33.900542	Town	Each	$3,500	Recent M&N Project	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.4397744	33.90181499	Town	Each	$3,500	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Gate Valve	-78.43968829	33.90192977	Town	Each	$3,500	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Gate Valve	-78.43960679	33.90178999	Town	Each	$3,500	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Gate Valve	-78.43918207	33.90185151	Town	Each	$3,500	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Gate Valve	-78.44004789	33.90348624	Town	Each	$3,500	Recent M&N Project	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.44400192	33.90985863	Town	Each	$3,500	Recent M&N Project	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.44583457	33.91942223	Town	Each	$3,500	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Gate Valve	-78.44567911	33.91958772	Town	Each	$3,500	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Gate Valve	-78.44587518	33.91970482	Town	Each	$3,500	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Gate Valve	-78.44598567	33.92158361	Town	Each	$3,500	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Gate Valve	-78.44610663	33.92163565	Town	Each	$3,500	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Gate Valve	-78.45091875	33.91841039	Town	Each	$3,500	Recent M&N Project	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.45093108	33.91846658	Town	Each	$3,500	Recent M&N Project	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.45084553	33.91845233	Town	Each	$3,500	Recent M&N Project	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.45113701	33.9183943	Town	Each	$3,500	Recent M&N Project	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.45114476	33.91839145	Town	Each	$3,500	Recent M&N Project	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.4506483	33.91864785	Town	Each	$3,500	Recent M&N Project	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.45066482	33.91868331	Town	Each	$3,500	Recent M&N Project	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.45085348	33.91874339	Town	Each	$3,500	Recent M&N Project	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.45095103	33.91886735	Town	Each	$3,500	Recent M&N Project	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.44051986	33.89867042	Town	Each	$3,500	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Gate Valve	-78.39399299	33.90530523	Town	Each	$3,500	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Gate Valve	-78.39399678	33.90527765	Town	Each	$3,500	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Gate Valve	-78.39398526	33.90528148	Town	Each	$3,500	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Gate Valve	-78.44871542	33.88452263	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2

ASSET_TYPE	ASSET_NAME	LOCATION_X	LOCATION_Y	OWNERSHIP	COST_UNIT	EST_VALUE	COST_SOURCE	EXP_SLR	EXP_FP	EXP_HT	EXP_MS	EXP_IHA	EXPSUM	Final Exposure	SENS	ADCAP	Vulnerability Score
Water/Sewer Infrastructure	Gate Valve	-78.4503021	33.88415585	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.45482192	33.88296308	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.45482487	33.88294849	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.45701383	33.88228561	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.46138535	33.88162432	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.46596491	33.88034514	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.46792591	33.87951511	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.46968639	33.8788987	Town	Each	$3,500	Recent M&N Project	0	1	0	0	1	2	2	3	2	3
Water/Sewer Infrastructure	Gate Valve	-78.46882338	33.87914811	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.46823882	33.88004996	Town	Each	$3,500	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Gate Valve	-78.46832383	33.88015807	Town	Each	$3,500	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Gate Valve	-78.46872884	33.8797553	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.4694367	33.87923995	Town	Each	$3,500	Recent M&N Project	0	1	0	0	1	2	2	3	2	3
Water/Sewer Infrastructure	Gate Valve	-78.46991976	33.87899146	Town	Each	$3,500	Recent M&N Project	0	1	0	0	1	2	2	3	2	3
Water/Sewer Infrastructure	Gate Valve	-78.4674292	33.8805133	Town	Each	$3,500	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Gate Valve	-78.46697421	33.88070631	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.46636829	33.8809205	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.46661379	33.88177832	Town	Each	$3,500	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Gate Valve	-78.46666646	33.88171403	Town	Each	$3,500	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Gate Valve	-78.46698838	33.88140249	Town	Each	$3,500	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Gate Valve	-78.46733189	33.88116374	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.46813602	33.88042012	Town	Each	$3,500	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Gate Valve	-78.46557737	33.88320946	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.46558063	33.88319319	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.46546752	33.88224171	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.46498261	33.8816205	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.46482521	33.88098808	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.4648762	33.88105527	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.46455907	33.88371222	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.46454058	33.88371663	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.46417218	33.88219827	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.46389404	33.88182408	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.44213693	33.88756387	Town	Each	$3,500	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Gate Valve	-78.44216081	33.88758975	Town	Each	$3,500	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Gate Valve	-78.44386948	33.88715395	Town	Each	$3,500	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Gate Valve	-78.44572377	33.88702953	Town	Each	$3,500	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Gate Valve	-78.44571645	33.88667942	Town	Each	$3,500	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Gate Valve	-78.44928283	33.88660306	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.44938483	33.88668871	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.45016606	33.88635761	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.45069636	33.88477423	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.4544793	33.88380844	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.45497083	33.88373116	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.45424902	33.88527829	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.45331735	33.88603415	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.44719347	33.88555338	Town	Each	$3,500	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Gate Valve	-78.4472126	33.88554519	Town	Each	$3,500	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Gate Valve	-78.42275178	33.89187707	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.42157303	33.89220671	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.41929938	33.89277345	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.4192825	33.89276473	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.41814519	33.8930777	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.39249154	33.89841358	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.46148724	33.88186087	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.46152017	33.88197226	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.46265381	33.88161788	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.46291445	33.88210812	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.46291696	33.88213116	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.46287456	33.88196816	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.46293328	33.88225231	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.46303244	33.88249896	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.46306558	33.88254482	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.46312635	33.88263139	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.463247	33.8829506	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.46326463	33.88307481	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.46327779	33.88310069	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.46332948	33.88321417	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.46343104	33.88347834	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.4633991	33.88390681	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.46334852	33.88391456	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.46127063	33.88396529	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.46114586	33.88391789	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.46019314	33.88420964	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.46094845	33.88326714	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.46094325	33.88323189	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.4609062	33.88309071	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.46071951	33.88257337	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.461958	33.88298548	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.4621823	33.88359141	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.44101799	33.9038321	Town	Each	$3,500	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Gate Valve	-78.44089693	33.90412459	Town	Each	$3,500	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Gate Valve	-78.4410763	33.90381432	Town	Each	$3,500	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Gate Valve	-78.44106722	33.9037489	Town	Each	$3,500	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Gate Valve	-78.44064054	33.90179451	Town	Each	$3,500	Recent M&N Project	0	0	0	0	0	0	0	3	2	1

ASSET_TYPE	ASSET_NAME	LOCATION_X	LOCATION_Y	OWNERSHIP	COST_UNIT	EST_VALUE	COST_SOURCE	EXP_SLR	EXP_FP	EXP_HT	EXP_MS	EXP_IHA	EXPSUM	Final Exposure	SENS	ADCAP	Vulnerability Score
Water/Sewer Infrastructure	Gate Valve	-78.44068177	33.9002477	Town	Each	$3,500	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Gate Valve	-78.43580514	33.90032148	Town	Each	$3,500	Recent M&N Project	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.44391481	33.90246105	Town	Each	$3,500	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Gate Valve	-78.44399179	33.90241959	Town	Each	$3,500	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Gate Valve	-78.44031864	33.90028874	Town	Each	$3,500	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Gate Valve	-78.44029755	33.90024668	Town	Each	$3,500	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Gate Valve	-78.44049117	33.90021597	Town	Each	$3,500	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Gate Valve	-78.43797844	33.8906245	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.43777183	33.89067786	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.43713789	33.88888162	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.43680783	33.88828571	Town	Each	$3,500	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Gate Valve	-78.43668527	33.88836037	Town	Each	$3,500	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Gate Valve	-78.43639021	33.88772899	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.43877849	33.88845941	Town	Each	$3,500	Recent M&N Project	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.44101518	33.90383409	Town	Each	$3,500	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Gate Valve	-78.44089693	33.90412459	Town	Each	$3,500	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Gate Valve	-78.4410763	33.90381432	Town	Each	$3,500	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Gate Valve	-78.44106722	33.9037489	Town	Each	$3,500	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Gate Valve	-78.44064054	33.90179451	Town	Each	$3,500	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Gate Valve	-78.44068177	33.9002477	Town	Each	$3,500	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Gate Valve	-78.43580514	33.90032148	Town	Each	$3,500	Recent M&N Project	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.44391481	33.90246105	Town	Each	$3,500	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Gate Valve	-78.44399179	33.90241959	Town	Each	$3,500	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Gate Valve	-78.44032279	33.90028171	Town	Each	$3,500	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Gate Valve	-78.44029755	33.90024668	Town	Each	$3,500	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Gate Valve	-78.44049117	33.90021597	Town	Each	$3,500	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Gate Valve	-78.43797844	33.8906245	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.43777183	33.89067786	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.43713789	33.88888162	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.43680783	33.88828571	Town	Each	$3,500	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Gate Valve	-78.43668527	33.88836037	Town	Each	$3,500	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Gate Valve	-78.43639021	33.88772899	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.43877849	33.88845941	Town	Each	$3,500	Recent M&N Project	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.43289434	33.89506903	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.4344464	33.88899475	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.42617534	33.89088853	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.42624505	33.89102225	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.42621654	33.89100542	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.42388721	33.89160318	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.41584183	33.89363853	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.41470535	33.89393584	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.41093386	33.89489364	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.41022206	33.89507618	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.39608789	33.89728674	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.39162523	33.89920086	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.43304441	33.88850998	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.43300443	33.88853272	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.42595387	33.89031734	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.42597246	33.89032059	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.42249625	33.89120926	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.42088609	33.89163502	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.4140379	33.89335901	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.41401994	33.89335207	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.39426172	33.89746983	Town	Each	$3,500	Recent M&N Project	1	1	0	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Gate Valve	-78.3942518	33.8974632	Town	Each	$3,500	Recent M&N Project	1	1	0	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Gate Valve	-78.40345646	33.89641425	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve	-78.43221277	33.88951815	Town	Each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve - 12 inch	-78.43912708	33.89320174	Town	Each	$5,400	Recent M&N Project	0	1	0	1	0	2	2	3	2	3
Water/Sewer Infrastructure	Gate Valve - 2 inch	-78.44204924	33.89836662	Town	Each	$1,200	NCDOT Bid Tabs	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve - 4 inch	-78.41731828	33.89254703	Town	each	$3,500	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve - 4 inch	-78.4501702	33.88639747	Town	Each	$1,800	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve - 6 inch	-78.41906116	33.89207974	Town	Each	$3,200	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve - 6 inch	-78.39424643	33.89905782	Town	Each	$3,200	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve - 6 inch	-78.39260395	33.89907911	Town	Each	$3,200	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve - 6 inch	-78.47056925	33.87846174	Town	Each	$3,200	Recent M&N Project	0	1	0	0	1	2	2	3	2	3
Water/Sewer Infrastructure	Gate Valve - 6 inch	-78.47147915	33.87793543	Town	Each	$3,200	Recent M&N Project	0	1	0	0	1	2	2	3	2	3
Water/Sewer Infrastructure	Gate Valve - 6 inch	-78.47441148	33.87694922	Town	Each	$3,200	Recent M&N Project	0	1	0	0	1	2	2	3	2	3
Water/Sewer Infrastructure	Gate Valve - 6 inch	-78.43716674	33.88894786	Town	Each	$3,200	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve - 6 inch	-78.45165613	33.88454896	Town	Each	$3,200	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve - 6 inch	-78.45497821	33.88371665	Town	Each	$3,200	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve - 6 inch	-78.45507788	33.88364646	Town	Each	$3,200	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve - 8 inch	-78.41898078	33.89208576	Town	each	$4,000	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve - 8 inch	-78.39423091	33.90013179	Town	each	$4,000	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve - 8 inch	-78.3940327	33.90275291	Town	each	$4,000	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve - 8 inch	-78.4453228	33.88539314	Town	Each	$4,000	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Gate Valve - 8 inch	-78.47052259	33.8784947	Town	Each	$4,000	Recent M&N Project	0	1	0	0	1	2	2	3	2	3
Water/Sewer Infrastructure	Gate Valve - 8 inch	-78.45500517	33.88337687	Town	Each	$4,000	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Hydrant Valve	-78.43989576	33.89860061	Town	each	$1,000	Recent M&N Project	0	0	0	1	0	1	1	2	2	1
Water/Sewer Infrastructure	Hydrant Valve	-78.46128336	33.88164713	Town	each	$1,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Hydrant Valve	-78.39392793	33.89811353	Town	each	$1,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Hydrant Valve	-78.40522315	33.89613532	Town	each	$1,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Hydrant Valve	-78.40774961	33.89567976	Town	each	$1,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Hydrant Valve	-78.41022643	33.89507779	Town	Each	$1,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Hydrant Valve	-78.41472362	33.89395725	Town	Each	$1,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1

ASSET_TYPE	ASSET_NAME	LOCATION_X	LOCATION_Y	OWNERSHIP	COST_UNIT	EST_VALUE	COST_SOURCE	EXP_SLR	EXP_FP	EXP_HT	EXP_MS	EXP_IHA	EXPSUM	Final Exposure	SENS	ADCAP	Vulnerability Score
Water/Sewer Infrastructure	Hydrant Valve	-78.41531369	33.895735	Town	Each	$1,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Hydrant Valve	-78.41597204	33.89755947	Town	Each	$1,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Hydrant Valve	-78.41585314	33.89366071	Town	Each	$1,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Hydrant Valve	-78.41648857	33.89546929	Town	Each	$1,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Hydrant Valve	-78.41697128	33.8933724	Town	Each	$1,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Hydrant Valve	-78.41763139	33.89516678	Town	Each	$1,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Hydrant Valve	-78.4183113	33.89700175	Town	Each	$1,000	Recent M&N Project	0	1	1	0	0	2	2	2	2	2
Water/Sewer Infrastructure	Hydrant Valve	-78.43222959	33.88981241	Town	Each	$1,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Hydrant Valve	-78.44572853	33.88668729	Town	Each	$1,000	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Water/Sewer Infrastructure	Hydrant Valve	-78.44648465	33.88643374	Town	Each	$1,000	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Water/Sewer Infrastructure	Hydrant Valve	-78.46177738	33.88085297	Town	Each	$1,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Hydrant Valve	-78.47740963	33.87608726	Town	Each	$1,000	Recent M&N Project	0	1	0	0	1	2	2	2	2	2
Water/Sewer Infrastructure	Hydrant Valve	-78.46923445	33.87936209	Town	Each	$1,000	Recent M&N Project	0	1	0	0	1	2	2	2	2	2
Water/Sewer Infrastructure	Hydrant Valve	-78.44770183	33.88698882	Town	Each	$1,000	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Water/Sewer Infrastructure	Hydrant Valve	-78.46487077	33.88108072	Town	Each	$1,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Hydrant Valve	-78.44183187	33.89798604	Town	Each	$1,000	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Water/Sewer Infrastructure	Hydrant Valve	-78.44105427	33.89903915	Town	Each	$1,000	Recent M&N Project	0	0	0	1	0	1	1	2	2	1
Water/Sewer Infrastructure	Hydrant Valve	-78.44382569	33.90967784	Town	Each	$1,000	Recent M&N Project	0	0	0	1	0	1	1	2	2	1
Water/Sewer Infrastructure	Hydrant Valve	-78.45020411	33.91848487	Town	Each	$1,000	Recent M&N Project	0	0	0	1	0	1	1	2	2	1
Water/Sewer Infrastructure	Hydrant Valve	-78.45485834	33.88294681	Town	Each	$1,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Hydrant Valve	-78.46351917	33.88035738	Town	Each	$1,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Hydrant Valve	-78.46566404	33.87972167	Town	Each	$1,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Hydrant Valve	-78.46832366	33.88032465	Town	Each	$1,000	Recent M&N Project	0	1	1	0	0	2	2	2	2	2
Water/Sewer Infrastructure	Hydrant Valve	-78.46620539	33.88214173	Town	Each	$1,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Hydrant Valve	-78.46557934	33.88259167	Town	Each	$1,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Hydrant Valve	-78.46447673	33.88348794	Town	Each	$1,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Hydrant Valve	-78.45896549	33.88234718	Town	Each	$1,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Hydrant Valve	-78.45665578	33.88306235	Town	Each	$1,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Hydrant Valve	-78.4410502	33.88722562	Town	Each	$1,000	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Water/Sewer Infrastructure	Hydrant Valve	-78.44200165	33.88763073	Town	Each	$1,000	Recent M&N Project	0	0	0	1	0	1	1	2	2	1
Water/Sewer Infrastructure	Hydrant Valve	-78.44026729	33.88805248	Town	Each	$1,000	Recent M&N Project	0	0	0	1	0	1	1	2	2	1
Water/Sewer Infrastructure	Hydrant Valve	-78.443752	33.88718876	Town	Each	$1,000	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Water/Sewer Infrastructure	Hydrant Valve	-78.44811118	33.88548932	Town	Each	$1,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Hydrant Valve	-78.44089477	33.90204373	Town	Each	$1,000	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Water/Sewer Infrastructure	Hydrant Valve	-78.440237	33.90001188	Town	Each	$1,000	Recent M&N Project	0	0	0	1	0	1	1	2	2	1
Water/Sewer Infrastructure	Hydrant Valve	-78.44023765	33.90001653	Town	Each	$1,000	Recent M&N Project	0	0	0	1	0	1	1	2	2	1
Water/Sewer Infrastructure	Hydrant Valve	-78.44067887	33.90027029	Town	Each	$1,000	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Water/Sewer Infrastructure	Hydrant Valve	-78.43579834	33.90030786	Town	Each	$1,000	Recent M&N Project	0	0	0	1	0	1	1	2	2	1
Water/Sewer Infrastructure	Hydrant Valve	-78.43847398	33.8915959	Town	Each	$1,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Hydrant Valve	-78.43759504	33.88984828	Town	Each	$1,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Hydrant Valve	-78.44089477	33.90204373	Town	Each	$1,000	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Water/Sewer Infrastructure	Hydrant Valve	-78.440237	33.90001188	Town	Each	$1,000	Recent M&N Project	0	0	0	1	0	1	1	2	2	1
Water/Sewer Infrastructure	Hydrant Valve	-78.44023765	33.90001653	Town	Each	$1,000	Recent M&N Project	0	0	0	1	0	1	1	2	2	1
Water/Sewer Infrastructure	Hydrant Valve	-78.44067887	33.90027029	Town	Each	$1,000	Recent M&N Project	0	0	0	0	0	0	0	2	2	0
Water/Sewer Infrastructure	Hydrant Valve	-78.43579834	33.90030786	Town	Each	$1,000	Recent M&N Project	0	0	0	1	0	1	1	2	2	1
Water/Sewer Infrastructure	Hydrant Valve	-78.43847398	33.8915959	Town	Each	$1,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Hydrant Valve	-78.43759504	33.88984828	Town	Each	$1,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Hydrant Valve	-78.42590148	33.89606193	Town	Each	$1,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Hydrant Valve	-78.42911186	33.89554156	Town	Each	$1,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Hydrant Valve	-78.42738547	33.89071368	Town	Each	$1,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Hydrant Valve	-78.41698122	33.89335875	Town	Each	$1,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Hydrant Valve	-78.41584385	33.89366602	Town	Each	$1,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Hydrant Valve	-78.41415704	33.89392331	Town	Each	$1,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Hydrant Valve	-78.41021003	33.89508003	Town	Each	$1,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Hydrant Valve	-78.40773292	33.89568461	Town	Each	$1,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Hydrant Valve	-78.39613792	33.89728823	Town	Each	$1,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Hydrant Valve	-78.42089476	33.89163583	Town	Each	$1,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Hydrant Valve	-78.41701512	33.8969108	Town	Each	$1,000	Recent M&N Project	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Manhole	-78.39461598	33.89948068	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole	-78.39455325	33.89877215	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole	-78.3977521	33.89699656	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole	-78.43967331	33.88831926	Town	Each	$2,400	NCDOT Bid Tabs	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 0	-78.4478385	33.91563129	Brunswick County	Each	$2,400	NCDOT Bid Tabs	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Manhole 0	-78.44784198	33.91561621	Town	Each	$2,400	NCDOT Bid Tabs	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Manhole 0	-78.44271874	33.9061693	Brunswick County	Each	$2,400	NCDOT Bid Tabs	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Manhole 1	-78.44097601	33.90359092	Town	Each	$2,400	NCDOT Bid Tabs	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Manhole 10	-78.4380185	33.89117205	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 100	-78.4495833	33.88730415	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 101	-78.44832171	33.88671622	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 102	-78.44739168	33.88698073	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 103	-78.44655289	33.88718979	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 104	-78.44618799	33.88724414	Town	Each	$2,400	NCDOT Bid Tabs	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Manhole 105	-78.44578817	33.887157	Town	Each	$2,400	NCDOT Bid Tabs	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 106	-78.44587578	33.8868151	Town	Each	$2,400	NCDOT Bid Tabs	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Manhole 107	-78.44508576	33.88704746	Town	Each	$2,400	NCDOT Bid Tabs	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 108	-78.44452542	33.8870935	Town	Each	$2,400	NCDOT Bid Tabs	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Manhole 109	-78.44314127	33.88744258	Town	Each	$2,400	NCDOT Bid Tabs	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Manhole 11	-78.4377232	33.89064107	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 110	-78.44232686	33.88764997	Town	Each	$2,400	NCDOT Bid Tabs	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Manhole 111	-78.43889015	33.88851951	Town	Each	$2,400	NCDOT Bid Tabs	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 112	-78.43870563	33.88845596	Town	Each	$2,400	NCDOT Bid Tabs	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 113	-78.4378357	33.88867317	Town	Each	$2,400	NCDOT Bid Tabs	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Manhole 114	-78.4376196	33.88796943	Town	Each	$2,400	NCDOT Bid Tabs	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Manhole 115	-78.43840916	33.88777927	Town	Each	$2,400	NCDOT Bid Tabs	0	0	0	1	0	1	1	3	2	2

ASSET_TYPE	ASSET_NAME	LOCATION_X	LOCATION_Y	OWNERSHIP	COST_UNIT	EST_VALUE	COST_SOURCE	EXP_SLR	EXP_FP	EXP_HT	EXP_MS	EXP_IHA	EXPSUM	Final Exposure	SENS	ADCAP	Vulnerability Score
Water/Sewer Infrastructure	Manhole 116	-78.43877023	33.88769058	Town	Each	$2,400	NCDOT Bid Tabs	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 117	-78.44223123	33.88680865	Town	Each	$2,400	NCDOT Bid Tabs	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 118	-78.44328948	33.88653701	Town	Each	$2,400	NCDOT Bid Tabs	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 119	-78.44451064	33.88622653	Town	Each	$2,400	NCDOT Bid Tabs	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 12	-78.4373569	33.88983376	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 120	-78.44556435	33.88596847	Town	Each	$2,400	NCDOT Bid Tabs	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Manhole 121	-78.44633522	33.88583229	Town	Each	$2,400	NCDOT Bid Tabs	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Manhole 122	-78.44655043	33.88644619	Town	Each	$2,400	NCDOT Bid Tabs	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Manhole 123	-78.44730902	33.8862607	Town	Each	$2,400	NCDOT Bid Tabs	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Manhole 124	-78.44756348	33.88619994	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 125	-78.44827651	33.88601373	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 126	-78.44806525	33.8853923	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 127	-78.44730064	33.88556695	Town	Each	$2,400	NCDOT Bid Tabs	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Manhole 128	-78.4520646	33.8853792	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 129	-78.45241349	33.88635381	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 13	-78.43699093	33.8890917	Town	Each	$2,400	NCDOT Bid Tabs	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Manhole 130	-78.46993386	33.87908897	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	1	2	2	3	2	3
Water/Sewer Infrastructure	Manhole 131	-78.4697677	33.87908724	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	1	2	2	3	2	3
Water/Sewer Infrastructure	Manhole 132	-78.46962689	33.87915776	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	1	2	2	3	2	3
Water/Sewer Infrastructure	Manhole 133	-78.46947635	33.87927815	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	1	2	2	3	2	3
Water/Sewer Infrastructure	Manhole 134	-78.46971867	33.87945299	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	1	2	2	3	2	3
Water/Sewer Infrastructure	Manhole 135	-78.46915037	33.87958165	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 136	-78.46939703	33.87975696	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	1	2	2	3	2	3
Water/Sewer Infrastructure	Manhole 137	-78.4687482	33.87983548	Town	Each	$2,400	NCDOT Bid Tabs	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Manhole 138	-78.46904624	33.88003731	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 139	-78.46860071	33.87990363	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 14	-78.4371346	33.8888494	Town	Each	$2,400	NCDOT Bid Tabs	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Manhole 140	-78.46849081	33.88018029	Town	Each	$2,400	NCDOT Bid Tabs	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Manhole 141	-78.46872483	33.88034872	Town	Each	$2,400	NCDOT Bid Tabs	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Manhole 142	-78.46816445	33.88048368	Town	Each	$2,400	NCDOT Bid Tabs	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Manhole 143	-78.46837298	33.88064191	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 144	-78.4678349	33.88085039	Town	Each	$2,400	NCDOT Bid Tabs	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Manhole 145	-78.46807445	33.88095163	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 146	-78.46762283	33.88139214	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 147	-78.4674058	33.88124591	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 148	-78.46721536	33.88126762	Town	Each	$2,400	NCDOT Bid Tabs	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Manhole 149	-78.46719949	33.88134452	Town	Each	$2,400	NCDOT Bid Tabs	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Manhole 15	-78.43668387	33.88846392	Town	Each	$2,400	NCDOT Bid Tabs	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Manhole 150	-78.46701606	33.88149543	Town	Each	$2,400	NCDOT Bid Tabs	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Manhole 151	-78.46725371	33.8816539	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 152	-78.46666521	33.88176011	Town	Each	$2,400	NCDOT Bid Tabs	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Manhole 153	-78.46670143	33.88180056	Town	Each	$2,400	NCDOT Bid Tabs	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Manhole 154	-78.46694335	33.88197133	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 155	-78.46636255	33.88210791	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 156	-78.46660783	33.88227562	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 157	-78.46624514	33.88221035	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 158	-78.46622555	33.88235021	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 159	-78.46622608	33.88271451	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 16	-78.43683194	33.88816293	Town	Each	$2,400	NCDOT Bid Tabs	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Manhole 160	-78.46552507	33.88331219	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 161	-78.46546216	33.88326022	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 162	-78.46488844	33.88365889	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 163	-78.46451793	33.88377305	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 164	-78.46733544	33.88019936	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 165	-78.4673915	33.88029851	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 166	-78.46688923	33.8803803	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 167	-78.46700286	33.88060313	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 168	-78.46643487	33.88051706	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 169	-78.46655681	33.88075772	Town	Each	$2,400	NCDOT Bid Tabs	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Manhole 17	-78.43643623	33.88752218	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 170	-78.46645759	33.88153351	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 171	-78.46611016	33.88086632	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 172	-78.46568262	33.88080067	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 173	-78.46532119	33.88091469	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 174	-78.4654583	33.88304464	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 175	-78.46544485	33.88278926	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 176	-78.46530647	33.88237543	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 177	-78.46542874	33.88231094	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 178	-78.46532904	33.8820293	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 179	-78.46499977	33.88180499	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 18	-78.43694928	33.88740093	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 180	-78.46494913	33.8816502	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 181	-78.46517149	33.88159324	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 182	-78.46487662	33.8814142	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 183	-78.46491608	33.88128622	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 184	-78.46481494	33.88107616	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 185	-78.46472455	33.88084094	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 186	-78.46450764	33.88090565	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 187	-78.4636044	33.88116381	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 188	-78.46375423	33.88163581	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 189	-78.46392197	33.88159894	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 19	-78.43816464	33.88708929	Town	Each	$2,400	NCDOT Bid Tabs	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Manhole 190	-78.46386819	33.88188191	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 191	-78.46403548	33.88198101	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2

ASSET_TYPE	ASSET_NAME	LOCATION_X	LOCATION_Y	OWNERSHIP	COST_UNIT	EST_VALUE	COST_SOURCE	EXP_SLR	EXP_FP	EXP_HT	EXP_MS	EXP_IHA	EXPSUM	Final Exposure	SENS	ADCAP	Vulnerability Score
Water/Sewer Infrastructure	Manhole 192	-78.46402584	33.88227153	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 193	-78.4641355	33.88224702	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 194	-78.46422226	33.88249314	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 195	-78.46418693	33.88271526	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 196	-78.46421066	33.88285519	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 197	-78.46428947	33.88310394	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 198	-78.46367277	33.88387478	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 199	-78.46342191	33.88384247	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 2	-78.44107264	33.90270164	Town	Each	$2,400	NCDOT Bid Tabs	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Manhole 20	-78.43912235	33.88683425	Town	Each	$2,400	NCDOT Bid Tabs	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Manhole 200	-78.46328465	33.88391606	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 201	-78.46221879	33.88390917	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 202	-78.46137888	33.88393201	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 203	-78.46116124	33.88389506	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 204	-78.46040793	33.88408738	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 205	-78.460938	33.88342494	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 206	-78.46064234	33.88249635	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 207	-78.46072509	33.88226689	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 208	-78.46092346	33.88208336	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 209	-78.46153117	33.88189131	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 21	-78.43991587	33.88665451	Town	Each	$2,400	NCDOT Bid Tabs	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Manhole 210	-78.46180845	33.88261124	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 211	-78.46224093	33.8835255	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 212	-78.46245535	33.88162155	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 213	-78.46269442	33.88171541	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 214	-78.46280152	33.88192096	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 215	-78.46290795	33.88234639	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 216	-78.46314099	33.88280876	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 217	-78.46333519	33.88336033	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 218	-78.45425539	33.88429828	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 219	-78.45438632	33.88472397	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 22	-78.44050438	33.88650172	Town	Each	$2,400	NCDOT Bid Tabs	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Manhole 220	-78.45404282	33.88479607	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 221	-78.45457005	33.88512063	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 222	-78.45410938	33.8854283	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 223	-78.45329955	33.88612046	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 224	-78.45345566	33.88558993	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 225	-78.45327511	33.88506104	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 226	-78.45280011	33.88479844	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 227	-78.43640166	33.88828724	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 228	-78.43572229	33.88845391	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 229	-78.4348672	33.88869337	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 23	-78.44174527	33.88618279	Town	Each	$2,400	NCDOT Bid Tabs	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Manhole 230	-78.43471119	33.8887317	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 231	-78.43475115	33.88884691	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 232	-78.43450508	33.88878194	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 233	-78.43428284	33.88883693	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 234	-78.43452493	33.88953941	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 235	-78.43459797	33.88972104	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 236	-78.43491528	33.89056535	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 237	-78.43499522	33.89082489	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 238	-78.43526902	33.89157658	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 239	-78.43554548	33.89229958	Town	Each	$2,400	NCDOT Bid Tabs	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Manhole 24	-78.44212115	33.8861025	Town	Each	$2,400	NCDOT Bid Tabs	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Manhole 240	-78.43627436	33.89426446	Town	Each	$2,400	NCDOT Bid Tabs	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Manhole 241	-78.43661783	33.89515103	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 242	-78.43312605	33.88912627	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 243	-78.43341421	33.88991422	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 244	-78.43370242	33.89068937	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 245	-78.4337936	33.89095403	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 246	-78.43408606	33.89174937	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 247	-78.43444427	33.89271731	Town	Each	$2,400	NCDOT Bid Tabs	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Manhole 248	-78.43509183	33.89449203	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 249	-78.43540868	33.89536674	Town	Each	$2,400	NCDOT Bid Tabs	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Manhole 25	-78.44334124	33.88577997	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 250	-78.4319762	33.88941653	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 251	-78.43222863	33.89010473	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 252	-78.43249661	33.89085188	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 253	-78.43254125	33.89104141	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 254	-78.43285223	33.89187538	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 255	-78.4331724	33.89272524	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 256	-78.43378893	33.89437812	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 257	-78.43410158	33.89517387	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 258	-78.43425761	33.89564797	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 259	-78.43148413	33.88954868	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 26	-78.44411974	33.88558463	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 260	-78.43081711	33.8897154	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 261	-78.43115736	33.89066705	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 262	-78.43122525	33.89087471	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 263	-78.43151563	33.89167302	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 264	-78.43179728	33.89244373	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 265	-78.43245914	33.89424202	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 266	-78.43274455	33.89496317	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 267	-78.43301992	33.89574494	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2

ASSET_TYPE	ASSET_NAME	LOCATION_X	LOCATION_Y	OWNERSHIP	COST_UNIT	EST_VALUE	COST_SOURCE	EXP_SLR	EXP_FP	EXP_HT	EXP_MS	EXP_IHA	EXPSUM	Final Exposure	SENS	ADCAP	Vulnerability Score
Water/Sewer Infrastructure	Manhole 268	-78.42974352	33.88998609	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 269	-78.42997378	33.89065653	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 27	-78.44506244	33.88534852	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 270	-78.43019911	33.89115933	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 271	-78.43026433	33.89136022	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 272	-78.43059396	33.89227022	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 273	-78.43086493	33.89304728	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 274	-78.43132929	33.89431196	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 275	-78.43166978	33.89522823	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 276	-78.43192326	33.89593133	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 277	-78.43103392	33.895359	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 278	-78.43005527	33.89549586	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 279	-78.42910376	33.89566038	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 28	-78.44532334	33.88528292	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 280	-78.42788268	33.8958333	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 281	-78.42676763	33.89601561	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 282	-78.42563217	33.89618664	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 283	-78.42935108	33.89009917	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 284	-78.42859498	33.89028164	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 285	-78.42888278	33.8910003	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 286	-78.42915775	33.89177027	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 287	-78.42977712	33.89348131	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 288	-78.43014012	33.89448876	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 289	-78.42745487	33.89056869	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 29	-78.44601794	33.88510683	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 290	-78.42771081	33.89126091	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 291	-78.42795017	33.8919293	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 292	-78.42857535	33.89366873	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 293	-78.42888564	33.89451433	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 294	-78.42627972	33.89087701	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 295	-78.42655065	33.8915859	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 296	-78.42688861	33.89251486	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 297	-78.42749519	33.89411843	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 298	-78.42771915	33.89478143	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 299	-78.4251348	33.89115918	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 3	-78.44080363	33.90272875	Town	Each	$2,400	NCDOT Bid Tabs	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Manhole 30	-78.44704938	33.88483538	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 300	-78.42540793	33.89191565	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 301	-78.42567808	33.89262158	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 302	-78.42632741	33.89439242	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 303	-78.42647687	33.89491759	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 304	-78.42395485	33.89146218	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 305	-78.42425527	33.89219602	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 306	-78.42451633	33.89290897	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 307	-78.42507459	33.8944702	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 308	-78.42532541	33.89525655	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 309	-78.42307607	33.89168449	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 31	-78.44775533	33.88465663	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 310	-78.42280987	33.89174176	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 311	-78.42307035	33.89248716	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 312	-78.42335462	33.89319299	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 313	-78.42392315	33.89476548	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 314	-78.4241951	33.89550532	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 315	-78.42168412	33.89203345	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 316	-78.42191345	33.89280082	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 317	-78.42221716	33.89352388	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 318	-78.42271604	33.89498414	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 319	-78.42302215	33.89581287	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 32	-78.44852666	33.88445838	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 320	-78.42050257	33.89234373	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 321	-78.42077265	33.89307794	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 322	-78.42106159	33.89382155	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 323	-78.42159006	33.89527726	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 324	-78.42188871	33.89610234	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 325	-78.41935337	33.89262767	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 326	-78.41963887	33.89338759	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 327	-78.41990009	33.8941101	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 328	-78.42040191	33.89559097	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 329	-78.42068423	33.89627121	Town	Each	$2,400	NCDOT Bid Tabs	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Manhole 33	-78.44952615	33.88421096	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 330	-78.4182022	33.89293218	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 331	-78.41848	33.8936658	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 332	-78.41874763	33.89440496	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 333	-78.41924887	33.89585555	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 334	-78.41956044	33.89666845	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 335	-78.4170422	33.89322537	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 336	-78.41729594	33.89397953	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 337	-78.41759013	33.8946937	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 338	-78.41810243	33.89615521	Town	Each	$2,400	NCDOT Bid Tabs	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Manhole 339	-78.41841081	33.89696492	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 34	-78.45036668	33.88398663	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 340	-78.41588094	33.89351975	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 341	-78.41617086	33.89424531	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 342	-78.41640529	33.89503214	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2

ASSET_TYPE	ASSET_NAME	LOCATION_X	LOCATION_Y	OWNERSHIP	COST_UNIT	EST_VALUE	COST_SOURCE	EXP_SLR	EXP_FP	EXP_HT	EXP_MS	EXP_IHA	EXPSUM	Final Exposure	SENS	ADCAP	Vulnerability Score
Water/Sewer Infrastructure	Manhole 343	-78.41696476	33.89644639	Town	Each	$2,400	NCDOT Bid Tabs	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Manhole 344	-78.41724857	33.8972376	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 345	-78.41556739	33.89359001	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 346	-78.41521044	33.89369108	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 347	-78.41473227	33.89380877	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 348	-78.41500356	33.89453962	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 349	-78.41526336	33.8952893	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 35	-78.451471	33.88370722	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 350	-78.41580395	33.89674447	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 351	-78.41609326	33.89753725	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 352	-78.41414521	33.89394971	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 353	-78.41328061	33.89419493	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 354	-78.4123107	33.89444659	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 355	-78.41147294	33.89464312	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 356	-78.4106631	33.89484833	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 357	-78.40990598	33.89505005	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 358	-78.40896248	33.89528486	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 359	-78.40793728	33.89551496	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 36	-78.4525499	33.88343559	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 360	-78.40707398	33.89568879	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 361	-78.40695893	33.89570047	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 362	-78.40612876	33.89582984	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 363	-78.40520674	33.89602345	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 364	-78.40438629	33.89617075	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 365	-78.40255238	33.89644695	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 366	-78.40161911	33.89658574	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 367	-78.4006929	33.89670183	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 368	-78.39982458	33.89678292	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 369	-78.39887727	33.89687748	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 37	-78.45284306	33.88335489	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 370	-78.39805371	33.89696408	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 371	-78.39705106	33.89707203	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 372	-78.39616098	33.89716358	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 374	-78.39622624	33.89789385	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 375	-78.3950353	33.89800883	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 376	-78.39396741	33.8981143	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 377	-78.39328744	33.89819929	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 378	-78.3932936	33.8983048	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 379	-78.39180609	33.89845048	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 38	-78.45374158	33.88314442	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 381	-78.39398282	33.89885823	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 382	-78.39340362	33.89891808	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 383	-78.39271718	33.89898186	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 384	-78.39175464	33.89908871	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 385	-78.39099851	33.89924014	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 386	-78.39396539	33.89969458	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 387	-78.39396742	33.9002319	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 388	-78.39292733	33.90191401	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 389	-78.3919758	33.90121567	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 39	-78.45483241	33.88284867	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 390	-78.39212329	33.90218307	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 391	-78.40175609	33.89596905	Town	Each	$2,400	NCDOT Bid Tabs	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Manhole 392	-78.40260484	33.89583399	Town	Each	$2,400	NCDOT Bid Tabs	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Manhole 393	-78.40335642	33.89561845	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 394	-78.40338857	33.89572078	Town	Each	$2,400	NCDOT Bid Tabs	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Manhole 395	-78.40418347	33.89546571	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 396	-78.40499282	33.89535929	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 397	-78.40596592	33.89515463	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 398	-78.40673767	33.89500974	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 399	-78.40695247	33.89497963	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 4	-78.44067489	33.90215395	Town	Each	$2,400	NCDOT Bid Tabs	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Manhole 40	-78.45590421	33.8825325	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 400	-78.40799496	33.89479848	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 401	-78.40900452	33.89452703	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 402	-78.41003428	33.89426928	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 403	-78.41106596	33.89400382	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 404	-78.41208203	33.89374944	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 405	-78.41305715	33.89350253	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 406	-78.41404516	33.89325162	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 407	-78.41500923	33.89299183	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 408	-78.41500629	33.89301099	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 409	-78.41539061	33.8929114	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 41	-78.4568216	33.88224608	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 410	-78.41665905	33.89257927	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 411	-78.41785018	33.89228191	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 412	-78.41909919	33.89196282	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 413	-78.42020638	33.89166946	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 414	-78.42146346	33.89136375	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 415	-78.42270923	33.89103188	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 416	-78.42293079	33.89098427	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 417	-78.42404026	33.89069922	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 418	-78.4249732	33.89045484	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 419	-78.42600925	33.89018267	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 42	-78.45856423	33.88172096	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2

ASSET_TYPE	ASSET_NAME	LOCATION_X	LOCATION_Y	OWNERSHIP	COST_UNIT	EST_VALUE	COST_SOURCE	EXP_SLR	EXP_FP	EXP_HT	EXP_MS	EXP_IHA	EXPSUM	Final Exposure	SENS	ADCAP	Vulnerability Score
Water/Sewer Infrastructure	Manhole 420	-78.42691739	33.88997533	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 421	-78.42787001	33.88971039	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 422	-78.42922685	33.88936724	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 423	-78.429507	33.88929717	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 424	-78.43019755	33.88912062	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 425	-78.43123944	33.88886754	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 426	-78.43208397	33.88863194	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 427	-78.43297672	33.88840897	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 428	-78.43335052	33.88831497	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 429	-78.43461884	33.88799326	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 43	-78.45912666	33.88155863	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 430	-78.43583743	33.88767673	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 431	-78.4357025	33.88922934	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 432	-78.43589432	33.88918037	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 433	-78.43605673	33.8895778	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 434	-78.43616313	33.89001158	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 435	-78.43633907	33.89064692	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 436	-78.41384905	33.89519134	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 437	-78.4131052	33.89524296	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 438	-78.41262101	33.89506082	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 439	-78.41237947	33.89457923	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 44	-78.45927496	33.88190489	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 440	-78.40848574	33.89577783	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 441	-78.40828983	33.89583088	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 442	-78.40365244	33.89670757	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 443	-78.40269444	33.89692107	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 444	-78.40180418	33.89712112	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 445	-78.4007057	33.89741763	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 446	-78.39997391	33.89748504	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 447	-78.39966598	33.89753788	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 448	-78.39934632	33.89773025	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 449	-78.39901255	33.89806388	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 45	-78.4602851	33.88119937	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 450	-78.39862741	33.89818996	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 451	-78.39824774	33.8981454	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 452	-78.39756548	33.89823037	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 453	-78.39708105	33.89850191	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 454	-78.3972516	33.89918766	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 455	-78.39484253	33.90020468	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 456	-78.39502073	33.90013452	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 457	-78.39546188	33.89988927	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 458	-78.39654022	33.89974808	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 459	-78.39649584	33.89945348	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 46	-78.4615438	33.88082114	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 460	-78.39643958	33.89929092	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 461	-78.39633127	33.89858673	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 462	-78.39637121	33.89810809	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 463	-78.39635992	33.89789472	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 464	-78.39741222	33.89774644	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 465	-78.39858291	33.89763233	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 466	-78.39890544	33.89765712	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 47	-78.46174751	33.88081297	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 48	-78.46266831	33.88049973	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 49	-78.46340488	33.880291	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 5	-78.44039822	33.90106409	Town	Each	$2,400	NCDOT Bid Tabs	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Manhole 50	-78.46451501	33.87994136	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 51	-78.46558374	33.87962872	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 52	-78.46967087	33.87817979	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	1	2	2	3	2	3
Water/Sewer Infrastructure	Manhole 53	-78.47731357	33.87622623	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	1	2	2	3	2	3
Water/Sewer Infrastructure	Manhole 54	-78.47636967	33.87649151	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	1	2	2	3	2	3
Water/Sewer Infrastructure	Manhole 55	-78.47543985	33.87675631	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	1	2	2	3	2	3
Water/Sewer Infrastructure	Manhole 56	-78.47433154	33.87707221	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	1	2	2	3	2	3
Water/Sewer Infrastructure	Manhole 57	-78.47375204	33.87726729	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	1	2	2	3	2	3
Water/Sewer Infrastructure	Manhole 58	-78.47288339	33.87749375	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	1	2	2	3	2	3
Water/Sewer Infrastructure	Manhole 59	-78.47220329	33.87774457	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	1	2	2	3	2	3
Water/Sewer Infrastructure	Manhole 6	-78.44019548	33.90011611	Town	Each	$2,400	NCDOT Bid Tabs	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 60	-78.47050505	33.87873396	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	1	2	2	3	2	3
Water/Sewer Infrastructure	Manhole 61	-78.47003684	33.87888241	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	1	2	2	3	2	3
Water/Sewer Infrastructure	Manhole 62	-78.46942929	33.8790949	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	1	2	2	3	2	3
Water/Sewer Infrastructure	Manhole 63	-78.46838579	33.87947666	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 64	-78.46784165	33.87985473	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 65	-78.46741316	33.88001613	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 66	-78.46731386	33.8798535	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 67	-78.46663537	33.88009308	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 68	-78.46585152	33.88036347	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 69	-78.46524462	33.88056443	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 7	-78.43888886	33.89437896	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 70	-78.46362383	33.88106986	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 71	-78.46244638	33.88143289	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 72	-78.46147632	33.88171668	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 73	-78.46120754	33.88180404	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 74	-78.46088977	33.88189818	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 75	-78.45987809	33.88220067	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 76	-78.45981749	33.88207053	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2

ASSET_TYPE	ASSET_NAME	LOCATION_X	LOCATION_Y	OWNERSHIP	COST_UNIT	EST_VALUE	COST_SOURCE	EXP_SLR	EXP_FP	EXP_HT	EXP_MS	EXP_IHA	EXPSUM	Final Exposure	SENS	ADCAP	Vulnerability Score
Water/Sewer Infrastructure	Manhole 77	-78.4588571	33.88251102	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 78	-78.45801544	33.88276965	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 79	-78.45717619	33.8830167	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 8	-78.43878269	33.89377963	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 80	-78.45617451	33.8833138	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 81	-78.45519188	33.88359483	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 82	-78.45505142	33.88354182	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 83	-78.45488046	33.8837375	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 84	-78.45431422	33.883725	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 85	-78.45347663	33.88393696	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 86	-78.45295134	33.88405489	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 87	-78.45168691	33.8843981	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 88	-78.45052262	33.88439407	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 89	-78.45061341	33.88466122	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 9	-78.43859915	33.89296066	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 90	-78.45083427	33.88529526	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 91	-78.45111318	33.8860472	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 92	-78.45144413	33.88693939	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 93	-78.45065854	33.88730131	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 94	-78.45027963	33.88624861	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 95	-78.4499368	33.88532591	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 96	-78.44986212	33.88513599	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 97	-78.44887694	33.88537806	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 98	-78.44920149	33.88630408	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Manhole 99	-78.44929186	33.88650713	Town	Each	$2,400	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Other Valve	-78.44185155	33.88708161	Town	Each	$1,000	NCDOT Bid Tabs	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Other Valve	-78.43861288	33.9002908	Town	Each	$1,000	NCDOT Bid Tabs	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Other Valve	-78.45343707	33.8842812	Town	Each	$1,000	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Other Valve	-78.45343009	33.88428511	Town	Each	$1,000	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Other Valve	-78.4481134	33.91874712	Town	Each	$1,000	NCDOT Bid Tabs	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Outfall	-78.42197128	33.89243208	Town	Each	$5,000,000	NCDOT Nags Head Study	1	1	1	0	0	3	3	2	2	3
Water/Sewer Infrastructure	Outfall	-78.43673359	33.89514832	Town	Each	$5,000,000	NCDOT Nags Head Study	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Outfall	-78.43622748	33.89280116	Town	Each	$5,000,000	NCDOT Nags Head Study	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Outfall	-78.43500998	33.88957439	Town	Each	$5,000,000	NCDOT Nags Head Study	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Outfall	-78.43284442	33.88948497	Town	Each	$5,000,000	NCDOT Nags Head Study	1	1	0	0	0	2	2	2	2	2
Water/Sewer Infrastructure	Outfall	-78.43438118	33.89355898	Town	Each	$5,000,000	NCDOT Nags Head Study	1	1	0	0	0	2	2	2	2	2
Water/Sewer Infrastructure	Outfall	-78.43582945	33.89531899	Town	Each	$5,000,000	NCDOT Nags Head Study	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Outfall	-78.43493765	33.89297807	Town	Each	$5,000,000	NCDOT Nags Head Study	0	1	1	0	0	2	2	2	2	2
Water/Sewer Infrastructure	Outfall	-78.43325775	33.89398779	Town	Each	$5,000,000	NCDOT Nags Head Study	1	1	1	0	0	3	3	2	2	3
Water/Sewer Infrastructure	Outfall	-78.43159659	33.89411363	Town	Each	$5,000,000	NCDOT Nags Head Study	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Outfall	-78.4300345	33.89466944	Town	Each	$5,000,000	NCDOT Nags Head Study	0	1	1	0	0	2	2	2	2	2
Water/Sewer Infrastructure	Outfall	-78.42898754	33.89481609	Town	Each	$5,000,000	NCDOT Nags Head Study	1	1	1	0	0	3	3	2	2	3
Water/Sewer Infrastructure	Outfall	-78.42649325	33.89520582	Town	Each	$5,000,000	NCDOT Nags Head Study	1	1	1	0	0	3	3	2	2	3
Water/Sewer Infrastructure	Outfall	-78.42538138	33.89538455	Town	Each	$5,000,000	NCDOT Nags Head Study	1	1	1	0	0	3	3	2	2	3
Water/Sewer Infrastructure	Outfall	-78.42425323	33.89570966	Town	Each	$5,000,000	NCDOT Nags Head Study	0	1	1	0	0	2	2	2	2	2
Water/Sewer Infrastructure	Outfall	-78.42309577	33.89599344	Town	Each	$5,000,000	NCDOT Nags Head Study	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Outfall	-78.42183223	33.89630299	Town	Each	$5,000,000	NCDOT Nags Head Study	1	1	0	0	0	2	2	2	2	2
Water/Sewer Infrastructure	Outfall	-78.42078681	33.89656126	Town	Each	$5,000,000	NCDOT Nags Head Study	1	1	1	0	0	3	3	2	2	3
Water/Sewer Infrastructure	Outfall	-78.4195111	33.89687166	Town	Each	$5,000,000	NCDOT Nags Head Study	1	1	1	0	0	3	3	2	2	3
Water/Sewer Infrastructure	Outfall	-78.43273092	33.89254586	Town	Each	$5,000,000	NCDOT Nags Head Study	1	1	1	0	0	3	3	2	2	3
Water/Sewer Infrastructure	Outfall	-78.42778855	33.89499756	Town	Each	$5,000,000	NCDOT Nags Head Study	1	1	0	0	0	2	2	2	2	2
Water/Sewer Infrastructure	Outfall	-78.42784577	33.89314495	Town	Each	$5,000,000	NCDOT Nags Head Study	1	1	0	0	0	2	2	2	2	2
Water/Sewer Infrastructure	Outfall	-78.43470998	33.89551363	Town	Each	$5,000,000	NCDOT Nags Head Study	1	1	0	0	0	2	2	2	2	2
Water/Sewer Infrastructure	Outfall	-78.43349375	33.89566397	Town	Each	$5,000,000	NCDOT Nags Head Study	1	1	0	0	0	2	2	2	2	2
Water/Sewer Infrastructure	Outfall	-78.42823797	33.89523202	Town	Each	$5,000,000	NCDOT Nags Head Study	1	1	1	0	0	3	3	2	2	3
Water/Sewer Infrastructure	Outfall	-78.43179535	33.89334505	Town	Each	$5,000,000	NCDOT Nags Head Study	1	1	1	0	0	3	3	2	2	3
Water/Sewer Infrastructure	Outfall	-78.4525334	33.8867394	Town	Each	$5,000,000	NCDOT Nags Head Study	0	1	1	0	0	2	2	2	2	2
Water/Sewer Infrastructure	Outfall	-78.43372898	33.88941315	Town	Each	$5,000,000	NCDOT Nags Head Study	1	1	1	0	0	3	3	2	2	3
Water/Sewer Infrastructure	Outfall	-78.43161326	33.89054174	Town	Each	$5,000,000	NCDOT Nags Head Study	1	1	1	0	0	3	3	2	2	3
Water/Sewer Infrastructure	Outfall	-78.43204116	33.89172114	Town	Each	$5,000,000	NCDOT Nags Head Study	0	1	1	0	0	2	2	2	2	2
Water/Sewer Infrastructure	Outfall	-78.43179028	33.89334798	Town	Each	$5,000,000	NCDOT Nags Head Study	1	1	1	0	0	3	3	2	2	3
Water/Sewer Infrastructure	Outfall	-78.43270108	33.89362633	Town	Each	$5,000,000	NCDOT Nags Head Study	0	1	1	0	0	2	2	2	2	2
Water/Sewer Infrastructure	Outfall	-78.43110848	33.89269183	Town	Each	$5,000,000	NCDOT Nags Head Study	1	1	1	0	0	3	3	2	2	3
Water/Sewer Infrastructure	Outfall	-78.43154963	33.89527763	Town	Each	$5,000,000	NCDOT Nags Head Study	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	outfall	-78.41843394	33.89713087	Town	Each	$5,000,000	NCDOT Nags Head Study	1	1	1	0	0	3	3	2	2	3
Water/Sewer Infrastructure	Outfall	-78.42320303	33.89505517	Town	Each	$5,000,000	NCDOT Nags Head Study	1	1	1	0	0	3	3	2	2	3
Water/Sewer Infrastructure	Outfall	-78.42530914	33.89539172	Town	Each	$5,000,000	NCDOT Nags Head Study	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Outfall	-78.42840191	33.89200409	Town	Each	$5,000,000	NCDOT Nags Head Study	0	1	0	0	0	1	1	2	2	1
Water/Sewer Infrastructure	Outfall	-78.42955579	33.89170765	Town	Each	$5,000,000	NCDOT Nags Head Study	0	1	1	0	0	2	2	2	2	2
Water/Sewer Infrastructure	Outfall	-78.45082979	33.88624053	Town	Each	$5,000,000	NCDOT Nags Head Study	1	1	0	0	0	2	2	2	2	2
Water/Sewer Infrastructure	Pump Station	-78.38951477	33.90116456	Town	Each	$150,000	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Pump Station E-1	-78.43458319	33.88896069	Town	Each	$150,000	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Pump Station E-10	-78.42726201	33.89346133	Town	Each	$150,000	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Pump Station E-11	-78.42599136	33.89093899	Town	Each	$150,000	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Pump Station E-12	-78.42600805	33.89356759	Town	Each	$150,000	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Pump Station E-13	-78.42480343	33.89368856	Town	Each	$150,000	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Pump Station E-14	-78.42365353	33.89396995	Town	Each	$150,000	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Pump Station E-15	-78.42248677	33.8942489	Town	Each	$150,000	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Pump Station E-16	-78.42133761	33.89454428	Town	Each	$150,000	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Pump Station E-17	-78.42017217	33.89482846	Town	Each	$150,000	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Pump Station E-18	-78.41920065	33.89266433	Town	Each	$150,000	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Pump Station E-19	-78.41899429	33.89514179	Town	Each	$150,000	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Pump Station E-2	-78.43588411	33.89323129	Town	Each	$150,000	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Pump Station E-20	-78.41783225	33.89544705	Town	Each	$150,000	Recent M&N Project	0	1	0	0	0	1	1	3	2	2

ASSET_TYPE	ASSET_NAME	LOCATION_X	LOCATION_Y	OWNERSHIP	COST_UNIT	EST_VALUE	COST_SOURCE	EXP_SLR	EXP_FP	EXP_HT	EXP_MS	EXP_IHA	EXPSUM	Final Exposure	SENS	ADCAP	Vulnerability Score
Water/Sewer Infrastructure	Pump Station E-21	-78.4167032	33.89573222	Town	Each	$150,000	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Pump Station E-22	-78.41555972	33.8960051	Town	Each	$150,000	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Pump Station E-23	-78.41221122	33.89444338	Town	Each	$150,000	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Pump Station E-24	-78.40350541	33.89629024	Town	Each	$150,000	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Pump Station E-25	-78.3941182	33.89904148	Town	Each	$150,000	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Pump Station E-26	-78.39289525	33.90111216	Town	Each	$150,000	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Pump Station E-27	-78.39640437	33.89948245	Town	Each	$150,000	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Pump Station E-3	-78.43470869	33.89349833	Town	Each	$150,000	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Pump Station E-4	-78.43348641	33.89359293	Town	Each	$150,000	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Pump Station E-5	-78.43214546	33.89340122	Town	Each	$150,000	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Pump Station E-6	-78.43107226	33.89355702	Town	Each	$150,000	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Pump Station E-7	-78.42842939	33.89578061	Town	Each	$150,000	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Pump Station E-8	-78.42951053	33.89268539	Town	Each	$150,000	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Pump Station E-9	-78.42823285	33.89273035	Town	Each	$150,000	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Pump Station N-1	-78.440031	33.89927603	Town	Each	$150,000	Recent M&N Project	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Pump Station S-1	-78.43834945	33.8919496	Town	Each	$150,000	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Pump Station W-1	-78.44695205	33.88485752	Town	Each	$150,000	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Pump Station W-2	-78.45069654	33.88464898	Town	Each	$150,000	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Pump Station W-2A	-78.45344515	33.88429422	Town	Each	$150,000	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Pump Station W-3	-78.45708151	33.88304295	Town	Each	$150,000	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Pump Station W-4	-78.46446226	33.88081605	Town	Each	$150,000	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Pump Station W-5	-78.47132368	33.87813695	Town	Each	$150,000	Recent M&N Project	0	1	0	0	1	2	2	3	2	3
Water/Sewer Infrastructure	Pump Station W-6	-78.46615167	33.88213345	Town	Each	$150,000	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Pump Station W-7	-78.46221826	33.8838297	Town	Each	$150,000	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Force Main	-78.39348616	33.9010533	Town	per linear ft	$60	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Sewer Force Main	-78.39619467	33.89786998	Town	per linear ft	$60	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Force Main	-78.40522899	33.89597522	Town	per linear ft	$60	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Force Main	-78.41571605	33.89359846	Town	per linear ft	$60	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Force Main	-78.41921141	33.89268833	Town	per linear ft	$60	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Force Main	-78.41511147	33.89491637	Town	per linear ft	$60	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Force Main	-78.41742322	33.89434113	Town	per linear ft	$60	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Force Main	-78.4186044	33.89403634	Town	per linear ft	$60	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Force Main	-78.41973971	33.89373422	Town	per linear ft	$60	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Force Main	-78.42089969	33.89345101	Town	per linear ft	$60	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Force Main	-78.42205329	33.89315206	Town	per linear ft	$60	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Force Main	-78.4232129	33.89286246	Town	per linear ft	$60	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Force Main	-78.42556532	33.89236659	Town	per linear ft	$60	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Force Main	-78.41626287	33.89463499	Town	per linear ft	$60	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Force Main	-78.42438002	33.89257617	Town	per linear ft	$60	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Force Main	-78.42675704	33.89217311	Town	per linear ft	$60	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Force Main	-78.42784369	33.89165085	Town	per linear ft	$60	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Force Main	-78.42904617	33.89148614	Town	per linear ft	$60	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Force Main	-78.43887805	33.89442001	Town	per linear ft	$60	Recent M&N Project	1	1	1	0	0	3	3	3	2	4
Water/Sewer Infrastructure	Sewer Force Main	-78.44435721	33.8855435	Town	per linear ft	$60	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Force Main	-78.4354047	33.89189801	Town	per linear ft	$60	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Sewer Force Main	-78.43422489	33.89209091	Town	per linear ft	$60	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Sewer Force Main	-78.43299265	33.8922227	Town	per linear ft	$60	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Sewer Force Main	-78.43166268	33.89203419	Town	per linear ft	$60	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Force Main	-78.43004413	33.89549388	Town	per linear ft	$60	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Force Main	-78.43061557	33.89236442	Town	per linear ft	$60	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Force Main	-78.45048311	33.88432927	Town	per linear ft	$60	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Force Main	-78.45488378	33.88284837	Town	per linear ft	$60	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Force Main	-78.46083324	33.88188748	Town	per linear ft	$60	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Force Main	-78.46903703	33.87922544	Town	per linear ft	$60	Recent M&N Project	0	1	0	0	1	2	2	3	2	3
Water/Sewer Infrastructure	Sewer Force Main	-78.4615711	33.88384968	Town	per linear ft	$60	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Sewer Force Main	-78.4664084	33.88194681	Town	per linear ft	$60	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Sewer Force Main	-78.42261134	33.89183856	Town	per linear ft	$60	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Force Main	-78.42954649	33.89004495	Town	per linear ft	$60	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Force Main	-78.45332213	33.88417361	Town	per linear ft	$60	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Force Main	-78.45312246	33.88422694	Town	per linear ft	$60	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Force Main	-78.4276754	33.89053279	Town	per linear ft	$60	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Force Main	-78.44005262	33.89927062	Town	per linear ft	$60	Recent M&N Project	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Force Main	-78.43780096	33.89078235	Town	per linear ft	$60	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Force Main	-78.39637662	33.89865841	Town	per linear ft	$60	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Force Main	-78.39415843	33.89854906	Town	per linear ft	$60	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Force Main	-78.44031513	33.90087742	Town	per linear ft	$60	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Sewer Force Main	-78.44030363	33.90083966	Town	per linear ft	$60	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Sewer Force Main	-78.44037122	33.90087877	Town	per linear ft	$60	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Sewer Force Main	-78.44035168	33.90080322	Town	per linear ft	$60	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Sewer Force Main	-78.39066531	33.90041733	Town	per linear ft	$60	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Force Main	-78.39204418	33.89981993	Town	per linear ft	$60	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Force Main	-78.39243005	33.8997264	Town	per linear ft	$60	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Sewer Force Main	-78.39276865	33.89934203	Town	per linear ft	$60	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.46395995	33.88011618	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.46751432	33.88131902	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.46826871	33.8805628	Town	per linear ft	$80	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Sewer Gravity	-78.46860782	33.8802645	Town	per linear ft	$80	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Sewer Gravity	-78.46889722	33.87993639	Town	per linear ft	$80	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Sewer Gravity	-78.4692737	33.8796693	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	1	2	2	3	2	3
Water/Sewer Infrastructure	Sewer Gravity	-78.46959751	33.87936557	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	1	2	2	3	2	3
Water/Sewer Infrastructure	Sewer Gravity	-78.46713488	33.88157466	Town	per linear ft	$80	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Sewer Gravity	-78.46679988	33.88187006	Town	per linear ft	$80	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Sewer Gravity	-78.46648519	33.88219177	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.46619841	33.8821719	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2

ASSET_TYPE	ASSET_NAME	LOCATION_X	LOCATION_Y	OWNERSHIP	COST_UNIT	EST_VALUE	COST_SOURCE	EXP_SLR	EXP_FP	EXP_HT	EXP_MS	EXP_IHA	EXPSUM	Final Exposure	SENS	ADCAP	Vulnerability Score
Water/Sewer Infrastructure	Sewer Gravity	-78.46656921	33.88192048	Town	per linear ft	$80	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Sewer Gravity	-78.46649584	33.88063739	Town	per linear ft	$80	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Sewer Gravity	-78.46694604	33.88049171	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.46621475	33.88106471	Town	per linear ft	$80	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Sewer Gravity	-78.45046908	33.88677496	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.45174559	33.88438217	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.44887686	33.88537784	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.45010784	33.88578112	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.43506793	33.89443005	Town	per linear ft	$80	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Sewer Gravity	-78.43388296	33.89461746	Town	per linear ft	$80	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Sewer Gravity	-78.43258943	33.89457123	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.43179652	33.89557978	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.43736987	33.88986234	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.41581478	33.89677414	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.42856172	33.89363139	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.42797344	33.89199524	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.42964383	33.89308335	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.43066033	33.89246055	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.43168553	33.89213792	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.43301823	33.89231602	Town	per linear ft	$80	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Sewer Gravity	-78.43426152	33.89222351	Town	per linear ft	$80	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Sewer Gravity	-78.43544148	33.89202761	Town	per linear ft	$80	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Sewer Gravity	-78.43578185	33.88769116	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.43210402	33.88862694	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.42762003	33.88977991	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.41724356	33.89243335	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.41003655	33.89426869	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.39397512	33.89954506	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.39221073	33.89841889	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.4003069	33.89672993	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.42767	33.89051453	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.43663173	33.88822077	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.43702559	33.88860215	Town	per linear ft	$80	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Sewer Gravity	-78.44969413	33.88467347	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.45019965	33.88626954	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.44671271	33.88572854	Town	per linear ft	$80	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Sewer Gravity	-78.44768453	33.88547926	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.45443707	33.88483353	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.4548505	33.88284333	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.46351435	33.88068043	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.46256742	33.88053405	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.46296883	33.88126528	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.46991508	33.87893191	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	1	2	2	3	2	3
Water/Sewer Infrastructure	Sewer Gravity	-78.3930604	33.89894997	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.39137657	33.89916443	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.39329045	33.89825084	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.39397511	33.89848626	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.40928711	33.89520407	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.40523863	33.89601676	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.40259376	33.89583575	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.40504178	33.89534899	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.40747372	33.89488906	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.41371241	33.89407247	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.41219637	33.89409801	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.41738795	33.89313799	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.42100824	33.89221094	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.42453432	33.89131338	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.41874637	33.89440147	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.41926875	33.89590742	Town	per linear ft	$80	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Sewer Gravity	-78.41759426	33.89470655	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.41812174	33.89620593	Town	per linear ft	$80	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Sewer Gravity	-78.41697835	33.89648429	Town	per linear ft	$80	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Sewer Gravity	-78.41639496	33.89499748	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.41513346	33.89491446	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.41541154	33.8956472	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.42221567	33.89352032	Town	per linear ft	$80	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Sewer Gravity	-78.42273514	33.89503585	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.41989985	33.89410945	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.42039182	33.89555746	Town	per linear ft	$80	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Sewer Gravity	-78.42160727	33.8953248	Town	per linear ft	$80	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Sewer Gravity	-78.42105731	33.89381052	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.42336771	33.89322701	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.42392431	33.89473763	Town	per linear ft	$80	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Sewer Gravity	-78.42452935	33.89294229	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.42571902	33.89273895	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.42749577	33.89412016	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.42689346	33.89252715	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.42507462	33.89447029	Town	per linear ft	$80	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Sewer Gravity	-78.42626685	33.89423602	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.42995862	33.89398504	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.42918675	33.8918455	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.42972736	33.89555256	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.43624706	33.89419219	Town	per linear ft	$80	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Sewer Gravity	-78.43453797	33.88887335	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2

ASSET_TYPE	ASSET_NAME	LOCATION_X	LOCATION_Y	OWNERSHIP	COST_UNIT	EST_VALUE	COST_SOURCE	EXP_SLR	EXP_FP	EXP_HT	EXP_MS	EXP_IHA	EXPSUM	Final Exposure	SENS	ADCAP	Vulnerability Score
Water/Sewer Infrastructure	Sewer Gravity	-78.43474302	33.88834331	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.44088982	33.90315983	Town	per linear ft	$80	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Sewer Gravity	-78.440386	33.90100692	Town	per linear ft	$80	Recent M&N Project	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.44093814	33.90271519	Town	per linear ft	$80	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Sewer Gravity	-78.43678022	33.88866092	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.43934469	33.88678389	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.44870884	33.88441328	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.44791554	33.88683174	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.44943758	33.88690564	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.45085676	33.88535589	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.45206212	33.88537276	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.45702718	33.88305918	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.45426346	33.88373785	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.45201045	33.8835714	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.43459154	33.889703	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.43341207	33.88990837	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.43223887	33.8901336	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.43098723	33.89019123	Town	per linear ft	$80	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Sewer Gravity	-78.42702828	33.89597299	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.40302889	33.8963686	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.40701646	33.89569463	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.41184208	33.89454325	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.42614448	33.89052984	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.41922628	33.89229524	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.42994699	33.89057852	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.43136179	33.88920811	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.4395287	33.90020034	Town	per linear ft	$80	Recent M&N Project	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.43473117	33.88878931	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.43827067	33.88856456	Town	per linear ft	$80	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Sewer Gravity	-78.4385897	33.88773493	Town	per linear ft	$80	Recent M&N Project	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.44984294	33.8853485	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.45421457	33.88476002	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.45385027	33.88429625	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.45330991	33.88516298	Town	per linear ft	$80	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Sewer Gravity	-78.45512165	33.88356832	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.45498142	33.88399735	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.46945282	33.87918653	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	1	2	2	3	2	3
Water/Sewer Infrastructure	Sewer Gravity	-78.47684162	33.87635887	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	1	2	2	3	2	3
Water/Sewer Infrastructure	Sewer Gravity	-78.46925358	33.87948556	Town	per linear ft	$80	Recent M&N Project	0	1	1	0	1	3	3	3	2	4
Water/Sewer Infrastructure	Sewer Gravity	-78.46832763	33.88033198	Town	per linear ft	$80	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Sewer Gravity	-78.46736347	33.88024894	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.46738494	33.88008265	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.4676274	33.87993543	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.46656632	33.88075442	Town	per linear ft	$80	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Sewer Gravity	-78.46731058	33.88125677	Town	per linear ft	$80	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Sewer Gravity	-78.46784864	33.88117188	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.4678039	33.88087896	Town	per linear ft	$80	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Sewer Gravity	-78.46485344	33.88069024	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.46504938	33.87978504	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.46493327	33.88159858	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.46524853	33.88093787	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.46506031	33.88162172	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.46587558	33.88301335	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.46502032	33.88358707	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.46394323	33.88192636	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.4638381	33.88161737	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.46408067	33.88225927	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.46292688	33.88238395	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.46133044	33.88392379	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.46181924	33.88263405	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.46134193	33.88176036	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.46071933	33.88273815	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.46003119	33.88215489	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.39291129	33.90151309	Town	per linear ft	$80	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Sewer Gravity	-78.4664084	33.88194681	Town	per linear ft	$80	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Sewer Gravity	-78.46656141	33.88164683	Town	per linear ft	$80	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Sewer Gravity	-78.39449691	33.898062	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.39562954	33.89795436	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.46985385	33.8785311	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	1	2	2	3	2	3
Water/Sewer Infrastructure	Sewer Gravity	-78.44419483	33.88717687	Town	per linear ft	$80	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Sewer Gravity	-78.44389572	33.88638288	Town	per linear ft	$80	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Sewer Gravity	-78.39204955	33.90169937	Town	per linear ft	$80	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Sewer Gravity	-78.45920081	33.88173176	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.45959813	33.88200355	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.45884545	33.8816398	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.45970432	33.88137541	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.46091556	33.88101068	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.39619562	33.89753217	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.43611	33.88979496	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.43398468	33.88815411	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.4390701	33.88847319	Town	per linear ft	$80	Recent M&N Project	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.43173017	33.8894826	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.4303718	33.88907829	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.42447111	33.89058637	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2

ASSET_TYPE	ASSET_NAME	LOCATION_X	LOCATION_Y	OWNERSHIP	COST_UNIT	EST_VALUE	COST_SOURCE	EXP_SLR	EXP_FP	EXP_HT	EXP_MS	EXP_IHA	EXPSUM	Final Exposure	SENS	ADCAP	Vulnerability Score
Water/Sewer Infrastructure	Sewer Gravity	-78.42090499	33.89149957	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.41354371	33.89337897	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.39243553	33.90116392	Town	per linear ft	$80	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Sewer Gravity	-78.39223591	33.89903528	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.39266628	33.89868458	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.44371949	33.88568506	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.44568001	33.88628288	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.44717501	33.88520116	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.45127865	33.8864933	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.46545842	33.88305106	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.46294553	33.88391387	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.45695155	33.88264452	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.47505537	33.87686598	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	1	2	2	3	2	3
Water/Sewer Infrastructure	Sewer Gravity	-78.43136029	33.8943954	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.47250197	33.87763442	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	1	2	2	3	2	3
Water/Sewer Infrastructure	Sewer Gravity	-78.46594177	33.88033234	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.43864391	33.89316042	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.43342084	33.88905254	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.43115062	33.88963204	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.43028032	33.88985075	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.44618734	33.88506162	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.45091884	33.88384693	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.41290584	33.89516797	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.40815922	33.89571384	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.40188419	33.89710314	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.39756534	33.89773151	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.3979397	33.89818377	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.39684559	33.89923929	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.39569794	33.89985836	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.39552778	33.89938581	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.39544226	33.89867944	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.39691741	33.89708619	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.43816621	33.89156674	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.46697462	33.87997329	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.43954596	33.88835138	Town	per linear ft	$80	Recent M&N Project	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.39332245	33.89828278	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.38871827	33.90105485	Town	per linear ft	$80	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Sewer Gravity	-78.38934862	33.90097307	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Sewer Gravity	-78.38938304	33.90096728	Town	per linear ft	$80	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Valve	-78.46332513	33.88040738	Town	Each	$1,500	NCDOT Bid Tabs	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Waste Water Treatment Plant	-78.45109579	33.91859944	Brunswick County	No Data	No Data	No Data	0	0	0	1	0	1	1	2	2	1
Water/Sewer Infrastructure	Water Pipe	-78.41469947	33.89396246	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.41324883	33.89431198	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.41089361	33.89491381	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.40773638	33.89569363	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.40520878	33.89612813	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.40254764	33.89657357	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.39248785	33.89842557	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.39890731	33.89698826	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.40403161	33.89560397	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.40924252	33.89459222	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.41176456	33.89394713	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.41428292	33.89331467	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.41899834	33.8920998	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.42089538	33.89163676	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.42152897	33.89145704	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.42436476	33.89073289	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.42597105	33.89031697	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.4267131	33.89013819	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.43475837	33.88808738	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.43742551	33.8874141	Town	per linear ft	$120	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Water Pipe	-78.44001352	33.88674882	Town	per linear ft	$120	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Water Pipe	-78.44851919	33.88459172	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.45026726	33.8841308	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.4524775	33.88356356	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.46351893	33.88035515	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.46373036	33.88089094	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.46796002	33.8795014	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.4696419	33.87890883	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	1	2	2	3	2	3
Water/Sewer Infrastructure	Water Pipe	-78.47115174	33.87811333	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	1	2	2	3	2	3
Water/Sewer Infrastructure	Water Pipe	-78.47277255	33.87743034	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	1	2	2	3	2	3
Water/Sewer Infrastructure	Water Pipe	-78.47740576	33.87608121	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	1	2	2	3	2	3
Water/Sewer Infrastructure	Water Pipe	-78.4669777	33.8807222	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.46620206	33.88213977	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.46740192	33.88116769	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.4683105	33.88031484	Town	per linear ft	$120	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Water Pipe	-78.46924952	33.87936847	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	1	2	2	3	2	3
Water/Sewer Infrastructure	Water Pipe	-78.41534648	33.89574509	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.41650949	33.89549624	Town	per linear ft	$120	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Water Pipe	-78.41766192	33.89521434	Town	per linear ft	$120	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Water Pipe	-78.46715685	33.87977904	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	1	2	2	3	2	3
Water/Sewer Infrastructure	Water Pipe	-78.47053431	33.87858864	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	1	2	2	3	2	3
Water/Sewer Infrastructure	Water Pipe	-78.45029861	33.88414802	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.45006246	33.88419874	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2

ASSET_TYPE	ASSET_NAME	LOCATION_X	LOCATION_Y	OWNERSHIP	COST_UNIT	EST_VALUE	COST_SOURCE	EXP_SLR	EXP_FP	EXP_HT	EXP_MS	EXP_IHA	EXPSUM	Final Exposure	SENS	ADCAP	Vulnerability Score
Water/Sewer Infrastructure	Water Pipe	-78.44069895	33.90206207	Town	per linear ft	$120	Recent M&N Project	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.43988306	33.89622034	Town	per linear ft	$120	Recent M&N Project	1	1	1	0	0	3	3	3	2	4
Water/Sewer Infrastructure	Water Pipe	-78.43531143	33.89135797	Town	per linear ft	$120	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Water Pipe	-78.42932443	33.89252025	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.42813488	33.89275631	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.42696267	33.89297066	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.42559887	33.89272527	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.42444658	33.89302885	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.42450133	33.89068962	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.4130171	33.8936112	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.40927023	33.89456974	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.40538661	33.89535056	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.40364346	33.89566631	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.39280476	33.89838131	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.39241106	33.89829669	Town	per linear ft	$120	Recent M&N Project	1	1	1	0	1	4	3	3	2	4
Water/Sewer Infrastructure	Water Pipe	-78.43638244	33.88770509	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.45483933	33.88294516	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.45486457	33.88295759	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.44470838	33.88552706	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.46827398	33.88052675	Town	per linear ft	$120	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Water Pipe	-78.4685689	33.88019742	Town	per linear ft	$120	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Water Pipe	-78.46891296	33.8799009	Town	per linear ft	$120	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Water Pipe	-78.46930174	33.87961953	Town	per linear ft	$120	Recent M&N Project	0	1	1	0	1	3	3	3	2	4
Water/Sewer Infrastructure	Water Pipe	-78.46963371	33.879307	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	1	2	2	3	2	3
Water/Sewer Infrastructure	Water Pipe	-78.46911437	33.87952048	Town	per linear ft	$120	Recent M&N Project	0	1	1	0	1	3	3	3	2	4
Water/Sewer Infrastructure	Water Pipe	-78.46626511	33.88096043	Town	per linear ft	$120	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Water Pipe	-78.46647141	33.88067308	Town	per linear ft	$120	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Water Pipe	-78.46692598	33.88051826	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.46735631	33.88036974	Town	per linear ft	$120	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Water Pipe	-78.46712871	33.88150394	Town	per linear ft	$120	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Water Pipe	-78.46681184	33.88181139	Town	per linear ft	$120	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Water Pipe	-78.46712579	33.88126328	Town	per linear ft	$120	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Water Pipe	-78.45578897	33.88333659	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.45476023	33.88296842	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.46178361	33.88086313	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.45700572	33.88229707	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.45665164	33.88304588	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.45895741	33.88232995	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.4612787	33.88163499	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.45901574	33.88233212	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.45452488	33.88379613	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.45233423	33.88436366	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.45061899	33.88479205	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.44933206	33.886445	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.44983421	33.88547446	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.45097551	33.88605474	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.44647818	33.88644106	Town	per linear ft	$120	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Water Pipe	-78.44813234	33.88547552	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.44716922	33.88555985	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.44710308	33.88525959	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.45015801	33.88637924	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.44848632	33.88679574	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.44674974	33.88722801	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.44555947	33.88619508	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.44381775	33.88717324	Town	per linear ft	$120	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Water Pipe	-78.44295707	33.8873905	Town	per linear ft	$120	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Water Pipe	-78.44208204	33.88761104	Town	per linear ft	$120	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Water Pipe	-78.44113936	33.88784821	Town	per linear ft	$120	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Water Pipe	-78.43795819	33.88867183	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.43706488	33.88920883	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.4385012	33.88828119	Town	per linear ft	$120	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Water Pipe	-78.43764978	33.88807523	Town	per linear ft	$120	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Water Pipe	-78.43561531	33.88860427	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.43372888	33.88908352	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.42680035	33.89085801	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.42538865	33.89121752	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.42422398	33.89151639	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.42331815	33.89173545	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.42215951	33.89203144	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.42042405	33.89247403	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.41871219	33.89291724	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.41756049	33.89321078	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.41641302	33.89349463	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.41527553	33.89378636	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.4128195	33.8944153	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.41057796	33.89498491	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.41021202	33.89508823	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.40897937	33.89538563	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.40559378	33.89604571	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.39970005	33.89662449	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.39980237	33.89688573	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.39611247	33.89728435	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.39517481	33.89737829	Town	per linear ft	$120	Recent M&N Project	1	1	1	0	0	3	3	3	2	4
Water/Sewer Infrastructure	Water Pipe	-78.39361045	33.8975394	Town	per linear ft	$120	Recent M&N Project	1	1	0	0	0	2	2	3	2	3

ASSET_TYPE	ASSET_NAME	LOCATION_X	LOCATION_Y	OWNERSHIP	COST_UNIT	EST_VALUE	COST_SOURCE	EXP_SLR	EXP_FP	EXP_HT	EXP_MS	EXP_IHA	EXPSUM	Final Exposure	SENS	ADCAP	Vulnerability Score
Water/Sewer Infrastructure	Water Pipe	-78.39293148	33.8990609	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.39424578	33.89877651	Town	per linear ft	$120	Recent M&N Project	1	1	1	0	0	3	3	3	2	4
Water/Sewer Infrastructure	Water Pipe	-78.39254916	33.89875473	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.39493662	33.89812562	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.40875071	33.8950779	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.41929813	33.8928126	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.41916879	33.89241282	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.41583888	33.89366687	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.41742256	33.89251251	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.41571214	33.89330201	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.43879105	33.89307983	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.43822142	33.89183064	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.4432264	33.90097528	Town	per linear ft	$120	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Water Pipe	-78.44389466	33.90230793	Town	per linear ft	$120	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Water Pipe	-78.44229696	33.89882933	Town	per linear ft	$120	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Water Pipe	-78.44170568	33.89869543	Town	per linear ft	$120	Recent M&N Project	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.43980959	33.90029677	Town	per linear ft	$120	Recent M&N Project	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.43920446	33.89978919	Town	per linear ft	$120	Recent M&N Project	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.4376298	33.90068963	Town	per linear ft	$120	Recent M&N Project	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.4366646	33.90010489	Town	per linear ft	$120	Recent M&N Project	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.43736323	33.90053073	Town	per linear ft	$120	Recent M&N Project	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.43584061	33.90049018	Town	per linear ft	$120	Recent M&N Project	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.4395998	33.90512418	Town	per linear ft	$120	Recent M&N Project	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.43990288	33.902854	Town	per linear ft	$120	Recent M&N Project	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.44014902	33.90175899	Town	per linear ft	$120	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Water Pipe	-78.43956276	33.90128161	Town	per linear ft	$120	Recent M&N Project	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.43942535	33.90181627	Town	per linear ft	$120	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Water Pipe	-78.44388305	33.90968145	Town	per linear ft	$120	Recent M&N Project	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.44312249	33.90691101	Town	per linear ft	$120	Recent M&N Project	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.43787513	33.89065118	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.43755882	33.8888607	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.440877	33.90017819	Town	per linear ft	$120	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Water Pipe	-78.44090035	33.90017904	Town	per linear ft	$120	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Water Pipe	-78.44079834	33.90023564	Town	per linear ft	$120	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Water Pipe	-78.44098922	33.90374292	Town	per linear ft	$120	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Water Pipe	-78.39248404	33.89835196	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.39613903	33.89729944	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.39795723	33.89700309	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.40248296	33.89583812	Town	per linear ft	$120	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Water Pipe	-78.40152218	33.89660911	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.41417007	33.89392081	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.4153169	33.89573398	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.41701252	33.89691141	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.41647859	33.89547148	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.41697464	33.89337143	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.41763297	33.89516651	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.41830701	33.89699993	Town	per linear ft	$120	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Water Pipe	-78.4185982	33.89435281	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.41975103	33.89407615	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.42033702	33.8956222	Town	per linear ft	$120	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Water Pipe	-78.42090338	33.89375667	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.42148207	33.89533337	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.42119689	33.89229675	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.42204523	33.89348302	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.42263099	33.89503999	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.42274595	33.89192562	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.42321965	33.89318678	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.42379355	33.89475035	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.42437173	33.89290311	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.42495303	33.89446795	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.42456663	33.89143717	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.42553383	33.89258429	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.42609912	33.89415859	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.42609475	33.89066293	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.42657156	33.89196539	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.42709447	33.89334895	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.43569295	33.89985642	Town	per linear ft	$120	Recent M&N Project	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.4232794	33.89330668	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.42388264	33.89494109	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.42403296	33.89531813	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.42210334	33.89361662	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.4227193	33.89525419	Town	per linear ft	$120	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Water Pipe	-78.42289148	33.89571195	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.42096509	33.89390078	Town	per linear ft	$120	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Water Pipe	-78.4217331	33.89599601	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.42156757	33.89554443	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.41982103	33.89419063	Town	per linear ft	$120	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Water Pipe	-78.4204278	33.89583895	Town	per linear ft	$120	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Water Pipe	-78.42059136	33.89628327	Town	per linear ft	$120	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Water Pipe	-78.41866651	33.89449895	Town	per linear ft	$120	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Water Pipe	-78.41917598	33.89592942	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.41927091	33.89614641	Town	per linear ft	$120	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Water Pipe	-78.41943083	33.89658232	Town	per linear ft	$120	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Water Pipe	-78.4273912	33.89073284	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2

ASSET_TYPE	ASSET_NAME	LOCATION_X	LOCATION_Y	OWNERSHIP	COST_UNIT	EST_VALUE	COST_SOURCE	EXP_SLR	EXP_FP	EXP_HT	EXP_MS	EXP_IHA	EXPSUM	Final Exposure	SENS	ADCAP	Vulnerability Score
Water/Sewer Infrastructure	Water Pipe	-78.4281455	33.8928109	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.42876882	33.89450578	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.42891654	33.89144291	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.42943155	33.89286797	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.42979522	33.89041235	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.43063365	33.89272002	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.43146692	33.89498436	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.43062113	33.89262817	Town	per linear ft	$120	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Water Pipe	-78.43172616	33.89563615	Town	per linear ft	$120	Recent M&N Project	1	1	1	0	0	3	3	3	2	4
Water/Sewer Infrastructure	Water Pipe	-78.42911116	33.89554064	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.42590026	33.89605595	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.42872484	33.89560483	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.42574006	33.89608444	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.43145647	33.89113732	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.43218068	33.89310305	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.43289517	33.89506994	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.43193159	33.89243947	Town	per linear ft	$120	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Water Pipe	-78.43302245	33.89544414	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.43220814	33.88929091	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.42938964	33.89019624	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.43216132	33.8895114	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.43288232	33.88930451	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.43250229	33.88942032	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.43181123	33.88959998	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.43148942	33.88967971	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.43130472	33.88934542	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.43223405	33.88981405	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.4331317	33.89227979	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.4339002	33.89437828	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.43300116	33.89195233	Town	per linear ft	$120	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Water Pipe	-78.43409017	33.89494686	Town	per linear ft	$120	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Water Pipe	-78.43423924	33.8957017	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.43375982	33.89055072	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.43447976	33.89250371	Town	per linear ft	$120	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Water Pipe	-78.43520848	33.89448812	Town	per linear ft	$120	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Water Pipe	-78.43423154	33.89187536	Town	per linear ft	$120	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Water Pipe	-78.43534878	33.89495	Town	per linear ft	$120	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Water Pipe	-78.43453101	33.88920082	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.43545249	33.89170918	Town	per linear ft	$120	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Water Pipe	-78.4362255	33.89378589	Town	per linear ft	$120	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Water Pipe	-78.43312729	33.88887173	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.42653368	33.89018022	Town	per linear ft	$120	Recent M&N Project	1	1	0	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Water Pipe	-78.42595506	33.89031938	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.42250097	33.89122367	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.4189855	33.89209777	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.41743576	33.89286488	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.414021	33.89335533	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.43848048	33.88787046	Town	per linear ft	$120	Recent M&N Project	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.43937206	33.88765106	Town	per linear ft	$120	Recent M&N Project	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.440653	33.88732926	Town	per linear ft	$120	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Water Pipe	-78.44149652	33.88710272	Town	per linear ft	$120	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Water Pipe	-78.44184189	33.88704595	Town	per linear ft	$120	Recent M&N Project	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.44040979	33.88801208	Town	per linear ft	$120	Recent M&N Project	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.4395269	33.88826154	Town	per linear ft	$120	Recent M&N Project	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.44026806	33.88805355	Town	per linear ft	$120	Recent M&N Project	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.44214205	33.88757856	Town	per linear ft	$120	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Water Pipe	-78.44199663	33.88761759	Town	per linear ft	$120	Recent M&N Project	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.44374616	33.88717575	Town	per linear ft	$120	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Water Pipe	-78.44387065	33.88715604	Town	per linear ft	$120	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Water Pipe	-78.44479345	33.88696188	Town	per linear ft	$120	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Water Pipe	-78.44979879	33.88535802	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.45034866	33.88684815	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.44903372	33.88560973	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.44949423	33.88700877	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.44769395	33.88697591	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.4328774	33.8885647	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.45127555	33.88679023	Town	per linear ft	$120	Recent M&N Project	1	1	1	0	0	3	3	3	2	4
Water/Sewer Infrastructure	Water Pipe	-78.45067125	33.88516382	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.45502769	33.88389354	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.45164836	33.88457187	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.45212321	33.88586549	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.45189464	33.88519801	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.45219469	33.88601451	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.45230653	33.88631886	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.45259876	33.8842969	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.45402414	33.88394153	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.45512412	33.88416376	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.45503605	33.88354511	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.45502828	33.88344249	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.46144187	33.88174622	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.4569978	33.88230273	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.45908138	33.88183929	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.4591003	33.88166944	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.46253598	33.88126559	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2

ASSET_TYPE	ASSET_NAME	LOCATION_X	LOCATION_Y	OWNERSHIP	COST_UNIT	EST_VALUE	COST_SOURCE	EXP_SLR	EXP_FP	EXP_HT	EXP_MS	EXP_IHA	EXPSUM	Final Exposure	SENS	ADCAP	Vulnerability Score
Water/Sewer Infrastructure	Water Pipe	-78.46450836	33.88003474	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.46342013	33.88068111	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.46407546	33.88094561	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.46445991	33.88096901	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.4664946	33.88001664	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.46988381	33.87890877	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	1	2	2	3	2	3
Water/Sewer Infrastructure	Water Pipe	-78.47053	33.87845348	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	1	2	2	3	2	3
Water/Sewer Infrastructure	Water Pipe	-78.47059082	33.87849588	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	1	2	2	3	2	3
Water/Sewer Infrastructure	Water Pipe	-78.47478881	33.87684786	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	1	2	2	3	2	3
Water/Sewer Infrastructure	Water Pipe	-78.46735231	33.88057831	Town	per linear ft	$120	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Water Pipe	-78.46828652	33.88017581	Town	per linear ft	$120	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Water Pipe	-78.46631685	33.88094082	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.46548442	33.88080668	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.46490659	33.8810456	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.46481655	33.88100649	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.46485021	33.8810419	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.46486774	33.88105612	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.46491798	33.88135034	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.46508981	33.88159364	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.46557997	33.88259151	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.46534312	33.88227261	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.46559473	33.88319684	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.46551311	33.88235993	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.46649303	33.88212523	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.46606679	33.88279136	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.46550314	33.88325913	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.46487567	33.88360079	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.46424247	33.88236167	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.46387784	33.88157714	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.46389448	33.88182378	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.4640496	33.882225	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.46447801	33.88348499	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.46186556	33.88278102	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.46199401	33.88297704	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.46151907	33.88192188	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.46086324	33.88301335	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.46066184	33.88406711	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.46120372	33.88395061	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.46128131	33.8839338	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.46233978	33.88393937	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.46334231	33.88389428	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.46306315	33.88253347	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.46300056	33.8825129	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.46369439	33.88388916	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.44445874	33.91193318	Town	per linear ft	$120	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Water Pipe	-78.39401817	33.90141866	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.43776257	33.90050109	Town	per linear ft	$120	Recent M&N Project	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.43972991	33.90215053	Town	per linear ft	$120	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Water Pipe	-78.43996338	33.89882265	Town	per linear ft	$120	Recent M&N Project	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.3939204	33.89811464	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.43990467	33.89860097	Town	per linear ft	$120	Recent M&N Project	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.39295265	33.90122946	Town	per linear ft	$120	Recent M&N Project	1	1	1	0	0	3	3	3	2	4
Water/Sewer Infrastructure	Water Pipe	-78.3920156	33.90180399	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.39608831	33.89800364	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.39146112	33.8992207	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.39129939	33.8992497	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.44549824	33.88610511	Town	per linear ft	$120	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Water Pipe	-78.4699834	33.87848076	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	1	2	2	3	2	3
Water/Sewer Infrastructure	Water Pipe	-78.4621379	33.88377093	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.46090534	33.88327569	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.46966876	33.8782196	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	1	2	2	3	2	3
Water/Sewer Infrastructure	Water Pipe	-78.44371243	33.88656118	Town	per linear ft	$120	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Water Pipe	-78.39296689	33.90151012	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.39306056	33.90189105	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.39295974	33.9012766	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.39425208	33.89746697	Town	per linear ft	$120	Recent M&N Project	1	1	0	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Water Pipe	-78.40069759	33.89666945	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.40336575	33.89610338	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.44571388	33.8869916	Town	per linear ft	$120	Recent M&N Project	0	0	0	0	0	0	0	3	2	1
Water/Sewer Infrastructure	Water Pipe	-78.46996075	33.87812485	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	1	2	2	3	2	3
Water/Sewer Infrastructure	Water Pipe	-78.46984611	33.87821916	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	1	2	2	3	2	3
Water/Sewer Infrastructure	Water Pipe	-78.44181153	33.88695848	Town	per linear ft	$120	Recent M&N Project	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.4166522	33.89272111	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.43600167	33.8903016	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.4358515	33.88984154	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.43569132	33.88938081	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.4358436	33.88932415	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.43644468	33.89445371	Town	per linear ft	$120	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Water Pipe	-78.42620701	33.89442166	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.42505322	33.89472135	Town	per linear ft	$120	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Water Pipe	-78.39401648	33.90241742	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.41407998	33.89371561	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.40695227	33.89508675	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.39399295	33.90401713	Town	per linear ft	$120	Recent M&N Project	1	1	1	0	0	3	3	3	2	4

ASSET_TYPE	ASSET_NAME	LOCATION_X	LOCATION_Y	OWNERSHIP	COST_UNIT	EST_VALUE	COST_SOURCE	EXP_SLR	EXP_FP	EXP_HT	EXP_MS	EXP_IHA	EXPSUM	Final Exposure	SENS	ADCAP	Vulnerability Score
Water/Sewer Infrastructure	Water Pipe	-78.43624148	33.88919883	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.43622288	33.88998111	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.43517979	33.88947896	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.42639097	33.89493481	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.4252135	33.89516849	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.41314959	33.89515583	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.41310036	33.89515528	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.408489	33.89563459	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.40707854	33.89612272	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.4023837	33.8970791	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.3988375	33.89823541	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.39553664	33.89997893	Town	per linear ft	$120	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Water Pipe	-78.39694372	33.8993435	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.39794837	33.89779562	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.39783435	33.8978326	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.39920203	33.8980576	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.3966075	33.8979412	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.39670594	33.8986669	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.39578785	33.89996178	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.3973146	33.89929654	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.40100721	33.89745212	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.40252857	33.89706452	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.40344193	33.89648489	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.4061937	33.89595763	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.40757387	33.89640641	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.4138413	33.89510223	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.39540607	33.8995163	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.39535967	33.89879557	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.39553243	33.89807795	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.44012375	33.89953538	Town	per linear ft	$120	Recent M&N Project	0	0	0	1	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Pipe	-78.38959111	33.90100191	Town	per linear ft	$120	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Water Pipe	-78.39183294	33.90003149	Town	per linear ft	$120	Recent M&N Project	0	1	1	0	0	2	2	3	2	3
Water/Sewer Infrastructure	Water Pipe	-78.39265895	33.89945134	Town	per linear ft	$120	Recent M&N Project	0	1	0	0	0	1	1	3	2	2
Water/Sewer Infrastructure	Water Tower 200	-78.43216535	33.88917202	Town	No Data	No Data	No Data	0	1	0	0	0	1	1	3	1	3
Water/Sewer Infrastructure	Water Tower 600	-78.45513725	33.88332211	Town	No Data	No Data	No Data	0	1	0	0	0	1	1	3	1	3

APPENDIX B

PROJECT PORTFOLIO

Phase 2 Project Portfolio

The Town of Ocean Isle Beach and the Community Action Team (CAT), with input from the public, developed a portfolio of projects aimed at reducing exposure and sensitivity to hazards as well as strengthening the adaptive capacity of community assets and vulnerable populations. Various types of solutions were discussed in the CAT and public meetings. This portfolio includes a summary of the resilience efforts that the Town is already undertaking as well as the final suite of prioritized solutions developed for this RCCP program.

The Town's Vision Statement and Goals have been used to guide development and prioritization of the projects presented in this portfolio. Feedback from the public was obtained via a Public Meeting on March 14, 2024, as well as via an online survey.

Vision Statement: *We envision a resilient future, where our community's natural and manmade beauty, sense of unity, and genuine concern for environmental stewardship serve as the foundation for adaptation, acclimation, and preparedness for challenges associated with coastal hazards.*

Goals:

1. Manage development and growth sustainably.
2. Implement nature-based and hybrid solutions to improve coastal resilience.
3. Review, revise, and update key plans, policies, and ordinances to strengthen resilience efforts.
4. Ensure critical infrastructure resilience.
5. Improve education and preparedness.
6. Reduce structural, environmental, and economic impacts from coastal hazards.

Ongoing Projects

The Town has consistently put forth the effort to develop and maintain a sustainable and resilient community. Some of the key elements of this effort include support of a federally-funded beach nourishment project and maintenance of the Town's terminal groin (Goal #2, Goal #4, and Goal #6) and participation in the Federal Emergency Management Agency's Community Rating System (Goal #6). Additionally, the Town has developed an emergency alert system to quickly reach community members in the case of a severe weather event or other emergency (Goal #5). Because these projects are ongoing within the community and have dedicated funding sources, they are not included in the presented project portfolio. However, should these funding sources change or become unavailable, the Town may want to seek additional resources to continue to support these programs.

In addition to the ongoing projects and the priority projects presented in this portfolio, the CAT discussed linkages with the Museum of Coastal Carolina, which is supportive of resilience efforts, who could assist with publicity or demonstration and educational initiatives, including those detailed in the following sections.

Priority Projects

The following projects are presented in this portfolio with details including rough order of magnitude (ROM) costs for completion.

1. **East End of Ocean Isle Beach Dune Building and Preservation (Goal #2, Goal #4, Goal #6)**
2. **Elevate & Empower: Resilient Infrastructure Project (Goal #4, Goal #6)**
3. **Living Shoreline Feasibility Study and Demonstration Project (Goal #2, Goal #4, Goal #6)**
4. **Update Town of Ocean Isle Beach CAMA Land Use Plan (Goal #1, Goal #3, Goal #6)**
5. **Dune Infiltration Project to Reduce Stormwater Flooding(Goal #2, Goal #4, Goal #6)**
6. **Native Plant Giveaway: Rooted in Community (Goal #2, Goal #6)**
7. **Resilient Multimodal Transportation Feasibility Study (Goal #1, Goal #3, Goal #6)**

The Town submitted a Phase 3 application for Project 3: Living Shoreline Feasibility Study and Demonstration Project, and a Phase 4 application for Project 2: Elevate & Empower: Resilient Infrastructure Project on May 31, 2024. The Town has also been awarded Coastal Storm Damage Mitigation (CSDM) funding for Project 1: East End of Ocean Isle Beach Dune Building and Preservation. The Town plans to investigate other funding sources to accomplish the other projects in the portfolio, including DCM funding for Project 4, NCDOT funding for Project 5, and partnership with the North Carolina Wildlife Federation for Project 6.

Project Name	**East End of Ocean Isle Beach Dune Building and Preservation (Priority Project #1)**
Project Description	The lack of a protective dune line east of Station 35+00 (just west of Highpoint Street) leaves the east end of the Town vulnerable to storm-induced impacts. Without a dune line in place, wave runup during high water events regularly results in flooding of private property and the adjacent streets. The proposed project involves the construction of a dune along a portion of the Town's east end utilizing material obtained from an upland source. The dune project will span the area between Station 35+00 (~200 ft. west of Highpoint Street) to Station -2+00 (~200 ft east of the 4th Street Beach Access point on the east end). The dune will tie into the existing dune in proximity to Station 35+00 and will be constructed to an elevation of +12.5 NAVD88. The dune will include a 10-foot-wide crest and be constructed with a 1V:5H slope on both the front and back sides. It is anticipated that this project will require approximately 40,000 cy of material. This material will be obtained from an upland sand source (TBD) and will be trucked to the project site. Following the construction of the dune, the dune will be vegetated, and sand fence will be installed in accordance with 15NCAC 07K.0212. The project will be constructed during the environmental window between November 16, 2024, and April 30, 2025. Once constructed, no maintenance of the dune line will be anticipated. The dune, along with the rest of the oceanfront shoreline, will be monitored on a bi-annual basis as part of the Town's regular beach monitoring efforts.
Location	East End of Ocean Isle Beach from 200 ft west of Highpoint Street to 200 ft east of the 4th Street Beach Access Point

Source	Project was initially mentioned by the CAT, and dune preservation was identified as one of the top priorities in two property owner surveys.
Scoping Questions	What is the most suitable upland sediment source?
Hazard(s) Addressed	Storm effects including storm surge flooding and wave impacts.
Supporting Function[3]	Dunes support the healthy beach ecosystem that is valued by OIB residents and visitors. They also provide protection for infrastructure (buildings, roads) from storm impacts.
Type of Solution	This project is a nature-based solution utilizing dunes as a natural barrier to flooding and wave impacts. The project also provides natural habitat and supports the beach ecosystem including planting of native dune grasses.
Estimated Timeline	The project will be accomplished within a 1-year time frame as follows: April-June 2024: Engineering and design work (including topographic survey) and information gathering for the required permit modification packages July-Sept 2024: Continued gathering of information for permit modifications and the submittal of permit modification requests to DCM and the USACE. Oct-Dec 2024: Finalize design for the dune construction project; development of Plans and Specifications; and preparation of bid package. Jan-Mar 2025: Contract negotiations, pre-construction coordination, construction, and construction oversight. Apr-June 2025: Continued construction and construction oversight followed by the development and completion of construction. July-Sept 2025: Development and submittal of the Project Completion Report.
Responsible Entity	Town manager with consultant and contractor
Potential Partners	NCDCM
Existing Funding	The Town has allocated approximately $1M to support this project, but will require additional funding to accomplish the stated goals.
Potential Funding Sources	Town has applied for approximately $1M in State CSDM funding to support this project. Should this project not receive CSDM funding, the Town could apply for DCM Phase 4 funding, due date May 31, 2024, when design is complete. Permits have also been issued but do not include dune construction east of Station 55+00. The Town will coordinate with DCM and the USACE to modify the existing permits to allow for construction in the winter of 2025.

Estimated Cost	Total cost is estimated at $2,038,182.00 as follows: Administration: $39,000.00 Design: $39,166.00 Permitting: $39,216.00 Survey: $10,800.00 Construction Oversight: $70,000.00 Construction: $1,600,000.00 Construction Materials: $240,000.00 Total: $2,038,182.00
Anticipated Benefit	The proposed project will serve to help improve and bolster the various benefits associated that a number of recently completed projects (e.g. terminal groin construction and beach nourishment) have brought to the Town. The environmental benefits of building a dune will provide habitat for the threatened plant species seabeach amaranth. This plant is able to grow in pure sand in overwash areas as well as developing dunes. The dunes may also provide nesting habitat for sea turtles. In addition, because they will be constructed to an elevation of +12.5 ft NAVD88 may also serve to block artificial light on the upper portion of the beach berm and therefore may serve to protect turtle hatchlings from being disoriented. The sediment used for the project will contain appropriate geotechnical characteristics such that the material will satisfy the Technical Standards for Beach Fill Projects (15A NCAC 07H.0312) and Dune Protection, Establishment, Restoration and Stabilization (15A NCAC 07H .0308(b)). There are seven (7) beach access/sand walkover points within the project area. These access points will persist and will be maintained following the completion of the proposed project. The access point located at East 4th Street will ultimately be improved with the construction of a Hatteras ramp such that access for emergency vehicles to the extreme east end of the island will be enhanced. The construction of the dune to an elevation of +12.5 ft NAVD88 will serve to protect the existing parking areas and roads located directly landward of the access points. Under current conditions, these areas are prone to flooding when wave runup from storm events allow water to flow through the access points. Furthermore, the dune project will serve to protect private property within the project area from destructive high-water events. Finally, once the project is completed, the Town is interested in constructing additional parking in proximity to the East 4th Street beach access point which would increase the ability for residents and visitors to gain access to the east end of the island.
Priority Rating	Project has high importance as determined via CAT input and public surveys.
Project Map(s)	See Figure 1.

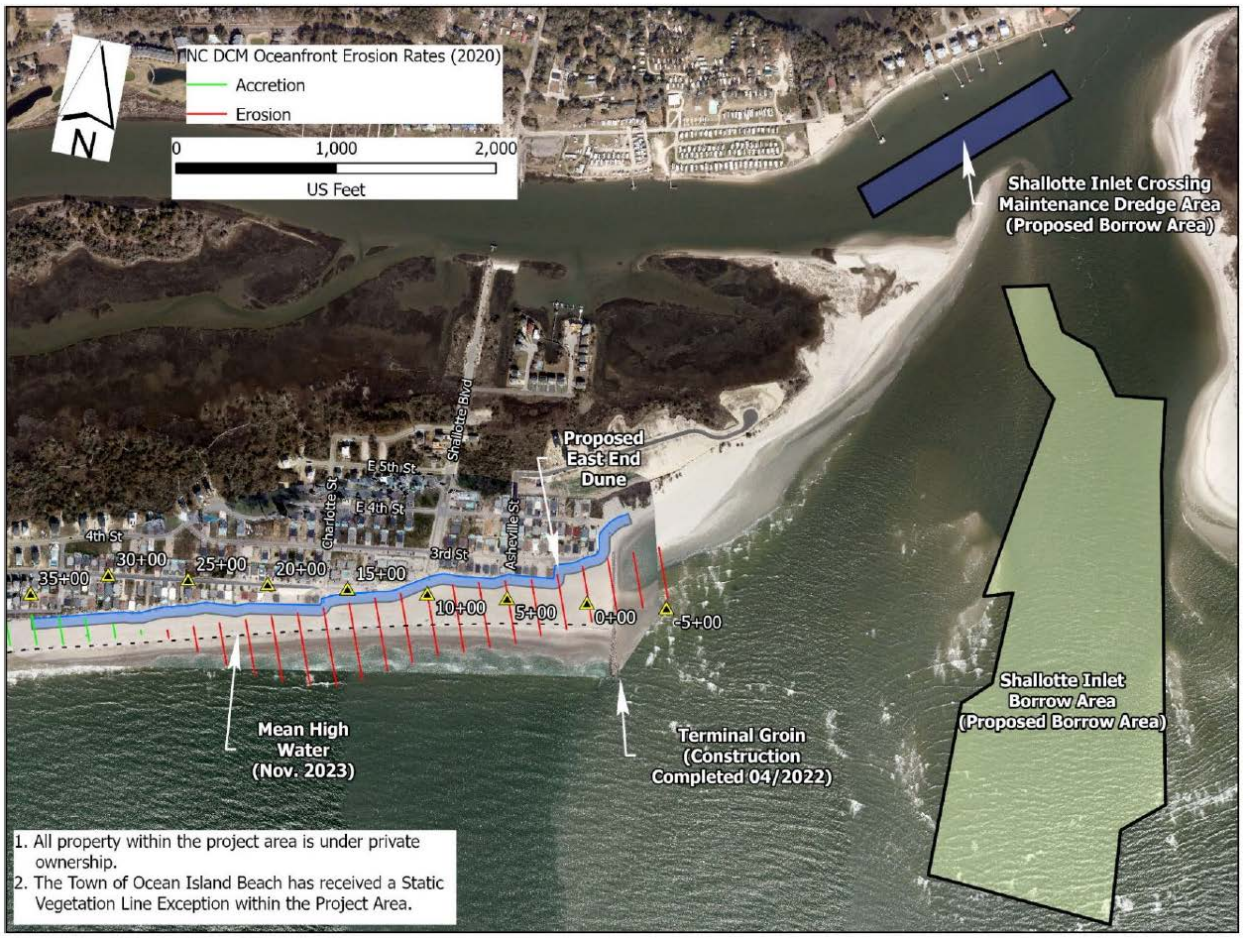


Figure 1. Project location map showing the location of the Shallotte Inlet Crossing and Shallotte Inlet borrow areas, Mean High Water Line, and the NC DCM Erosion Rates (Figure courtesy of Town of Ocean Isle Beach).

Project Name	**Elevate & Empower: Resilient Infrastructure Project (Priority Project #2)**
Project Description	This project supports the Town of Ocean Isle Beach's infrastructure resilience in three key ways: 1) Elevating sewer lift station control panels in flood-prone areas; 2) Elevating transformer pedestals in flood prone areas, and 3) Purchasing 3 portable generators to operate lift stations during emergency situations with power outages. The Town frequently experiences flooding at multiple sites where lift station control panels and transformers are affected. The transformers are at grade and flooding poses a significant safety risk. The Town has prioritized 18 lift station control panels for elevation. The Town will also make an effort to work with Brunswick Electric to undertake elevation of the corresponding 18 transformer pedestals co-located with the lift station control panels. In addition, purchase of 3 portable generators will allow for operation of key lift stations and other critical Town infrastructure during emergencies. All Town lift stations can be operated by the same size generator except for the main pump station (E-1).
Location	The lift station panels to be elevated are as follows with corresponding location listed. E-14 Raeford St. E-16 Pender St. E-19 Moore St. W-5 West Gate W-6 Island Park E-8 Richmond St. E-9 Scotland St. E-10 Newport St. E-11 Newport St. & E 2nd E-12 Anson St. E-13 Union St. E-15 Dare St. E-17 Leland St. E-18 Leland St. & E 2nd E-20 Cumberland St. E-22 Lee St. W-2 Driftwood Dr. & W 2nd W-2A Starboard by the Sea
Source	The proposed infrastructure project was first discussed in a CAT meeting. Some of the lift station control panels within the Town have already been elevated as part of the Town's Capital Improvement Plan. This project received widespread support in the public meetings and online survey as these critical infrastructure assets are needed to maintain safety and health within the Town.
Scoping Questions	What is necessary to coordinate and collaborate with Brunswick Electric?

Hazard(s) Addressed	This project addresses multiple types of flooding impacting the Town: high tide flooding, excessive rainfall, and storm surge.
Supporting Function[3]	This project supports the Town's wastewater and electrical infrastructure. It also assists with maintaining health and safety not only of the Town's residents and visitors but also the surrounding environment.
Type of Solution	This is an infrastructure solution designed to improve operations and safety. It also serves to ensure that untreated wastewater/sewage is not released into adjacent waterways, potentially harming the natural environment surrounding the Town. It is critical that the Town maintain pump operations during power outages and emergencies to maintain the health of the public and the integrity of the adjacent waterways. The waterways adjacent to the Town are classified as SA/HQW (Market Shellfishing, Tidal Salt Water/High Quality Waters) by the NC Division of Environmental Quality.
Estimated Timeline	The project is estimated to be completed within 12 months of receipt of funding. The Town is prepared to move forward as soon as funding is received.
Responsible Entity	Town Utility Systems Superintendent
Potential Partners	Brunswick Electric Membership Corporation
Existing Funding	There is no existing funding for this project.
Potential Funding Sources	RCCP Phase 4 Funding - Application Deadline May 31, 2024
Estimated Cost	Each control panel elevation is estimated to cost $4,000. For 18 lift stations this totals $72,000. Two standard sized generators at approximately $35,000.00 each totals $70,000. A larger generator to power the main E-1 station cost is approximately $125,000. The transformer pedestal elevation costs are unknown at the present time and would be the responsibility of Brunswick Electric. The total project cost excluding the transformer pedestals is $267,000.
Anticipated Benefit	Primary benefits include improved operations, safety, and environmental quality during flooding events.
Priority Rating	Project has high importance as determined via CAT input and public surveys.
Project Map(s)	See Figure 2

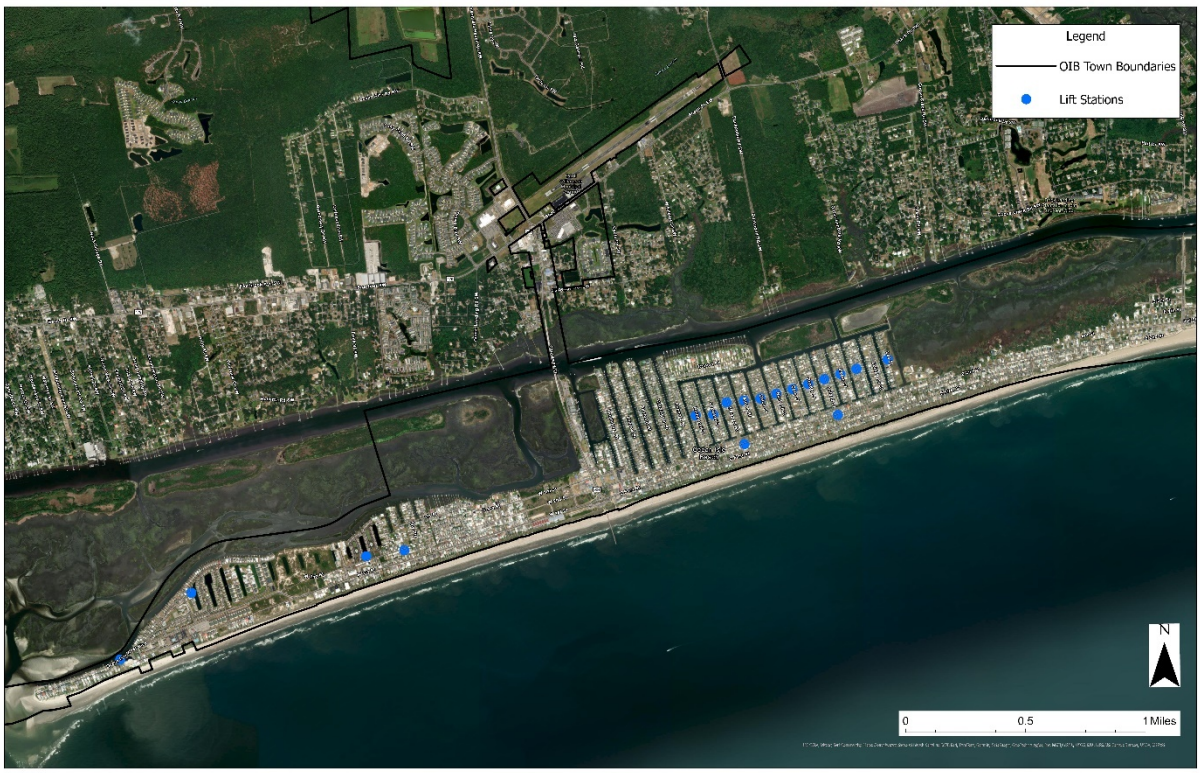


Figure 2. Lift stations identified for control panel elevation. Transformer pedestals are approximately co-located with the lift stations.

Project Name	**Living Shoreline Feasibility Study and Demonstration Project (Priority Project #3)**
Project Description	The primary goal of this project is to conduct a comprehensive feasibility study to identify and prioritize suitable locations for implementing living shorelines along the estuarine shoreline of Ocean Isle Beach. The study aims to enhance the resilience of the shoreline against storms and wave action while promoting environmental sustainability. Additionally, the project seeks to fully design one living shoreline project that will serve as a demonstration for the public, showcasing the effectiveness and benefits of this nature-based approach to shoreline stabilization. The project will include the following components: Site Assessment: Conduct a thorough assessment of the estuarine shoreline of Ocean Isle Beach to identify potential locations for implementing living shorelines. Consideration will be given to factors such as shoreline erosion, wave energy, ecological value, and community priorities. Feasibility Analysis: Evaluate the feasibility of implementing living shorelines at identified locations based on technical, environmental, regulatory, and community considerations. Assess the potential effectiveness of different living shoreline techniques in addressing local shoreline challenges. Stakeholder Engagement: Engage stakeholders, including local residents, government agencies, and environmental organizations, to gather input on priority areas, and to provide information on techniques for implementation of living shorelines to private property owners. Design Development: Fully design one living shoreline demonstration project at a selected location, incorporating best practices and innovative techniques to enhance shoreline resilience and ecological function. Environmental Permitting: Agency coordination including scoping meeting, preparation of CAMA and USACE permit applications for the demonstration project.
Location	The estuarine shoreline of the Town of Ocean Isle Beach
Source	This project is a combination of projects discussed at CAT meetings and public meetings.
Scoping Questions	What is the best location for a demonstration project? Is Ferry Landing Park a suitable location?
Hazard(s) Addressed	The Town's estuarine shoreline is affected by multiple flooding sources including tidal flooding, rainfall, and storm surge. Estuarine erosion can also be caused by wave action due to wind-generated waves, boat wakes, or tidal currents.
Supporting Function[3]	Living shorelines support the natural infrastructure of the Town, providing ecosystem services and stabilizing eroding shorelines.

Type of Solution	This is a nature-based solution including a demonstration project employing a living shoreline to stabilize a portion of the estuarine shoreline. The project will also provide both private property owners and the public with information to facilitate implementation of living shorelines across the estuarine shoreline of Ocean Isle Beach.
Estimated Timeline	The project will be completed within a 12-month timeframe as follows: Month 1-3: Site Assessment Month 3-6: Feasibility Analysis Month 1-7: Stakeholder Engagement Month 4-12: Design Development Month 6-12: Agency Coordination & Permitting Application Submittal
Responsible Entity	Town Administration with a Consultant
Potential Partners	Coastal Federation
Existing Funding	There is no current funding source identified for this project.
Potential Funding Sources	RCCP Phase 3 Funding - Application Deadline May 31, 2024
Estimated Cost	Site Assessment: $20,000 Feasibility Analysis: $30,000 Stakeholder Engagement: $25,000 Demonstration Site Topographic/Hydrographic Survey: $25,000 Design Development: $40,000 Environmental Permitting: $30,000 Total: $170,000
Anticipated Benefit	Living shorelines contribute to the health of the local ecosystem by providing habitat for various species, improving water quality, and protecting against erosion. Living shorelines can mitigate the impacts of climate change, such as sea-level rise and extreme weather events, by buffering coastal areas from storm surges and erosion.
Priority Rating	This project is considered a medium priority by the Town and residents based on feedback by the CAT and online survey.
Project Map(s)	Figure 3 illustrates the natural infrastructure within the Town boundaries, showing the estuarine shoreline and wetlands. Figure 4 shows the location of Ferry Landing Park on the east end of the Town, potential site for a living shoreline demonstration project.

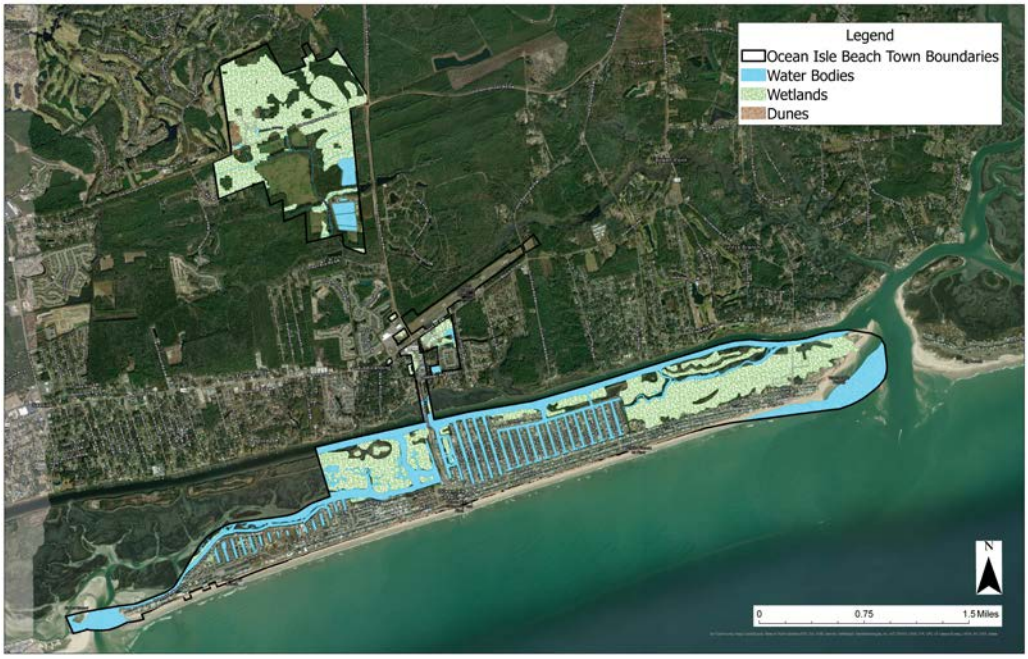


Figure 3. Natural infrastructure within the Town of Ocean Isle Beach.

Figure 4. Ferry Landing Park, potential site for a living shoreline demonstration project.

Project Name	**Update Town of Ocean Isle Beach CAMA Land Use Plan (Priority Project #4)**
Project Description	The CAMA land use plan serves as a blueprint for growth, guided by policies and maps. This crucial aspect of coastal management is mandated by the Coastal Area Management Act for each of North Carolina's 20 coastal counties. The Coastal Resources Commission (CRC) sets guidelines for these plans, ensuring common formatting and consideration of key issues like resource protection and hazard reduction. While the CRC's role is to verify plan preparation, local governments determine plan policies. Once certified, these plans influence permit decisions by the Division of Coastal Management, shaping projects and policies at both local and regional levels. Public involvement in plan development is encouraged, offering a chance to influence future growth and regulatory decisions. The Ocean Isle Beach CAMA Land Use Plan was last updated in 2017. An update to include additional resilience considerations and other needed changes will be carried out in this project. This update will require staff time, GIS expertise, and public outreach. Partnerships with the Cape Fear Council of Governments will be leveraged to facilitate plan completion.
Location	Town of Ocean Isle Beach Corporate Limits and ETJ
Source	This project was first discussed at a CAT meeting and was supported by the community via public survey and community meetings.
Scoping Questions	How does DCM envision the regulatory role of the CAMA Land Use Plan?
Hazard(s) Addressed	All identified hazards would be considered in land use planning: precipitation, storm surge, sea level rise, high tide flooding, erosion, wind, tornadoes, and temperature changes.
Supporting Function[3]	The CAMA Land Use Plan supports sustainable growth and development, which was identified by the CAT and public as a critical issue facing the Town.
Type of Solution	Plans and Policies: This project would update the CAMA Land Use Plan to further enhance the community's resiliency.
Estimated Timeline	The CAMA Land Use Plan update would take place over a 12-month period beginning when funding is secured.
Responsible Entity	Town Board of Commissioners, Planning Board, Land Use Plan Steering Committee
Potential Partners	Cape Fear Council of Governments, NC Division of Coastal Management
Existing Funding	The Town has considered allocating Town funds to update this plan.

Potential Funding Sources	Potential Future DCM Grant Program
Estimated Cost	The project cost is estimated at $50,000 allocated to the Cape Fear Council of Governments. The Town is prepared to provide in-kind match in the form of staff time to contribute to the preparation of the plan.
Anticipated Benefit	Updating the Town's CAMA Land Use Plan to support community resilience offers significant benefits. By incorporating policies that address environmental protection, hazard reduction, and sustainable development, the Town will be prepared to better withstand disasters and protect resources. This approach ensures that future growth considers coastal risks and conserves natural assets. Updating the plan also allows communities to adapt to evolving challenges and opportunities, promoting long-term sustainability. Overall, prioritizing resilience in land use planning benefits safety, economy, environment, and community well-being.
Priority Rating	Because the CAMA Land Use Plan has not been updated in seven years, it is considered a high priority. CAT and community support are high.
Project Map(s)	Figure 5 illustrates the planned future land use as of the 2017 CAMA Land Use Plan. The extents of the Town's jurisdiction have not changed since the time of this planning effort.

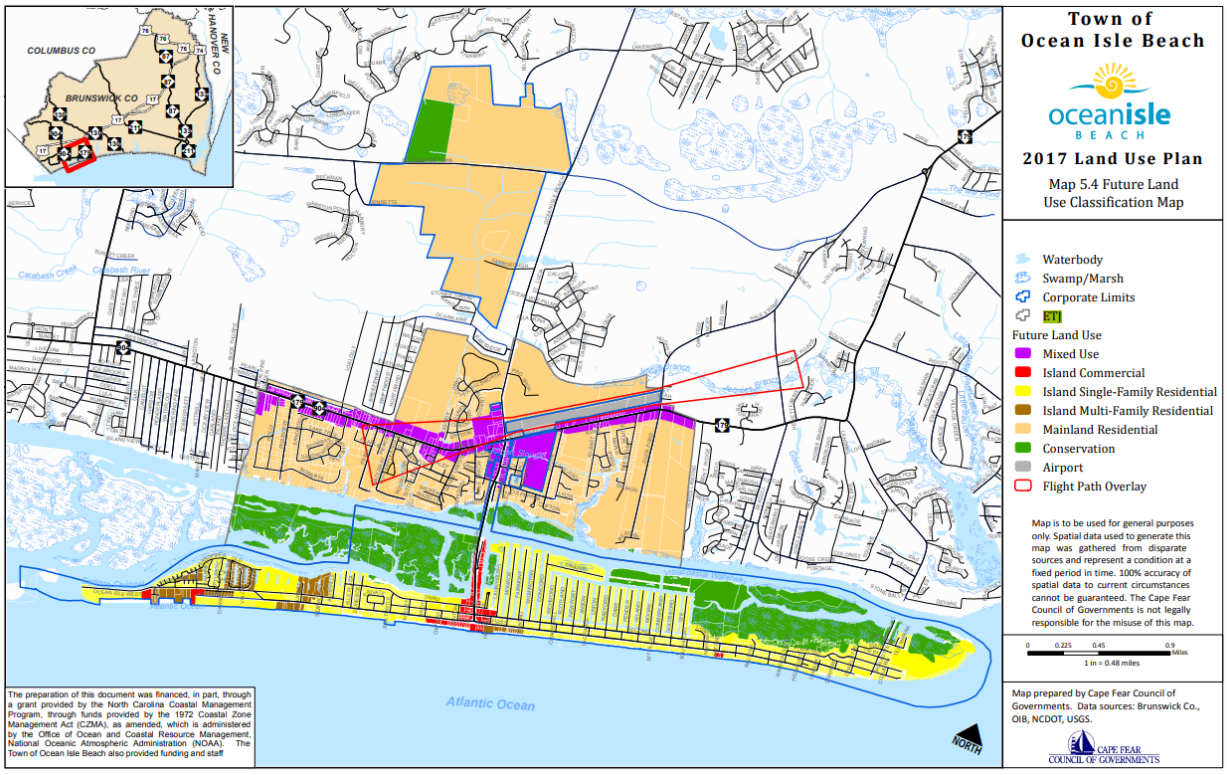


Figure 5. 2017 Land Use Plan: Future Land Use Classification Map.

Project Name	**Dune Infiltration Project at Greensboro St. and East 1st St. (Priority Project #5)**
Project Description	This project would entail the design of a dune infiltration system at Greensboro St. and East 1st St., where the Town owns two 50 ft beachfront lots. Design of stormwater collection from adjacent streets as well as design of the storm chamber and overflow system would be conducted. The system works by using the dune sand's natural filtering ability to remove pollutants and improve beach water quality. The scope of this project would also include CAMA, stormwater, and erosion control permitting.
Location	Town owned parcels at Greensboro St. and East 1st St.
Source	CAT meeting
Scoping Questions	What available funding exists from NCDOT?
Hazard(s) Addressed	This project addresses stormwater flooding in the roadways as well as potential water quality impacts from runoff.
Supporting Function[3]	This project supports transportation within the Town.
Type of Solution	Hybrid solution, combining traditional stormwater infrastructure (pipes, pumps, chambers) with the natural filtering properties of the dune sand to provide storage and improve water quality.
Estimated Timeline	Estimated 1 year for design and submittal of permit applications. Additional time may be required for permitting depending on whether a variance would be required from CAMA.
Responsible Entity	County Utilities Superintendent with a consultant.
Potential Partners	NCDOT
Existing Funding	No existing funding is available, however the Town is willing to provide the land for construction of the system.
Potential Funding Sources	NCDOT, DCM RCCP
Estimated Cost	Site Investigations & Groundwater Modeling - $30,000 Street Collection & Drainage Design - $50,000 Stormwater Chamber & Overflow System Design - $100,000 Permitting - $70,000 (CAMA permit includes expected variance request, SWMP and S&E permits) Total $250,000
Anticipated Benefit	Primary benefits are reduced stormwater flooding of roadways and improved water quality.

Priority Rating	The CAT considered this a medium priority and the public rated this project as a high priority in the community survey.
Project Map(s)	Figure 6 shows the location of the proposed dune infiltration project.

Figure 6. Location of potential dune infiltration project (Greensboro St. and East 1st St.).

Project Name	**Native Plant Giveaway: Rooted in Community (Priority Project #6)**
Project Description	Native trees and shrubs will be provided to Town property owners along with planting information. These trees and shrubs will provide beauty, shade, and wildlife habitat while absorbing carbon dioxide and helping support flood water uptake.
Location	Town Limits, Museum of Coastal Carolina is available to host.
Source	CAT meeting discussions
Scoping Questions	When would be the best time of year to hold the giveaway?
Hazard(s) Addressed	Flooding, climate change
Supporting Function[3]	The native plant giveaway will contribute to supporting a healthy island ecosystem valued by residents.
Type of Solution	Nature based solution
Estimated Timeline	6-12 months
Responsible Entity	Town Staff
Potential Partners	Arbor Day Foundation, NC Wildlife Federation, NC Sea Grant
Existing Funding	No existing funding has been identified
Potential Funding Sources	Arbor Day Foundation, Local Businesses, National Wildlife Federation
Estimated Cost	TBD
Anticipated Benefit	Primary benefits are reduction of carbon, beautification, and flood reduction
Priority Rating	This project was determined to be a medium priority in the community survey.
Project Map(s)	Figure 7 shows the location of the Museum of Coastal Carolina, which is willing to provide space to host a plant giveaway.

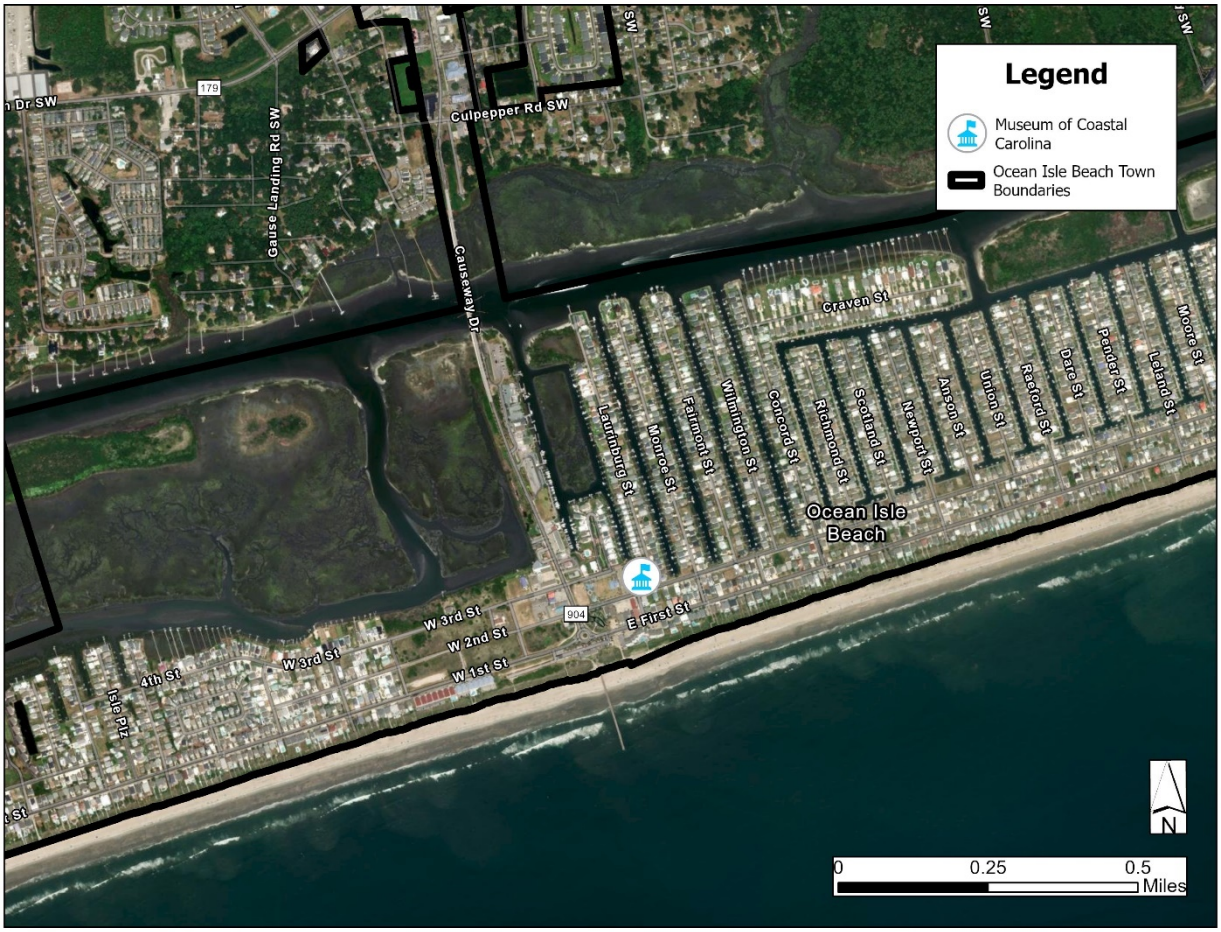


Figure 7. Location of the Museum of Coastal Carolina.

Project Name	**Resilient Multimodal Transportation Feasibility Study (Priority Project #7)**
Project Description	This project proposes a resiliency assessment of Ocean Isle Beach's prioritized bicycle and pedestrian projects identified in their 2014 Bicycle and Pedestrian Plan (Plan). The assessment will conduct a spatial overlay analysis of prioritized projects with OIB roadway vulnerability scores, a criticality analysis, and input from a Steering Committee. The Plan notes a lack of connectivity to beach accesses and community attractions, and a lack of crossings and signage resulting in safety issues especially during the summer tourist season. The assessment will select five (5) prioritized resilient multimodal projects and conduct streamlined feasibility studies that will be designed to help adapt and mitigate flood and SLR hazards and provide safety, sustainability, and resilience co-benefits. A resilient multimodal network provides benefits to reduce carbon emissions, provide public health benefits, and improve visitor's experience while visiting OIB.
Location	Town Limits
Source	Ocean Isle Bicycle and Pedestrian Plan (2014), property owner survey, CAT
Scoping Questions	Are there ongoing NCDOT efforts that could be leveraged to implement this study?
Hazard(s) Addressed	Sea level rise and flooding
Supporting Function[3]	Improved multimodal network and physical benefits for residents.
Type of Solution	This project would conduct multimodal feasibility studies for 5 bicycle and pedestrian projects at 35 % design.
Estimated Timeline	8-12 months
Responsible Entity	Town with a consultant
Potential Partners	NCDOT Resilience Group and NCDOT Division 3.
Existing Funding	Powell Bill
Potential Funding Sources	NCDOT STIP, SPOT Safety, PARTF, NC DPR, Clean Water Management Trust Fund, Adopt a Trail, Powell Bill Funds, Eat Smart, move More NC Community Grants, Federal PROTECT, Surface Transportation Program.
Estimated Cost	$80,000

Anticipated Benefit	Improvements to pedestrian and bicyclist safety, better access to community destinations, greater opportunities for active lifestyle, reduced need for vehicle trips and carbon reductions, enhanced resilient multimodal network. Benefit is high.
Priority Rating	Project was rated highly by a few survey respondents but overall was rated as a low priority by the majority of respondents.
Project Map(s)	Figure 8 shows the recommendations from the 2014 Ocean Isle Beach Bicycle and Pedestrian Plan. This study would focus on adding resilience components to planned improvements.

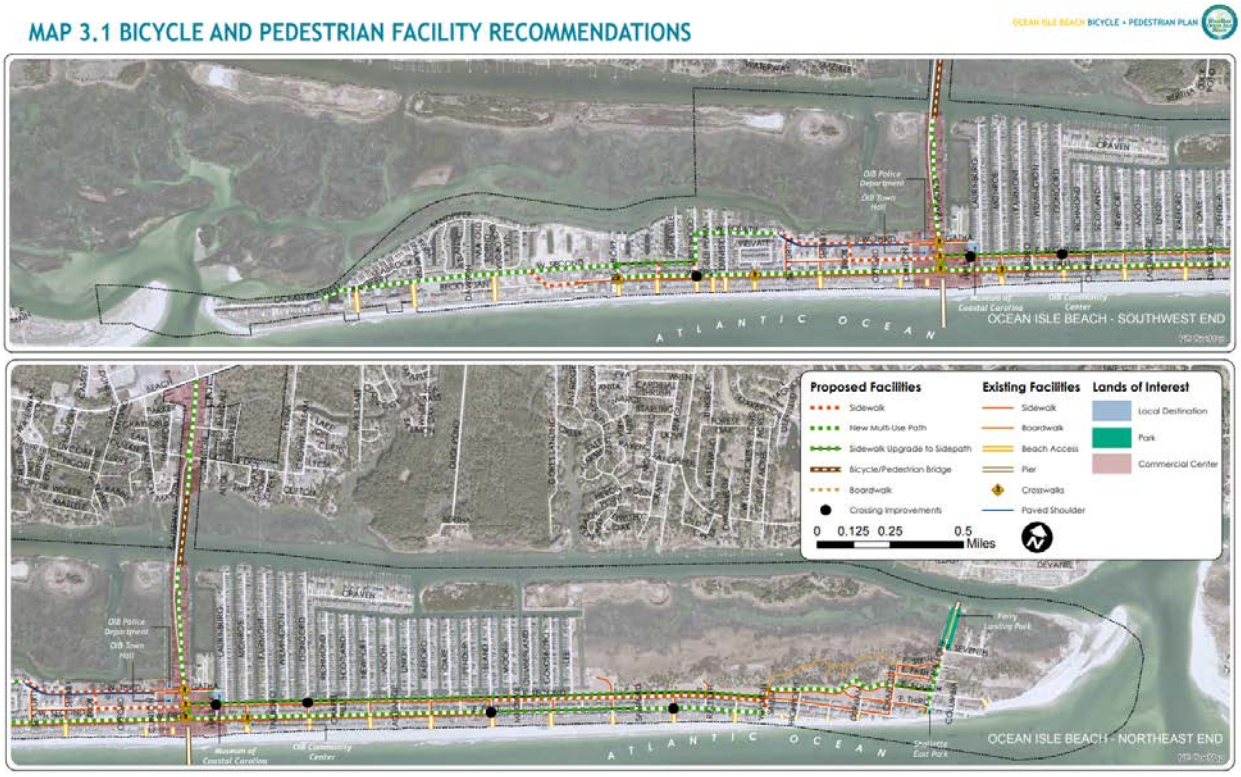


Figure 8. Map of recommendations from the 2014 Ocean Isle Beach Bicycle and Pedestrian Plan.

APPENDIX C

COMMUNITY ACTION TEAM REPORT

Ocean Isle Beach RCCP CAT Roster

Justin Whiteside, Town Administrator, Ocean Isle Beach (CAT Liaison)
Casey Hayes, Assistant Town Administrator, Town Clerk, Ocean Isle Beach
Keith Dycus, Assistant Town Administrator, Development Services Director, Ocean Isle Beach
Adam Sellers, Utility Systems Superintendent, Ocean Isle Beach
Tom Athey, Commissioner, Ocean Isle Beach
Wayne Rowell, Commissioner, Ocean Isle Beach
Jim Hoffman, Executive Director, Museum of Coastal Carolina
David Hill, Business and Property Owner
Jonathan Williamson, Business Owner

oceanisle BEACH

North Carolina RESILIENT COASTAL COMMUNITIES PROGRAM

COMMUNITY ACTION TEAM MEETING #1

October 31, 2023

NC DIVISION OF COASTAL MANAGEMENT

moffatt & nichol

INTRODUCTIONS

Beth Sciaudone

Project Manager

Adrianna Weber

Water Resources Engineer

Dawn York

Coastal Scientist

Rachel Baker

Coastal Scientist

Justin Whiteside

Assistant Town Administrator

COMMUNITY ACTION TEAM

- Justin Whiteside, Assistant Town Administrator, Ocean Isle Beach (CAT Liaison)
- Casey Hayes, Town Clerk, Ocean Isle Beach
- Keith Dycus, Development Services Director, Ocean Isle Beach
- Adam Sellers, Utility Maintenance Supervisor, Ocean Isle Beach
- Tom Athey, Commissioner, Ocean Isle Beach
- Wayne Rowell, Commissioner, Ocean Isle Beach
- Jim Hoffman, Executive Director, Museum of Coastal Carolina
- David Hill, Business and Property Owner
- Jonathan Williamson, Business Owner

- Kasen Wally, DCM
- Mackenzie Todd, DCM

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OVERVIEW OF RESILIENT COASTAL COMMUNITIES PROGRAM (RCCP)

Kasen Wally, NCDCM

ORIENTATION (2023)

NC RESILIENT COASTAL COMMUNITIES PROGRAM

Mackenzie Todd, *Coastal Resiliency Coordinator* | mackenzie.todd@deq.nc.gov

Kasen Wally, *Coastal Resiliency Specialist* | kasen.wally@deq.nc.gov

Additional NC Division of Coastal Management RCCP staff:

Tancred Miller, *Policy and Planning Section Chief* | tancred.miller@deq.nc.gov
Rachel Love-Adrick, *District Planner* | rachel.love-adrick@deq.nc.gov
Tina Martin, *Conservation Coordinator* | tina.martin@deq.nc.gov

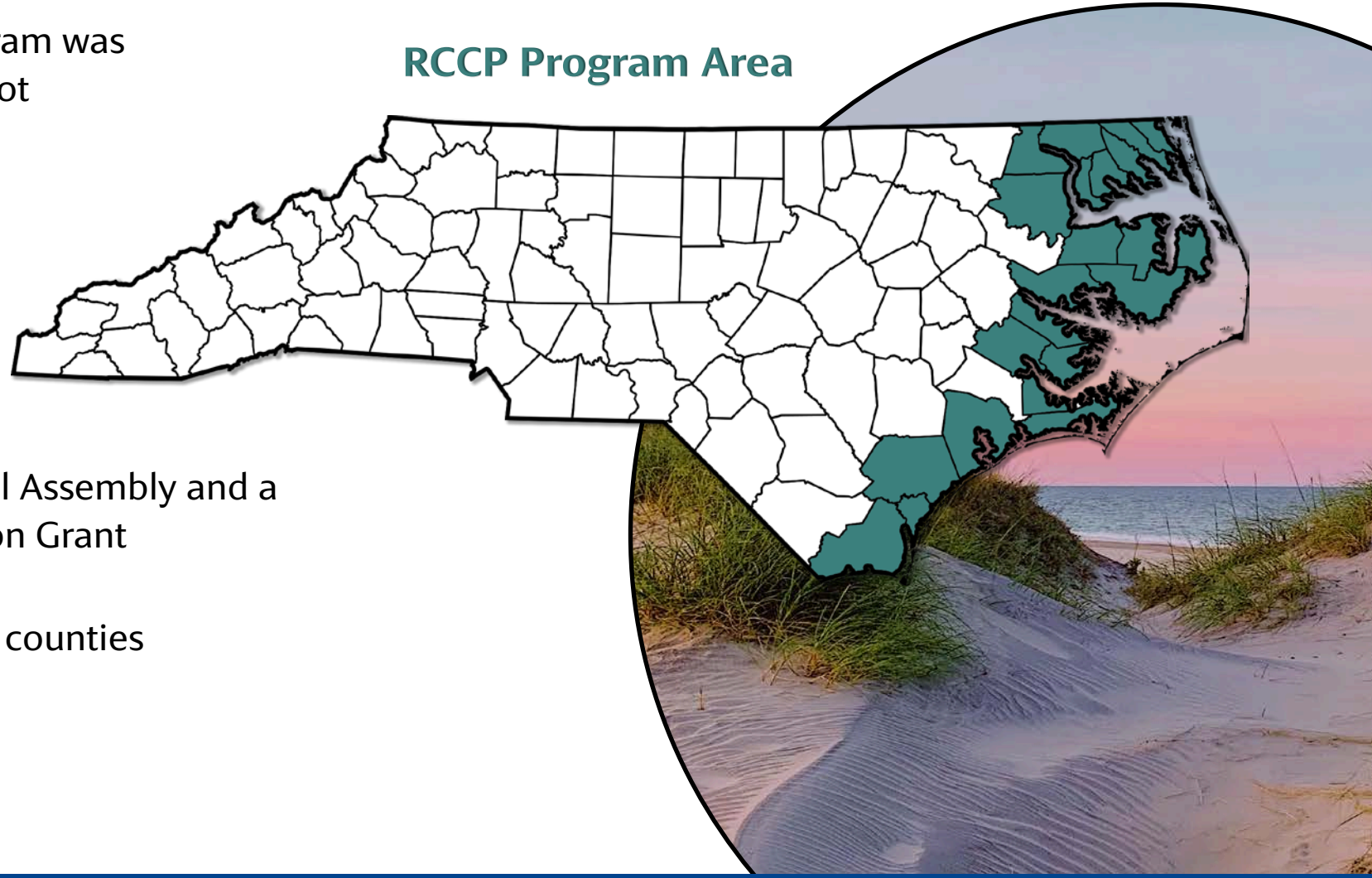
NC DIVISION OF COASTAL MANAGEMENT

DEQ NORTH CAROLINA Department of Environmental Quality

North Carolina RESILIENT COASTAL COMMUNITIES PROGRAM

Program Background

- The foundation of the RCCP program was laid in 2016 through the RENA pilot program
- Executive Order 80 created the NC Climate Risk & Resilience Plan, which eventually led to the RCCP
- RCCP Funded through the General Assembly and a National Fish & Wildlife Foundation Grant
- Program Scope: 20 coastal CAMA counties



N.C. Division of Coastal Management, 400 Commerce Ave., Morehead City, NC 28557 | Tel: (252) 515-5400 | Email: RCCP@deq.nc.gov

Program Partners & Funding

The Nature Conservancy

NCORR
NORTH CAROLINA OFFICE OF RECOVERY AND RESILIENCY

Sea Grant
North Carolina

National Fish and Wildlife Foundation
NFWF

The Great Seal of the State of North Carolina
May 20, 1775
April 12, 1776
Esse Quam Videri

National Oceanic and Atmospheric Administration
NOAA
U.S. Department of Commerce

NC Division of Coastal Management

Program Objectives

Address	Assist	Help	Advance	Link
Address barriers to coastal resilience at the local level	Assist communities with risk & vulnerability assessments	Help communities develop a portfolio of well-planned and prioritized projects	Advance priority projects to “shovel-ready” status	Link communities to funding streams for project implementation

Program Phases

Phase 1

COMMUNITY ENGAGEMENT & VULNERABILITY ASSESSMENT

Includes performing a risk and vulnerability assessment, developing a community action team, and engaging with the public.

Phase 2

PLANNING, PROJECT IDENTIFICATION, & PRIORITIZATION

Involves a community and data-driven process to identify priority actions that can be taken to adapt to short- and long-term hazards.

Phase 3

ENGINEERING & DESIGN

Grants are available for communities that successfully completed Phases 1 and 2 to develop projects that are shovel-ready.

Phase 4

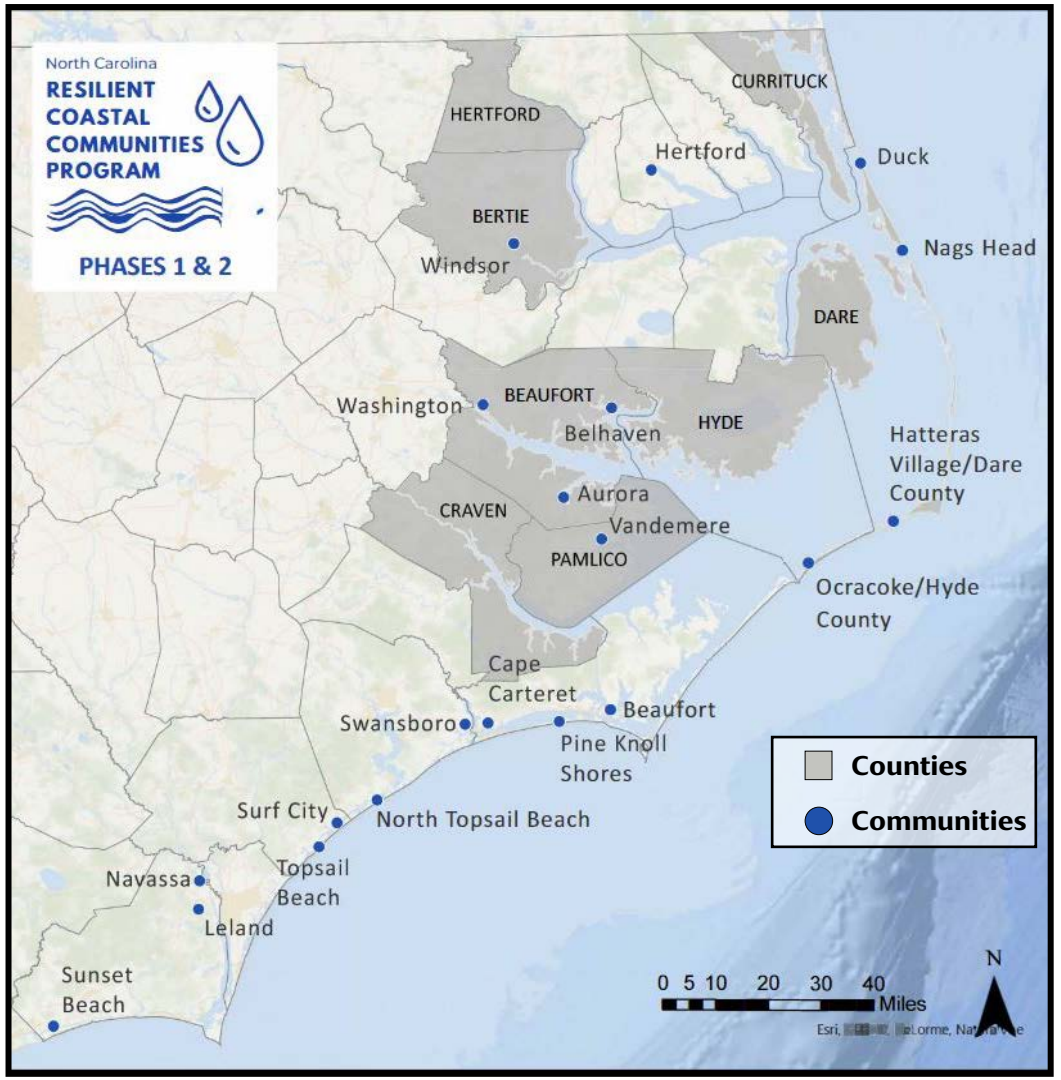
PROJECT IMPLEMENTATION

Phase 4 grants are available for communities that successfully complete Phases 1, 2, and 3 for the implementation of shovel-ready projects.

First Round (2020 – 2022)

- Project Period: 2020-2022
- 26 communities (8 counties and 18 municipalities)
- 10 contractors
- Total Funding Amount: $775,000
- Previous Resilience Strategies on the RCCP Website

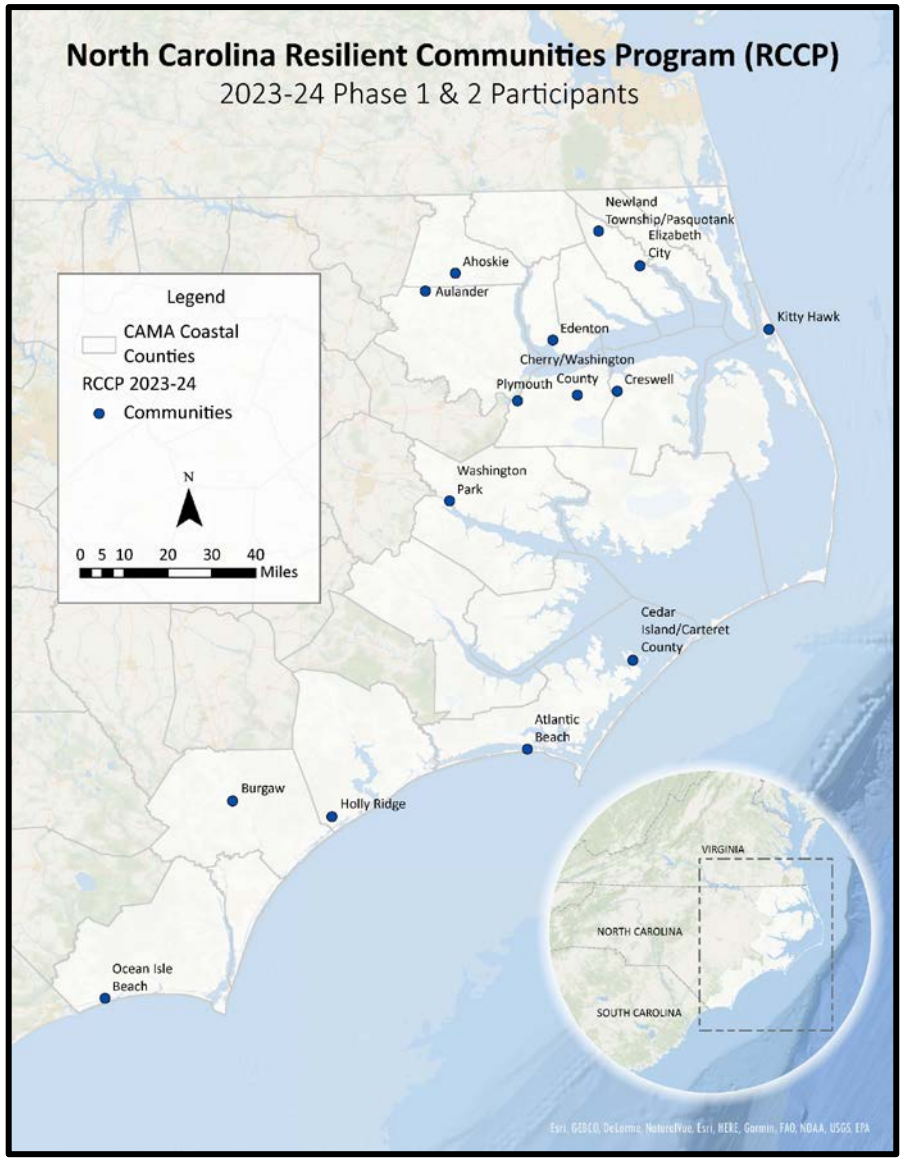
- **RK&K and Mideast Commission:** Aurora, Beaufort County, Belhaven, and City of Washington
- **SWCA:** Hertford County, Windsor, and Bertie County
- **Withers Ravenel:** Dare County (Hatteras Village), and Currituck County
- **Kimley Horn:** Vandemere, Pamlico County, and Hyde County (Ocracoke)
- **Dewberry:** Craven County, Pine Knoll Shores, Swansboro, and Cape Carteret
- **Moffatt & Nichol:** Navassa, Leland, and Sunset Beach
- **Kleinfelder:** Surf City, Topsail Beach, and North Topsail Beach
- **Stewart:** Town of Beaufort



Second Round (2023-2024)

- Project Period: 2023-2024
- 15 communities (3 counties and 12 municipalities)
- 9 contractors
- Total Funding Amount: $1.19 M

- **Dewberry:** Carteret County and Atlantic Beach
- **Kleinfelder:** Burgaw and Holly Ridge
- **Moffatt & Nichol:** Ocean Isle Beach
- **RK&K/Mid-East Commission:** Ahoskie Township, Aulander, Plymouth, and Washington Park
- **Stewart:** Kitty Hawk
- **SWCA:** Creswell and Washington County
- **WSE:** Elizabeth City and Pasquotank County
- **WSP:** Edenton



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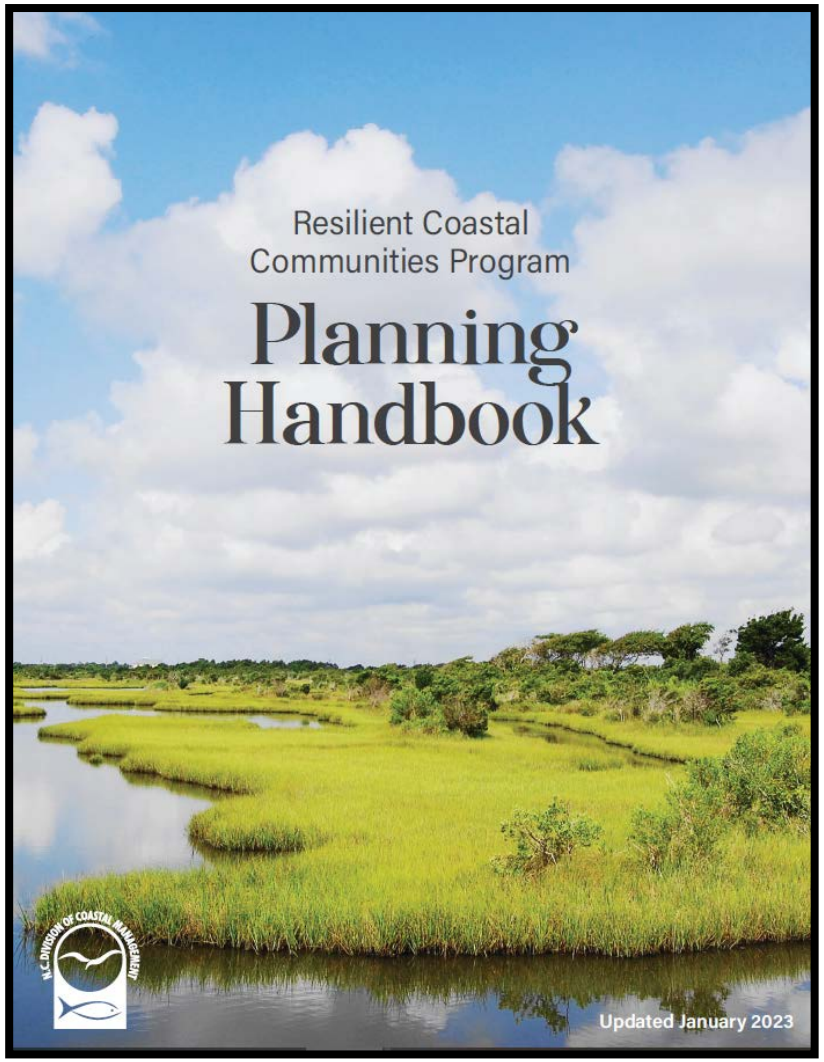
Program Planning Handbook & Technical Appendix

- The Program Planning Handbook: Updated 2023
  - Walks communities and contractors through the steps and requirements of Phases 1 and 2 of the RCCP

- Major Changes to the Planning Handbook
  - Identifying a champion in the CAT
  - Steps 2 & 3 have switched
  - Minimum list of critical assets
  - Technical Appendix

- The technical appendix provides links to additional information, such as helpful templates, maps, and formatting suggestions for deliverables, as well as examples from previous rounds of the RCCP



Deliverables

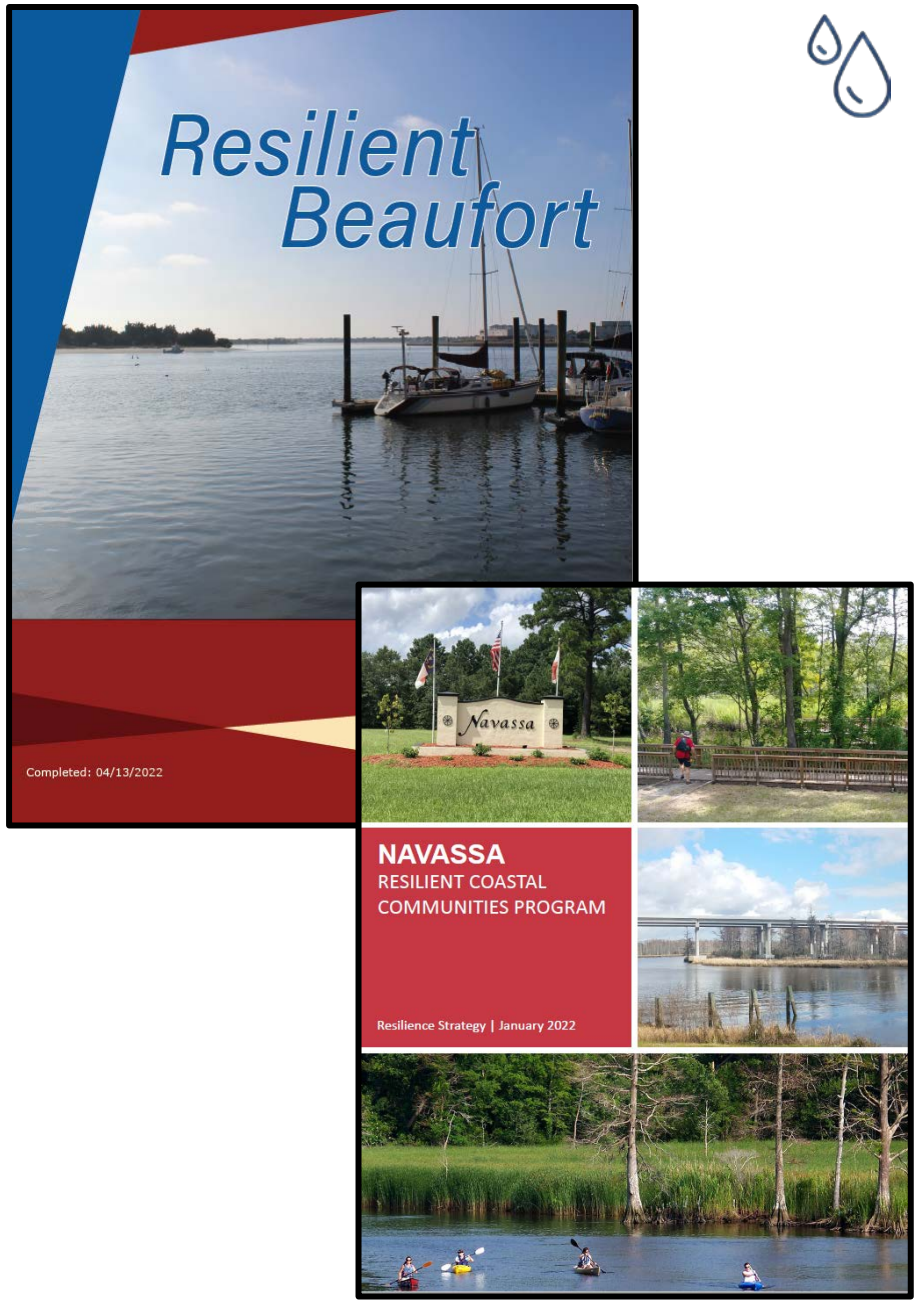
The main deliverable will include a Resilience Strategy based on guidance provided in the handbook. The two components include:

1. **Vulnerability Assessment Report:**

    - Details the quantitative and qualitative elements of assessment(s) performed

2. **Project Portfolio:**

    - Outlines a series of options to address coastal hazards with local, community-specific information.



PHASE 1

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P1; Step 1: Developing A Community Action Team

The first step is to develop an inclusive and diverse Community Action Team with **at least five representative members** of the community.

- If there are gaps in the expertise on the CAT, the contractor will work with the community to fill this role.
- Appoint one of the CAT members as a “Champion” to lead the CAT team
- Summarize the process for developing your Community Action Team, including the members chosen and what expertise they bring to the team.

P1; Step 2: Review Existing Plans and Efforts

After forming your CAT, conduct a review of existing plans, ordinances, policies, and programs to identify what the community has already done that can be incorporated into this process.

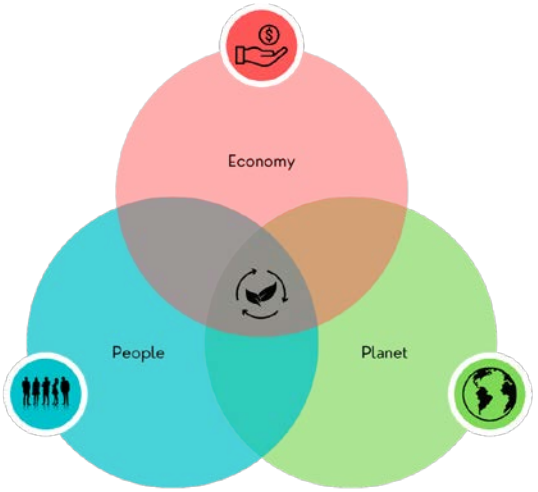
- Review existing local and regional resources, focusing on the following areas of overlap:
  - Inventory of critical assets
  - Sea level rise projections
  - Risk assessments
  - Resilience-related projects
- Identity and list (or visually represent) any data/knowledge gaps that exist

P1; Step 3: Set Vision & Goals

Develop a community resilience vision statement:

Vision: The vision is an aspirational statement for where the community wants to be in the future (e.g., in the next ten years or more), particularly in relation to coastal hazards.

> *"The Town of Hertford is a vibrant, diverse community committed to helping its residents thrive, celebrating its riverfront, history, culture, and distinctive character while promoting commercial and residential growth, showcasing the beauty and natural resources of the Perquimans River, and integrating coastal resilience practices to address adverse environmental impacts."*



Develop a list of locally driven goals for this effort:

Goals: Specific, measurable goals will help the community identify steps that can be taken to achieve the vision.

P1; Step 4: Develop a Community Engagement Strategy

Develop a stakeholder engagement strategy for involving community members during the Risk and Vulnerability Assessment (Phase 1, Step 5), and Project Development (Phase 2)

- Develop an approach for targeted outreach to vulnerable and historically underrepresented members of the community

Your community engagement strategy will ensure the following:

- Equitable representation and outcomes for vulnerable populations.
- Building trust, relationships, and diverse partnerships within communities.
- Providing feedback and validation of the Vulnerability Assessment (Step 5).
- Assisting with selecting and prioritizing projects in Phase 2 of the RCCP Program.

Step 5: Identify & Map Critical Assets, Natural Infrastructure, & Socially Vulnerable Populations

The contractor will work with the Community Action Team (CAT) to identify any locally specific critical assets, vulnerable populations, and natural infrastructure to include within the risk and vulnerability assessment. Mapping should be completed using ArcGIS Online.

P1; Step 6: Conduct Risk & Vulnerability Assessment

Risk and vulnerability assessments evaluate risks to a community's people, critical assets, natural infrastructure, and ecosystems from coastal and climate hazards such as flooding, storm surge, and sea level rise.

This assessment serves as the foundation for determining what actions to take and where they should be targeted in the next steps of this process.

Use existing Hazard Mitigation Plans to create localized assessments with data and modeling that considers past, present, and future scenarios.

Risk & Vulnerability Assessment Process:

1. Identify and Map the Hazards
2. Assess Vulnerability
3. Estimate Risk

P1; Step 6A Minimum Requirements

- Review local or regional hazard mitigation plans, extract data and information, and identify any gaps to fill
- Identify hazards and stressors to include in the risk and vulnerability assessment.
    - **At a minimum, they must include** flooding (rainfall, tidal, and riverine), storm surge, and 30-year sea level rise projection
- Map the geographic extent of the hazards and overlay them with community assets identified in Step 5.

P1; Step 6B Minimum Requirements

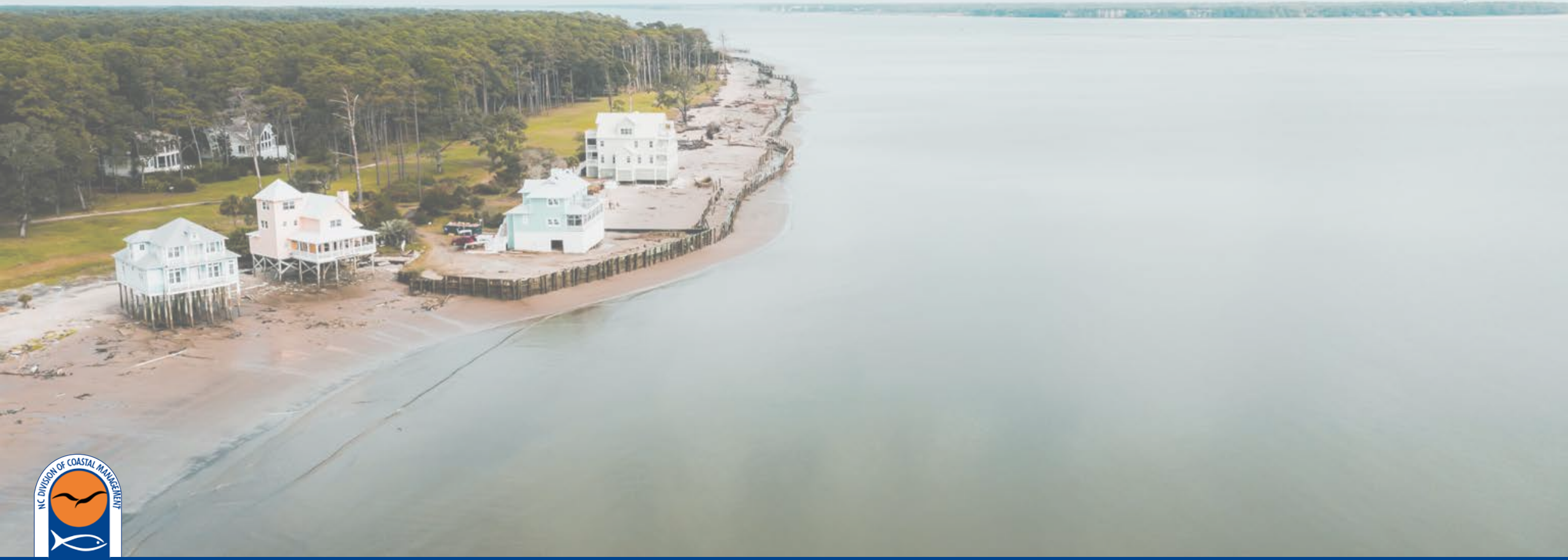
- Define thresholds and criteria that will be used to classify vulnerability of critical assets as low, medium, or high for each vulnerability metric.

- Estimate cumulative vulnerability of critical assets and natural infrastructure using vulnerability index.

P1; Step 6C Minimum Requirements

- Gather supplemental data as needed past what the hazard mitigation plan provides
- Estimate the risk of the critical assets identified by using the sample table provided, or a similar table

PHASE 2



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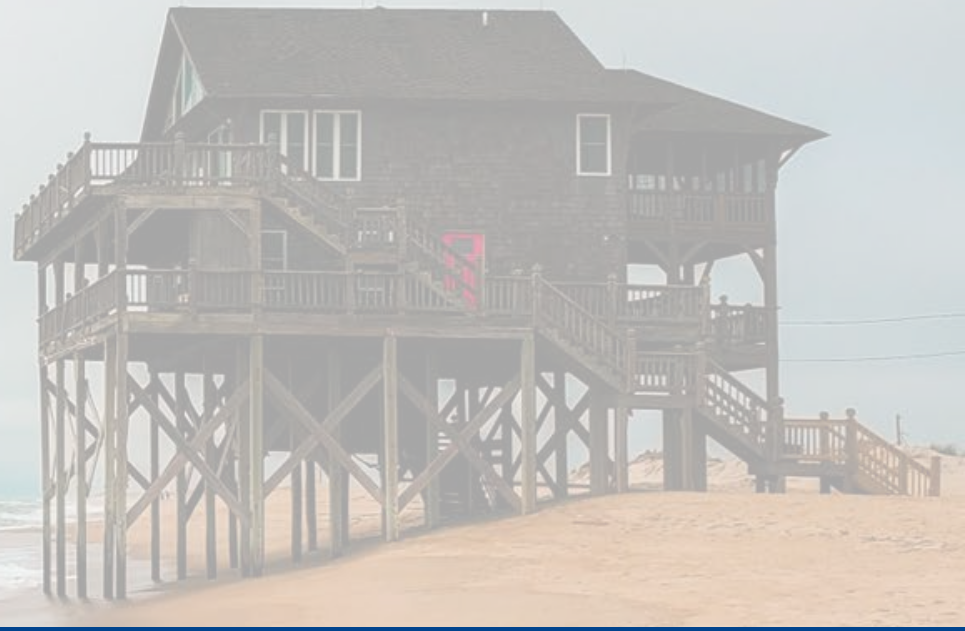
P2; Step 1: Identifying Potential Solutions

- Develop a portfolio of resilience projects aimed at reducing exposure and sensitivity to hazards as well as strengthening the adaptive capacity of community assets and vulnerable populations.

- Each community must find the right mix of **structural** (infrastructure) and **nonstructural** (policy-related) approaches, including **at least one** nature-based solution.

- **[Projects] should support basic community functions that are critical for absorbing, rebounding from, and adapting to hazards**



P2; Step 2: Consolidating & Prioritizing Projects

Evaluate strategies and their feasibility.

- Use cost-benefit analyses to consolidate and prioritize **at least 5** priority projects based on their usefulness to the community.

Return to the previous steps in the process to inform your decision-making; ask yourselves:

- Do projects meet your community's vision and goals?
- Do the identified projects correlate with community feedback?
- Does the project reduce the vulnerability or increase the adaptive capacity of a critical asset or vulnerable population?

Contact Information

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Tancred Miller, *Policy & Planning Section Chief*
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(252) 515-5432

2

TOWN OF OCEAN ISLE BEACH NEEDS, CONCERNS, AND LOCAL EFFORTS

Justin Whiteside, Town of Ocean Isle Beach

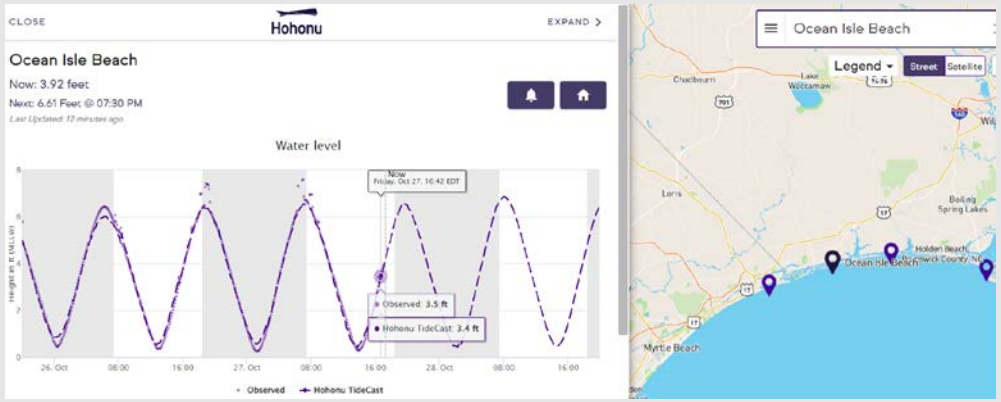
APPLICATION AND NEED

Town's primary concerns:

- Storm surge
- Heavy precipitation events
- Sea level rise
- Tidal flooding
- Erosion

PREVIOUS RESILIENCY EFFORTS

- 30-Year Beach Management Plan
- Beach Nourishment – Federal Coastal Storm Risk Management (CSRM) project
- Terminal Groin
- Dune Building
- Beach Monitoring & Analysis
- Hohunu Water Level Gauge
- Canal Study



REVIEW OF EXISTING EFFORTS AND PLANS

- Regular Review and Update of Town Ordinances
  - Chapter 18: Civil Emergencies
  - Chapter 22: Environment
  - Chapter 42: Soil Erosion and Sedimentation Control
  - Chapter 49: Stormwater Management
  - Chapter 50: Subdivisions
  - Chapter 66: Zoning
- Town of Ocean Isle Beach CAMA Land Use Plan
- Town of Ocean Isle Beach CIP
- Town of Ocean Isle Beach 30-Year Beach Management Plan
- Town of Ocean Isle Beach Comprehensive System-Wide Parks & Recreation Master Plan
- Town of Ocean Isle Beach Emergency Response Plan
- Southeastern NC Regional Hazard Mitigation Plan
- FEMA Community Rating System – Town of Ocean Isle Beach joined in 1992

3

COMMUNITY ACTION TEAM ROLES AND RESPONSIBILITIES

Beth Sciaudone, Moffatt & Nichol

CAT ROLES AND RESPONSIBILITIES

- **Phase 1**
  - Help develop a **community-specific vision** and set of **goals** to establish the local context for this program and guide subsequent steps
  - Select **critical assets and natural infrastructure** to include within the risk and vulnerability assessment
  - Conduct **a review of existing plans, ordinances, policies, and programs** to identify work that has already been completed
  - Help to **define thresholds and criteria** that will be used to score assets as low, medium, or high for each vulnerability metric
- **Phase 2**
  - Work with us and the community to **identify, plan, and prioritize** a combination of policy, nonstructural, structural, and hybrid actions, including the use of natural and nature-based solutions

CAT ROLES AND RESPONSIBILITIES

- **Phase 1**
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- **Phase 2**
  - Work with us and the community to **identify, plan, and prioritize** a combination of policy, nonstructural, structural, and hybrid actions, including the use of natural and nature-based solutions

4

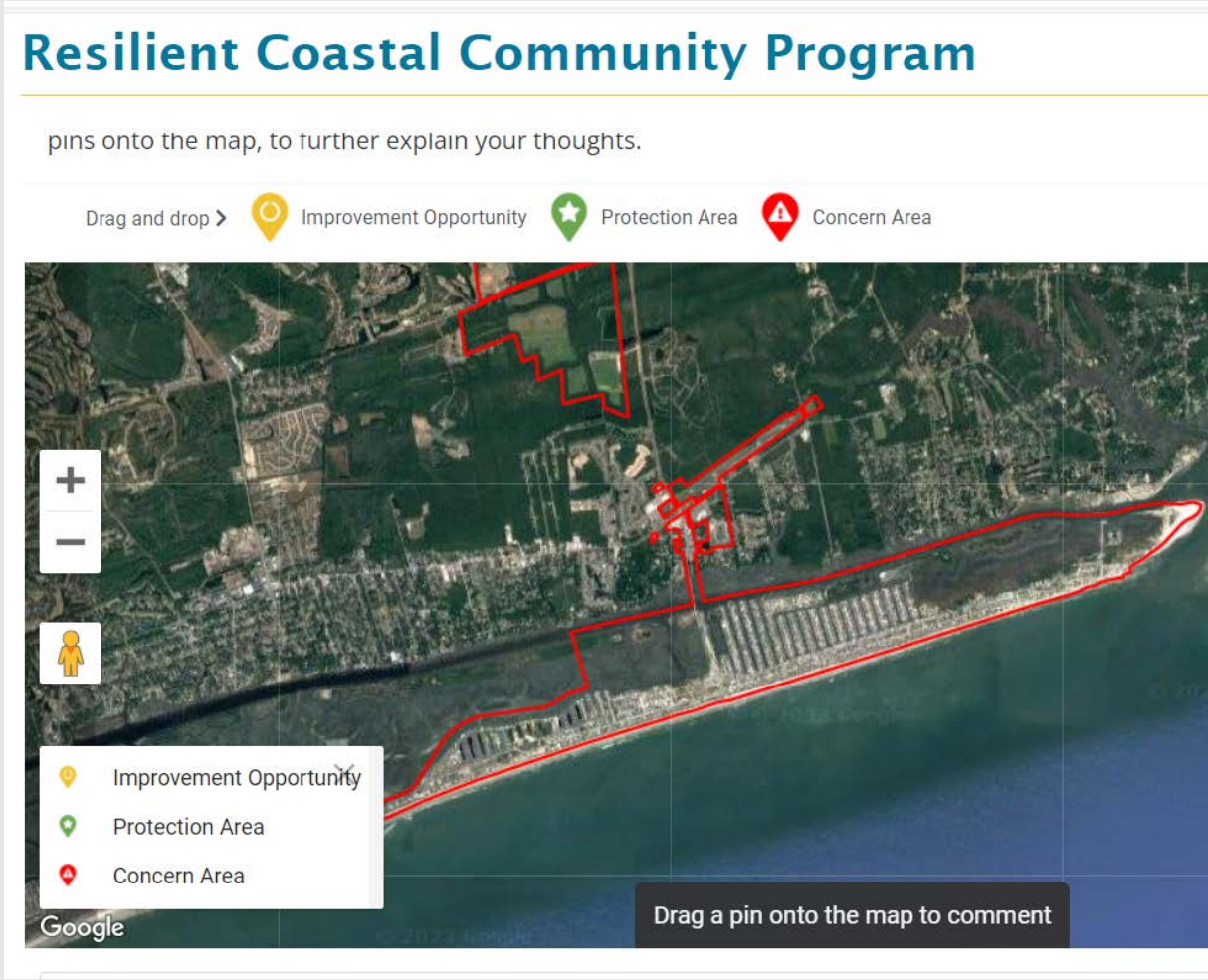
ENGAGEMENT STRATEGY OVERVIEW

Beth Sciaudone, Moffatt & Nichol

COMMUNITY ENGAGEMENT STRATEGY

- Prepare & Distribute Outreach Materials
- Prepare & Launch Website
- Email Correspondence
- Online Survey
- Interactive Map

- CAT Meetings
- Public Meetings



5

SETTING COMMUNITY VISION AND GOALS

Dawn York, Moffatt & Nichol

SETTING A COMMUNITY VISION

- What is a Vision Statement?
  - Aspirational statement for where the community wants to be in the future
- Examples of Community Vision Statements
  - *Create a coastal resilience plans for the Town of Ocean Isle Beach to establish a resilient community where: structures and critical infrastructure in the flood zone are adapted to withstand hazards and protected by healthy ecosystems.*
  - *Create a more resilient community where residents can live in safety, educated about flood risk, while protecting the cultural heritage and identity of the community, particularly with regard to stormwater management, displacement of residents during disaster events, development and population growth, watershed planning, climate change, floodplain management, community planning, education and outreach, and conservation and restoration.*

SETTING A COMMUNITY VISION

- Thinking About Resilience

  - What does resilience mean to our community?
  - What are our community's unique strengths and resources?
  - What are the key challenges and vulnerabilities facing our community?
  - What are the long-term goals and aspirations for our community's resilience?
  - In what ways can we promote education and awareness about resilience within our community?
  - How can we ensure that marginalized or vulnerable populations are included and supported in our resilience efforts?
  - What measures can we take to adapt to changing environmental conditions and mitigate potential risks?
    - Have you experienced (or witnessed someone who experienced) a natural disaster or hazard that you could not bounce back from? If so, what was it?
    - If you had unlimited funds today to spend on the Town of OIB, what projects would you complete to improve community resilience?

ALIGNING COMMUNITY GOALS

- What is **SMART** goal setting?
  - **S**pecific, **M**easurable, **A**chievable, **R**ealistic, **T**imely
- Goals can involve:
  - Education and outreach
  - Conservation and restoration
  - Plans, policies, and ordinances
  - Development and growth

- Examples of community goals:
  - *Improve digital resources to communicate risk and help with planning efforts*
  - *Increase staff capacity to support training and develop funding resources*
  - *Complete a watershed restoration plan*
  - *Review, revise, and implement/ enforce plans, policies, and ordinances for better resilience to include stakeholder input and community partnerships*

ALIGNING COMMUNITY GOALS

- Vision and Goals Activity

6

CRITICAL ASSETS & HAZARDS REVIEW

Rachel Baker and Adrianna Weber, Moffatt & Nichol

CRITICAL ASSETS AND HAZARDS REVIEW

Figure 6 | Required Critical Assets to Map

- Data overview:
  1. Roads/Evacuation Routes
  2. Water/sewer lines
  3. Community Government Service Offices
     - OIB Town Hall
     - Community Center
     - Operations Buildings
     - Museum of Coastal Carolina?
  4. Schools
  5. Health Services
  6. Public Safety or Emergency Services
     - OIB Fire Station
     - OIB Police Station
     - Emergency Beach Access Points
     - Airport
  7. Natural Assets
     - Streams
     - Wetlands
     - Water bodies
     - Open space

ASSESSING VULNERABILITY

Vulnerability Score = Exposure Score + Sensitivity Score – Adaptive Capacity

Exposure Score	Sensitivity Score	Adaptive Capacity
The presence of people, assets, and ecosystems in places where they could be adversely impacted by hazards	Degree to which an asset is potentially affected when exposed to an impact	Ability of the asset and/or population to adjust to potential impacts from hazards with minimal disruption or cost

7

NEXT STEPS & SCHEDULING

Beth Sciaudone, Moffatt & Nichol

NEXT STEPS AND SCHEDULING

	Task	August	September	October	November	December	January	February	March	April	May
Phase 1	1. Develop a Community Action Team (CAT)										
	2. Review Existing Plans & Efforts										
	3. Set Vision and Goals			CAT #1							
	4. Develop a Community Engagement Strategy										
	5. Identify & Map Critical Assets, Natural Infrastructure, & Socially Vulnerable Populations					PM #1 / CAT #2					
	6. Conduct Risk & Vulnerability Assessment						Draft Deliverable				
Phase 2	1. Identify a Suite of Potential Solutions							CAT #3			
	2. Consolidate & Prioritize Projects								PM #2 / CAT #4		
	3. Finalize Resilience Strategy										Final Deliverable

NEXT STEPS AND SCHEDULING

- **Meeting Dates**
  - **CAT Meeting #2: December 5, 2023 at 10 am**
  - **Public Meeting #1: December 5, 2023 at 6 pm**
  - **CAT Meeting #3: February 2024 (set date)**
  - **CAT Meeting #4: March 2024 (set date)**
  - **Public Meeting #2: March 2024 (set date)**

Ocean Isle Beach RCCP CAT Meeting #1

October 31, 2023

Attending:
Mackenzie Todd, NCDEQ Division of Coastal Management, Coastal Resiliency Coordinator
Kasen Wally, NCDEQ Division of Coastal Management, Coastal Resiliency Specialist
Justin Whiteside, Assistant Town Administrator, Ocean Isle Beach (CAT Liaison)
Casey Hayes, Town Clerk, Ocean Isle Beach
Keith Dycus, Development Services Director, Ocean Isle Beach
Adam Sellers, Utility Maintenance Supervisor, Ocean Isle Beach
Tom Athey, Commissioner, Ocean Isle Beach
Wayne Rowell, Commissioner, Ocean Isle Beach
Jim Hoffman, Executive Director, Museum of Coastal Carolina
David Hill, Business and Property Owner
Jonathan Williamson, Business and Property Owner
Dawn York, Moffatt & Nichol
Rachel Baker, Moffatt & Nichol
Adrianna Weber, Moffatt & Nichol
Beth Sciaudone, Moffatt & Nichol

The file 2023-10-31 OIB CAT Meeting #1_Combined.pdf contains all of the slides presented at the CAT meeting.

The group conducted introductions.

1. Kasen Wally presented an introduction and overview of the RCCP program.
   The CAT team asked about available funding for future phases of the RCCP program. Mr. Wally indicated that the outlook was favorable. Phase 3 will begin in early 2024 and will serve the purpose of getting communities ready for Phase 4, project implementation.

2. Justin Whiteside presented the Town of Ocean Isle Beach needs, concerns, and ongoing resiliency efforts and plans.

3. Beth Sciaudone reviewed CAT roles and responsibilities and goals for today's meeting. She also highlighted some aspects of the engagement strategy. Casey Hayes also presented the Town's initial strategy to engage community members via email as well as in person signups at the upcoming election.

4. Dawn York facilitated a work session on setting the community vision and goals. The timeframe for the vision was agreed upon as 10-15 years because of the uncertainty in extending any further out. CAT members agreed that there are many changing variables that come with rapid growth and development, such that Ocean Isle Beach/ Brunswick County is experiencing, and this will be a living document to revisit in future years. The following were discussed as being important topics to address in a vision statement:

Resilience: Ability to adapt, overcome, acclimate, withstand, and be prepared

Unique Strengths & Resources: Beauty of the area (both natural and manmade), sense of community, willingness to work together, love for neighbor, genuine interest in and concern for environmental stewardship.

Challenges: Transportation, traffic, growth, (County has developed a 2040 plan), management of existing infrastructure, evacuation corridors, education about hazards, how to make people pay attention to these issues, sewer overflow communication with County, stormwater flooding, water quality at outfalls in the canals.

Town Efforts to Potentially Build Upon: Code Red emergency notification system; hurricane expos to educate about toolkits, what to take, what to unplug, etc. (this face-to-face education is valuable for the non-tech savvy members of the population). The frequency of these can be increased, especially with the new large community center being built that will serve as a public safety annex. Short-term vacation renters are a concern, and more coordination with rental property owners, vacation real estate companies, and hotels is important. Brochures are sent out (this is part of CRS program)-can work to update contact list to make sure relevant information is sent to the appropriate parties, and potentially add QR codes to the brochure and beach access points signage that take folks directly to information; water pressure friction loss study

During the goals discussion, each CAT member wrote down their thoughts on sticky notes and hung them up on larger pieces of paper titled with categories. The results are shown below (see Item 7). In addition, the below was discussed.

- Justin mentioned that the Town obtains easements along the canals/roads along canals for additional stormwater outfalls. The Town used to have an outfall onto the beach near Greensboro Street, but it is now capped off. The town is still concerned, however, with monitoring water quality at new outfalls.
- Several CAT members discussed their interest in learning more about dune infiltration. Justin expressed that this could be limited due to oceanfront development, but he wants to explore this idea as well.
- David mentioned a previous Town project that improved the drainage/flooding along 3rd street by removing impervious area and creating gravel swales to store water. The area has not flooded the road since.

5. Rachel Baker and Adrianna Weber presented an overview of the currently identified critical assets in the community and explained how the vulnerability assessment will be conducted.
   Items Noted by CAT: Boat ramp/fire dock and boat lift, bridge, potable water, privately owned doctor's office, Town Center Park has been identified as a landing area for emergency response, grocery stores (note Publix is very community oriented and has a generator), gas stations, fuel at Fire Department, portable generators for pump stations (have 4, Town has budgeted for some more), docks on landside, Brick Landing boat ramp

Other Items Discussed: Transportation concerns if bridge is not usable, after storm recovery (possibly a volunteer clearinghouse to assist people who are struggling with cleanup, power, debris removal, etc.), decal program for property owners to allow property owners to secure their items, pre-approved sites for debris disposal, Federal agency who can send a regional individual who can protect critical assets during and after natural hazards from criminal activity, cybersecurity of SCADA system for Town utilities.

6. The upcoming meetings were scheduled as follows:
    - CAT Meeting #2: December 5, 2023 10-11:30 am
    - Public Meeting #1: December 5, 2023, 6-8 pm
    - CAT Meeting #3: February 6, 2024, 10-11:30 am
    - CAT Meeting #4: March 5, 2024, 10-11:30 am
    - Public Meeting #2: March 5, 2024, 6-8 pm

7. Results from Goals Discussion

Education and Outreach

- Planned assistance for impacted residents after severe events
- Flood threshold (Hohonu)
- Citizen's Academy
- Establish a community Emergency Response Committee to help share information
- Add QR code to hurricane brochure
- Hurricane expos
- Activities to engage tourists
- Public programs/ family events
- Museum exhibit on island dynamics

Development and Growth

- West end sidewalks
- Paid parking
- Sandfence and sea oats planting
- East 3rd & 4th street flooding
- Improved traffic planning
- Raising BEMC transformer boxes
- Control growth and traffic
- Increase water/sewer resilience
- Work with county leaders to develop plans to manage the tremendous growth in Brunswick County

Plans, Policies, and Ordinances

- Property owner-specific hurricane plan
- Update CAMA Land Use Plan
- Study water infrastructure
- County hurricane sewer SOP
- Water friction loss study

Conservation and Restoration

- Wetland protection
- Stand side litter solutions
- Promotion of dune preservation
- Possibility of preserving land for additional green space
- Natural shorelines

oceanisle BEACH

North Carolina RESILIENT COASTAL COMMUNITIES PROGRAM

COMMUNITY ACTION TEAM MEETING #2

December 5, 2023

NC DIVISION OF COASTAL MANAGEMENT

moffatt & nichol

AGENDA

- Draft Vision & Goals, Identify Objectives
- Critical Assets/ ETJ Discussion
- Sensitivity & Adaptive Capacity Input for Assets
- Resilience Priorities Survey
- Next Steps and Action Items

CAT ROLES AND RESPONSIBILITIES

- **Phase 1**
  - Help develop a **community-specific vision** and set of **goals** to establish the local context for this program and guide subsequent steps
  - Select **critical assets and natural infrastructure** to include within the risk and vulnerability assessment
  - Conduct **a review of existing plans, ordinances, policies, and programs** to identify work that has already been completed
  - Help to **define thresholds and criteria** that will be used to score assets as low, medium, or high for each vulnerability metric
- **Phase 2**
  - Work with us and the community to **identify, plan, and prioritize** a combination of policy, nonstructural, structural, and hybrid actions, including the use of natural and nature-based solutions

1

DRAFT VISION & GOALS, OBJECTIVES

Beth Sciaudone, Moffatt & Nichol

SETTING A COMMUNITY VISION

- Draft Statement:

- In our coastal community, we envision a resilient future, where our community's unique strengths - the natural and manmade beauty, sense of unity, and genuine concern for environmental stewardship - serve as the foundation for adaptation, acclimation, and preparedness. We will tackle transportation challenges, manage growth sustainably, and enhance communication with partners. Through increased education and engagement, we will create a more aware and proactive population, building a coastal town that will thrive for generations to come.

    - Key Points:
        - What are unique community strengths? beauty (natural and manmade), sense of unity (concern for neighbor), environmental stewardship
        - What are ways to address resilience? Adaptation, acclimation, preparedness
        - What will we do specifically? Address transportation challenges, manage growth sustainably, enhance communication with partners, increase education and engagement
        - Why? To enable the Town to thrive for generations to come

SETTING A COMMUNITY VISION

- Discuss and Finalize Vision Statement

ALIGNING COMMUNITY GOALS: MEETING #1

Education and Outreach

- Planned assistance for impacted residents after severe events
- Flood threshold (Hohonu)
- Citizen's Academy
- Establish a community Emergency Response Committee to help share information
- Add QR code to hurricane brochure
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Development and Growth

- West end sidewalks
- Paid parking
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- East 3rd & 4th street flooding
- Improved traffic planning
- Raising BEMC transformer boxes
- Control growth and traffic
- Increase water/sewer resilience
- Work with county leaders to develop plans to manage the tremendous growth in Brunswick County

Plans, Policies, and Ordinances

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- Update CAMA Land Use Plan
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- County hurricane sewer SOP
- Water friction loss study

Conservation and Restoration

- Wetland protection
- Stand side litter solutions
- Promotion of dune preservation
- Possibility of preserving land for additional green space
- Natural shorelines

COMMUNITY GOALS

- Manage development and growth sustainably.
- Promote nature-based solutions to improve coastal resilience.
- Review and update key plans, policies, and ordinances to support resilience efforts.
- Promote water and sewer infrastructure resilience.
- Improve education and preparedness.

EXAMPLES OF OTHER COMMUNITY GOALS

- Protect and maintain critical infrastructure and ensure that critical infrastructure is resilient to all anticipated hazards.
- Improve and maintain buildings to support resilience to hazards.
- Support smart growth with future development
- Foster and sustain a strong economic base that recovers quickly following a hazard event
- Identify and obtain funding to support hazard resilience.
- Protect and enhance the natural habitats of fish and wildlife.
- Improve water quality.
- Improve stormwater management.
- Develop effective hazard response and recovery.
- Protect vulnerable populations.
- Educate the public about resiliency.
- Promote thriving, healthy, and resilient communities.
- Foster inclusive, collaborative partnerships.

FINALIZE GOALS

OBJECTIVES

- Align objectives with goals

2

CRITICAL ASSETS & HAZARDS REVIEW

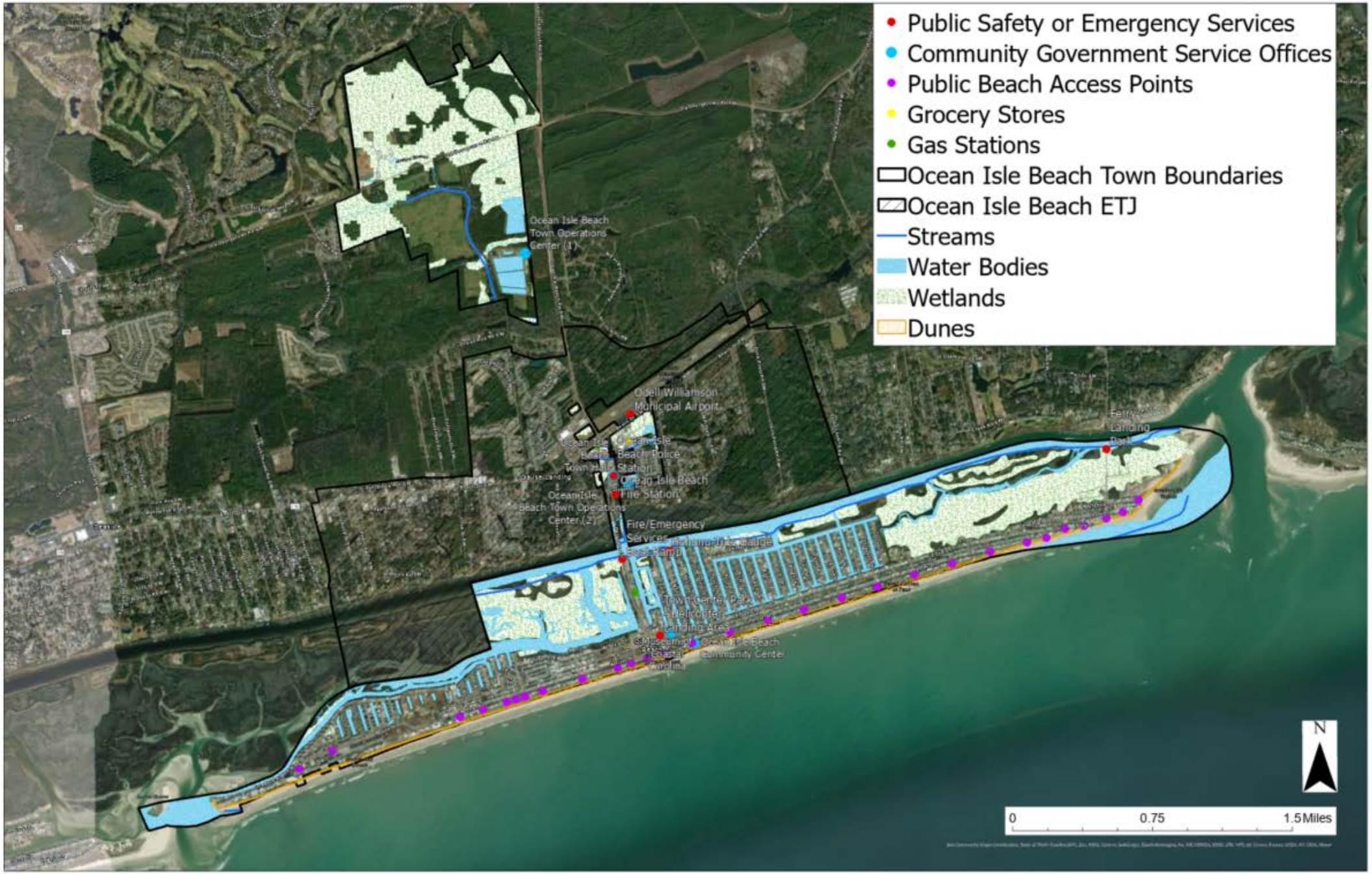
Rachel Baker and Adrianna Weber, Moffatt & Nichol

CRITICAL ASSETS AND HAZARDS REVIEW

- Roads/Evacuation Routes
- Water/sewer lines
  - Water lines
  - Sewer lines
  - Stormwater lines
  - Fire hydrants
  - Water towers & water valves
  - Wastewater treatment plant
  - Pump stations
  - Manholes
  - Catch basins
- Gas Stations
  - Marathon gas
  - Sunoco gas
  - Lowe's gas (ETJ)
- Grocery Stores
  - Publix
  - Lowe's Foods (ETJ)
- Community/Government Offices
  - Town Hall
  - Town Operations Centers
  - Community Center
  - Museum of Coastal Carolina
- Public Safety/Emergency Services
  - Fire Station
  - Police Station
  - Airport
  - Boat Ramp
  - Town Center Park (helicopter landing area in emergencies)
  - Ferry Landing Park (area to shuttle people from island in emergencies)
  - Hohonu Tide Gauge
  - Public Beach Access Points
- Natural Infrastructure
  - Dunes
  - Streams
  - Wetlands
  - Water bodies
- Doctor's Offices
  - Private Dr. Office (Blizzard)
  - Benchmark Physical Therapy (ETJ)
  - CommWell Health (ETJ)

oceanisle BEACH

North Carolina RESILIENT COASTAL COMMUNITIES PROGRAM



NC DIVISION OF COASTAL MANAGEMENT

moffatt & nichol

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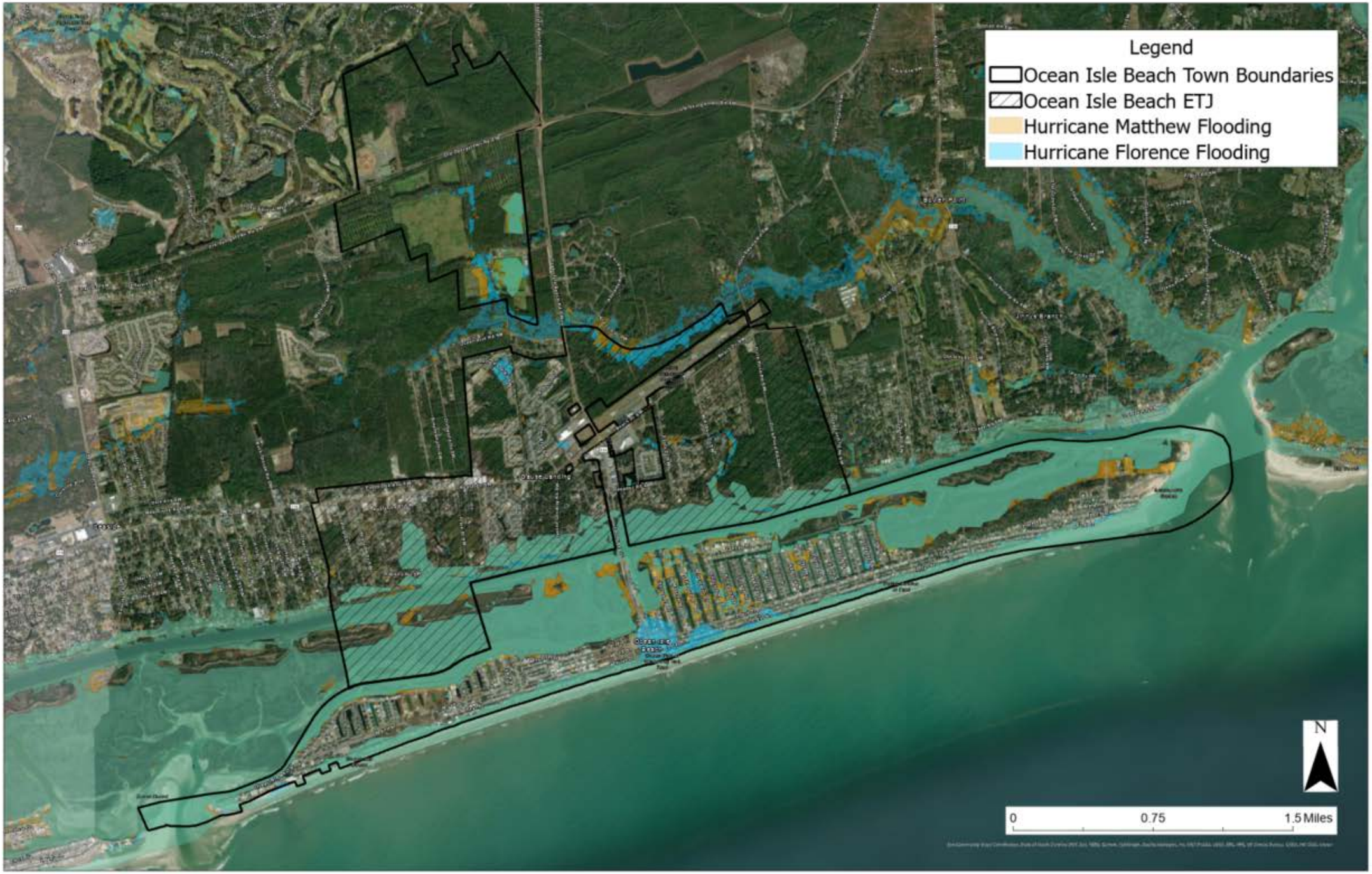
North Carolina RESILIENT COASTAL COMMUNITIES PROGRAM



NC DIVISION OF COASTAL MANAGEMENT

moffatt & nichol

3

ASSESSING VULNERABILITY

Adrianna Weber and Rachel Baker, Moffatt & Nichol

ASSESSING VULNERABILITY

Vulnerability Score = Exposure Score + Sensitivity Score – Adaptive Capacity

Exposure Score	Sensitivity Score	Adaptive Capacity
The presence of people, assets, and ecosystems in places where they could be adversely impacted by hazards	Degree to which an asset is potentially affected when exposed to an impact	Ability of the asset and/or population to adjust to potential impacts from hazards with minimal disruption or cost

ASSESSING VULNERABILITY

Asset ID	Exposure Score 0-3	Sensitivity Score 0-3	Adaptive Capacity Score 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
Vulnerability Score = (Exposure Score + Sensitivity Score) - Adaptive Capacity Score				

ASSESSING VULNERABILITY

- Exposure Score - MN
  - Hazards:
    - Storm Surge – SLOSH model
    - Sea Level Rise – 1-10 feet
    - Previous Hurricane Data – Hurricane Matthew and Hurricane Florence
- Sensitivity Score - CAT
  - Does the asset affect a large portion of the Town population?
  - During natural hazards, does the asset act in multiple capacities (rescue, shelter, etc.)?
- Adaptive Capacity Score - CAT
  - Does the Town have excess utility infrastructure (pipes, valves, etc.)?
  - Does the Town have back-up generators they can use to continue operations?
    - Portable?
  - Redundancy?

ASSESSING VULNERABILITY

- Next steps:
  - Finalize list of critical assets
  - Finalize list of hazards
  - Moffatt & Nichol assigns exposure scores to critical assets based on desktop analysis of natural hazards
  - CAT feedback on sensitivity score and adaptive capacity
  - Vulnerability scores

4

NEXT STEPS & SCHEDULING

Beth Sciaudone, Moffatt & Nichol

NEXT STEPS AND SCHEDULING

	Task	August	September	October	November	December	January	February	March	April	May
Phase 1	1. Develop a Community Action Team (CAT)										
	2. Review Existing Plans & Efforts										
	3. Set Vision and Goals			CAT #1							
	4. Develop a Community Engagement Strategy										
	5. Identify & Map Critical Assets, Natural Infrastructure, & Socially Vulnerable Populations					PM #1 / CAT #2					
	6. Conduct Risk & Vulnerability Assessment						Draft Deliverable				
Phase 2	1. Identify a Suite of Potential Solutions							CAT #3			
	2. Consolidate & Prioritize Projects								PM #2 / CAT #4		
	3. Finalize Resilience Strategy										Final Deliverable

NEXT STEPS AND SCHEDULING

- **Meeting Dates**
  - **Public Meeting #1: December 5, 2023 (today) at 6 pm**
  - **CAT Meeting #3: February 6, 2024 at 10 am**
  - **CAT Meeting #4: March 2024 (set date) – March 14 seems to be preferred**
  - **Public Meeting #2: March 2024 (set date) – March 14 seems to be preferred**

oceanisle BEACH

North Carolina RESILIENT COASTAL COMMUNITIES PROGRAM

COMMUNITY ACTION TEAM MEETING #2A

January 10, 2024

NC DIVISION OF COASTAL MANAGEMENT

moffatt & nichol

AGENDA

- Review draft sensitivity/adaptive capacity rankings
- Finalize rankings
- Review survey results summary
- Identify project opportunities based on survey results

CAT ROLES AND RESPONSIBILITIES

- **Phase 1**
  - Help develop a **community-specific vision** and set of **goals** to establish the local context for this program and guide subsequent steps
  - Select **critical assets and natural infrastructure** to include within the risk and vulnerability assessment
  - Conduct **a review of existing plans, ordinances, policies, and programs** to identify work that has already been completed
  - Help to **define thresholds and criteria** that will be used to score assets as low, medium, or high for each vulnerability metric
- **Phase 2**
  - Work with us and the community to **identify, plan, and prioritize** a combination of policy, nonstructural, structural, and hybrid actions, including the use of natural and nature-based solutions

1

SENSITIVITY & ADAPTIVE CAPACITY

Beth Sciaudone, Moffatt & Nichol

ASSESSING VULNERABILITY

Vulnerability Score = Exposure Score + Sensitivity Score – Adaptive Capacity

Exposure Score	Sensitivity Score	Adaptive Capacity
The presence of people, assets, and ecosystems in places where they could be adversely impacted by hazards	Degree to which an asset is potentially affected when exposed to an impact	Ability of the asset and/or population to adjust to potential impacts from hazards with minimal disruption or cost

ASSESSING VULNERABILITY

Asset ID	Exposure Score 0-3	Sensitivity Score 0-3	Adaptive Capacity Score 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

Vulnerability Score = (Exposure Score + Sensitivity Score) - Adaptive Capacity Score

ASSESSING VULNERABILITY

- Exposure Score – MN Hazards:
  - Precipitation
  - Storm Surge
  - Sea Level Rise
  - High Tide (Nuisance) Flooding
  - Shoreline Erosion (estuarine and oceanfront)
- Sensitivity Score - CAT
  - Does the asset affect a large portion of the Town population?
  - During natural hazards, does the asset act in multiple capacities (rescue, shelter, etc.)?
- Adaptive Capacity Score - CAT
  - Does the Town have excess utility infrastructure (pipes, valves, etc.)?
  - Does the Town have back-up generators they can use to continue operations?
  - Portable?
  - Redundancy?

FINALIZE SENSITIVITY SCORES (1)

Critical Asset	Average Sensitivity Score
Roads/Evacuation Routes	
Roads (NCDOT, Town, Private)	2
Bridge	3
Utility Infrastructure	
Water Infrastructure (lines, valves)	3
Water Towers	3
Fire Hydrants	2
Sewer Infrastructure (lines, manholes)	3
Pump Stations	3
Wastewater Treatment Plant	2
Stormwater Infrastructure (lines, manholes, catch basins)	2
Gas Stations	
Gas Stations - On Mainland	2
Gas Stations - On Barrier Island	2
Grocery Stores	
Grocery Stores	2
Medical Facilities	
Private Doctor Office	1
Banks	
Bank	2

FINALIZE SENSITIVITY SCORES (2)

Critical Asset	Average Sensitivity Score
Community/Government Offices	
Town Hall	2
Town Operations Centers	2
Community Center	2
Museum of Coastal Carolina	2
Public Safety/Emergency Services	
Fire Station	2
Police Station	2
Airport	2
Boat Ramp	2
Town Center Park	2
Ferry Landing Park	2
Hohonu Tide Gauge	2
Public Beach Access Points	2
Natural Infrastructure	
Dunes	3
Streams	2
Wetlands	2
Water Bodies	3

FINALIZE ADAPTIVE CAPACITY SCORES (1)

Critical Asset	Average Adaptive Capacity Score
Roads/Evacuation Routes	
Roads (NCDOT, Town, Private)	2
Bridge	1
Utility Infrastructure	
Water Infrastructure (lines, valves)	2
Water Towers	1
Fire Hydrants	2
Sewer Infrastructure (lines, manholes)	2
Pump Stations	2
Wastewater Treatment Plant	2
Stormwater Infrastructure (lines, manholes, catch basins)	2
Gas Stations	
Gas Stations - On Mainland	2
Gas Stations - On Barrier Island	1
Grocery Stores	
Grocery Stores	2
Medical Facilities	
Private Doctor Office	2
Banks	
Bank	2

FINALIZE ADAPTIVE CAPACITY SCORES (2)

Critical Asset	Average Adaptive Capacity Score
Community/Government Offices	
Town Hall	2
Town Operations Centers	2
Community Center	2
Museum of Coastal Carolina	2
Public Safety/Emergency Services	
Fire Station	2
Police Station	2
Airport	2
Boat Ramp	2
Town Center Park	2
Ferry Landing Park	2
Hohonu Tide Gauge	2
Public Beach Access Points	2
Natural Infrastructure	
Dunes	1
Streams	2
Wetlands	2
Water Bodies	2

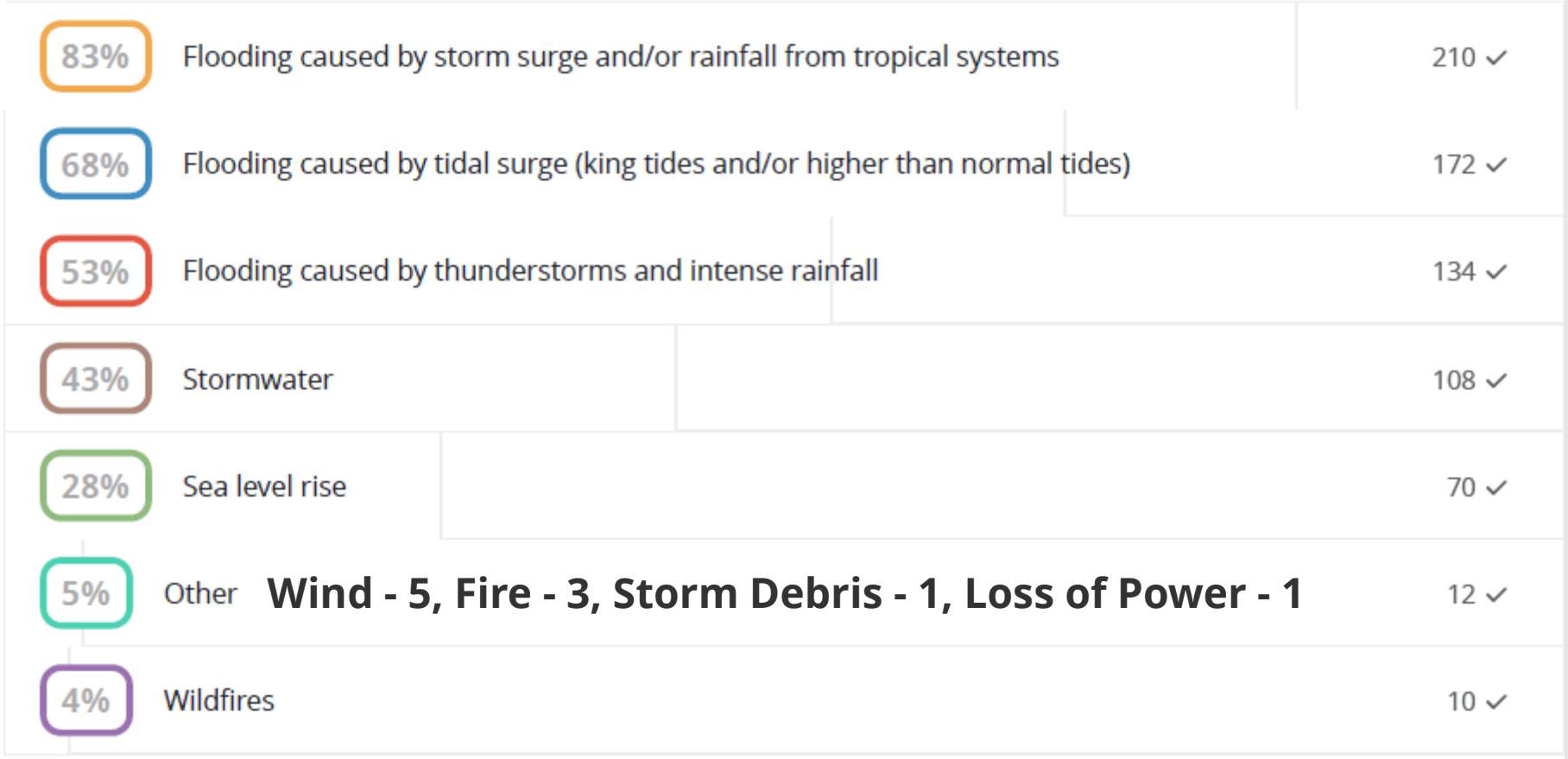
2

SURVEY RESULTS

Beth Sciaudone, Moffatt & Nichol

HAZARDS EXPERIENCED

3. If yes, which of these types of natural hazards have you experienced or been impacted by while living or working in Ocean Isle Beach or its vicinity? (Select all that apply)



HAZARDS OF CONCERN

* 4. How concerned are you about the possibility of your community being impacted by each of these hazards?

	Very Concerned	Somewhat Concerned	Not Concerned
Flooding caused by storm surge and/or rainfall from tropical systems	70% Very Concerned	28% Somewhat Concerned	2% Not Concerned
Flooding caused by tidal surge (king tides and/or higher than normal tides)	58% Very Concerned	35% Somewhat Concerned	7% Not Concerned
Flooding caused by thunderstorms and intense rainfall	33% Very Concerned	47% Somewhat Concerned	20% Not Concerned
Sea level rise	39% Very Concerned	39% Somewhat Concerned	22% Not Concerned
Wildfires	8% Very Concerned	29% Somewhat Concerned	63% Not Concerned
Stormwater	28% Very Concerned	50% Somewhat Concerned	22% Not Concerned
Other	11% Very Concerned	17% Somewhat Concerned	72% Not Concerned

ASSETS AT RISK

* 5. In your opinion, which of the following types of assets (i.e. a place or thing that is of use and value) are most at risk from natural hazards in your community? (Rank the community assets in order of vulnerability, most vulnerable to least vulnerable.) Please drag your answers up to the oval at the top that says "Your Top Priority" and subsequently "Next Priority". Please note, the list will automatically re-order itself as you make your selections. You can also drag and drop the items on the list to reorder them. When you are finished, please click the green button to Confirm Priorities.

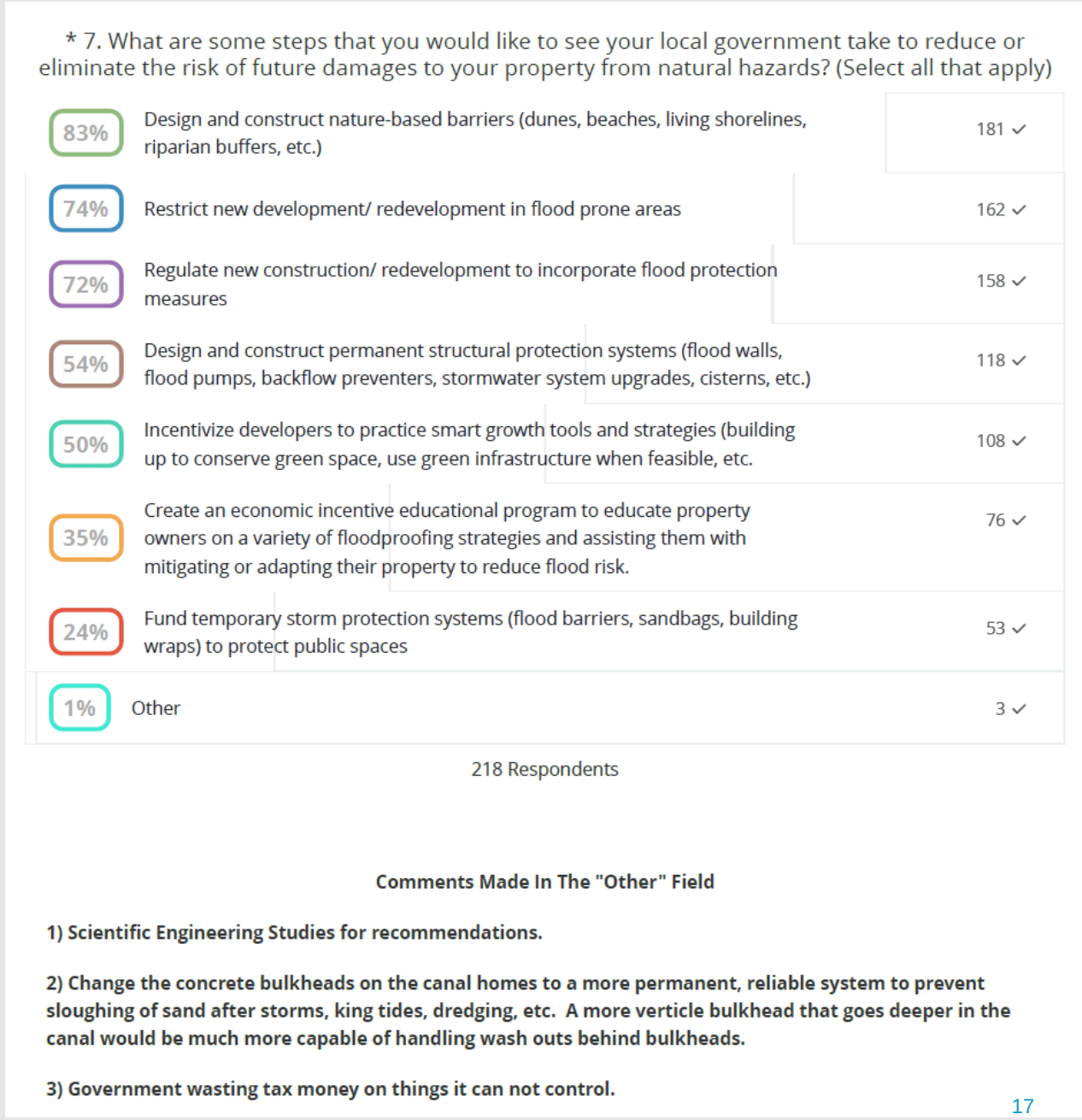
86%	People: Injuries and/or loss of life	Rank: 2.17	184 ✓
81%	Environmental: Damage, contamination or loss of dunes, wetlands, waterways, habitats, etc.	Rank: 2.37	174 ✓
73%	Infrastructure: Damage/loss of roads, bridges, utilities, schools, etc.	Rank: 2.63	158 ✓
62%	Emergency/Medical Services: Doctor's offices, urgent care facilities, pharmacies, etc.	Rank: 4.78	133 ✓
62%	Economic: Business interruptions/closures, event cancellations, job losses, etc	Rank: 5.16	134 ✓
61%	Governance: Ability to maintain order and/or provide public amenities and services	Rank: 5.86	132 ✓
61%	Experiences: Damage, contamination or loss of landside and waterside recreation such as docks, walking/biking trails, etc.	Rank: 6.18	131 ✓
61%	Cultural/Historic: Damage or loss of libraries, museums, cultural institutions, historic properties and designated sites, etc.	Rank: 6.89	132 ✓
60%	Community: Damage or loss of Town Hall and government buildings, library, public parks, etc.	Rank: 6.95	128 ✓

PLANNING PRIORITIES

* 6. Natural hazards can have a significant impact on a community but planning for these types of events can help lessen the impacts. The following statements will help us determine the community's priorities regarding planning for environmental and climate related hazards in your community. Please tell us how each statement is important to you by checking the appropriate circle for each.

		Very Important	Somewhat Important	Neutral	Not Very Important	Not Important
1	Protecting private (residential and commercial) property	88% Very Important	8% Somewhat Important	3% Neutral	- Not Very Important	- Not Important
4	Protecting critical facilities (for example: doctor's offices, police stations, fire stations, etc.	75% Very Important	20% Somewhat Important	4% Neutral	- Not Very Important	- Not Important
	Preventing development in flood hazard areas	66% Very Important	22% Somewhat Important	9% Neutral	2% Not Very Important	1% Not Important
3	Enhancing the function of natural features (for example: dunes, beaches, streams, wetlands, open spaces, etc.)	78% Very Important	18% Somewhat Important	4% Neutral	- Not Very Important	- Not Important
	Protecting historic and cultural landmarks and districts	25% Very Important	46% Somewhat Important	25% Neutral	3% Not Very Important	2% Not Important
2	Protecting and reducing damage to utilities	79% Very Important	19% Somewhat Important	2% Neutral	- Not Very Important	- Not Important
	Strengthening emergency services (for example: police, fire, ambulance)	66% Very Important	26% Somewhat Important	7% Neutral	- Not Very Important	- Not Important
	Promoting cooperation among public agencies, citizens, non-profit organizations, and businesses	42% Very Important	43% Somewhat Important	13% Neutral	2% Not Very Important	- Not Important

ACTIONS


* 7. What are some steps that you would like to see your local government take to reduce or eliminate the risk of future damages to your property from natural hazards? (Select all that apply)
83% Design and construct nature-based barriers (dunes, beaches, living shorelines, riparian buffers, etc.) 181
74% Restrict new development/ redevelopment in flood prone areas 162
72% Regulate new construction/ redevelopment to incorporate flood protection measures 158
54% Design and construct permanent structural protection systems (flood walls, flood pumps, backflow preventers, stormwater system upgrades, cisterns, etc.) 118
50% Incentivize developers to practice smart growth tools and strategies (building up to conserve green space, use green infrastructure when feasible, etc. 108
35% Create an economic incentive educational program to educate property owners on a variety of floodproofing strategies and assisting them with mitigating or adapting their property to reduce flood risk. 76
24% Fund temporary storm protection systems (flood barriers, sandbags, building wraps) to protect public spaces 53
1% Other 3
218 Respondents
Comments Made In The "Other" Field
1) Scientific Engineering Studies for recommendations.
2) Change the concrete bulkheads on the canal homes to a more permanent, reliable system to prevent sloughing of sand after storms, king tides, dredging, etc. A more verticle bulkhead that goes deeper in the canal would be much more capable of handling wash outs behind bulkheads.
3) Government wasting tax money on things it can not control.

ACTIVITIES

* 8. A number of community-wide activities can reduce risk from natural hazards. In general, these activities fall into one of the following broad categories. Please tell us how important you think each one is for your community to consider pursuing.

		Very Important	Neutral	Not Important
1	Prevention: These are administrative or regulatory actions (such as zoning, land use, and building codes) that influence the way land is developed and buildings are built. These types of actions can help prevent exposure to environmental hazards in the first place, and therefore reduce losses in the future.	83% Very Important	14% Neutral	2% Not Important
	Property Protection: These are actions that involve modifying existing buildings (such as dry floodproofing, elevating buildings, and relocating buildings outside of the floodplain) to protect them from hazards.	47% Very Important	46% Neutral	6% Not Important
1	Natural Resource Protection: These are actions that, in addition to minimizing flood losses, also preserve or restore the functions of natural systems (such as living shorelines, wetlands, open space easements, etc.)	83% Very Important	17% Neutral	- Not Important
3	Structural Projects: These are actions that are intended to lessen the impacts of environmental hazards by building a structure or device that protects against water (such as floodwalls, raising roads/sidewalks, expanding culverts, etc.)	63% Very Important	35% Neutral	2% Not Important
2	Emergency Services: These are actions or equipment that protect people and property during and immediately after a hazard event (such as police, fire, rescue, emergency medical, etc.)	81% Very Important	18% Neutral	1% Not Important
	Public Education and Awareness: These are activities that inform citizens about flooding and the techniques they can use to protect themselves and their property.	54% Very Important	41% Neutral	5% Not Important

209 respondents

PRIORITY NEEDS

* 9. Prioritizing the different activities and projects that can be done to enhance resiliency involves understanding the needs of a community, which can fall into multiple categories. Please rank the areas in which you feel the community demonstrates the most need in order of priority (with the first one being the highest priority). Please drag your answers up to the oval at the top that says "Your Top Priority" and subsequently "Next Priority". Please note, the list will automatically re-order itself as you make your selections. You can also drag and drop the items on the list to reorder them. When you are finished, please click the green button to Confirm Priorities.

80%	Environmental (Effects on land/water, endangered species, consistency with federal/ state/ local goals	Rank: 2.17	151 ✓
70%	Technical (secondary impacts to town, long-term solutions)	Rank: 2.97	132 ✓
73%	Economic (Benefits/costs of project, need for outside funding)	Rank: 2.99	138 ✓
65%	Social (Community acceptance, effects on segments of population)	Rank: 4.13	123 ✓
66%	Administrative (Staffing, funding, maintenance of projects)	Rank: 4.15	124 ✓
60%	Legal (Potential legal challenges, existing local authority)	Rank: 4.96	113 ✓
63%	Political (Public and political support)	Rank: 5.09	118 ✓
27%	Other (transportation, historical, etc.)	Rank: 6.63	51 ✓

188 Respondents

Comments Made In The "Other" Field

1) Transportation, egress
2) Open public use - beach is for everyone not just a few homeowners
3) Historical
4) Can it become self sufficient
5) Traffic
6) Infrastructure
7) Transportation

OPEN RESPONSE – EXISTING PROJECTS THAT WOULD LIKE TO SEE CONTINUED OR ENHANCED

Topic Summary

- **Control development – 23**
- **Beach Renourishment – 14**
- **Dunes Preservation - 13**
- **Preservation in General – 9**
- **Terminal Groin – 5**
- **Storm Water – 5**
- **Development – 4**
- **Water Infrastructure – 3**
- **Dredging – 1**
- **Storm Debris - 1**

- Continue Beach Renourishment/Maintain Terminal Groin/Dune Protection & Building
- Continue to provide sand fencing, sea grass planting
- Stormwater drainage on roadways (1st/2nd street specifically mentioned)
- Natural beautification/green space preservation
- Water utilities
- Canal dredging
- Tubbs Inlet dredging
- Ferry Landing Park
- Backflow preventers on canal drains
- Strengthen environmental protection policies
- Environmental education
- Speed humps, encourage pedestrian walkways
- Restrict development
- Flood barriers

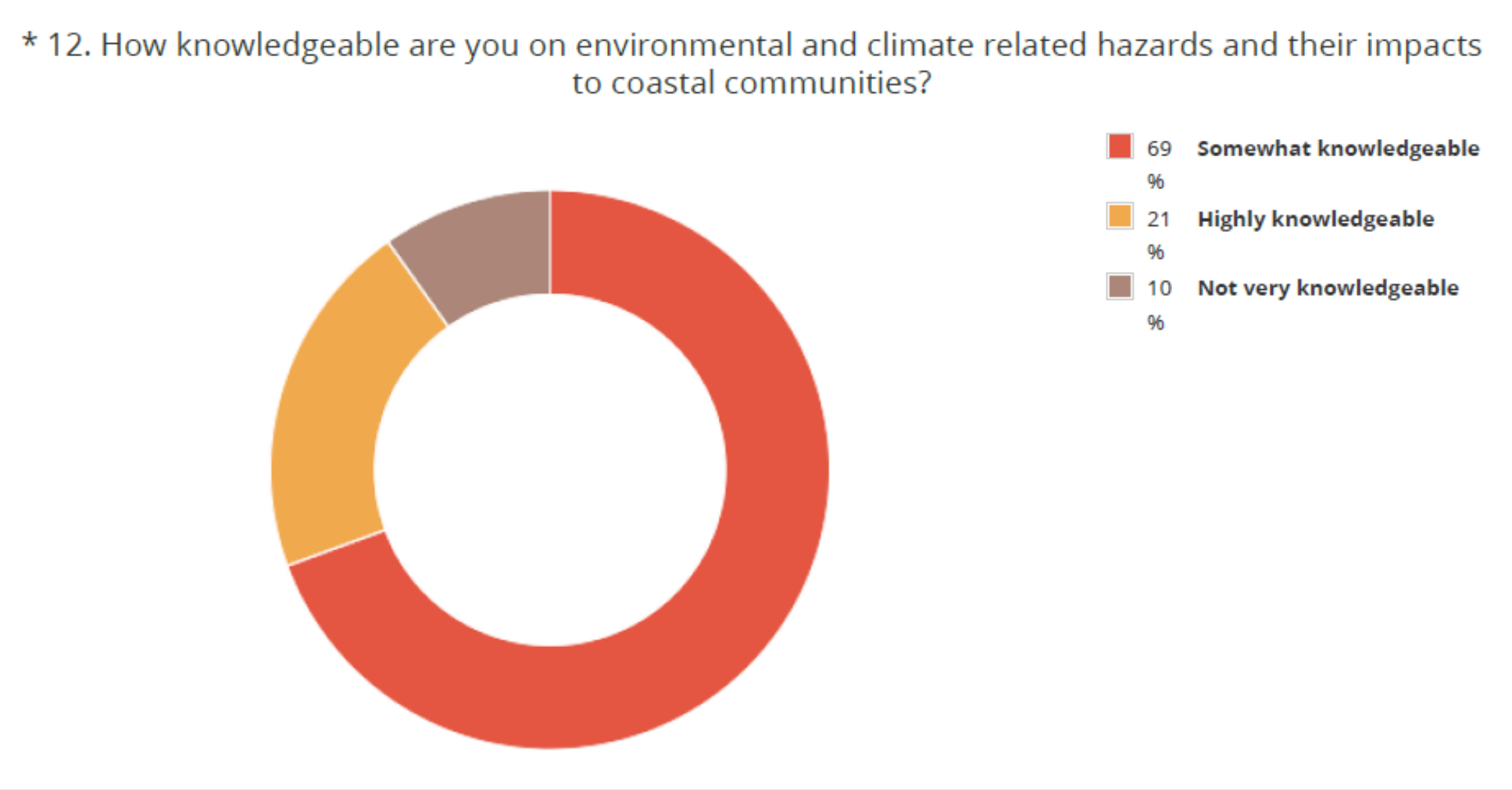
OPEN RESPONSE HOW CAN TOWN PROMOTE REPRESENTATION & EQUITABLE OUTCOMES FOR VULNERABLE POPULATIONS

Topic Summary

- **Include the Vulnerable – 16**
- **Don't understand what is meant by Vulnerability – 14**
- **Low/No Priority - 10**
- **Wildlife/Vegetation is Vulnerable – 7**
- **Overdevelopment Creates Problem – 6**
- **Beach is Vulnerable – 6**
- **Create Affordable Housing for the Vulnerable – 4**
- **Provide Free Access to the Vulnerable – 2**
- **Educate the Vulnerable – 2**

- Create committees & ask any interested person to volunteer for membership on committees of their choice
- More planning meetings & forums for discussion
- Communication/Education
- Network to support elderly individuals in community in times of emergency

SUPPORTING INFO AND DEMOGRAPHICS



SUPPORTING INFO AND DEMOGRAPHICS

* 13. What are your preferred distribution channels to receive information about how to make your home, business, and community more resilient to natural hazards?

78%	Internet (Web Pages)	151 ✓
51%	Internet (Social Media)	98 ✓
50%	Mobile Messages/Alerts	96 ✓
38%	Mail	74 ✓
33%	Public meetings/workshops	64 ✓
8%	Newspaper	16 ✓
7%	Brochures or Flyers in Public Buildings	13 ✓
6%	Other	12 ✓
5%	Word of Mouth	9 ✓
2%	Church Bulletins	3 ✓

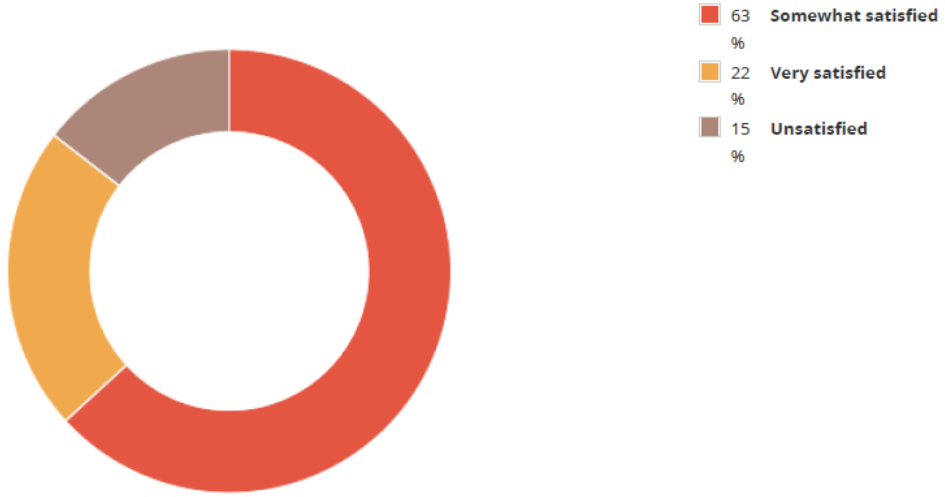
193 Respondents

Comments Made In The "Other" Field

Email - 10, Weather Channel - 1

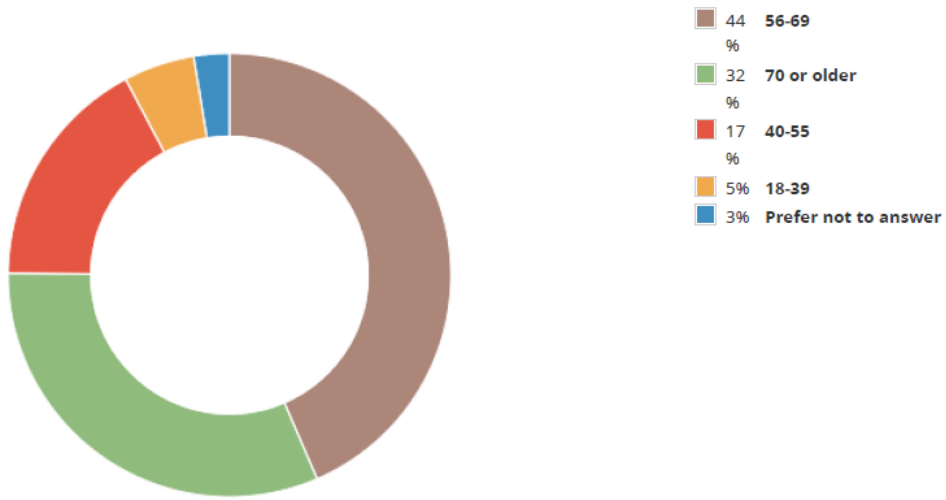
SUPPORTING INFO AND DEMOGRAPHICS

* 14. How satisfied are you with the level of public involvement in decision-making in the Ocean Isle Beach community relating to resilience and natural hazards?



193 respondents

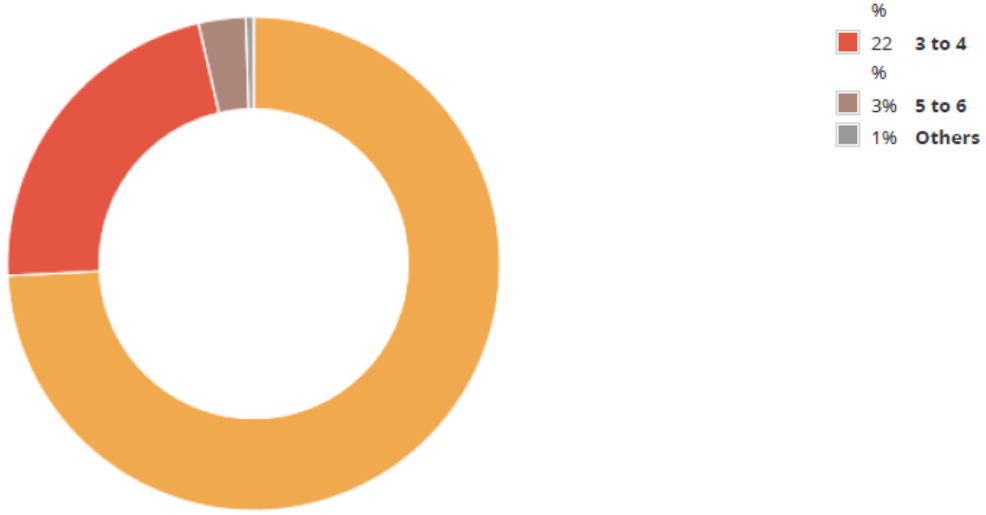
* 15. What is your age range?



193 respondents

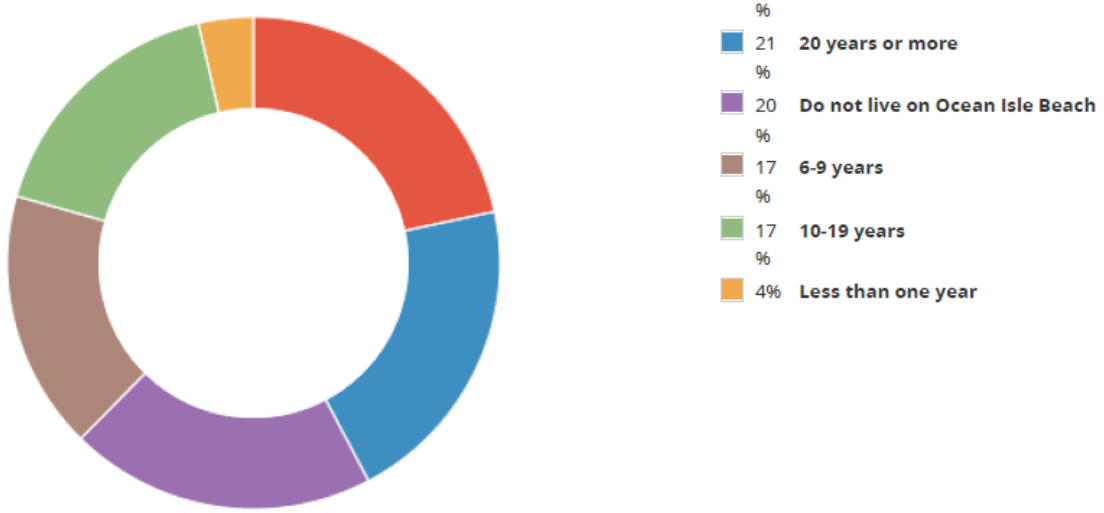
SUPPORTING INFO AND DEMOGRAPHICS

* 16. How many people live in your household?



194 respondents

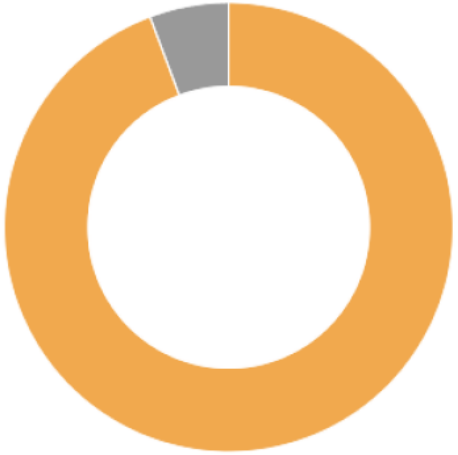
* 17. How long have you lived in Ocean Isle Beach?



194 respondents

SUPPORTING INFO AND DEMOGRAPHICS

* 18. What is your living situation?



94% I own my own home

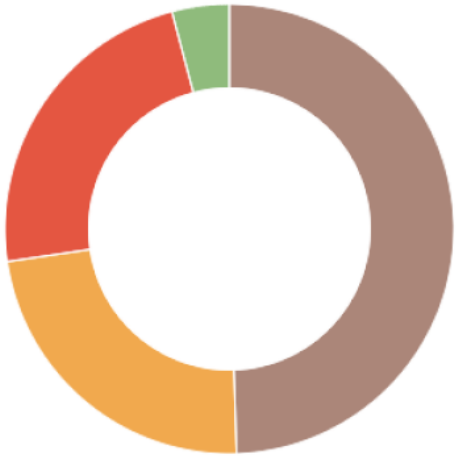
6% Others

193 respondents

Comments Made In The "Other" Field

Condo Owners - 2, Shared Vacation Property - 1

* 19. What best describes your employment situation?



49% I am a homemaker, retired, student, or unemployed

23% I am a business owner/self-employed

23% I am employed at a business/corporation

4% Prefer not to answer

194 respondents

ALIGNMENT WITH VISION & GOALS

Survey responses are in alignment with the established goals

- Manage development and growth sustainability.
- Implement nature-based and hybrid solutions to improve coastal resilience.
- Review, revise, and update key plans, policies, and ordinances to strengthen resilience efforts.
- Ensure critical infrastructure resilience.
- Improve education and preparedness.
- Reduce structural, environmental, and economic impacts from coastal hazards.

- Numerous comments on management of development – objectives could be policy based
- Nature based/hybrid solutions – many comments in support of beach & dune building, terminal groin, and preservation of open space
- Prevention via policies and ordinances #1 priority for government activities
- Stormwater infrastructure mentioned frequently
- Communication and education, preparedness mentioned
- Protecting private property, utilities, natural features, and critical facilities are priorities

OBJECTIVES BRAINSTORMING

- Manage development and growth sustainability.

Transportation/Traffic
Pedestrian infrastructure
Preserving land for green/open space
Public parking

- Implement nature-based and hybrid solutions to improve coastal resilience.

Beach plantings
Sand fence
Continue to evaluate innovative dune building solutions.
Living shorelines
Federal beach nourishment project
Terminal groin

- Review, revise, and update key plans, policies, and ordinances to strengthen resilience efforts.

Update CAMA Land Use Plan to include coastal resilience within the next five years.
Update Emergency Response Plan to include coastal resilience annually.
Update goals for the Southeastern NC Regional Hazard Mitigation Plan annually.
Update Water Shortage response plan within the next five years.
Continuously review and update policies and ordinances.

- Ensure critical infrastructure resilience.

BEMC
NCDOT
Brunswick County
Fiber Optics/phones/cable (Spectrum and Focus)
Southern Corrosion
Drinking water, wastewater, stormwater

- Improve education and preparedness.

Partnerships, collaboration
County
Cape Fear COG
Army Corps of Engineers
Community Center for Hurricane Expo
Museum, realtors, businesses partnerships

- Reduce structural, environmental, and economic impacts from coastal hazards.

Continue CRS participation.
Improve water quality

POSSIBLE PHASE 2 PROJECTS

- Dune Building, Planting
- Greenspace Conservation
- Stormwater Projects
  - Dune infiltration
  - Backflow preventers on canal drains
- Water Infrastructure – Lift Stations – raising control panels
- Additional Generators
- Educational Programming
- Other ideas?

NEXT STEPS AND SCHEDULING

- **Meeting Dates**
  - **CAT Meeting #3: February 6, 2024 at 10 am**
  - **CAT Meeting #4: March 14, 2024**
  - **Public Meeting #2: March 14, 2024**

Ocean Isle Beach RCCP Virtual CAT Meeting #2a

January 10, 2024

Attending:
Mackenzie Todd, NCDEQ Division of Coastal Management, Coastal Resiliency Coordinator
Kasen Wally, NCDEQ Division of Coastal Management, Coastal Resiliency Specialist
Justin Whiteside, Assistant Town Administrator, Ocean Isle Beach (CAT Liaison)
Casey Hayes, Town Clerk, Ocean Isle Beach
Keith Dycus, Development Services Director, Ocean Isle Beach
Adam Sellers, Utility Maintenance Supervisor, Ocean Isle Beach
Tom Athey, Commissioner, Ocean Isle Beach
Wayne Rowell, Commissioner, Ocean Isle Beach
Jim Hoffman, Executive Director, Museum of Coastal Carolina
Jonathan Williamson, Business and Property Owner
Rachel Baker, Moffatt & Nichol
Beth Sciaudone, Moffatt & Nichol

The group conducted introductions.

1. Beth Sciaudone reviewed CAT roles and responsibilities and goals for today's meeting.
    - Primary goals for today's meeting:
        - Review sensitivity and adaptative capacity rankings for critical assets
        - Review public survey results

2. Beth Sciaudone reviewed previously discussed vulnerability score formula and its individual components.
    - Vulnerability score components broken down:
        - Sensitivity of a critical asset refers to how big of a deal it is if this asset is exposed to a hazard.
        - Adaptive Capacity of a critical asset refers to how easily this asset can bounce back after being exposed to a hazard.
        - Rachel is currently conducting a desktop analysis of the critical assets to determine the exposure scores

3. Beth Sciaudone presented the average sensitivity scores submitted by the CAT members for each of the critical assets.
    - Results from the first half of the critical assets showed that sewer lines, water lines, water towers, and the bridge are the most sensitive.
        - CAT members expressed their agreement with these results.
    - Beth Sciaudone explained that in the second half of the list of critical assets, most presented an average score of 2. Dunes and water bodies were the only assets that ranked a 3. She asked the CAT for feedback on these results.

- Justin Whiteside explained that he interpreted sensitivity as what was most important to the community, and therefore felt that the Town Hall, Fire Department, and Police Department should all score higher.
- Casey Hayes added that she noticed that the assets that scored as a 2 are manmade structures and the assets that ranked as a 3 are natural, and she interprets this to mean that the CAT perhaps views these natural assets as more sensitive because there is not as much we can do to protect them.
- Beth Sciaudone stated that this is a good opportunity for the CAT to discuss how to differentiate between different ways to interpret sensitivity- does the CAT want to interpret it as the sensitivity of the whole community when each individual asset is impacted, or the sensitivity of the asset itself? The scoring here reflects more of a response regarding the assets themselves.
- Kasen Wally added that the CAT can make a note of how they interpret the scoring of each asset and what is most important to the community.
- Mackenzie Todd agreed with this and explained that this whole program (RCCP) is committed to the community as a whole, so this should be left to the community, as long as they note how they determined the scores.
- Casey Hayes explained that she thinks the CAT should consider raising the scores for the Town Hall, Fire Department, and Police Department. The other CAT members agreed and these scores were raised from a 2 to a 3.
- Jim Hoffman explained that with the bad weather yesterday, the museum parking lot was very full (he guessed 75 cars), so this should be considered.
- Beth explained that the museum should remain a 2 then, and not a 3, because this shows that this asset is not as sensitive to flooding, but if the CAT wants to score based on importance to the community, then this should be a 3.

4. Beth Sciaudone presented the average adaptive capacity scores submitted by the CAT members for each of the critical assets.
    - Results from the first half of the critical assets showed that there were no assets that presented an average score of 3. The bridge, water towers, and gas station on the island were the only assets that scored 1, the rest of the assets scored as a 2.
        - CAT members expressed their agreement with these results.
    - Results from the second half of the critical assets showed that all assets scored as a 2, except the dunes which received a score of a 1.
        - CAT members discussed potentially scoring the museum as a 3. Beth Sciaudone reviewed that if the museum receives a score of a 3 for adaptive capacity, this means that it can bounce back easily, and this would subtract from the overall vulnerability score.
        - Justin expressed that he thinks the Town Hall, Fire Department, and Police Department should all be scored as a 3 because they all have generators.
        - Casey Hayes agreed with this and added that the Town Operations Center should remain a 2.
        - The CAT members also agreed to leave the museum as a 2 and dunes as a 1.

Final Sensitivity and Adaptive Capacity Scores:

Critical Asset	After Discussion Final Sensitivity Score	After Discussion Final Adaptive Capacity Score
Roads/Evacuation Routes		
Roads (NCDOT, Town, Private)	2	2
Bridge	3	1
Utility Infrastructure		
Water Infrastructure (lines, valves)	3	2
Water Towers	3	1
Fire Hydrants	2	2
Sewer Infrastructure (lines, manholes)	3	2
Pump Stations	3	2
Wastewater Treatment Plant	2	2
Stormwater Infrastructure (lines, manholes, catch basins)	2	2
Gas Stations		
Gas Stations - On Mainland	2	2
Gas Stations - On Barrier Island	2	1
Grocery Stores		
Grocery Stores	2	2
Medical Facilities		
Private Doctor Office	1	2
Banks		
Bank	2	2
Community/Government Offices		
Town Hall	3	3
Town Operations Centers	3	2
Community Center	2	2
Museum of Coastal Carolina	2	2
Public Safety/Emergency Services		
Fire Station	3	3
Police Station	3	3
Airport	2	2
Boat Ramp	2	2
Town Center Park	2	2
Ferry Landing Park	2	2
Hohonu Tide Gauge	2	2
Public Beach Access Points	2	2
Natural Infrastructure		
Dunes	3	1
Streams	2	2
Wetlands	2	2
Water Bodies	3	2

5. Beth Sciaudone presented the results from the public survey.

    - The survey results concluded that the community was in agreement that flooding is the most critical hazard.
    - Overall, the community agreed that people (injuries and/or loss of life) was the asset most at risk from natural hazards
        - The community ranked environmental assets second most at risk, above infrastructure. This points toward a common goal of seeing more nature based solutions in the town, and this is a good sign that the community is behind this type of mitigation strategy.
    - Protecting private (residential and commercial) property was ranked as the #1 planning priority.
    - Designing and constructing nature based solutions was ranked as the #1 action item that the community wants to see the local government do to reduce or eliminate the risk of future damages to property from natural hazards, followed by restricting new development in flood prone areas and regulating new construction to incorporate flood protection measures.
    - The community ranked prevention (zoning, land use, and building codes), natural resource protection, and emergency services as the top priorities for community wide activities that can reduce risk from natural hazards.
    - Environmental activities ranked as the highest priority in different types of projects that can be done to enhance resiliency, followed by economic and technical.
    - Additional comments from open- ended questions were summarized and presented to the group. Takeaways from these comments are:
        - Stormwater drainage on roadways was mentioned multiple times
        - Canal dredging and Tubbs Inlet dredging were mentioned multiple times
        - Backflow preventers were mentioned
            - Beth Sciaudone asked the Town Staff if these exist already.
            - Justin Whiteside explained that these do exist and this issue is just misunderstood by residents. These are already in place, but the residents are seeing overtopping at the at the bulkheads.
        - Flood barriers were mentioned multiple times
        - For promoting representation and equitable outcomes for vulnerable populations, having a network to support elderly populations in emergencies and natural disasters was mentioned in multiple comments.
        - Most respondents said that they were somewhat knowledgeable to environmental impacts from hazards
        - Most respondents said they use the Town's web pages for receiving information, with second most common being the Town's social media pages.
    - Overall, the survey responses were in alignment with the goals and objectives established by the CAT.

6. Beth Sciaudone presented a list of possible Phase 2 projects

- Beth explained that the Town of Nags Head is undergoing a dune infiltration project to allow stormwater infiltration into dunes and are installing permeable pavement at public beach accesses, and this is an example of a project that Ocean Isle Beach could pursue.
- Beth asked the group if there were any other ideas
- Justin Whiteside stated that he felt that all of the projects listed are doable and realistic.
    - Ocean Isle Beach is applying for a grant right now for dune building
    - Dune planting is being done already and is something that the Town wants to continue
    - Stormwater projects are happening on East and West 1st street already
    - For water infrastructure, the raising of the control panels on the lift stations is already ongoing
    - Additional generators are a budget item that could be purchased
    - Ocean Isle Beach already puts on hurricane expos, but could enhance these as well as other educational and outreach programs at the community center
    - Studies and permitting efforts for dredging Jinks Creek are already ongoing.
- Beth Sciaudone asked DCM what kind of budgets they have seen for projects in Phases 3 and 4.
- Kasen Wally responded that he has typically seen projects with a $200,000-$250,000 budget. However, DCM is receiving more funding through state legislature as well as through grant funding, so this should not limit future project ideas. With more funding coming in, RCCP could either take on more communities with projects of a similar scale, or take on the same amount of communities but with larger scale projects.
- Justin stated that the Town would like to update their CAMA Land Use Plan, however they would need funds. The town has received funding from DCM for this in the past.
- Jim Hoffman commented that there is a coastal town in North Carolina that is using olivine (a type of sand) in beach renourishment as a way to mitigate carbon dioxide, and that the museum could play a role in hurricane expos or other educational projects.
- Beth Sciaudone added that this olivine project is a USACE project and could be something to look into or to incorporate into any future USACE projects
- Beth concluded that as for nature based projects, dune planting seems to be the most feasible. She also asked if it would be a possibility to install a living shoreline on the estuarine side in any location, especially as a demonstration project?
    - Justin Whiteside commented that there is not a lot of shoreline left that is not bulkheaded, and the boat ramp area is state owned, so there may not be any areas left to do something like this.
- Justin concluded that a lot of these projects would be ongoing, not just items that can be crossed off a list.
- The rest of the CAT members agreed that this list of potential projects is comprehensive and well represents the needs of the Town.

Working List of Projects:

- Dune Building, Planting – ongoing efforts, Town is currently applying for a grant to support
- Greenspace Conservation – Could be accomplished with ordinance changes increasing % requirement
- Stormwater Projects
    - Dune infiltration – possibilities potentially at east/west 1st accesses, Greensboro St. 100x150 ft location, DOT existing catch basin (used to be an outfall)
- Water Infrastructure – Lift Stations – raising control panels, ongoing projects
- Additional Generators – budget item which the Town could purchase
- Educational Programming – Hurricane expos – expand when community center built
- Update CAMA land use plan – could get funds to do this
- Possible pilot project using olivine – mixing with sand to capture carbon – Project Vesta in OBX is an example to investigate
- Partnership with Museum – demonstration projects, expos or other education projects

7. Beth Sciaudone reviewed the next steps.

    - The next CAT Meeting is scheduled for February 6th
        - The goal of this meeting will be to present the initial results of the vulnerability assessment, including Rachel's exposure scores
    - Cat Meeting #4 will take place on March 14th at 10:00 am
    - Public Meeting #2 will take place on March 14th at 6:00 pm

oceanisle BEACH

North Carolina RESILIENT COASTAL COMMUNITIES PROGRAM

COMMUNITY ACTION TEAM MEETING #3

February 6, 2024

NC DIVISION OF COASTAL MANAGEMENT

moffatt & nichol

AGENDA

- Welcome and Meeting Aims
- Summary of Risk and Vulnerability Assessment Results
- Review Vision & Goals
- Suite of Potential Solutions
- Additional Potential Projects
- Next Steps

CAT ROLES AND RESPONSIBILITIES

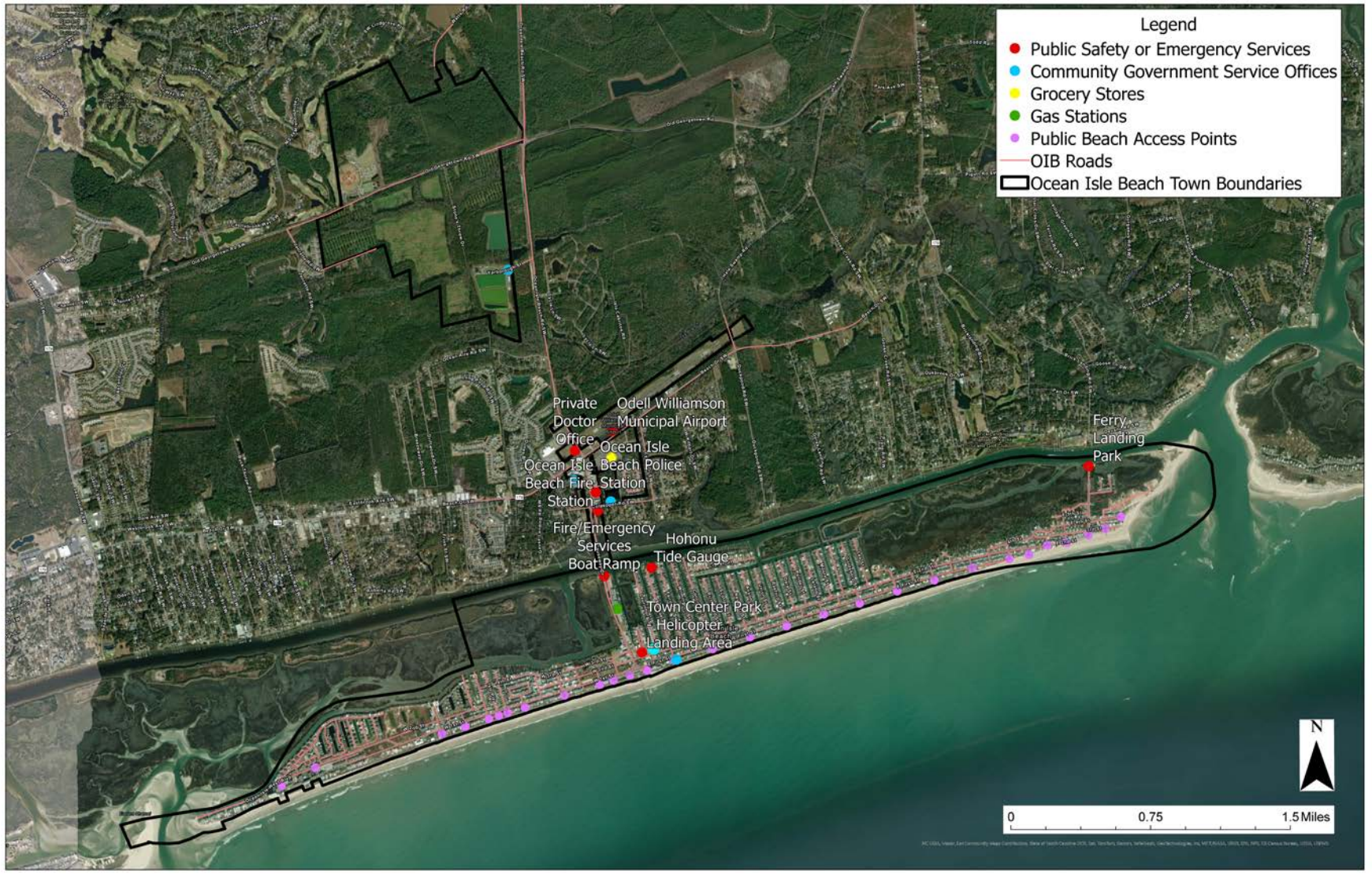
- **Phase 1**
  - Help develop a **community-specific vision** and set of **goals** to establish the local context for this program and guide subsequent steps
  - Select **critical assets and natural infrastructure** to include within the risk and vulnerability assessment
  - Conduct **a review of existing plans, ordinances, policies, and programs** to identify work that has already been completed
  - Help to **define thresholds and criteria** that will be used to score assets as low, medium, or high for each vulnerability metric
- **Phase 2**
  - Work with us and the community to **identify, plan, and prioritize** a combination of policy, nonstructural, structural, and hybrid actions, including the use of natural and nature-based solutions

1

RISK & VULNERABILITY ASSESSMENT

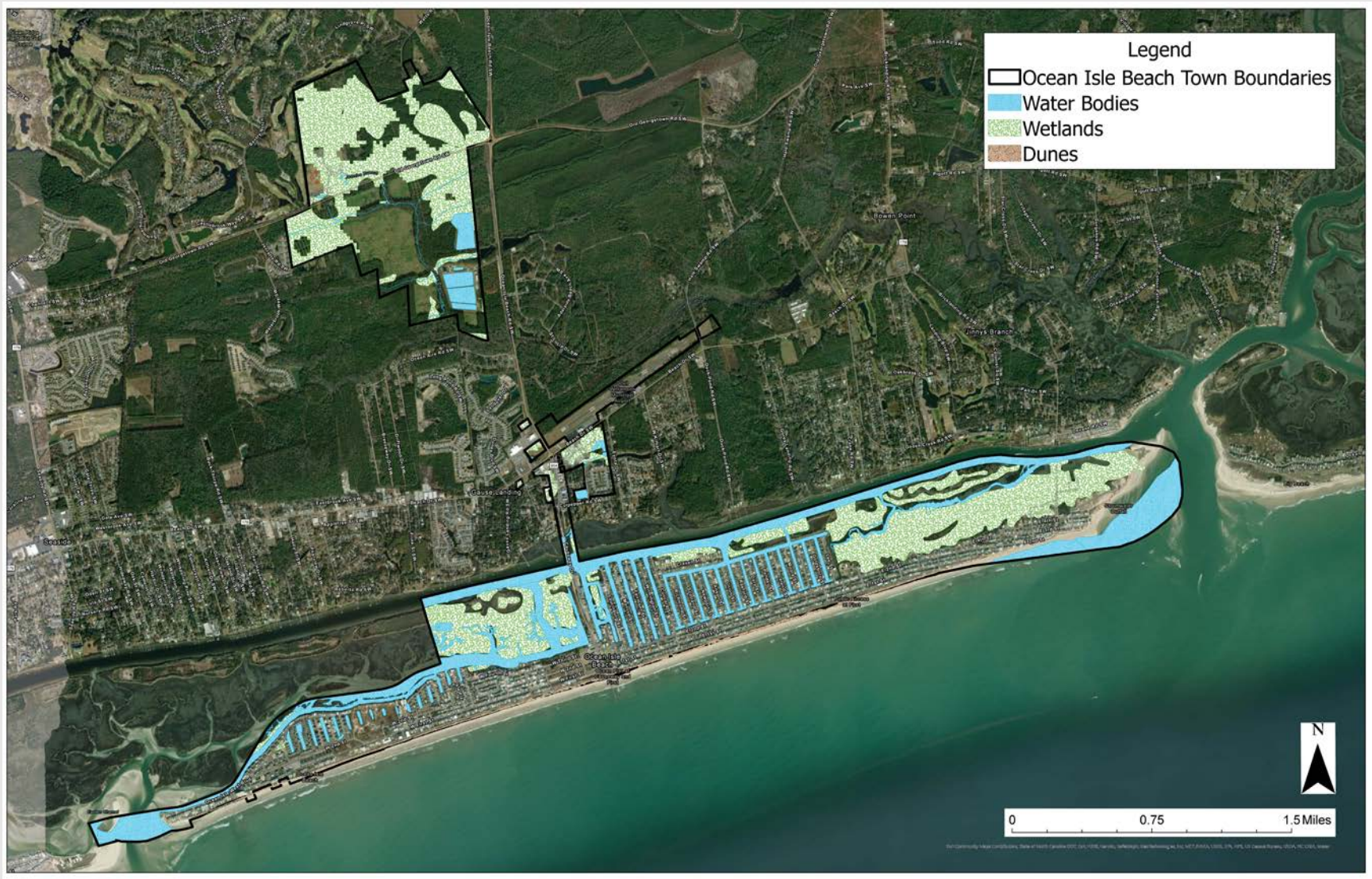
Rachel Baker, Moffatt & Nichol

CRITICAL FACILITES



WATER & SEWER INFRASTRUCTURE

NATURAL INFRASTRUCTURE



HAZARDS


Legend
Ocean Isle Beach Town Boundaries
Inlet Hazard Area
Coastal Erosion
Accretion
N
0
0.75
1.5 Miles

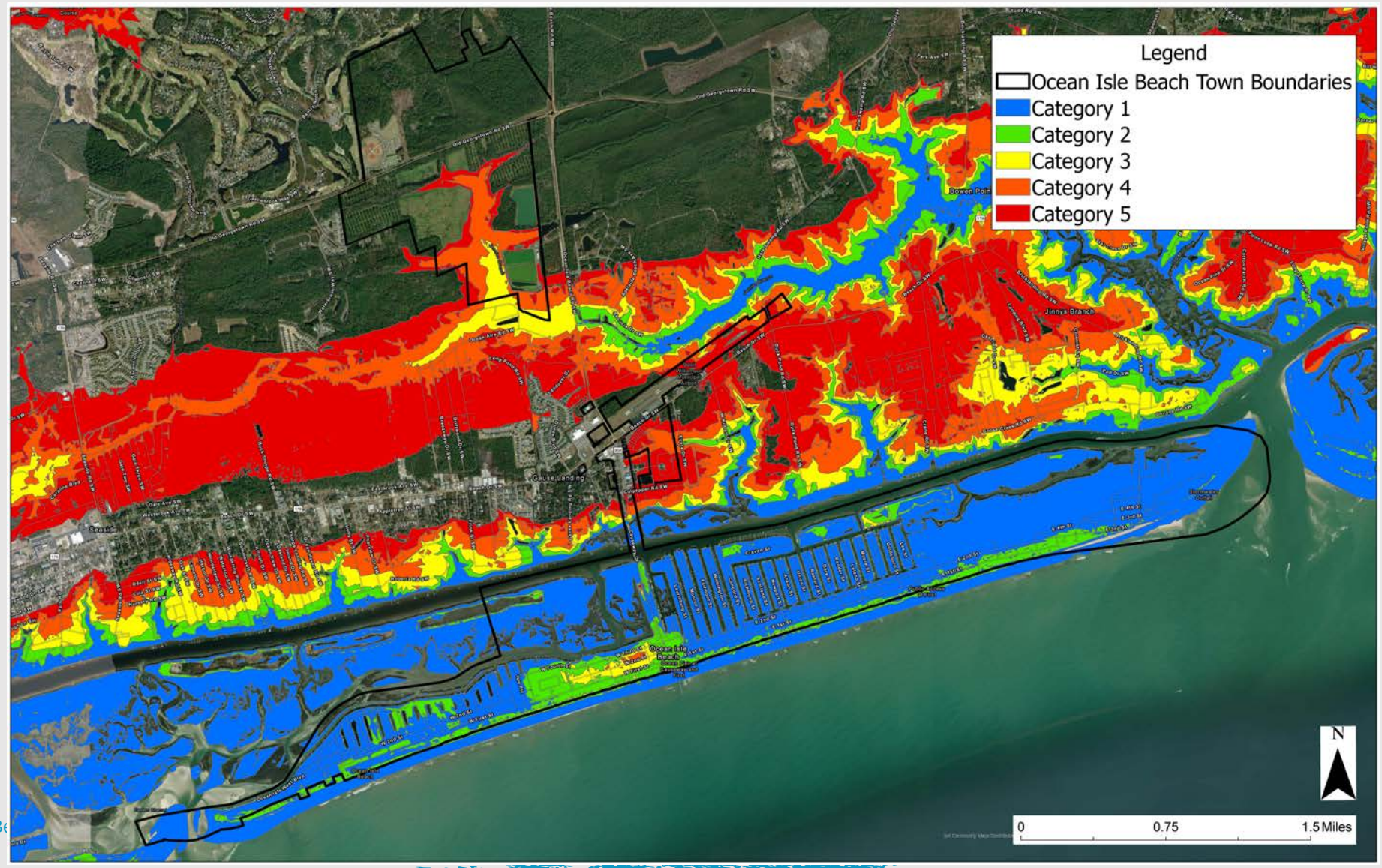
HAZARDS


Legend
Ocean Isle Beach Town Boundaries
High Tide Flooding
N
0
0.75
1.5 Miles

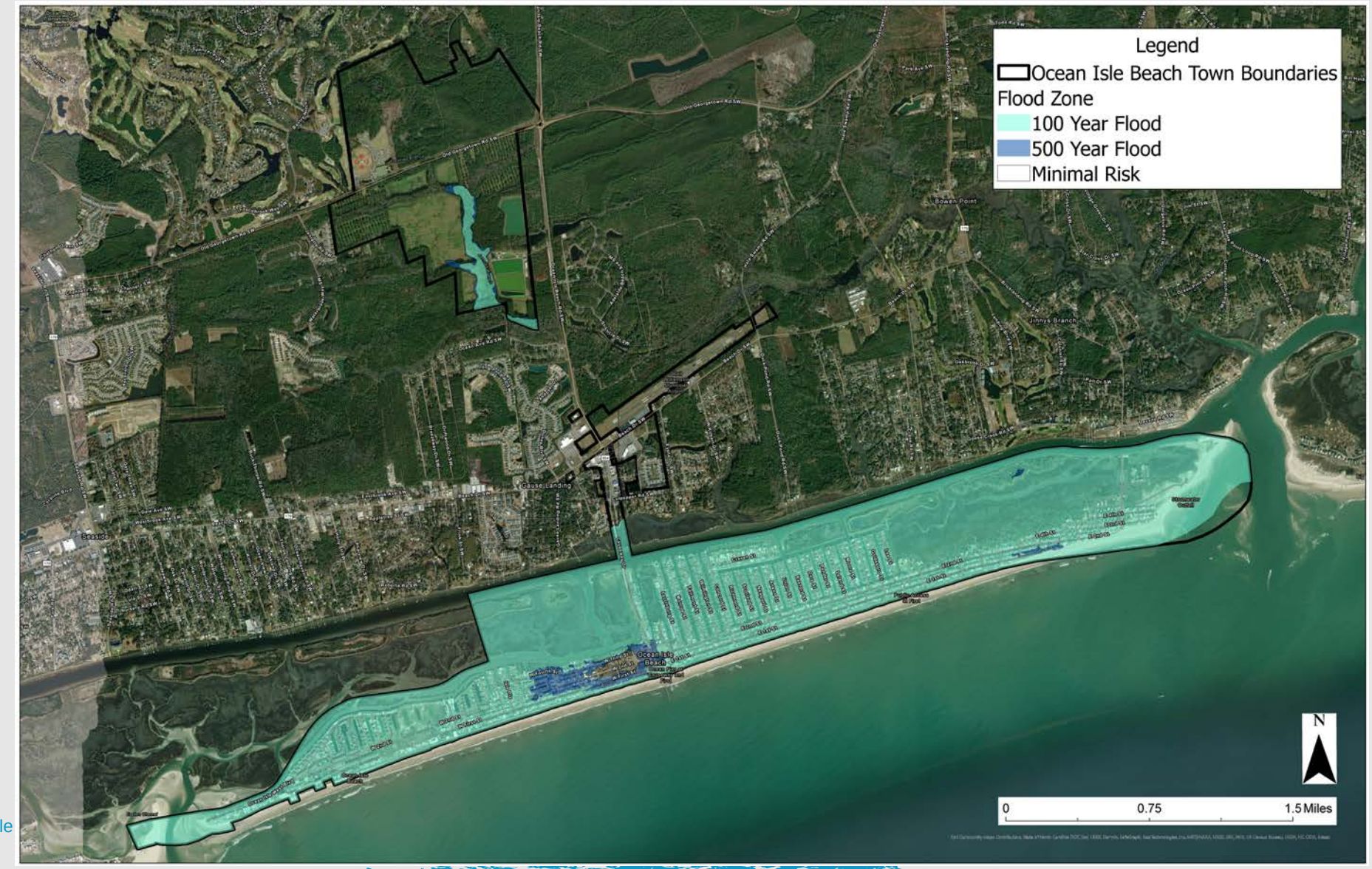
HAZARDS


Legend
1 Foot Sea Level Rise
Ocean Isle Beach Town Boundaries
Bowen Point
Jinnys Branch
Seaside
Ocean Isle Beach
N
0
0.75
1.5 Miles

HAZARDS


Legend
Ocean Isle Beach Town Boundaries
Category 1
Category 2
Category 3
Category 4
Category 5
Jinnys Branch
Gause Landing
Ocean Isle Beach
N
0
0.75
1.5 Miles

HAZARDS


Legend
Ocean Isle Beach Town Boundaries
Flood Zone
100 Year Flood
500 Year Flood
Minimal Risk
Bowen Point
Jonnys Branch
Gause Landing
Seaside
Ocean Isle Beach
N
0
0.75
1.5 Miles

ASSESSING VULNERABILITY

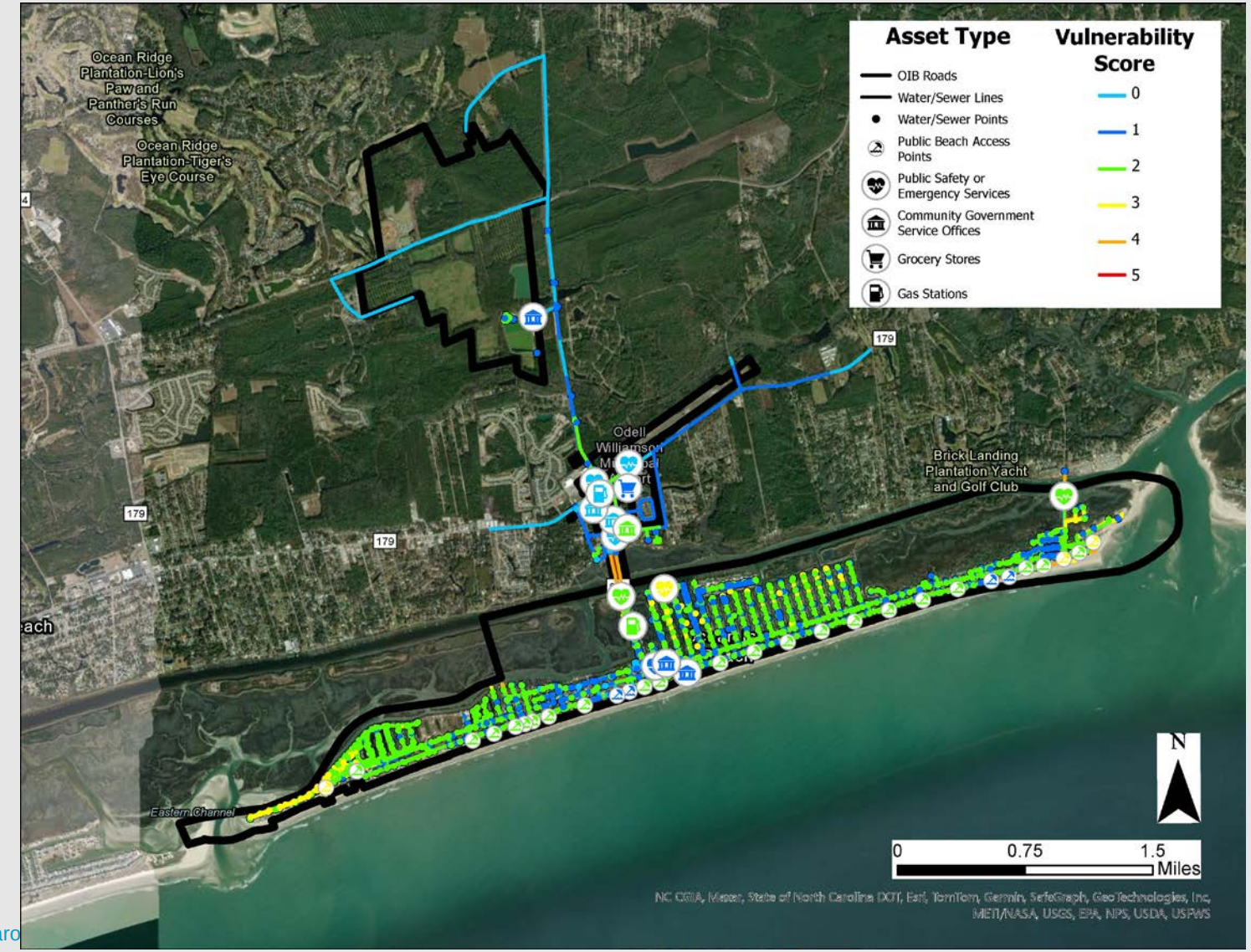
Vulnerability Score = Exposure Score + Sensitivity Score – Adaptive Capacity

Exposure Score	Sensitivity Score	Adaptive Capacity
The presence of people, assets, and ecosystems in places where they could be adversely impacted by hazards	Degree to which an asset is potentially affected when exposed to an impact	Ability of the asset and/or population to adjust to potential impacts from hazards with minimal disruption or cost

ASSESSING VULNERABILITY

Asset ID	Exposure Score 0-3	Sensitivity Score 0-3	Adaptive Capacity Score 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
Vulnerability Score = (Exposure Score + Sensitivity Score) - Adaptive Capacity Score				

VULNERABILITY MAPS



HIGHEST IDENTIFIED VULNERABILITIES (4-5)

Asset	Exposure	Sensitivity	Adaptive Capacity	Vulnerability Score
Causeway Drive (Bridge)	3	3	1	5
Dunes	3	3	1	5
Water Bodies (2)	3	3	2	4
Sewer Force Main (1)	3	3	2	4
Sewer Gravity (1)	3	3	2	4
Water Pipes (10)	3	3	2	4

HIGHEST IDENTIFIED VULNERABILITIES (3)

ASHEVILLE ST
DRIFTWOOD DR
LUMBERTON ST
SHALLOTE BLVD
OCEAN ISLE WEST BLVD
SKIMMER CT
BAYBERRY DR

Asset	Exposure	Sensitivity	Adaptive Capacity	Vulnerability Score
Roads (7)	3	2	2	3
Water Pipes (59)	2	3	2	3
Sewer Gravity (42)	2	3	2	3
Sewer Force Main (8)	2	3	2	3
Valves (22)	2	3	2	3
Manhole (35)	2	3	2	3
Water Tower	1	3	1	3
Outfalls (16)	2	3	2	3
Catch Basins (5)	3	2	2	3
Pump Stations (3): W-5, E-3, E-26	2	3	2	3
Hohunu Tide Gauge	3	2	2	3
Wetlands (22)	3	2	2	3
Water Bodies (8)	2	3	2	3
Public Beach Accesses (3)	3	2	2	3

2

REVIEW VISION AND GOALS

Beth Sciaudone, Moffatt & Nichol

OCEAN ISLE BEACH VISION STATEMENT

We envision a resilient future, where our community's natural and manmade beauty, sense of unity, and genuine concern for environmental stewardship serve as the foundation for adaptation, acclimation, and preparedness for challenges associated with coastal hazards.

GOALS

- Manage development and growth sustainabily.
- Implement nature-based and hybrid solutions to improve coastal resilience.
- Review, revise, and update key plans, policies, and ordinances to strengthen resilience efforts.
- Ensure critical infrastructure resilience.
- Improve education and preparedness.
- Reduce structural, environmental, and economic impacts from coastal hazards.

3

SUITE OF POTENTIAL SOLUTIONS

Beth Sciaudone, Moffatt & Nichol

POTENTIAL PROJECT ALIGNMENT WITH GOALS

Manage development and growth sustainably.

- Ordinance change to increase % preservation of land for green space
- Facilitate walkability and support pedestrian infrastructure – possible projects?
- Improve transportation and parking – possible projects?

Implement nature-based and hybrid solutions to improve coastal resilience.

- Build dunes to protect infrastructure
- Install sand fence and dune grass plantings to build and maintain protective dunes
- Construct dune infiltration project to reduce stormwater flooding on roads
- Evaluate innovative dune building solutions – possible projects?
- Living shorelines – possible projects?
- Continue to support/maintain the Federal beach nourishment project & terminal groin

POTENTIAL PROJECT ALIGNMENT WITH GOALS

Review, revise, and update key plans, policies, and ordinances to strengthen resilience efforts.

- Update CAMA Land Use Plan to include coastal resilience (next five years)
- Update Emergency Response Plan to include coastal resilience (annually)
- Update goals for the Southeastern NC Regional Hazard Mitigation Plan (annually)
- Update Water Shortage response plan (next five years)

Ensure critical infrastructure resilience

- Strengthen partnerships with BEMC, NCDOT, Southern Corrosion, Brunswick County, Spectrum, and Focus – possible projects? Workshop?
- Raise lift station control panels in flood prone areas (CIP – older canal streets)
- Backup pumps for lift stations (CIP)
- Improve water quality – possible projects? Canal cleanup?

POTENTIAL PROJECT ALIGNMENT WITH GOALS

Improve education and preparedness.

- Conduct Hurricane Expos annually
- Demonstration projects with Museum – rain gardens? Olivine sand/carbon capture?
- Provide educational materials to realtors, businesses to increase visitor preparedness

Reduce structural, environmental, and economic impacts from coastal hazards.

- Continue CRS participation
- High water vehicle for use during hurricanes and King Tides (CIP)
- Purchase additional generators & fuel for use during coastal hazard events

OTHER POTENTIAL PROJECT IDEAS

Ferry Landing Park?

- opportunities for resilience demonstration project for education and to showcase nature-based infrastructure resilience

PROJECT PORTFOLIO

At least 5 priority projects, with at least one being a nature-based solution

- Are the projects identified meeting your community's vision and goals (identified in Phase 1, Step 3)?
- Do the identified projects correlate with community feedback (received throughout Phase 1?)
- Do the identified projects relate to your risk and vulnerability assessment (i.e., does the project *reduce the vulnerability* or *increase the adaptive capacity* of a critical asset or vulnerable population)?

Project Name	Provide a brief, descriptive title for the project.
Project Description	Describe the project, including information gathered during project development and expectations for the project moving forward. *(Please note that these descriptions will be used for future grant applications. Therefore, they should be as detailed as possible, including specific quantitative and qualitative information. For example, "The living shoreline will directly address coastal erosion by installing 2,500 linear feet of oyster shells and native plantings. In addition, this nature-based solution addresses social vulnerability by reducing flooding and protecting housing in a historically disadvantaged community.)*
Location	Where will the proposed project take place?
Source	Where was this project recommended? CAT meeting, public meeting input, existing report?
Scoping Questions	Include any important questions that still need to be addressed *(i.e., would elevation be a more effective strategy than relocation?)*
Hazard(s) Addressed	List the hazards that your team identified that impact the project location.
Supporting Function[3]	What essential part of the community does this project support (e.g., communications, transportation, etc.)?
Type of Solution	Infrastructure, plans and policies, ordinances, non-regulatory programs, and others (describe).
Estimated Timeline	Estimate the time the project will take to complete and any anticipated delays in the timeline.
Responsible Entity	Describe who will primarily be expected to be responsible for project implementation (e.g., County Planning Department with a consultant).
Potential Partners	List potential partners (i.e., individuals, organizations, agencies, etc.).
Existing Funding	List any current source of funding associated with the project.
Potential Funding Sources	Identify potential sources of funding for project implementation. Include any upcoming application deadlines.
Estimated Cost	Estimate the total cost of the project by conducting a cost-benefit analysis.
Anticipated Benefit	What are the project's primary benefits, and how much benefit will the project have (high, medium, low)?
Priority Rating	How urgent is the project (high, medium, low)?
Project Map(s)	Provide any relevant maps of the project site.

NEXT STEPS AND SCHEDULING

- **CAT Homework**
  - Rank projects – initial consolidation/prioritization of projects

- **Meeting Dates**
  - CAT Meeting #4: March 14, 2024 – Consolidate and Prioritize Projects
  - Public Meeting #2: March 14, 2024 – Consolidate and Prioritize Projects

Ocean Isle Beach RCCP CAT Meeting #3

February 6, 2024

Attending in Person:
Casey Hayes, Town Clerk, Ocean Isle Beach
Keith Dycus, Development Services Director, Ocean Isle Beach
Adam Sellers, Utility Maintenance Supervisor, Ocean Isle Beach
Tom Athey, Commissioner, Ocean Isle Beach
Wayne Rowell, Commissioner, Ocean Isle Beach
Jim Hoffman, Executive Director, Museum of Coastal Carolina
David Hill, Business and Property Owner

Attending Virtually:
Mackenzie Todd, NCDEQ Division of Coastal Management, Coastal Resiliency Coordinator
Kasen Wally, NCDEQ Division of Coastal Management, Coastal Resiliency Specialist
Dawn York, Moffatt & Nichol
Rachel Baker, Moffatt & Nichol
Beth Sciaudone, Moffatt & Nichol
Jonathan Williamson, Business and Property Owner

The file 2024-02-06 OIB CAT Meeting #3 (v2).pdf contains the slides presented at the CAT meeting.

Casey Hayes introduced the CAT members attending in person at Town Hall.

1. Beth Sciaudone reviewed CAT roles and responsibilities and goals for today's meeting.

2. Rachel Baker presented slides of completed GIS maps including critical facilities, water & sewer infrastructure, and natural infrastructure. She indicated these maps are visual representations of the final list of critical assets the CAT members decided upon previously to be used in the risk and vulnerability assessment.

3. Rachel presented slides of completed GIS maps of previously identified natural hazards. Maps included: inlet hazard area and coastal erosion/accretion, high tide flooding, sea level rise, storm surge, and FEMA flood zones.

4. Rachel reviewed the previously discussed vulnerability score and its components, as well as the results of the vulnerability assessment.

    - Rachel explained the completed desktop analysis was used to determine the exposure scores of each critical asset in relation to each hazard. By seeing where each asset intersects with each natural hazard area, a score was assigned to each asset for each individual hazard. These scores are added up to determine the overall exposure score. This exposure score was then used in the

formula with the predetermined sensitivity score and adaptive capacity to calculate the final vulnerability score for that asset.

- Rachel presented a map displaying the critical assets and their vulnerability scores and explained that the vulnerable assets were along the shoreline, primarily at the east and west ends, and near the canals, as expected by Town and community input and observations.
- Rachel and Beth also presented summary tables of the highest identified vulnerabilities.
- The Town indicated that in addition to the identified roads, flooding is also regularly experienced at East 3rd St and East 4th St east of Shallotte Blvd.

5. Beth reviewed the previously discussed Town vision and goals. The CAT did not have any additional changes or input to the Vision Statement and Goals, as identified below.

- Vision Statement:
    - We envision a resilient future, where our community's natural and manmade beauty, sense of unity, and genuine concern for environmental stewardship serve as the foundation for adaptation, acclimation, and preparedness for challenges associated with coastal hazards.
- Goals:
    - Manage development and growth sustainably.
    - Implement nature-based and hybrid solutions to improve coastal resilience.
    - Review, revise, and update key plans, policies, and ordinances to strengthen resilience efforts.
    - Ensure critical infrastructure resilience.
    - Improve education and preparedness.
    - Reduce structural, environmental, and economic impacts from coastal hazards.

6. Beth presented a suite of potential solutions to improve the Town's resilience. Potential project ideas were presented in relation to each goal.

The CAT briefly discussed ideas for potential objectives and projects for each goal which are listed below.

- Manage development and growth sustainability.
    - Greensboro St. and East 1st St. is a potential location for a dune infiltration project. The Town owns this property, and DOT is aware of the issues and looking at this area as well. The beach access is an emergency beach access.
    - Beth explained that under this goal, the CAT could consider things such improving walkability and supporting pedestrian infrastructure or improving traffic and parking.
    - Dawn suggested numbering goals in the resilience strategy document so that in the future, the Town can reference them in grant applications or other documents.
    - Dawn also explained that if projects are mentioned in regional hazard mitigation plans, it can make them more eligible for federal funding.
    - Dawn asked DCM if the Town needs to reference specific goals in order for projects to be more eligible for future phases in RCCP. Mackenzie responded that the Town does not need to do this, rather DCM just wants to see that the project has been identified as a priority. Furthermore, if the project is not listed as a top 5 priority, the Town can provide reasons why they wish to move forward, for example if

partnerships or opportunities have changed. Prioritization is not the most important criteria in the funding of a project under Phase 3 or 4.

- Dawn explained that with regards to Beth's suggestions before regarding transportation, there could be opportunities for permeable pavement or other solutions that allow for more infiltration, or elevated walkways, etc.
- Casey explained that the Town is currently looking into upgrading existing crosswalks and researching flashing crosswalks for more visibility for pedestrians. They are also looking into extending existing sidewalks. There are no active parking projects right now, although the Town is always looking for new opportunities to improve parking.
- Casey also asked if these projects would be in conjunction with resiliency to flooding. Dawn explained that resiliency can come in a lot of different ways - it can be the ability for people to access certain locations and spaces. Beth also replied that resiliency can refer to a more holistic approach, such as reducing greenhouse gas consumption with more walkability.
- CAT members asked if cycling can be included in transportation projects, such as expansion of bike lanes, as well as golf carts. Beth replied that yes, both can be included in transportation related projects for a more holistic approach.
- Dawn asked the CAT members if the town would be interested in an ordinance change regarding open space that could perhaps come through the CAMA Land Use Plan. Keith replied that there are two large developable tracts left that are not zoned as green space but have the potential to be developed, so if there were to be an ordinance change, it could only change these two land parcels in the west end and an area in the center of the island. The current greenspace requirement is 15 percent.
- Dawn asked if there have been any discussions on improving tree canopy. Casey replied that there have not yet been discussions on this. Dawn asked if there has in general been a loss of trees. Casey replied that it would have to be a resilient tree to survive due to hurricanes and other hazards. There are no maritime forests in this area.
- Dawn suggested that because there are particular tree species that do well on islands, this is something that can be explored, perhaps on a homeowner basis. For example, there could be annual tree giveaways. The Town could encourage homeowners to grow something to reduce flooding and/or wind impacts to properties.
- Keith explained that there is a landscaping point system that already exists for construction, and this is written into a Town ordinance. Each property is awarded points based on vegetation planted and a minimum is required for the developer to build. A tree giveaway or something along those lines could be considered.

- Implement nature-based and hybrid solutions to improve coastal resilience.
    - Casey explained that she believes the primary target under this goal for the Town is dune building and dune growth. The Town is currently applying for a grant for dune plantings and sand fencing.
    - Beth added that there seems to already be widespread support within the Town for maintaining the federal beach nourishment program and the terminal groin, which is

a great start. Additionally, one idea the town could consider is a dune infiltration project to reduce stormwater flooding.

- The CSDM grant for the east end of the island will be discussed at the Board of Commissioners meeting coming up on February 13th, 2024.
- The Town does not own a lot of land on the estuarine side for living shoreline projects. However, this could be an opportunity for public/private partnerships.
- The NC Wildlife Resources Commission (WRC) owns the public boat ramp and its adjacent parking lot, however, this property could potentially be part of a partnership, such as for a nature-based solutions demonstration site.
- Casey asked for a detailed explanation of living shorelines. Dawn explained that a living shoreline can come in a lot of different forms but is generally a constructed rock sill or other similar wave-abating structure along a shoreline to reduce wave-directed erosion and allow for sediment deposition. Essentially, a living shoreline reduces currents and waves and allows more quiet waters, while also incorporating planting and promoting benthic organisms. Beth added that a living shoreline is alternative to bulkheads but with ecological benefits.
- Casey explained that the Town has to gauge how much shoreline would actually be available for a living shoreline project, and not bulkheaded already.
- Dawn explained that some homeowners are able to construct living shorelines on their own with a general permit, as long as it is 500 linear feet or less. After 500 feet, this becomes a CAMA major permit. Additionally, the project could not be more than 30 feet offshore. She suggested that the Town could look into hosting some kind of workshop to help educate homeowners. The NC Coastal Federation holds regular training and has a cost-share program in which they received several million dollars to help facilitate living shorelines on public and private property. The Town could conduct a feasibility study on where living shorelines could be constructed, and/or hold workshops to educate homeowners.
- Mackenzie agreed that the NC Coastal Federation would be a great partner to work with and that an island wide feasibility study would be a great idea. She also noted that DCM could not do a project like this on private property.
- Dawn emphasized that a partnership with the WRC for the boat ramp property could be explored, and the Town could consider a nature-based solution such as a stormwater swale and/or living shoreline by the boat ramp.
- Casey summarized that dune growth and stability is probably the Town's biggest priority, and she also wants to explore trees/vegetation improvements.
- Dawn asked where the federal footprint extends for the Shallotte Inlet, and how it gets maintained and where the material goes. Keith explained that it is maintained entirely by the U.S. Army Corps of Engineers and that dredged material is normally placed for beneficial use on the east end of the island.
- Dawn explained that Holden Beach did a shallow draft navigation project with near shore placement recently, and this could be a concept that could be evaluated as a possibility for Ocean Isle Beach to encourage sediment deposition on the east end.

- Review, revise, and update key plans, policies, and ordinances to strengthen resilience efforts.

- CAT members agreed that based on project ideas presented on slide and what has already been discussed, including ordinance changes, there was nothing missing from this goal.
- The previously completed canal study was mentioned, noting that the potential solutions identified in the study were very expensive. This study could potentially be revisited in 3-5 years.
- Casey stated that the water shortage response plan will be updated this month and there will be a public hearing held for that.
- Casey also stated that the emergency response plan is mostly geared towards major emergencies such as airplane crashes or major hurricanes, but it could be updated to discuss coastal resiliency.
- The Town also wants to investigate possible funding assistance for updating the CAMA Land Use Plan. They previously used the Cape Fear Council of Governments (COG) to assist with that. The COG would be another partnership to seek support.

▪ Ensure critical infrastructure resilience.
- Dawn asked the CAT members if there are any priorities on the slide that stand out.
- Dawn suggested that there could be opportunities on drainage easements where the town can improve water quality. Keith explained that on the canals, there are already easements and an infiltration system. The Town has easements for outfall pipes, but they are on private properties. The Town does not have an overall project plan for expanding this system, but they address it as opportunities arise.
- Dawn explained that other communities have tested options for debris cleanups. For example, Burnt Mill Creek in Wilmington has used innovative tools to deal with debris in the waterway.
- Casey stated that there is a local organization that does waterway cleanup and involves locals, and they will use kayaks and other resources.

▪ Improve education and preparedness.
- Casey explained that the Town currently uses an emergency alert system called Code Red. It is consistently coming out with new features, for example, text to join. There have been no other new promotional things involving this recently.
- Beth explained that as part of this goal, educational materials about living shorelines could be distributed, and this could be part of a partnership with the NC Coastal Federation. Jim Hoffmann explained that the museum could partner with the NC Coastal Federation and host workshops or exhibits.
- DCM also has realtor educational programs that the Town could get involved with.

▪ Reduce structural, environmental, and economic impacts from coastal hazards.
- Beth asked if the Town had acquired a high-water vehicle. Casey said that they acquired two through a military surplus program, one for the police department and one for the fire department.
- The Town is still looking into acquiring more generators.
- Continuing CRS participation is not an active need as it was just recently updated.
- Dawn explained that the NC Sea Grant is doing regional work in workforce resilience, and the Town could look into if they are currently accepting municipal partners. Also, DCM has a community of practice that has quarterly meetings to promote

resilience efforts and it seeks local participation to share project ideas and funding opportunities. This could help the CAT to stay engaged with other coastal communities. Mackenzie said that a few RCCP communities have joined in the past to get information on funding, etc.

- Dawn asked if there were any other project ideas from the group.
    - Casey explained that Ferry Landing Park is expected to be finished by the summer and include a small beach kayak launch to the east of the Ferry Landing Pier. This could be an area to look at for a possible project, for example, with kids' education.
    - The sidewalk to the park ends at 4th St. and Shallotte Blvd. This area could be a potential project area and be a good spot for a feasibility study.
    - Dawn explained that there is no limit to the list of prioritized projects- anything can be identified as part of an ongoing project to support ongoing funding.
    - Casey explained that expansion of sidewalks will be a priority.

7. Beth reviewed the guidelines for creating a project portfolio. At least 5 priority projects need to be listed, with at least one of those being a nature-based solution.

8. Beth reviewed the next steps and schedule.
    - The CAT members will rank projects based on priority.
    - The last CAT meeting will be held on March 14, 2024, and the group will consolidate and prioritize projects. This will be followed by the final public meeting that evening, where the CAT members will do the same, but with members of the public offering input.

9. Meeting Chat with links to resources discussed:

Mackenzie Todd (DCM) 10:41 AM
https://www.fisheries.noaa.gov/insight/understanding-living-shorelines
Messages addressed to "Meeting Group Chat" will also appear in the meeting group chat in Team Chat

Kasen Wally (DCM) 11:08 AM
The NC Department of Insurance also has some great handouts and information for communities in regar d to preparing for and recovering from disasters

Mackenzie Todd (DCM) 11:08 AM
Yes! https://www.deq.nc.gov/about/divisions/coastal-management/nc-coastal-reserve/coastal-training-program

Kasen Wally (DCM) 11:09 AM
https://www.ncdoi.gov/consumers/disaster

Mackenzie Todd (DCM) 11:11 AM
NC Coastal Resilience Community of Practice

Kasen Wally (DCM) 11:11 AM
CoP Agendas & Notes - https://www.deq.nc.gov/coastal-resilience-community-practice

oceanisle BEACH

North Carolina RESILIENT COASTAL COMMUNITIES PROGRAM

COMMUNITY ACTION TEAM MEETING #4

March 14, 2024

NC DIVISION OF COASTAL MANAGEMENT

moffatt & nichol

AGENDA

- Welcome and Meeting Aims
- Suite of Potential Solutions & Linked Goals
- CAT Recommendations for Minimum 5 Projects for Inclusion in Project Portfolio
- Public Meeting Discussion
- Next Steps

CAT ROLES AND RESPONSIBILITIES

- **Phase 1**
  - Help develop a **community-specific vision** and set of **goals** to establish the local context for this program and guide subsequent steps
  - Select **critical assets and natural infrastructure** to include within the risk and vulnerability assessment
  - Conduct **a review of existing plans, ordinances, policies, and programs** to identify work that has already been completed
  - Help to **define thresholds and criteria** that will be used to score assets as low, medium, or high for each vulnerability metric
- **Phase 2**
  - Work with us and the community to **identify, plan, and prioritize** a combination of policy, nonstructural, structural, and hybrid actions, including the use of natural and nature-based solutions

1

SUITE OF POTENTIAL SOLUTIONS AND LINKED GOALS

Beth Sciaudone, Moffatt & Nichol

HIGHEST IDENTIFIED VULNERABILITIES (4-5)

Asset	Exposure	Sensitivity	Adaptive Capacity	Vulnerability Score
Causeway Drive (Bridge)	3	3	1	5
Dunes	3	3	1	5
Water Bodies (2)	3	3	2	4
Sewer Force Main (1)	3	3	2	4
Sewer Gravity (1)	3	3	2	4
Water Pipes (10)	3	3	2	4

HIGHEST IDENTIFIED VULNERABILITIES (3)

Asset	Exposure	Sensitivity	Adaptive Capacity	Vulnerability Score
Roads (7)	3	2	2	3
Water Pipes (59)	2	3	2	3
Sewer Gravity (42)	2	3	2	3
Sewer Force Main (8)	2	3	2	3
Valves (22)	2	3	2	3
Manhole (35)	2	3	2	3
Water Tower	1	3	1	3
Outfalls (16)	2	3	2	3
Catch Basins (5)	3	2	2	3
Pump Stations (3): W-5, E-3, E-26	2	3	2	3
Hohunu Tide Gauge	3	2	2	3
Wetlands (22)	3	2	2	3
Water Bodies (8)	2	3	2	3
Public Beach Accesses (3)	3	2	2	3

OCEAN ISLE BEACH VISION STATEMENT

We envision a resilient future, where our community's natural and manmade beauty, sense of unity, and genuine concern for environmental stewardship serve as the foundation for adaptation, acclimation, and preparedness for challenges associated with coastal hazards.

GOALS

1. Manage development and growth sustainably.
2. Implement nature-based and hybrid solutions to improve coastal resilience.
3. Review, revise, and update key plans, policies, and ordinances to strengthen resilience efforts.
4. Ensure critical infrastructure resilience.
5. Improve education and preparedness.
6. Reduce structural, environmental, and economic impacts from coastal hazards.

GOAL #1

- Manage development and growth sustainably.

1.1 ORDINANCE CHANGE TO INCREASE GREEN SPACE IN NEW DEVELOPMENT

- The existing Town ordinances require 15% greenspace for new development. The Town is considering an ordinance change to increase the percentage of greenspace required in new development to 20% (?)
- Location: Town Limits (ETJ?)
- Supporting Function: Environmental preservation
- Type of solution: Ordinances
- Timeline: TBD
- Responsible Entity: Town Planning Department and Planning Board
- Potential Partners: TBD
- Funding & Cost: TBD

- **Goal #1: Manage development and growth sustainably**
- **Goal #3: Review, revise, and update key plans, policies, and ordinances to strengthen resilience efforts.**

- Aligns with public input and desire to preserve greenspace and manage growth

- The project's primary benefit is to preserve additional green space. Because only two large parcels remain that are not developed the benefit is moderate.

- Priority Rating: high, medium, low

1.2 RESILIENT MULTIMODAL TRANSPORTATION FEASIBILITY STUDY

- Resiliency assessment of Ocean Isle's prioritized bicycle and pedestrian projects identified in their 2014 Bicycle and Pedestrian Plan (Plan). The Plan notes a lack of connectivity to beach accesses and community attractions, and a lack of crossings and signage resulting in safety issues especially during the summer tourist season. The assessment will select (5) prioritized resilient multimodal projects and conduct streamlined feasibility studies that will be designed to help adapt and mitigate flood and SLR hazards and provide safety, sustainability, and resilience co-benefits.
- Location: Town Limits
- Supporting Function: Improved multimodal network
- Type of solution: Multimodal feasibility studies for bike and pedestrian projects to 35% design.
- Timeline:8-12 months
- Responsible Entity: Town with a consultant
- Potential Partners: NCDOT Resilience Group and NCDOT Division 3
- Funding & Cost: NCDOT STIP, SPOT Safety, PARTF, NC DPR, Clean Water Management Trust Fund, Adopt a Trail, Powell Bill Funds, Eat Smart, move More NC Community Grants, Federal PROTECT, Surface Transportation Program, Preliminary estimate $80,000

- **Goal #1: Manage development and growth sustainably**
- Aligns with Ocean Isle Bicycle and Pedestrian Plan (2014), property owner survey, CAT input
- Improvements to pedestrian and bicyclist safety, better access to community destinations, greater opportunities for active lifestyle, reduced need for vehicle trips and carbon reductions, enhanced resilient multimodal network. Benefit is high.
- Priority Rating: high, medium, low

GOAL #2

- Implement nature-based and hybrid solutions to improve coastal resilience.

2.1 DUNE BUILDING AND PRESERVATION

- Dunes will be constructed along the east end of Ocean Isle. Sand fence will be distributed to homeowners annually. Active management of existing dune infrastructure will occur through regular nourishment, dune planting, and sand fencing.
- Location: Town oceanfront shoreline
- Supporting Function: Dunes support the healthy beach ecosystem that is valued by OIB residents and visitors. They also provide protection for infrastructure (buildings, roads) from storm impacts.
- Type of solution: Nature-based solution
- Timeline: TBD
- Responsible Entity: Town Manager with consultant and contractor
- Potential Partners: TBD
- Funding & Cost: CSDM Grant, TBD

- **Goal #2: Implement nature-based and hybrid solutions to improve coastal resilience.**
- Aligns with public survey input and CAT member suggestions
- Primary benefit is increased level of storm protection for Town infrastructure, the anticipated benefit is high.
- Priority Rating: high, medium, low

2.2 ISLAND NATIVE PLANT GIVEAWAY: ROOTED IN COMMUNITY

- Native trees and plants to be provided to Town property owners along with planting information. These trees and plants will provide beauty, shade, and wildlife habitat while absorbing carbon dioxide and helping support flood water uptake.
- Location: Town oceanfront shoreline
- Supporting Function: Supporting healthy island ecosystem valued by residents, environmental preservation
- Type of solution: Nature-based solution
- Timeline: TBD
- Responsible Entity: Town Staff
- Potential Partners: Arbor Day Foundation,
- Funding & Cost: Arbor Day Foundation, Local Businesses, National Wildlife Federation, TBD

- **Goal #2: Implement nature-based and hybrid solutions to improve coastal resilience.**
- Aligns with public survey input and CAT member suggestions
- Primary benefits are reduction of carbon, beautification, flood reduction. Depending on scale, benefit medium.
- Priority Rating: high, medium, low

2.3 DUNE INFILTRATION TO REDUCE STORMWATER FLOODING

- By diverting stormwater runoff into a dune infiltration system (dune discharge chamber), this type of project can reduce flooding while providing treatment of surface stormwater and improving water quality.
- Location: Greensboro St. & E. First St. (Town-owned, emergency beach access)
- Supporting Function: Nature-based solution to enhance infiltration of stormwater and reduce flooding
- Type of solution: Nature-based solution
- Timeline: TBD
- Responsible Entity: Town Staff with consultant
- Potential Partners: NCDOT
- Funding & Cost: NCDOT, DCM, Flood Resilience Grants, TBD

- **Goal #2: Implement nature-based and hybrid solutions to improve coastal resilience.**
- Aligns with public survey input and CAT member suggestions
- Primary benefit is reduction of stormwater flooding along OIB roadways. Potential benefit is localized therefore moderate.
- Priority Rating: high, medium, low

2.4 LIVING SHORELINE FEASIBILITY STUDY

- This study will identify potential locations for living shoreline construction along the estuarine shoreline within Town limits, including public and private properties. Typical sections of living shoreline installations will be developed and the permitting process outlined. Results of this study can inform property owners of opportunities to maintain estuarine shorelines and support ecological functions including shellfish growth.
- Location: Town estuarine shoreline
- Supporting Function: Shoreline stabilization
- Type of solution: Nature-based solution
- Timeline: TBD
- Responsible Entity: Town Staff with consultant
- Potential Partners: Coastal Federation, DCM
- Funding & Cost: DCM, NFWF, TBD

- **Goal #2: Implement nature-based and hybrid solutions to improve coastal resilience.**
- Aligns with public survey input and CAT member suggestions
- Primary benefit is shoreline stabilization along the estuarine shoreline. Potential benefit is moderate to high.
- Priority Rating: high, medium, low

2.5 ONGOING SUPPORT FOR FEDERAL BEACH NOURISHMENT PROJECT & TERMINAL GROIN

- Town support of ongoing Federal beach nourishment efforts including cost share and maintenance of the terminal groin adjacent to Shallotte Inlet. The Town continues to actively seek shoreline protection measures to mitigate chronic erosion along the east end of the island, caused by Shallotte Inlet's influence on the movement of littoral sediment, including beneficial use placement of dredged material.
- Location: Town oceanfront shoreline
- Supporting Function: Storm protection, shoreline stabilization, tourism
- Type of solution: Nature-based solution
- Timeline: TBD
- Responsible Entity: Town Staff with consultant
- Potential Partners: USACE
- Funding & Cost: CSDM Grant Program, TBD

- **Goal #2: Implement nature-based and hybrid solutions to improve coastal resilience.**
- Aligns with public survey input and CAT member discussions
- Primary benefit is storm protection, wave impact and flooding reduction, as well as protection from long-term erosion and sea level rise impacts on infrastructure. Potential benefit is high.
- Priority Rating: high, medium, low

GOAL #3

- Review, revise, and update key plans, policies, and ordinances to strengthen resilience efforts.

3.1 UPDATE CAMA LAND USE PLAN

- The Ocean Isle Beach CAMA Land Use Plan was last updated in 2017. An update to include additional resilience considerations and other needed changes will be performed. This update will require staff time, GIS expertise, and public outreach. Partnerships with the Cape Fear Council of Governments (or others) will be developed to facilitate plan completion.
- Location: Town Limits
- Supporting Function: Growth and Development
- Type of solution: Plans and Policies
- Timeline: TBD
- Responsible Entity: Town Board of Comissioners, Planning Board, Land Use Plan Steering Committee, Consultant
- Potential Partners: Cape Fear Council of Governments, NC Division of Coastal Management
- Funding & Cost: DCM Grant Programs, TBD

- **Goal #3: Review, revise, and update key plans, policies, and ordinances to strengthen resilience efforts.**
- CAT input
- The project's primary benefit is to add resiliency considerations to the CAMA Land Use Plan such that the Town's land use is aligned with creating a resilient community. Benefit is high.
- Priority Rating: high, medium, low

3.2 – 3.4 UPDATE PLANS

3.2 Emergency Response Plan

3.3 SE NC Regional Hazard Mitigation Plan

3.4 Water Shortage Response Plan

- Location: Town Limits
- Supporting Function: Preparedness and response
- Type of solution: Plans and Policies
- Timeline: TBD
- Responsible Entity: Town Staff, Board of Commissioners
- Potential Partners: Cape Fear Council of Governments, NC Division of Coastal Management, NC Division of Emergency Management
- Funding & Cost: Grant Programs, TBD

- **Goal #3: Review, revise, and update key plans, policies, and ordinances to strengthen resilience efforts.**
- CAT input
- Primary benefit is to create most up-to-date response plans for the community. Benefit is high.
- Priority Rating: high, medium, low

GOAL #4

- Ensure critical infrastructure resilience.

4.1 RAISE LIFT STATIONS IN FLOOD-PRONE AREAS (OLDER CANAL STREETS)

- Lift station control panels allow the station to alternate between pumps. Additionally, the control panels can activate the second pump if the flow rate is too high or there is an issue with the first pump. There is a need to raise these control panels at lift stations in flood prone areas of the Town. This project is part of the Town's Capital Improvement Plan.
- Location: Older Canal Streets
- Supporting Function: Infrastructure resilience
- Type of solution: Structural modification
- Timeline: TBD
- Responsible Entity: Town Public Works Director with consultant and contractor
- Potential Partners: TBD
- Funding & Cost: TBD

- **Goal #4: Ensure critical infrastructure resilience.**
- Aligns with flood risk assessment, CIP, and CAT member suggestions
- Primary benefit is increased level of storm protection for Town infrastructure, the anticipated benefit is high.
- Priority Rating: high, medium, low

4.2 PURCHASE BACKUP PUMPS FOR LIFT STATIONS

- Backup pumps for wastewater lift stations will assist with ensuring that there are no system failures during high water events and assist with capacity as well as providing redundancy in the system. This project is ongoing as part of the Town's Capital Improvement Plan.
- Location: Town Wide
- Supporting Function: Infrastructure resilience
- Type of solution: Structural modification
- Timeline: TBD
- Responsible Entity: Town Public Works Director with consultant and contractor
- Potential Partners: TBD
- Funding & Cost: TBD

- **Goal #4: Ensure critical infrastructure resilience.**
- Aligns with flood risk assessment, CIP, and CAT member suggestions
- Primary benefit is increased level of storm protection for Town infrastructure, the anticipated benefit is high.
- Priority Rating: high, medium, low

GOAL #5

- Improve education and preparedness.

5.1 CONDUCT ANNUAL HURRICANE EXPO

- The Hurricane Expo will be conducted annually by the Town in partnership with local and national businesses and agencies. The aim of the Expo is to provide information to residents and visitors to assist them in protecting themselves and their property during extreme storms and flooding events. Evacuation procedures will be communicated to the public.
- Location: Community Center
- Supporting Function: Public education
- Type of solution: Demonstration and education
- Timeline: Annual
- Responsible Entity: Town Staff
- Potential Partners: Home Depot, Lowes,local businesses, Emergency Management
- Funding & Cost: TBD

- **Goal #5: Improve education and preparedness.**
- Aligns with survey data and CAT member suggestions
- Primary benefit is increased preparedness of property owners, residents, and tourists. Benefit is high.
- Priority Rating: high, medium, low

5.2 RESILIENCE PROGRAMMING WITH MUSEUM OF COASTAL CAROLINA

- Partnership with the Museum of Coastal Carolina to support community resilience programs. Some potential projects include:
  - Development of interpretive elements at demonstration projects at Museum and other locations within the Town (e.g. Ferry Landing Park)
  - Exhibit on Beach Dynamics
  - Host Greenery Giveaway
  - Disseminate Coastal Hazards Information
  - Lecture Series Speaker(s) on Resilience Topic(s)
- Location: Museum
- Supporting Function: Public education
- Type of solution: Demonstration and education
- Timeline: Annual
- Responsible Entity: Town Staff, Museum Staff
- Potential Partners: Museum of Coastal Carolina
- Funding & Cost: NSF, NOAH, Institute of Museum & Library Services, TBD

- **Goal #5: Improve education and preparedness.**
- Aligns with survey data and CAT member suggestions
- Multiple benefits including increased long-term engagement on resilience topics, increased preparedness of property owners, residents, and tourists. Benefit is high.
- Priority Rating: high, medium, low

5.3 RESILIENCE DEMONSTRATION PROJECT(S) AT FERRY LANDING PARK

- Design and construct demonstration project(s) at the Ferry Landing Park site. Potential projects include installation of permeable pavers, living shoreline construction, recreation, public access, and linking to multimodal transportation plan. Educational signage would be developed to provide the residents and visitors solutions to coastal hazards and the Town's proactive approach.
- Location: Ferry Landing Park
- Supporting Function: Public education, outreach
- Type of solution: Demonstration and education
- Timeline: Annual
- Responsible Entity: Town Staff
- Potential Partners: DCM, Museum of Coastal Carolina
- Funding & Cost: TBD

- **Goal #5: Improve education and preparedness.**
- Aligns with survey data and CAT member suggestions
- Primary benefit is increased knowledge of resilience methods and opportunities by property owners, residents, and tourists. Benefit is high.
- Priority Rating: high, medium, low

GOAL #6

- Reduce structural, environmental, and economic impacts from coastal hazards.

6.1 CONTINUE CRS PARTICIPATION

- The Town is currently a member of the Community Rating System (CRS) program which provides for discounts on flood insurance and supports resilience and reduction of flood damage. This program recognizes measures for flood protection and flood loss reduction. There are 19 creditable activities that are organized in four main categories: Public Information, Mapping and Regulation, Flood Damage Reduction, and Warning and Response. The Town will continue to participate in and seek ways to increase the number of creditable activities undertaken by the Town.
- Location: Town Limits
- Supporting Function: Flood mitigation
- Type of solution: Policies, plans, ordinances
- Timeline: TBD
- Responsible Entity: Town Staff
- Potential Partners: FEMA, DEM
- Funding & Cost: TBD

- **Goal #6: Reduce structural, environmental, and economic impacts from coastal hazards.**
- Public feedback and CAT member suggestions
- Primary benefit is flood mitigation and discounts on flood insurance for property owners. Benefit is high.
- Priority Rating: high, medium, low

6.2 PURCHASE GENERATORS AND FUEL FOR USE DURING COASTAL HAZARD EVENTS

- The Town's preparedness efforts include purchasing generators and fuel for use during power outages occurring as a result of coastal hazard events such as hurricanes and tropical storms. This project supports purchase of additional generators and fuel to increase capacity of the Town to respond to these events.
- Location: Town Limits
- Supporting Function: Preparedness and response
- Type of solution: Capital improvements
- Timeline: TBD
- Responsible Entity: Town Staff
- Potential Partners: FEMA, DEM
- Funding & Cost: TBD

- **Goal #6: Reduce structural, environmental, and economic impacts from coastal hazards.**
- Aligns with survey input and CAT member suggestions
- Primary benefit is in emergency preparedness and response. Depending on scale, benefit is moderate to high.
- Priority Rating: high, medium, low

2

DISCUSS PROJECT PORTFOLIO

Beth Sciaudone, Moffatt & Nichol

PROJECT PORTFOLIO

At least 5 priority projects, with at least one being a nature-based solution

- Are the projects identified meeting your community's vision and goals (identified in Phase 1, Step 3)?
- Do the identified projects correlate with community feedback (received throughout Phase 1?)
- Do the identified projects relate to your risk and vulnerability assessment (i.e., does the project *reduce the vulnerability* or *increase the adaptive capacity* of a critical asset or vulnerable population)?

Project Name	Provide a brief, descriptive title for the project.
Project Description	Describe the project, including information gathered during project development and expectations for the project moving forward. *(Please note that these descriptions will be used for future grant applications. Therefore, they should be as detailed as possible, including specific quantitative and qualitative information. For example, "The living shoreline will directly address coastal erosion by installing 2,500 linear feet of oyster shells and native plantings. In addition, this nature-based solution addresses social vulnerability by reducing flooding and protecting housing in a historically disadvantaged community.)*
Location	Where will the proposed project take place?
Source	Where was this project recommended? CAT meeting, public meeting input, existing report?
Scoping Questions	Include any important questions that still need to be addressed *(i.e., would elevation be a more effective strategy than relocation?)*
Hazard(s) Addressed	List the hazards that your team identified that impact the project location.
Supporting Function[3]	What essential part of the community does this project support (e.g., communications, transportation, etc.)?
Type of Solution	Infrastructure, plans and policies, ordinances, non-regulatory programs, and others (describe).
Estimated Timeline	Estimate the time the project will take to complete and any anticipated delays in the timeline.
Responsible Entity	Describe who will primarily be expected to be responsible for project implementation (e.g., County Planning Department with a consultant).
Potential Partners	List potential partners (i.e., individuals, organizations, agencies, etc.).
Existing Funding	List any current source of funding associated with the project.
Potential Funding Sources	Identify potential sources of funding for project implementation. Include any upcoming application deadlines.
Estimated Cost	Estimate the total cost of the project by conducting a cost-benefit analysis.
Anticipated Benefit	What are the project's primary benefits, and how much benefit will the project have (high, medium, low)?
Priority Rating	How urgent is the project (high, medium, low)?
Project Map(s)	Provide any relevant maps of the project site.

3

PUBLIC MEETING DISCUSSION

Beth Sciaudone & Dawn York, Moffatt & Nichol

NEXT STEPS AND SCHEDULING

- **Public Meeting Tonight**
- **May – Final Resilience Strategy Deliverable**

Ocean Isle Beach RCCP CAT Meeting #4

March 14, 2024

Attending in Person:
Dawn York, Moffatt & Nichol
Beth Sciaudone, Moffatt & Nichol
Justin Whiteside, Town Administrator
Casey Hayes, Assistant Town Administrator and Town Clerk, Ocean Isle Beach
Adam Sellers, Utility Systems Superintendent, Ocean Isle Beach
Wayne Rowell, Commissioner, Ocean Isle Beach
Jim Hoffman, Executive Director, Museum of Coastal Carolina

Attending Virtually:
Rachel Baker, Moffatt & Nichol
Jonathan Williamson, Business and Property Owner

Meeting Summary

Vision Statement and Goals

- Beth Sciaudone reviewed CAT roles and responsibilities and goals for today's meeting.
- Beth reviewed the critical assets that received the highest vulnerability score.
    - The causeway bridge and the dunes were identified as the most vulnerable assets.
    - The causeway was not included as a project idea, as it is out of the Town's purview. Annual inspections and regular maintenance and repairs of the bridge are completed by NCDOT and no action items are necessary.
    - Many water infrastructure assets were identified as high ranking (3), and thus were incorporated into project ideas.
- Beth reviewed the Town's vision statement, and it continues to be accepted by CAT members.
- Goals were reviewed and Beth indicated that identified projects were organized under each goal.
- Each project identified as a priority by the CAT and the public input session will be built out in a framework template to support future RCCP Phase 3 Design grant requests.
    - Each prioritized project will be scoped with sufficient detail for use by Ocean Isle Beach for future funding requests.

Identified Projects

- Project 1.1 Ordinance Change to Increase Required Green Space
    - Casey explained that the Board of Commissioners would be making the final call to make an ordinance change.
    - CAT members discussed how this could apply to the ETJ as well as within the Town limits.
    - Jonathan explained that there are two remaining parcels within the Town limits and they are both tied to his family, so although he likes the idea of greenspace, he personally feels as though the ETJ should be included if this were to be explored so that it would have more potential benefit.

    - Other CAT members agreed that including the ETJ would open the possibility of additional tracts of land and more potential for an impact.
    - Jonathan asked if this ordinance change will make a quantifiable difference. The other CAT members indicated that additional greenspace would reduce overcrowding and benefit the environment.
    - Rachel will evaluate through GIS the percentage of acreage that could be conserved within the ETJ, if an increase were approved by the Board.
    - Dawn emphasized that the costs for this would be multifaceted- it would not just be the cost to implement, it would be the reverse cost to developers that wouldn't have that space anymore.
    - CAT members agreed that further evaluation is needed to understand how much impact the ordinance change would have and what the costs would be.
    - Commissioner approval is necessary; therefore priority is low.
    - It is noted that Justin indicated that this effort could be incorporated into the CAMA Land Use Plan Update after the meeting.
- Project 1.2 Resilient Multi-Modal Transportation Feasibility Study
    - This project idea was identified based on previous discussions regarding connectivity and multi-modal accessibility.
    - This project entails identifying and prioritizing the top 5 multi-modal projects and developing preliminary (30%) design for each project. This would also involve the identification of grants to fund the assessment and design.
    - The top projects that would come out of this would leverage the 2014 plan and align with the public survey in which residents expressed concerns about safety/active lifestyle/carbon reduction.
    - The initial cost would cover a feasibility study and initial design for 5 projects – Beth will confirm costs.
    - Jonathan indicated that as the island is seeing more growth and development, there is increased traffic and an increase in pedestrians. The current pedestrian plan has resulted in congested areas, so improving the program and developing an assessment of project ideas would be beneficial.
    - Casey asked if it would be worth reducing the scope to the design of three projects instead of five. Dawn said this would depend on the size of the projects. Beth agreed and explained that this would be a good stepping stone regardless, and that there is a lot of state and federal funding for pedestrian/community connectivity projects as it relates to climate resilience by reducing carbon emissions.
    - Dawn asked if this would include beach access and improvements in parking. Beth indicated that this study would be focused on multimodal transportation connections to amenities including the beaches, (e.g. bikes, golf carts, pedestrians) rather than parking.
    - Beth also explained that DOT could be a potential partner and funding source. Casey mentioned that DOT just conducted ADA curb improvements along most roads, within state right-of-way
    - Casey stated that this is something that she believes both the public and the board would consider and should be ranked as medium priority. The CAT agreed.
- Project 2.1 Dune Building and Preservation

    - The town is already working towards this- they have already submitted a CSDM grant for the East end dune construction, and are already distributing sand fencing annually, and are currently exploring the use of innovative solutions, such as haybales.
    - Costs will vary depending on funding needs for each management effort – the Town may want to break out each item individually.
    - Casey asked if this goal should be included since the Town is already actively implementing this project, or if it is redundant. Dawn explained that if this is selected by the CAT as a priority, this would open it up to coming back to it later if additional grant funding becomes available or things change. Beth agreed and stated that the Town can indicate that they have a history of maintaining dunes and are prioritizing the continued maintenance.
    - Casey will provide information on scope, design fees and construction.
    - The CAT agreed to rank this as a high priority.
- Project 2.2 Island Native Plant Giveaway
    - The CAT members were very supportive of this project.
    - Beth explained that it is easy to get free plants for a giveaway, for example via Arbor Day Foundation, National Wildlife Foundation, or The Nature Conservancy. There are many opportunities for funding, resources, partners, and supplies to make this happen.
    - Jim stated that the NC Coastal Federation may also be a good partner for this for seagrass planting.
    - Dawn suggested the Surfrider Foundation, North Carolina Extension Service, and Brunswick County Soil and Water Conservation District as other potential partners. She also explained that Brunswick County Soil and Water Conservation District may be interested in funding residential rain gardens or bioswales, similar to projects the City of Wilmington has implemented as part of the Bradley and Hewlett's Creek Watershed Restoration Plan and Heal Our Waterway Program.
    - Jim suggested involving school-aged children in planting and maybe having local schools use this as a field trip experience.
    - Jim suggested since Arbor Day (April 26) is so close to Earth Day, planning a multi-day event corresponding to both could work well.
    - Dawn suggested having some of these partners/agencies come to Ocean Isle Beach and plant for the residents or teach them how to plant. Or, the Town's Landscape Department may lead, which would require coordination. This could align with the new community center.
    - The CAT members agreed that this idea would be low cost / medium priority.
- Project 2.3 Dune Infiltration to Reduce Stormwater Flooding
    - This project entails the design and construction of a dune Infiltration project at Greensboro St. and East 1st St where the Town owns two 50' beach front lots.
    - This is a stormwater diversion project that would not be a complete nature-based solution but offers a hybrid solution for the project portfolio.
    - Casey explained that the Town had previously talked to DOT about this, and they did not provide much of a window to apply for grant funding and could not match the funds. The Town would need to engage DOT to figure out funding if this is pursued.
    - The Town could also apply for RCCP Phase 3 funding for this.

    - The CAT agreed to rank this as a medium priority seeing as there are funding constraints but partnership in place.
- Project 2.4 Living Shoreline Feasibility Study
    - Beth reviewed that the CAT had previously discussed this idea with Mackenzie Todd and she indicated RCCP funds (Phase 3/4) could not cover the cost of a living shoreline on private property but could potentially help to cover the cost of a feasibility study.
    - Beth explained that some things that would be evaluated as part of a feasibility study include erosion rates and vulnerability of estuarine shoreline, loss of marsh habitat, scouring along public/Town properties, etc.
    - A feasibility could provide design solutions depending on location, water elevation, grade, slope, tidal range, wave energy, oyster habitat, etc.
    - Ferry Landing Park would be the best option for a public demonstration project on Town property.
    - There is limited estuarine shoreline availability within the Town's limits.
    - The Town could open dialogue with the NC Coastal Federation to evaluate options
    - CAT determined this to be a low priority based on limited space.
- Project 2.5 Federal Beach Nourishment and Terminal Groin Maintenance
    - Beth reviewed that the Town has a cost share program for this in place already.
    - Dawn reviewed that similar to the dune building, this is an ongoing activity, but things may change over time, so the Town could prioritize this and keep it on the list for future opportunities. For example, the CDSM grant could be used with a local match.
    - CAT members agreed to place this as a high priority.
- Project 3.1 – CAMA Land Use Plan Update
    - Justin stated that Keith Dycus, CAT Member, is in a meeting about this at the moment and the Town is already working on this.
    - DCM has a grant program to provide funding for Towns updating their CAMA Land Use Plans. The Town is currently budgeting a CAMA land use plan update for 2024/2025.
    - Partners for this could include Cape Fear COG, Planning Board, Board of Commissioners
    - A study to increase the green space in a town ordinance could be included as an objective under the updated Land Use Plan.
    - This would potentially cost $40-50k for help from Cape Fear COG.
    - Priority level is high; funding has been requested through the Board of Commissioners.
- Project 3.2 – 3.4 – Plan Updates
    - Casey explained that the Water Shortage plan just got updated, and the Emergency Response Plan is currently being updated. These are updated annually.
    - Justin explained that the HMP has been recently adopted. Dawn recommended providing specific projects in the HMP to be eligible for future FEMA funds because this creates an automatic funding stream.
    - The CAT members agreed to include this project idea in a table of ongoing measures, but not to include it in the project portfolio.
- Project 4.1 Resilient Infrastructure (Raise Lift Station Control Panels)
    - Beth reviewed that lift stations seemed to be high risk from the results of the vulnerability scoring, and the Town is already pursuing actions toward elevating control panels at lift stations, so this project would align with those.

    - Beth reviewed that this is part of the Town's Capital Improvement Plan, but they would need to hire a contractor for this.
    - The Town could use Brunswick County Emergency Management or NC Emergency Management as a partner. The Town is already eligible for grant funding through NC Emergency Management.
    - Raising 6 lift station control panels is estimated to cost approximately $30,000, or $5,000 each. There are 39 lift stations on the island and the Town has identified 5 more for elevating the control panels in the next budget.
    - CAT members agreed to rank this as a high priority.
- Project 4.2 Purchase Backup Lift Station Pumps
    - CAT members agreed that this could be combined with purchasing additional backup generators.
    - Currently, there are 82 pumps owned by the Town (most stations have 2 pumps, but one has 4 pumps).
    - CAT members agreed to rank this as a low priority as current funding is in place, but there is an ongoing need.
    - CAT members also want to add elevating transformer pedestals which would require coordination with Brunswick Electric.
- Project 5.1 Hurricane Expo
    - Casey explained that the Town is not doing this and it would be a new event, but the Town has been in talks about starting it.
    - The Town could get the media involved for more outreach such as local weather channels and radio stations, National Weather Service, Cooperative Extension, etc.
    - Home Depot and local businesses and vendor could partner.
    - The Town could partner with golf cart companies for transportation and storage of golf carts during storm events, since residents are often concerned about getting their golf carts off island.
    - This would be an interactive preparedness exercise for both residents and tourists.
- Project 5.2 Resilience Programming with the Museum of Coastal Carolina
    - Jim proposed developing a museum exhibit to educate on coastal barrier island dynamics/beach dynamics, and/or some kind of cylindrical tank exhibit to show what is happening under water in a salt marsh.
    - Jim also proposed having the museum develop an interpretive center/educational signage at Ferry Landing Park.
    - NOAA may have some funding, or the National Science Foundation, or Institute of Museum and Library Services. The museum should leverage the RCCP in funding applications.
    - The museum's Master Plan includes future exhibits, and they are hoping to have a project plan by November 2024.
    - Jim also explained that the Sandbar Lecture Series is ongoing, and he could make the RCCP part of that. He explained that people find museums to be a reliable source of information and they should take advantage of that and educate. The museum would want to conduct a study to evaluate exhibit options on various issues, as well as

potentially partner with academic institutions to survey visitors' mindsets pre- and post-museum visit.
    - The museum would also want to support the native plant giveaway.
    - This is a high priority project.
- Project 5.3 Resilience Demonstration Project(s) at Ferry Landing Park
    - CAT members expressed that this should be combined with the museum partnership program.
    - Beth agreed and stated that this could be combined with multiple project ideas- for example, have multimodal paths, signage from the museum, etc.
    - Justin explained that permeable paving was installed at the new park and in the parking lot for stormwater reduction and water quality improvements. This was a $2 million project that the Town received grant funding for.
    - This location may be the only suitable location for a living shoreline demonstration project.
    - CAT members agreed that this is low priority due to timing.
- Project 6.1 Continue CRS Participation
    - Similar to other projects already discussed, the Town is actively working on this already. Justin explained that this takes a lot of work for the Town staff to participate in this.
    - Dawn asked what the potential cost is of the staff's time. Justin said he would have to get an estimate from Keith Dycus.
    - Beth said this project idea should be listed at least as an ongoing measure to recognize the Town's ongoing time and resources spent on this. CAT members agreed to include it in list but not in project portfolio.
- Project 6.2 Purchase Additional Generators
    - Beth reiterated that this is another project that the town is already doing, but there is the capacity to enhance efforts in the future and receive more funding.
    - The Town currently has 4 portable generators and 4 lift stations with permanent backup generators.
    - The CAT members discussed installing fixed standby generators where available. One location where it may be able to be installed is at the causeway just past the Fire Department.
    - The CAT members agreed to rank this as a high priority.
- The CAT and M&N staff discussed how to define priorities and what factors to consider. Jim asked if cost would be a part of this, and Dawn said yes, as well as time, need, etc.
- The CAT and M&N staff reviewed list of projects again and assigned final priority rankings.
    - The Town is due for another nourishment cycle project in 2025 via CSDR. This is a high priority.
    - Jonathan stated that for the green space ordinance idea, until we have a better understanding of the changes that would take place, and because it is reliant on the Board of Commissioners, this should not be a priority. The other CAT members agreed. Justin said that this should not be included in the public meeting tonight because more information is needed.
    - Casey said that because DOT is already working on the dune infiltration and the Town needs to take a closer look at funding opportunities, this is a medium priority. Justin

agreed and said that DOT were the ones to bring this idea to the Town. If the Town donates the land to use for this project to get stormwater off DOT roads, then DOT can provide some funding, but they don't have enough maintenance funds to provide total funding. They have the location for this project, but not a clear funding source, so he agreed that this is medium priority.

- Casey also stated that the plant giveaway presents lots of potential partner ideas. Beth agreed and added that this project could not only be for residential properties, but the Town could use the native plants for local areas.
- Justin said he wants to mention dune infiltration and living shorelines at the public meeting. He asked if the NC Coastal Federation would help fund living shorelines, to which Dawn replied yes.
- Casey explained for the CAMA Land Use Plan, the update would not just be simply updating it, but it would be adding a heightened focus on resiliency, and maybe discussing how to implement certain actions. The group discussed how best to determine priority criteria. For example, Dawn said in terms of time frame, this could be lower priority. Justin said he thinks it could be a high priority because even though it takes time, there is a known funding source.
- Beth asked the CAT members if they wish to combine lift station projects. CAT members stated that raising the lift station control panels is a high priority, but the additional pumps are a low priority ongoing need, so they should keep them separate. CAT members also stated that raising the lift station control panels should be combined with raising transformer pedestals as a partnership with Brunswick Electric. This is a high priority on canal streets due to king tides breaching the walls and flooding transformers, and posing a safety issue when people walk around.
- Casey stated that the Hurricane Expo should a high priority but would probably not happen this year- probably would start next May. A Spring 2025 expo could take place at the museum, and then the following year at the new community center, because it will be finished. CAT members agreed that this is a high priority.
- Jim stated that the museum partnership with the Town should be a high priority. CAT members agreed.
- CAT members agreed that CRS participation would be a medium priority as it is ongoing, and requires significant time and staff resources.

Final list of CAT-identified high priority projects, not in order of priority:

1) hurricane expo
2) plant giveaway
3) purchase additional generators
4) raise lift station control panels and transformer pedestals
5) partnership with museum on resiliency programs
6) CAMA land use plan update
7) beach nourishment and terminal groin maintenance
8) dune building

APPENDIX D

STAKEHOLDER ENGAGEMENT STRATEGY

NC Resilient Coastal Communities Program (RCCP):
Town of Ocean Isle Beach Community Engagement Strategy

In developing our Outreach Strategy for the NC Resilient Coastal Communities Program for the Town of Ocean Isle Beach, the Project Team (comprised of the community and Moffatt & Nichol) considered the following:

- Resiliency and hazard mitigation can be difficult realities for the public to comprehend as they impact one's quality of life, one's home and community, and can spur anxious thoughts of the future. Risk and vulnerability are inherent realities that can be addressed and planned for; building resilience to natural hazards is vital for communities to help maintain their quality of life, healthy growth, durable systems, and conservation of resources for present and future generations. Engagement efforts are a critical part of the process and sets aside time within the project schedule to inform and educate citizens on the issues and encourage meaningful dialogue.

- It is our goal to engage groups across the social spectrum, from local politicians and stakeholders to those affected by economic and social barriers. Town staff, community leaders, elected officials, academic institutions, and non-profit conservation groups comprise the main cohorts for engagement throughout the process. Given potential limitations to transportation and internet resources for some sectors, specialized tools will be developed to ensure equal access. The outreach strategy provides a tailored approach to accommodate each of these groups and will be adapted throughout the project as needed. We are cognizant of the fact that there is a significant percentage of Ocean Isle Beach's population is an older demographic. As such, the outreach strategy will need to factor in-person/traditional means of reaching this age group, as they may not be tech-savvy, use social media, or feel comfortable providing information in an online fashion. By working together, the Project Team, who is not local to the community, can provide tools and resources for Ocean Isle Beach staff to implement and share with their constituents. It will be up to the Town to ensure this sector of the population is receiving information through traditional Town communication channels and means.

- In alignment with the RCCP Handbook and ensuring participation from public stakeholders, our community engagement strategy outlines a plan for engaging the Ocean Isle Beach during critical phases of the project including the preliminary development of the risk and vulnerability assessment (Phase 1, Step 4) and project planning, prioritization, and selection (Phase 2). Our engagement strategy will work towards the following considerations as specified in the RCCP Handbook:

    - Ensure activities are accessible and inclusive of all demographics within Ocean Isle Beach.

        - Involve vulnerable populations and historically underrepresented members of the community.

        - Identify and incorporate trusted, neighborhood-level leaders, to help organize and design additional outreach.

        - Dedicate specific space and time to discussing what strategies will contribute to equitable outcomes for all residents, regardless of their socio-demographics.

        - Consider going to different groups in the community, rather than relying on those members of the community to approach our Team or engage with the process on their own.

        - Consider time restraints, such as work, school, or childcare that might interfere with the community's ability to attend meetings or participate in the process.

        - Explain how the community's participation will contribute to the larger community's vision for success and resilience.

    - Consider State and local restrictions that may be in effect.

        - E.g. ensure virtual participation for stakeholders who may not have access due to assembly restrictions related to COVID-19.

    - Host an open house or workshop to present your team's initial set of potential adaptation strategies and ask for input, comments, and additional ideas using different forms of media.

    - Brainstorm activities that go beyond simply informing or consulting with the community about resilience.

    - Involve stakeholders directly in mapping activities that identify vulnerable populations, infrastructure, or natural resources.

        - Involve community members to participate in field trips to discuss or address areas of concern.

        - Consider live polling, surveys, interactive websites, news media, leveraging social media interaction, etc.

    - Highlight costs of inaction or potential risks with continuing to conduct "business as usual".

Based on the above foundation, the Project Team prepared the following Community Engagement Strategy, which includes a description of the roles and responsibilities of the principal actors in the process, the program phases, outreach process, anticipated project schedule, and lastly the outreach tools, techniques, and strategies.

Roles and Responsibilities

Our Community Engagement Strategy relies on communication and coordination by all represented parties, each supporting the other to ensure a successful project implementation. Participant roles and responsibilities are presented in Table 1.

Table 1. Community Participant Roles and Responsibilities

Community/Organization	Role	Responsibility
Ocean Isle Beach aka "the Client", the Community"	Client PM	• Approval of Community Engagement Strategy • Assist with schedule and coordinating of four (4) Community Action Team (CAT) meetings • Assist with scheduling and coordinating two (2) hybrid Public Meetings • Public/group meeting venue coordination; required public notice(s) • Receive/review project deliverables; delivery of Client comments/ directives
Ocean Isle Beach	Point of Contact (POC) handling communications	• Coordinate with M&N to review and receive website and communications content to be uploaded / maintained on the Town's embedded RCCP webpage and social media channels • Push communications across multiple channels, both digitally and in-person; communication to include email campaigns, press releases, posters/flyers, surveys, and others • Public/group meeting venue readiness; public meeting awareness; public meeting advertisement • Survey awareness; direct survey distribution/collection
Moffatt & Nichol	Consultant PM Project Team Lead	• Community Engagement Strategy preparation • All contracted project deliverables • Develop a project webpage via PublicInput platform that can be embedded on Client's webpage • Lead four (4) Community Action Team (CAT) meetings, related meeting content and summaries • Public/group meeting venue readiness • Lead two (2) hybrid Public Meetings, related meeting content and outputs • Survey and other outreach deliverables • Online survey distribution/collection • Maintain digital and in-person material delivery to meet requirements of the Americans with Disabilities Act (ADA)
Community Action Team (CAT)	Chosen invitees (at least 5 members)	• Key, knowledgeable stakeholders to work actively with M&N through Phases 1 and 2 • Provide targeted input • Attend four (4) Community Action Team (CAT) meetings • Assist in distributing communications to respective professional and community networks • May include municipal/county managers, planners, elected officials, utility managers, community and economic developers, business community representatives, disaster recovery coalitions/groups, councils of government (COGs), state and federal land managers, non-government

		organizations (NGOs), private organizations, and others working with the community on resilience planning
Stakeholders	Faith Leaders, Vulnerable Economic, Social and Digitally Disadvantaged Members, Public	• Address community members through public meetings and survey, while tailoring outreach strategies to accommodate vulnerable and historically underrepresented members of the community to include a diverse range of community perspectives • Work with key advocates, or "project ambassadors", to expand outreach communications through their extended networks

Program Phases

The Community Engagement Strategy is integrated into both program phases when pertaining to community involvement including: (1.) Community Engagement & Risk/Vulnerability Assessment; and (2.) Planning, Project Identification, & Prioritization. Table 2 provides a summary of the two initial phases and their supporting steps and requirements.

Future phases include Phase (3.) Engineering & Design and (4.) Project Implementation. These will occur once Ocean Isle Beach completes Phases 1 and 2.

Table 3 illustrates the anticipated project schedule with key outreach milestones, and Table 4 defines and details the respective outreach schedule as it layers into the overall project schedule.

Table 2. Phase 1 & 2 Steps and Requirements

Phase 1: Community Engagement, & Risk/Vulnerability Assessment In regards to outreach, M&N will educate citizens and key stakeholders on the proposed planning process and solicit their input and participation through various methods outlined in "Outreach Tools, Techniques & Strategies". This will further strengthen collaboration and partnerships between targeted stakeholder groups across the planning area to identify, assess, communicate, and mitigate identified hazards.	
Step 1	Develop a Community Action Team (CAT) of key, knowledgeable stakeholders to work actively with the Project Team through Phases 1 and 2. The CAT should be inclusive and diverse in makeup, with at least five members representative of the community and its diverse perspectives. If there are gaps in the expertise of the CAT, the Project Team will work with the community to fill this role. Appoint one of the CAT members as the "CAT Champion" to lead the team. This individual will act as the point person with DCM, the Project Team, and the rest of the CAT.
Step 2	Review existing local and regional resources, focusing on inventory of critical assets, sea level rise projections, risk assessments, resilience-related projects. Identify and fill data and information gaps for vulnerability assessment inputs. Identify and list any data/knowledge-gaps that exist.
Step 3	Develop a community resilience vision statement and list of locally driven goals for this program to ensure these values and priorities are considered during the entirety of the process
Step 4	Develop a community engagement strategy for engaging key community stakeholders and the public during the risk and vulnerability assessment (Phase 1, Step 6) and program development (Phase 2) process. Develop an approach for targeted outreach to vulnerable and historically underrepresented members of the community.

	For the purpose of organization and scheduling, the Team has chosen to develop Step 4 in tandem with Step 1 to create an outreach strategy and schedule. The engagement strategy is not dependent on Steps 2 nor 3 and as such, the team felt it suitable to be developed sooner than later to start engaging with CAT and stakeholders early on in the planning process.
Step 5	Using ArcGIS, map critical asset, areas of social vulnerability, and natural infrastructure selected by CAT to be included in the risk assessment.
Step 6	Conduct a risk and vulnerability assessment focused on disadvantaged populations and critical assets, with involvement from the CAT, NCEM, and the public. Review local or regional hazard mitigation plans, extract data and information, and identify any gaps to fill. Identify hazards and stressors to include in the risk and vulnerability assessment. Map the geographic extent of the hazards and overlay with the community assets identified in Phase 1, Step 5. Define the thresholds and criteria that will be used to classify vulnerability of critical assets as low, medium, or high for each vulnerability metric. Estimate cumulative vulnerability of critical assets and natural infrastructure using the vulnerability index. Gather supplemental data as needed beyond what the hazard mitigation plan provides. Estimate risk of the critical assets identified.
Phase 2: Planning, Project Identification, & Prioritization M&N to work with CAT and community members to identify, plan, and prioritize a combination of policy, nonstructural, structural, and hybrid actions, including the use of nature-based solutions, organized with a project portfolio.	
Step 1	Develop a portfolio of resilience projects aimed at reducing exposure and sensitivity to hazards, as well as strengthen the adaptive capacity of community assets and vulnerable populations. Ensure there is at least one nature-based solution.
Step 2	Solicit public input on projects and evaluate with the CAT. Develop a project portfolio. Identify at least five (5) priority projects, with at least one being a nature-based solution.

Table 3. Overall Project Schedule with Key Outreach Milestones

		2023					2024					
	Task	August	September	October	November	December	January	February	March	April	May	Deliverables
Phase 1	1. Develop a Community Action Team (CAT)											Meeting agendas, minutes, and list of participants* Description of process for developing Community Action Team*
	2. Review Existing Plans & Efforts											Inventory of relevant plans, ordinances, policies, and programs*, List of data gaps for vulnerability assessment**
	3. Set Vision and Goals			CAT #1								List of community vision and set of goals* Description of process for developing vision and goals*
	4. Develop a Community Engagement Strategy											Stakeholder engagement strategy & plan for targeted outreach to underrepresented groups*/**
	5. Identify & Map Critical Assets, Natural Infrastructure, & Socially Vulnerable Populations					PM #1 / CAT #2						Critical asset, social vulnerability, and natural infrastructure maps & ArcGIS files**, Report documenting process and products*
	6. Conduct Risk & Vulnerability Assessment						Draft Deliverable					Hazard, vulnerability, and risk maps and tables & ArcGIS files**, Report documenting process and products*
Phase 2	1. Identify a Suite of Potential Solutions							CAT #3				Project portfolio**/*
	2. Consolidate & Prioritize Projects								PM #2 / CAT #4			List of minimum of 5 shovel-ready priority projects and action items*
	3. Finalize Resilience Strategy										Final Deliverable	Resilience strategy*

*part of final deliverable
**interim deliverable

Table 4. Outreach Project Schedule (August 2023 to May 2024)

Phase 1		
Develop the CAT	Deliverable *September 2023*	• Work with Client to identify list of community members *(Task #1)* • Provide a description of the process for developing the CAT
Community Engagement Strategy and Initial Outreach Materials	Deliverables *September - October 2023*	• Finalize Community Engagement Strategy *(Task #4)* • Develop project webpage *(launch in October)* • Develop initial outreach materials to support public outreach effort
CAT Meeting #1	In-Person Meeting *October 2023*	• Initial CAT engagement • Review existing plans and efforts *(Task #2)* • Set vision and goals *(Task #3)* • Provide input on the draft Community Engagement Strategy
CAT Meeting #2	Hybrid Meeting, virtual and in-person *December 5, 2023*	• Request input and comments on initial identified and mapped critical assets, natural infrastructure, and socially vulnerable populations *(Task #5)* • Collect feedback that will help inform local knowledge
Public Meeting #1	Hybrid Meeting, virtual on project webpage and in-person *December 5, 2023*	• Initial community engagement • Overview of project effort • Discussion of vision and goals • Request input and comments on initial identified and mapped critical assets, natural infrastructure, and socially vulnerable populations *(Task #5)*
Survey	Virtual, held on project webpage *Mid-December 2023 to mid-January 2024*	• Initial questionnaire asking a series of baseline questions, inclusive of priorities and preferences • Will serve as the basis for evaluating vulnerable areas and identifying priorities by the community
Draft Risk & Vulnerability Assessment	Deliverable & Presentation *January 2024*	• Present initial findings in the Draft Risk & Vulnerability Report to Ocean Isle Beach *(Task #6)*
Phase 2		
CAT Meeting #3	Virtual work session *February 2024*	• Present findings and updates for draft Risk & Vulnerability Assessment Report • Review identified suite of potential solutions *(Task #1)* • Collect feedback that will help inform local knowledge
CAT Meeting #4	Virtual Meeting *March 2024*	• Present consolidated and prioritized project solutions *(Task #2)* • Request input, comments, and additional ideas on prioritized projects to be factored into Final Risk & Vulnerability Assessment Report

Public Meeting #2	Hybrid Meeting, virtual and in-person *March 2024*	• Present suite of potential solutions (Task #1) and consolidated and prioritized projects solutions *(Task #2)* • Request input, comments, and additional ideas on prioritized projects to be factored into Final Risk & Vulnerability Assessment Report
Final Risk & Vulnerability Assessment	Deliverable & Presentation *May 2024*	• Finalize results into Final Risk & Vulnerability Report • Present findings and gather necessary input for next phases

Dates are subject to change based on Town's schedule.

Outreach Tools, Techniques & Strategies

The following is a series of tools, techniques, and strategies as a "menu of options" to cover both traditional and virtual engagement. M&N will work with Ocean Isle Beach to decide which of the following tools, techniques, and strategies are achievable given the town's resources and project budget constraints.

- **Community Action Team.** The CAT will actively participate in the project, attend up to four (4) project meetings, provide data, local knowledge, and champion the project's efforts by serving as project "ambassadors". CAT representatives will distribute approved communication content created by the Team to existing professional and community networks over the course of the planning process. One member of the CAT will be appointed as a "CAT Champion" to lead the CAT team, acting as a point person with DCM, the Project Team, and the rest of the CAT members. *The CAT is a requirement of the RCCP Handbook.*

  In Phase 1, the CAT's roles and responsibilities will include:

  - Develop a **community-specific vision** and set of **goals** to establish the local context for this program and guide subsequent steps.
  - Conduct **a review of existing plans, ordinances, policies, and programs** to identify work that has already been completed.
  - Review and **provide input on the Community Engagement Strategy and help support outreach efforts**, particularly to underserved/underrepresented groups.
  - Identify **critical assets and natural infrastructure** to include within the risk and vulnerability assessment.
  - Determine what **levels of risk call for actions** to reduce that risk and increase resilience.

  In Phase 2, the CAT's roles and responsibilities will include:

  - **Identify, plan, and prioritize** a combination of policy, nonstructural, structural, and hybrid actions, including the use of natural and nature-based solutions.

- **Public Meetings (2).** Two hybrid public meetings will allow the Ocean Isle Beach community to engage with the Project Team at key project milestones by viewing presentations, relaying their concerns, and contributing to the Risk & Vulnerability Assessment planning process.

  The Public Meetings will be a general presentation/discussion providing a foundation and framework of the project. The Team will explain how community input will help contribute to the larger community vision for success and resilience. The Team will present an initial set of

potential adaptation strategies. Meeting input will be asked through a variety of methods including open comment periods, live polling, and Q&A. The community will be tasked with collaborating with the Team to help develop solutions.

The Public Meeting format, at the discretion of the Client, can be an in-person, virtual, or a hybrid meeting. If a virtual or hybrid meeting is decided, the meeting can be recorded and available on the project webpage for later viewing. Both in-person and virtual formats can allow for breakout room discussions in the event the Client and team would like to offer more intimate discussions on key focus topics/themes to be available during the Public Meeting, if time and agenda allow. This format style will be decided based on what the Client and team feels works best for the designated community. *The two (2) Public Meetings are a requirement of the RCCP Handbook.*

ACTION ITEM: Ocean Isle Beach's POC will need to help raise awareness about the upcoming public meeting(s) by sharing information from the Project Team to the Town's email listserv, social media, and other City communication outlets. Information can be broadcast virtually and in-person through email campaign(s), social media, flyers, etc. to solicit engagement. This can be a combination of existing local strategies as well as new ideas presented by the Project Team as needed. A Public Meeting Announcement Flyer can be printed and placed at key community centers, such as churches, schools, employment centers, grocery stores, barber shops, and other suitable locations designated by the POC. It will be the responsibility of the community's POC to obtain approval of said postings and communicate with key community centers to have project information pinned up to bring attention to the public meeting.

- **Project Webpage.** It is recommended Ocean Isle Beach have a dedicated project webpage hosting information pertaining to the RCCP planning process. The webpage will function as a storing house of all relevant project information. The webpage will launch after CAT #1 (October 2023) and be live for the full duration of the project schedule. The webpage will be updated over time as new resources are created. The Project Team will build and manage the project webpage. It will include project information, pre-registration ability for public meetings, available presentations and downloads, virtual public meeting links and recordings, survey questionnaire, interactive map feature, email campaigns, targeted Facebook ad, etc. The Project Team will make an internal attempt to provide ADA-compliant materials, such as PPT files, PDFs, etc. *The dedicated webpage is not a requirement of the RCCP Handbook.*

  ACTION ITEM: Ocean Isle Beach will need to embed the project webpage link onto their town website.

- **Interactive Mapping.** Obtaining local feedback from the CAT, stakeholders and public is critical to the success of the project. As such, interactive mapping opportunities will be available both in-person and online to help identify vulnerable populations, infrastructure, and natural resources. The public meetings will have an interactive map component so attendees can place pins/dots on areas of concern and improvement, along with their comments. The project webpage has the capability for the same interactive mapping feature to allow webpage visitors the ability to "drag and drop" their pins/dots as well which can also be supported by written comments. This geospatial specific feedback will be instrumental in the Project Team understanding site specific opportunities and constraints.

- **Public Meeting Advertisement Collateral.** The Project Team will develop one (1) meeting flyer per public meeting to be advertised and distributed in advance of the public meeting. This graphic can be printed and posted at various community locations at the discretion of the client.

- **ACTION ITEM:** Ocean Isle Beach will need to share the meeting flyers and other communication collateral on their outbound communication channels. It is recommended the CAT to distribute the flyer through their respective community channels as well to help multiply the advertisement beyond those in the community reached by Ocean Isle Beach and the Project Team.

- **Public Participation Survey (1).** A public survey will be issued to obtain feedback, concerns and other targeted responses from the community. This survey will coincide with the Public Meeting and will be open for a designated period (30 days or longer if the Team and Client feel necessary for an extension due to participation numbers). The survey will be tailored to appeal to the public but incorporate questions on key topics, such as how the plan affects historically underserved sectors sector of the community. Survey results will be shared on the project webpage. *A public survey is not a requirement of the RCCP Handbook but is recommended to conduct as part of the project's outreach strategy.*

  Survey information to be provided in a separate document.

  ACTION ITEM: The community's POC will be responsible for advertising the link out to the community through email campaigns, social media, flyers, etc. to solicit engagement. Paper surveys can be printed and posted at various locations around town.

- **Social Media.** The use of social media will support the project efforts to work in tandem with information presented on the project webpage. The community's Facebook page and Twitter feed are two recommended tools that can be leveraged to expand communication channels out to the community's follower base. The community will be tasked with providing updates as they become readily available from the Project Team. Additionally, the Project Team will leverage targeted Facebook ads to help draw attention to the project and attract viewers to the project webpage. *Social media is not a requirement of the RCCP Handbook but is recommended to conduct as part of each town's outreach strategy, if applicable.*

  ACTION ITEM: The community's POC will be responsible for managing the project related updates to the community's Facebook page and Twitter feed, establishing hashtags for others to participate, and providing updates as they become readily available, inclusive of updates from the Project Team. Short updates may include the public meeting announcement, survey link, project updates, upload of new content/documents to project webpage, etc.

- **Local Newspaper, Press Releases, etc.** Newspapers and press releases can advertise the project, public meeting and help build survey awareness by providing links, as well as locations where the public can obtain more information on the public meeting, paper surveys, and other printed material. *Newspapers and press releases are not a requirement of the RCCP Handbook but are recommended to conduct as part of the outreach strategy, if applicable.*

  ACTION ITEM: The community's POC will be responsible for creating content for outreach deliverables, managing, and coordinating delivery of material to various outlets.

- **Planning Resources.** Resiliency and hazard mitigation planning resources, including the RCCP Handbook, Regional Hazard Mitigation Plan, Local Land Use Plan, FEMA Mitigation Ideas book as well as other FEMA and NPS documents recommended by the Team, will be made available on the project website to promote participation in the RCCP process. *Planning resources are not a requirement of the RCCP Handbook and will be up to Ocean Isle Beach if these resources should be shared on the project webpage.*

  *** List of Planning Resources to be provided in a separate document. Need to determine what number of resources is appropriate for broad absorbtion so as not to provide too much reading material. Ocean Isle Beach can provide additional documents, if applicable. ***

  ACTION ITEM: The community's POC will work with M&N to decide which planning resources are relevant to this planning effort.

- **Printed Outreach Material.** Flyers, posters, and paper surveys can be printed and posted at various locations around town. These tools are helpful for advertising the public meeting, survey awareness, and overall project information (fact sheet). *Printed outreach material is not a requirement of the RCCP Handbook but is recommended to conduct as part of the outreach strategy, if applicable given the town's budget and resources.*

  Possible locations include:

  - Brunswick County Public Library System
  - Town Hall
  - Local Church Bulletin Boards
  - Ocean Isle Property Owners Association / HOA Boards
    - Homeowners associations can post information to their neighborhoods via email distribution and/or information boards.
  - Community Gathering Spots & Events
    - Community centers, grocery stores, barber shops, etc. are great venues for connecting with community members where they most frequent. Pop-up events, such as farmers markets, food truck events, and other social gathering events, provide an opportunity for Town staff to have a table set up with information and share with interested community members. Large events and festivals are a great avenue to engage with community members, especially when the events incorporate themes pertaining to resiliency (seafood, beach, environment, recreation, etc.). The following are examples of in-person outreach opportunities Ocean Isle Beach can have staff set up to advertise/share information about the project. The meeting flyer, survey, and other project material can be leveraged at these events to distribute to in-person attendees.

- November 2023 – Town Hall Voting Location for the Municipal Election
- November 24, 2023 – Letters to Santa, OIB Town Center Park
- November 25, 2023 - Super Saturday (Thanksgiving Weekend / OIB Flotilla).

ACTION ITEM: This strategy will need to be decided by the community as it will rely heavily on Ocean Isle Beach's ability to complete these tasks inclusive of costs for printing and volunteer time for in-person events. If the community decides to pursue this as part of their outreach strategy, the POC will be responsible for implementing, managing, and coordinating any and all in-person / traditional outreach strategies. Additionally, the community's POC is responsible for printing, delivering and retrieving printed material. If printed surveys are filled out, the community's POC will need to scan and send to M&N to input into the digital format.

In all our public engagement work, we are continually learning about a community and adapting to maximize the amount and value of feedback received. Thus, our presented process is not static; it will evolve and be refined as the project advances through the various phases. Our strategy will adjust as we collect and synthesize information and/or receive feedback about different activities throughout the planning process.

APPENDIX E

ADDITIONAL FILES

[web banner image]

Town of Ocean Isle Beach Risk & Vulnerability Assessment

Latest News

Please check back over the course of the project to stay updated on the latest news. In the meantime, feel free to check out material provided below to stay up to date on the Town of Ocean Isle Beach's Risk & Vulnerability Assessment planning process.

[pre-registration link for public meeting]

[survey link update: How can the Town of Ocean Isle Beach become more resilient to natural coastal hazards? Click here to take our survey and share your thoughts! The survey will close on TBD.]

[draft Risk & Vulnerability Assessment update: The Draft Risk & Vulnerability Assessment is now available for public comment! The draft is available for download in "Available Presentations & Downloads" at the bottom of this page. Please review and email comments to: OceanIsleBeachRCCP@PublicInput.com. The open comment period will close on TBD.]

Project Overview

Building resilience to natural hazards is vital for communities to help maintain quality of life, healthy growth, durable systems, and conservation of resources for present and future generations; however, several barriers to developing resilience to coastal risks exist, including economic and capacity constraints that have been exacerbated in recent times. Resiliency refers to not only the ability of a community to anticipate, prepare for, respond to, and recover from threats, but to thrive amidst changing conditions or challenges.

A risk and vulnerability assessment is a key component to building resilience in a coastal community. Risks are assessed as multi-hazard threats to communities such as flooding, storm surge, or sea level rise that may occur amidst storms and a changing climate. Vulnerabilities are assessed as the degree of exposure to these risks, and the means to cope with stressors or disasters that arise from them.

Building a more resilient Town of Ocean Isle Beach requires careful, thorough planning efforts using sound, locally relevant data. Ocean Isle Beach has been awarded financial assistance in the form of technical resources on behalf of the N.C. Division of Coastal Management's (DCM) **Resilient Coastal Communities Program (RCCP).** The RCCP will advance coastal resilience efforts throughout the 20 coastal communities in North Carolina. The objectives of this program include:

- Address barriers to coastal resilience in North Carolina at the local level, such as limited capacity, economic constraints, and social inequities;
- Assist communities with risk and vulnerability assessments and developing a portfolio of planned and prioritized projects;
- Advance coastal resilience projects to shovel-readiness, or ready for implementation; and
- Link communities to funding streams for project implementation.

DCM has partnered with Moffatt & Nichol, our selected contractor, with the Town of Ocean Isle Beach to conduct a Risk & Vulnerability Assessment. This website will function as a storing house of all project-related information and a means for you to contribute in a meaningful way.

Subscribe

SUBSCRIBE below! We will share information on the upcoming public meeting, opportunities to provide input on the initial concept plans, as well as the latest project updates.

Sign up for the latest updates by providing your name and email below.

[Name / Email form]

Interactive Map

How will the Town of Ocean Isle Beach become more resilient to natural coastal hazards? What assets do we need to protect? What areas concern you? Where are the areas for improvement? We'd love to "see" your thoughts on the interactive map below!

Please "drag and drop" your idea pins onto the map below, using the themes as a guide. You can also provide comments, after dropping the pins onto the map, to further explain your thoughts.

The Process Forward

The following project milestones outline our estimated nine-month planning process and highlights specific timeframes when our public meetings and other public involvement opportunities are expected to occur. These dates may change as the project moves forward so please check back for updates.

Phase 1

- CAT Meeting #1 – October 2023
- CAT Meeting #2 – December 2023
- Public Meeting #1 – December 2023
- Public Survey – December 2023 to January 2024
- Draft Presentation of Risk & Vulnerability Assessment to Ocean Isle Beach – January 2024

Phase 2

- CAT Meeting #3 – February 2024
- CAT Meeting #4 – March 2024
- Public Meeting #2 – March 2024
- Final Presentation of Risk & Vulnerability Assessment to Ocean Isle Beach – May 2024

Program Sponsor

Thank you to N.C. Division of Coastal Management (DCM)'s North Carolina Resilient Coastal Communities Program (RCCP) for providing technical and financial assistance to advance coastal resilience efforts for the Town of Ocean Isle Beach. This program is funded in collaboration by:

Stay Engaged (Additional Tab)

Below are several ways you can stay engaged in our project efforts:

1. **Visit the Project Website**

   Over the course of the planning effort, this project website will be updated with the latest information on the project and plan, including links to all public facing deliverables and project materials.

2. **Complete the Project Survey**

   There will be one survey offered during the Public Engagement phase. The survey is designed to collect feedback on the community's thoughts on natural coastal hazards that impact the Town and brainstorm methods to proactively plan for them. This survey will consist of Gauging the community's priorities and preferences while focusing on their concerns for mitigating coastal hazards, getting input of the project's goals and objectives, as well as developing strategies on how to effectively communicate with different age demographics who may not feel comfortable with using current technology. Feedback will be integrated into the Draft Risk & Vulnerability Assessment.

3. **Subscribe to our Mailing List**

   Subscribe for the latest updates by entering your email and zip code at the link above. The Team will communicate project and plan updates to subscribers during key milestones in the planning process.

4. **Participate in our Project Public Meetings**

   The public can engage with the Team to learn more about the planning process and provide input towards the Risk & Vulnerability Assessment. The meetings will be designed to be highly interactive – not a static presentation of results – allowing the attendees to interact with the Project Team to start the process of outlining early solutions to develop the initial concept plans. Meetings will have both an in-person and online presence right here on the project webpage. Recordings of the meetings will also be provided on this project webpage.

   Date, Start Time

Venue Location

Address

5. **Provide Input on the Risk & Vulnerability Assessment**

   The public will have additional opportunities to provide input on the Risk & Vulnerability Assessment. The project team will be set up at various community events to gather your feedback. Comments can be submitted by emailing the team: OceanIsleBeachRCCP@PublicInput.com. Please make sure to subscribe to receive notifications so you can stay updated with the project's planning process.

6. **Get Social**

   Follow the project on this website and on Ocean Isle Beach's social media channels:

   - Facebook: @townofoib
   - Twitter: @islebeach
   - Instagram: @oceanislebeachnc

7. **Email Questions**

   Please email the Team at any point during the planning process with your questions and concerns. We will respond to your request at our earliest convenience.

   OceanIsleBeachRCCP@PublicInput.com

Available Presentations and Downloads (shown at the bottom of the main page)

Please find below links to our presentations and downloads. We will continue to add to this archive as materials are prepared, refined, and released. Additionally, planning resources, such as the RCCP Handbook and FEMA documents, are available for download.

- Presentations & Downloads
  - Public Meeting 1 Slides (recording will live as a link on the webpage)
  - Public Meeting 2 Slides (recording will live as a link on the webpage)
- Meetings & Minutes
  - CAT Meeting 1 Minutes
  - CAT Meeting 2 Minutes
  - Public Meeting 1 Minutes
  - CAT Meeting 3 Minutes
  - CAT Meeting 4 Minutes
  - Public Meeting 2 Minutes
- Survey Results
  - Survey
- Planning Resources
  - North Carolina Resilient Coastal Communities Program Planning Handbook
  - Local Planning Documents
  - FEMA Guidelines & Fact Sheets

        - FEMA Mitigation Ideas
        - FEMA Flooding Fact Sheet for Kids
        - FEMA Integrating Hazard Mitigation into Local Planning
        - FEMA Integrating Historic Properties
        - FEMA National Flood Insurance Program Fact Sheet
        - FEMA Nature Based Solutions
    - National Park Service
        - NPS Flood Adaptation Guidelines

Additional Resources (separate tab)

For more information about relevant data sources and other tools for understanding flood risk, including the effects of storm surge, coastal flooding, and sea level rise, please visit the following state and national websites:

- https://coast.noaa.gov/digitalcoast/
- https://msc.fema.gov/portal/home
- https://flood.nc.gov/ncflood/

Ocean Isle Beach – Resilient Coastal Communities Program (RCCP)

Email Campaign – Phase I

The following table outlines the various post topics, dates, content and supporting visual aid to accompany the outbound email communications advertising the Ocean Isle Beach – RCCP outreach efforts during the Phase I timeframe (October 2023 – January 2024). It is M&N's intent that the following communications calendar provides a suggested framework.

Email / Outreach Campaign – Phase I				
Post Day	**Sender**	**Communications Outlet / Post Topic**	**Supporting Content**	**Supporting Visual**

11/1/2023 (occurs the day after the first CAT meeting)	OIB / Casey	Launch of Project Webpage – Email #1	**The Town of Ocean Isle Beach's Resilient Coastal Communities Program's Webpage is now Live!** Building a more resilient Town of Ocean Isle Beach requires careful, thorough planning efforts using sound, locally relevant data. Ocean Isle Beach has been awarded financial assistance in the form of technical resources on behalf of the N.C. Division of Coastal Management's (DCM) **Resilient Coastal Communities Program (RCCP).** The RCCP will advance coastal resilience efforts throughout the 20 coastal communities in North Carolina. The objectives of this program include: • Address barriers to coastal resilience in North Carolina at the local level, such as limited capacity, economic constraints, and social inequities; • Assist communities with risk and vulnerability assessments and developing a portfolio of planned and prioritized projects; • Advance coastal resilience projects to shovel-readiness, or ready for implementation; and • Link communities to funding streams for project implementation. DCM has partnered Moffatt & Nichol, our selected contractor, with the Town of Ocean Isle Beach to conduct a Risk & Vulnerability Assessment. This website will function as a repository of all project-related information and a means for you to contribute in a meaningful way. How will The Town of Ocean Isle Beach become more resilient to natural coastal hazards? How can you play a role in this important effort? Click here to find out more about the Town of Ocean Isle Beach's Resilient Coastal Communities Program, what the Project Team is trying to accomplish, and ways you can get involved in helping shape our resilient future. While you're on the project webpage, take a look around at the various resources, share your thoughts on the interactive map, and register for our first public meeting – which will be held at Town Hall on Tuesday, December 5, 2023 from 6:00 – 8:00 PM. You are welcome to email the Project Team at any point during the project with questions, thoughts, or concerns: oceanislebeachrccp@publicinput.com. The Team will do their best to respond to your email at their earliest convenience. We look forward to your participation in this important planning project! Sincerely, The Ocean Isle Beach Resilient Coastal Communities Program Project Team	M&N to create email in template, send to Casey, Casey to then distribute the initial email to people who are registered for e-notifications/property owners. All other emails will come from M&N on behalf of the Project Team and go directly to subscribers via the project webpage.

Email / Outreach Campaign – Phase I				
11/7/2023 (voting day)	OIB	Polling Location	Distribution of Ways to Get Involved flyers, share information about upcoming public meeting, and get people to sign up (via sheets or directly on website) for project updates	Ways to Get Involved Flyer, Public Meeting #1 Flyer, Sign Up Sheet (M&N to create)
11/14/2023 (occurs three weeks before public meeting)	M&N	Save the Date Reminder about Public Meeting #1 – Email 2	**Mark Your Calendar! The Town of Ocean Isle Beach's Resilient Coastal Communities Program's Public Meeting #1 is Scheduled for Tuesday, December 5, 2023** How best can the Town of Ocean Isle Beach protect our landscapes, coastal ecosystems, and the recreational areas that we all value? We are engaging community members in a conversation on enhancing coastal community resiliency to natural hazards and how we can protect community assets, improve quality of life, and maintain healthy growth in Ocean Isle Beach. Please JOIN The Town of Ocean Isle Beach and the Resilient Coastal Communities Program Project Team for our first public meeting, scheduled for Tuesday, December 5, 2023 from 6 PM – 8 PM at Town Hall. Project and meeting details are provided on the project webpage. A recording of the presentation will be provided on the project webpage for those who are unable to attend in person. This is your opportunity to learn about the project, meet the Project Team, ask any questions, and share your thoughts and concerns. You are welcome to email the Project Team at any point during the project with questions, thoughts, or concerns: oceanislebeachrccp@publicinput.com. The Team will do their best to respond to your email at their earliest convenience. We look forward to your participation in this important planning project! Sincerely, The Ocean Isle Beach Resilient Coastal Communities Program Project Team	Email #2 with Public Meeting #1 Flyer
November	OIB	In-Person Events (if applicable)	*This is intended if there are any other in person events occur where the Town would like to be present and advertise the project, share information on the upcoming public meeting, and ways to get involved.*	Ways to Get Involved Flyer, Public Meeting #1 Flyer, Sign Up Sheet (M&N to create)

12/1/2023	M&N	Reminder about Public Meeting #1 – Email 3	**Mark Your Calendar!** **The Town of Ocean Isle Beach's Resilient Coastal Communities Program's** **Public Meeting #1 is Scheduled for Tuesday, December 5th!** December 1, 2023 Please JOIN The Town of Ocean Isle Beach and the Resilient Coastal Communities Program Project Team for our **first public meeting, Tuesday, December 5th from 6 PM – 8 PM** at Town Hall. This is your opportunity to learn about the project, meet the Project Team, ask any questions, and share your thoughts and concerns. **Survey questions** have been added to the project webpage. Please take 10 minutes to fill out this important questionnaire, we value your feedback! A **recording of the presentation** will also be provided on the project webpage on Tuesday evening for those who are unable to attend in person. Project, meeting details, and survey are provided on the project webpage (click active link). You are welcome to email the Project Team at any point during the project with questions, thoughts, or concerns: oceanislebeachrccp@publicinput.com. The Team will do their best to respond to your email at their earliest convenience. We look forward to your participation in this important planning project and hope to see you tomorrow evening! Sincerely, The Ocean Isle Beach Resilient Coastal Communities Program Project Team **The Town of Ocean Isle Beach's Resilient Coastal Communities Program's Public Meeting #1 is Scheduled for TOMORROW!**	Email #3 with Public Meeting #1 Flyer

Email / Outreach Campaign – Phase I				
			Please JOIN The Town of Ocean Isle Beach and the Resilient Coastal Communities Program Project Team for our first Public Meeting, TOMORROW, December 5 from 6:00 – 8:00 PM at Town Hall. Can't attend? A recording of the presentation will be provided on the project webpage for those who are unable to attend in person. This is your opportunity to learn about the project, meet the Project Team, ask any questions, and share your thoughts and concerns. Please email the Project Team at any point during the project with questions, thoughts, or concerns: oceanislebeachrccp@publicinput.com. We look forward to your participation in this important planning project and hope to see you tomorrow evening! Sincerely, The Ocean Isle Beach Resilient Coastal Communities Program Project Team	
12/11/2023 (week after the public meeting)	M&N	Survey Launch – Email #4	**The Town of Ocean Isle Beach's Resilient Coastal Communities Program's Project Survey is now LIVE!** How can The Town of Ocean Isle Beach become more resilient to natural coastal hazards? Building resiliency to natural hazards such as hurricanes, tropical storms, erosion, and flooding is crucial for conserving resources, preserving ecosystems, and protecting our community assets. **Click here to take our survey, share your experiences, and provide insight for this important resiliency effort. The survey will close on January 11, 2024.** While you're on the website, look around at the other resources and **provide helpful input on our interactive map**! If you missed last week's public meeting, a recording of the presentation is available on the project webpage. Please email the Project Team at any point during the project with questions, thoughts, or concerns: oceanislebeachrccp@publicinput.com. Sincerely, The Ocean Isle Beach Resilient Coastal Communities Program Project Team	Email #4

Email / Outreach Campaign – Phase I				
1/4/2024	M&N	Survey Reminder/ Next Steps – Email #5	**The Town of Ocean Isle Beach's Resilient Coastal Communities Program's Project Survey Closes Next Week!** Building resiliency to natural hazards such as hurricanes, tropical storms, erosion, and flooding is crucial for conserving resources, preserving ecosystems, and protecting our community assets. Click here to take our survey, share your experiences, and provide insight for this important resiliency effort. **The survey will close in one week on January 11, 2024.** What's next? The Draft Risk & Vulnerability Assessment will be presented to the Town of Ocean Isle Beach this month. Following the presentation, **the public will have the opportunity to review the draft plan and provide feedback during the Open Public Comment Period.** Stay tuned as the PDF will be available on the project webpage, under "Available Presentations & Downloads". All comments, questions, thoughts, or concerns can be emailed to the Project Team: oceanislebeachrccp@publicinput.com Sincerely, The Ocean Isle Beach Resilient Coastal Communities Program Project Team	Email #5

Ocean Isle Beach - Resilient Coastal Communities Program Edit

Project Engagement

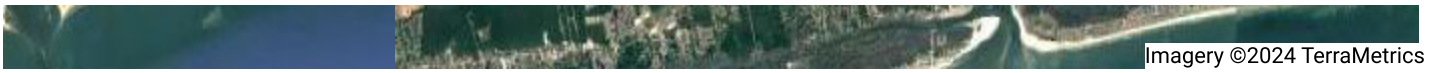
VIEWS	PARTICIPANTS	RESPONSES	COMMENTS	SUBSCRIBERS
1,325	337	11,621	193	55

Sign up for the latest updates by providing your name, email, and Ocean Isle Beach address below. ***Please note the ability to communicate project updates from the Project Team is intended for town residents and property owners.***

No data to display...

How will the Town of Ocean Isle Beach become more resilient to natural coastal hazards? What assets do we need to protect? What areas concern you? Where are the areas for improvement? We'd love to "see" your thoughts on the interactive map below!

Please "drag and drop" your idea pins onto the map below, using the themes as a guide. You can also provide comments, after dropping the pins onto the map, to further explain your thoughts.



Need for OIB to take over Ocean Isle Blvd on the west end of OIb. We now have alot of walkers, bikers, stroller and people In general on the road. Need Bike lanes. We pay taxes and there is a HUGE tax base from the Water tower west on OIB

4 months ago 1 Agree

Preserve for Beach parking an add restroom facility for beach goers

4 months ago 1 Agree

A second access on and off the beach may be wise to protect access to the island.

5 months ago 1 Agree

Overdeveloping is a concern. The island feels like it is past maximum capacity for new homes and the island may become compromised by so much development.

5 months ago 1 Agree

Might a program of regular dredging of Jink's Creek create a buffer against storm surge and high tide flooding?

5 months ago 1 Agree

Preserve for wildlife

4 months ago

Continue dune restoration

4 months ago

Good site for destination restaraunt

4 months ago

Preserve for high quality retail. No hotels or residential.

4 months ago

Ferry area could be a nice pocket park,

4 months ago

Keep waterfront along jinks creek clean and monitor runoff from island to not contaminate crrek

4 months ago

Protect the east end with dunes and barriers

4 months ago

The wildlife habitat grassy area in the creek area needs preserved, even if the waterways are widened and deeper for small boat access

5 months ago

Jinx creek dredging from west side of bridge to inlet between Sunset and OIB

5 months ago

Please rank the following projects (with the top project being the highest priority), only choosing your **top 5 projects**.

14%	1.1 Resilient Multimodal Transportation Feasibility Study	Rank: 1.00	2
86%	2.3 Dune Infiltration Project to Reduce Stormwater Flooding	Rank: 2.00	12
71%	2.1 Dune Building and Preservation	Rank: 2.10	10
21%	2.4 Living Shoreline Feasibility Study	Rank: 2.67	3
50%	4.1 Raise Lift Station Control Panels in Flood-Prone Areas	Rank: 2.71	7
50%	2.5 Continued Support and Coordination for USACE Federal Project/Terminal Groin Maintenance	Rank: 2.86	7
43%	4.2 Purchase Backup Pumps & Generators for Lift Stations	Rank: 3.33	6
43%	4.3 Coordinate with Brunswick Electric to Raise Transformer Pedestals in Flood-prone Areas	Rank: 4.00	6
43%	3.1 Update CAMA Land Use Plan to Include Resilience Strategies	Rank: 4.17	6
14%	5.3 Resilience Demonstration Project(s) at Ferry Landing Park	Rank: 4.50	2
14%	2.2 Island Native Plant Giveaway: Rooted in Community	Rank: 5.00	2
7%	6.1 Continue Community Rating System Participation	Rank: 5.00	1
0%	5.1 Conduct Annual Hurricane Expo		0
0%	5.2 Resilience Programming with Museum of Coastal Carolina		0

14 Respondents

Please rate the following candidate projects by indicating a "high (H), medium (M), or low (L)" rating. You are welcome to add additional projects by providing them in the comment section below.

	High (H)	Medium (M)	Low (L)
1.1 Resilient Multimodal Transportation Feasibility Study	12%	24%	65%

	High (H)	Medium (M)	Low (L)
	High (H)	Medium (M)	Low (L)
2.1 Dune Building and Preservation	88% High (H)	6% Medium (M)	6% Low (L)
2.2 Island Native Plant Giveaway: Rooted in Community	6% High (H)	71% Medium (M)	24% Low (L)
2.3 Dune Infiltration Project to Reduce Stormwater Flooding	82% High (H)	18% Medium (M)	- Low (L)
2.4 Living Shoreline Feasibility Study	24% High (H)	59% Medium (M)	18% Low (L)
2.5 Continued Support and Coordination for USACE Federal Project/Terminal Groin Maintenance	53% High (H)	41% Medium (M)	6% Low (L)
3.1 Update CAMA Land Use Plan to Include Resilience Strategies	53% High (H)	29% Medium (M)	18% Low (L)
4.1 Raise Lift Station Control Panels in Flood-Prone Areas	71% High (H)	29% Medium (M)	- Low (L)
4.2 Purchase Backup Pumps & Generators for Lift Stations	71% High (H)	29% Medium (M)	- Low (L)
4.3 Coordinate with Brunswick Electric to Raise Transformer Pedestals in Flood-prone Areas	71% High (H)	29% Medium (M)	- Low (L)
5.1 Conduct Annual Hurricane Expo	- High (H)	29% Medium (M)	71% Low (L)
5.2 Resilience Programming with Museum of Coastal Carolina	18%	29%	53%

	High (H)	Medium (M)	Low (L)
	High (H)	Medium (M)	Low (L)
5.3 Resilience Demonstration Project(s) at Ferry Landing Park	12% High (H)	53% Medium (M)	35% Low (L)
6.1 Continue Community Rating System Participation	12% High (H)	76% Medium (M)	12% Low (L)

17 respondents

Flood controls on canal streets. Prevent water infiltration from drainage valves on the canal streets. streets

4 days ago 2 Agree

Improve street drainage on canals that flood and retain water. Control development around wetlands and coast which may cause surrounding properties to flood more.

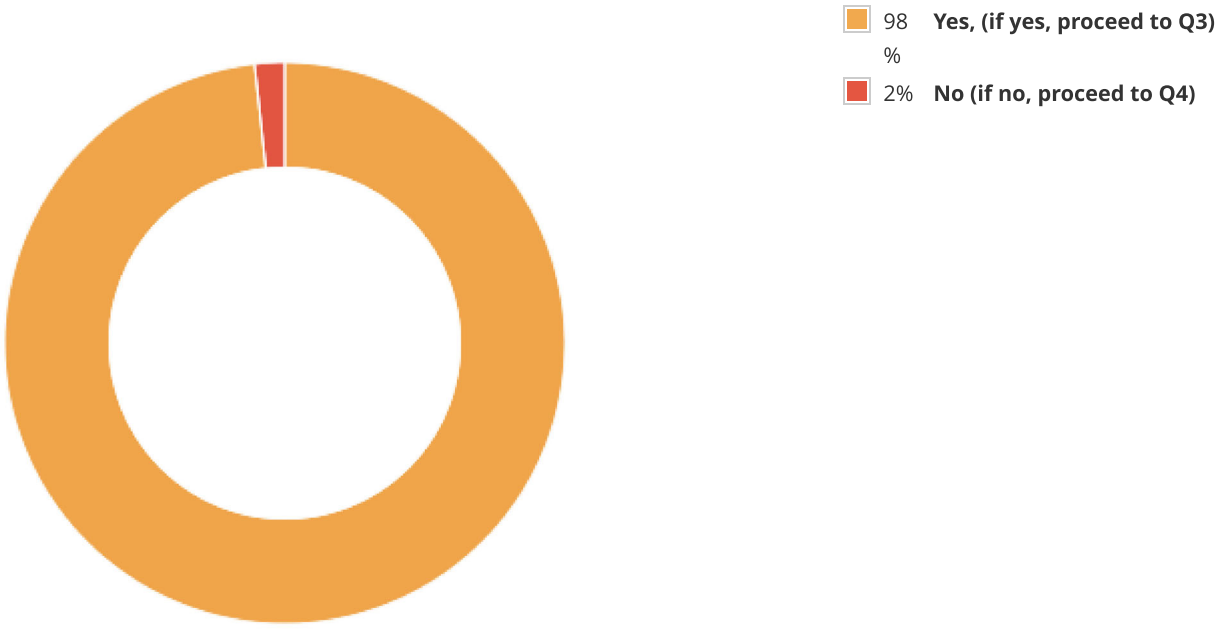
2 days ago

* 1. What is your relationship to Ocean Isle Beach? (Select all that apply)

71%	I own residential property in Ocean Isle Beach	209
46%	I patronize businesses and participate in activities occurring in Ocean Isle Beach	135
38%	I live in Ocean Isle Beach	112
5%	I work in Ocean Isle Beach	14
4%	I own a business in Ocean Isle Beach	11
2%	I own commercial property in Ocean Isle Beach	6

294 Respondents

2. I patronize businesses and participate in activities occurring in Ocean Isle Beach



291 respondents

3. If yes, which of these types of natural hazards have you experienced or been impacted by while living or working in Ocean Isle Beach or its vicinity? (Select all that apply)

83%	Flooding caused by storm surge and/or rainfall from tropical systems	210
68%	Flooding caused by tidal surge (king tides and/or higher than normal tides)	172
53%	Flooding caused by thunderstorms and intense rainfall	134
43%	Stormwater	108
28%	Sea level rise	70
5%	Other	12
4%	Wildfires	10

252 Respondents

* 4. How concerned are you about the possibility of your community being impacted by each of these hazards?

	Very Concerned	Somewhat Concerned	Not Concerned
Flooding caused by storm surge and/or rainfall from tropical systems	70% Very Concerned	28% Somewhat Concerned	2% Not Concerned
Flooding caused by tidal surge (king tides and/or higher than normal tides)	58% Very Concerned	35% Somewhat Concerned	7% Not Concerned
Flooding caused by thunderstorms and intense rainfall	33% Very Concerned	47% Somewhat Concerned	20% Not Concerned
Sea level rise	39% Very Concerned	39% Somewhat Concerned	22% Not Concerned
Wildfires	8% Very Concerned	29% Somewhat Concerned	63% Not Concerned
Stormwater	28% Very Concerned	50% Somewhat Concerned	22% Not Concerned
Other	11% Very Concerned	17% Somewhat Concerned	72% Not Concerned

263 respondents

* 5. In your opinion, which of the following types of assets (i.e. a place or thing that is of use and value) are most at risk from natural hazards in your community? (Rank the community assets in order of vulnerability, most vulnerable to least vulnerable.) Please drag your answers up to the oval at the top that says "Your Top Priority" and subsequently "Next Priority". Please note, the list will automatically re-order itself as you make your selections. You can also drag and drop the items on the list to reorder them. When you are finished, please click the green button to Confirm Priorities.

86%	People: Injuries and/or loss of life	Rank: 2.17	184
81%	Environmental: Damage, contamination or loss of dunes, wetlands, waterways, habitats, etc.	Rank: 2.37	174
73%	Infrastructure: Damage/loss of roads, bridges, utilities, schools, etc.	Rank: 2.63	158
62%	Emergency/Medical Services: Doctor's offices, urgent care facilities, pharmacies, etc.	Rank: 4.78	133
62%	Economic: Business interruptions/closures, event cancellations, job losses, etc	Rank: 5.16	134
61%	Governance: Ability to maintain order and/or provide public amenities and services	Rank: 5.86	132
61%	Experiences: Damage, contamination or loss of landside and waterside recreation such as docks, walking/biking trails, etc.	Rank: 6.18	131
61%	Cultural/Historic: Damage or loss of libraries, museums, cultural institutions, historic properties and designated sites, etc.	Rank: 6.89	132
60%	Community: Damage or loss of Town Hall and government buildings, library, public parks, etc.	Rank: 6.95	128

215 Respondents

* 6. Natural hazards can have a significant impact on a community but planning for these types of events can help lessen the impacts. The following statements will help us determine the community's priorities regarding planning for environmental and climate related hazards in your community. Please tell us how each statement is important to you by checking the appropriate circle for each.

	Very Important	Somewhat Important	Neutral	Not Very Important	Not Important
Protecting private (residential and commercial) property	88% Very Important	8% Somewhat Important	3% Neutral	- Not Very Important	- Not Important
Protecting critical facilities (for example: doctor's offices, police stations, fire stations, etc.	75% Very Important	20% Somewhat Important	4% Neutral	- Not Very Important	- Not Important
Preventing development in flood hazard areas	66% Very Important	22% Somewhat Important	9% Neutral	2% Not Very Important	1% Not Important
Enhancing the function of natural features (for example: dunes, beaches, streams, wetlands, open spaces, etc.)	78% Very Important	18% Somewhat Important	4% Neutral	- Not Very Important	- Not Important
Protecting historic and cultural landmarks and districts	25% Very Important	46% Somewhat Important	25% Neutral	3% Not Very Important	2% Not Important
Protecting and reducing damage to utilities	79% Very Important	19% Somewhat Important	2% Neutral	- Not Very Important	- Not Important
Strengthening emergency services (for example: police, fire, ambulance)	66% Very Important	26% Somewhat Important	7% Neutral	- Not Very Important	- Not Important
Promoting cooperation among public agencies, citizens, non-profit organizations, and businesses	42% Very Important	43% Somewhat Important	13% Neutral	2% Not Very Important	- Not Important

227 respondents

* 7. What are some steps that you would like to see your local government take to reduce or eliminate the risk of future damages to your property from natural hazards? (Select all that apply)

83%	Design and construct nature-based barriers (dunes, beaches, living shorelines, riparian buffers, etc.)	181
74%	Restrict new development/ redevelopment in flood prone areas	162
72%	Regulate new construction/ redevelopment to incorporate flood protection measures	158
54%	Design and construct permanent structural protection systems (flood walls, flood pumps, backflow preventers, stormwater system upgrades, cisterns, etc.)	118
50%	Incentivize developers to practice smart growth tools and strategies (building up to conserve green space, use green infrastructure when feasible, etc.	108
35%	Create an economic incentive educational program to educate property owners on a variety of floodproofing strategies and assisting them with mitigating or adapting their property to reduce flood risk.	76
24%	Fund temporary storm protection systems (flood barriers, sandbags, building wraps) to protect public spaces	53
1%	Other	3

218 Respondents

* 8. A number of community-wide activities can reduce risk from natural hazards. In general, these activities fall into one of the following broad categories. Please tell us how important you think each one is for your community to consider pursuing.

	Very Important	Neutral	Not Important
Prevention: These are administrative or regulatory actions (such as zoning, land use, and building codes) that influence the way land is developed and buildings are built. These types of actions can help prevent exposure to environmental hazards in the first place, and therefore reduce losses in the future.	83% Very Important	14% Neutral	2% Not Important
Property Protection: These are actions that involve modifying existing buildings (such as dry floodproofing, elevating buildings, and relocating buildings outside of the floodplain) to protect them from hazards.	47% Very Important	46% Neutral	6% Not Important
Natural Resource Protection: These are actions that, in addition to minimizing flood losses, also preserve or restore the functions of natural systems (such as living shorelines, wetlands, open space easements, etc.)	83% Very Important	17% Neutral	- Not Important
Structural Projects: These are actions that are intended to lessen the impacts of environmental hazards by building a structure or device that protects against water (such as floodwalls, raising roads/sidewalks, expanding culverts, etc.)	63% Very Important	35% Neutral	2% Not Important
Emergency Services: These are actions or equipment that protect people and property during and immediately after a hazard event (such as police, fire, rescue, emergency medical, etc.)	81% Very Important	18% Neutral	1% Not Important
Public Education and Awareness: These are activities that inform citizens about flooding and the techniques they can use to protect themselves and their property.	54% Very Important	41% Neutral	5% Not Important

209 respondents

* 9. Prioritizing the different activities and projects that can be done to enhance resiliency involves understanding the needs of a community, which can fall into multiple categories. Please rank the areas in which you feel the community demonstrates the most need in order of priority (with the first one being the highest priority). Please drag your answers up to the oval at the top that says "Your Top Priority" and subsequently "Next Priority". Please note, the list will automatically re-order itself as you make your selections. You can also drag and drop the items on the list to reorder them. When you are finished, please click the green button to Confirm Priorities.

80%	Environmental (Effects on land/water, endangered species, consistency with federal/ state/ local goals	Rank: 2.17	151
70%	Technical (secondary impacts to town, long-term solutions)	Rank: 2.97	132
73%	Economic (Benefits/costs of project, need for outside funding)	Rank: 2.99	138
65%	Social (Community acceptance, effects on segments of population)	Rank: 4.13	123
66%	Administrative (Staffing, funding, maintenance of projects)	Rank: 4.15	124
60%	Legal (Potential legal challenges, existing local authority)	Rank: 4.96	113
63%	Political (Public and political support)	Rank: 5.09	118
27%	Other (transportation, historical, etc.)	Rank: 6.63	51

188 Respondents

10. We would also like to understand your thoughts on existing projects or programs that you would like to see continued or further enhanced in the future.

Stop building in flood prone areas r.e. the east end.

2 months ago

Continued beach renourishment

3 months ago

Maintain a certain percentage of open, green space on the island to decrease impervious space usage. New developments will not be approved if the percentage is met for green space. Break up the island into four sections and have each section maintain the same percentage of pervious space reserved.

3 months ago

Canal homes get flooded by sea water running up the drain pipes into the street. Pipes should be removed or fixed to prevent backflow

3 months ago

Dune protection and beach renourishment projects

3 months ago

I can't think of anything at this time.

3 months ago

Sea turtles

3 months ago

Monitor the terminal groin and carefully dredge waterways

3 months ago

None

3 months ago

I love the fact that the town rolls garbage and recycling cans back to the houses instead of letting them sit at the street. It keeps things neat and looking nice. I wish new construction was restricted.

3 months ago

The groin in OIB was a great help! Love the bike lane, too.

3 months ago

beach renourishment as needed. maintain jetty and dune system.

3 months ago

environmental enhancements/beach renurishment projects

3 months ago

Planning for the future should have implemented years ago. We are already way behind on having proper infrastructure (i.e. roads, water & sewer systems) in place to support the growth we are already seeing.

3 months ago

Beach renourishment

3 months ago

Over building has already occurred.

3 months ago

Continue to provide sand fencing annually. Continue to improve stormwater drainage, especially on 1st and 2nd streets. Consider adding bike lanes to 2nd street. Also, the island needs more public restrooms for non-residents.

3 months ago

More storm drains. More natural beautification. Add small public restrooms at public accesses.

3 months ago

Put more time and funding into protecting private property and less on parks and bike lanes.

3 months ago

Very concerning about over building, water utilities and infrastructure for our water, loss off green spaces

3 months ago

Beach replenishment and terminal groin are critically important
Public parks and events are important
Reducing taxes to property owners should be a priority

3 months ago

1

3 months ago

Stop over-development

3 months ago

Keep up the beach protection, building dunes, reducing impact to our dunes, green space

3 months ago

Environmental education

3 months ago

Continue beach recovery and canal dredging as needed.

3 months ago

Status quo is good

3 months ago

The oak trees that are established should not be destroyed for buildings

3 months ago

Tubbs Inlet is rapidly closing up to to erosion, shifting sands due to storm/tidal activity. Based on the success of the terminal groin at Shalotte Inlet, similar consideration should be given to address the situation at Tubbs Inlet. Otherwise, OIB and Sunset Beach will soon become one island and we can have a naming party for the new island. How about Ocean Sunset Beach?

3 months ago

I would like to see the completion of Ferry Landing park
I would like to see less, much less development on the west end. You can still find road debris from past storms and very large homes are being built in those area and close to wetlands/marshlands

3 months ago

canal drains flow water back to streets and homes in high tides

3 months ago

maintaining and growing our dune system

3 months ago

Right now there are no programs to mitigate flooding on the island; development of every square inch of land without planning for consequences (wetland removal and flooding) has continued unabated, and without taking into consideration the concerns of full time homeowners. As well, the natural beauty of the island (flora and fauna) is disappearing.

3 months ago

Environmental protection policies strengthened/enhanced

3 months ago

As a resident and property owner in neighboring Sunset Beach, I frequent Ocean Isle daily. It is imperative we begin restricting development in the area. Protection of the environment is a top priority.

3 months ago

We need more preservation and conservation of our marshes, wetlands, trees, and wildlife. We need clean, PFAS-free, running water for everyone. I would like to see this program extended to the Shallotte area (including Shallotte Point), Sunset Beach, Holden Beach, Oak Island, Ash, and actually all of Brunswick County. There has been a tremendous amount of destruction to the natural environment, including different types of wetlands, due to the velocity of developments going up. Today, there is no requirement for an environmental assessment nor impact study to understand how this destruction and deforestation will impact our communities and wildlife long term. Today, there are more protections for developers/developments than there are for affected communities who have little to no say in the decisions that will directly impact them,

3 months ago

Stop approving building in currently flooding areas. Stop removing prior approved flood mitigation restrictions such as the storm drainage that was required at The Point on the east end but later allowed to be removed from the final plan.

3 months ago

Maintaining natural habitat on the coast. Better flood management on island roads.

3 months ago

Buildings are too close together. Also New Building should be limited, more green space for water to absorb into the ground.

3 months ago

continue to monitor erosion and ways to strengthen the dune structure

3 months ago

Don’t turn OIB into Myrtle Beach. Too much development is not good.

3 months ago

protection of the natural dune line on the beach front by relocation of existing structures or refusal to permit rebuilding of structutres lost to erosion

3 months ago

Not aware of existing projects/programs. Living here only since 6/2023

3 months ago

Beach revitalization

3 months ago

planting sea grass and sand fencing
fix road drainage problems

3 months ago

There has been so much development with little requirement of home builders to plant vegetation that helps reduce erosion and adds back green space to the island. Please consider an island-wide tree/bush planting program. Some options would be wax myrtle, yaupon or other native large-growing plants or palms. It is absurd to have so much concrete allowed with so little planting required. Please take steps to bring back the vegetation.

3 months ago

terminal groin was great idea

3 months ago

beach restorations on periodic timely schedule

3 months ago

Town take over the road ownership down to Island Park to the high rise and to the gate.

3 months ago

Stop overdeveloping the island. Preserve greenspace. There is no place for stormwater to go.

3 months ago

We paid money to replenish the beach. Now a few builders and homeowners are trying to make the end of the beach private. We paid for that sand, not so a few people could control the beach and intercoastal waterfront space. The stripped the end of the island of plants that stabilize the area, now it is already shifting.

3 months ago

Being a barrier island, maintenance and enhancement of the dune system is extremely important. That should certainly be continued.

3 months ago

I don't see any programs that are of benefit. Zoning is changed, CAMA amended, forests destroyed, no focus on cluster developments and their importance, no incentives for anyone to respect the land, air, water, coastline. No concern for wildlife, wetlands, forests the dunes. The only project being noticed is the rapid development with unsustainable irresponsible building practices with no concern for anything else. Lack of infostructure, toxic poison water, developing every inch of our barrier island, off market land deals brokered by city officials. What happens when we start flooding, when the mainland floods because the island is destroyed, residents and tourists leave, then will you decide to plant trees, build dunes, rehabilitate the wetlands?

3 months ago

more environment impact education - stop letting builders clear cut land and build on land that the ocean is going to reclaim

3 months ago

No comment

3 months ago

I would like to see the main area of the island near the pier and shops to continue to expand and grow to feel more like a Main Street with better pedestrian control
Speed humps on second street would also be helpful to slow traffic

3 months ago

Planting of Sea Oats at shoreline.

3 months ago

It’s hard to see all the open spaces getting developed. An aerial view of the island, especially, looks like OIB has already negatively impacted their longevity with all the housing.

3 months ago

We should do what they did in Charleston, SC (Isle of Palms) and put natural barriers out in the ocean to help stop the severe beach erosion and then re-nourish the main beaches.

3 months ago

We should restrict construction at the east end of the island where a new private community is being built in an area that will flood with every storm. Should have stayed a natural area.

Would also like to see golf cart enforcement improved and no golf carts allowed to cross the ICW bridge, particularly in season. Only adds to significant traffic congestion

Improve stormwater issues to reduce flooding, particularly at the lower ends of the canal streets and all the natural canals

3 months ago

3 months ago

N/c

3 months ago

Maintain beach sand. Keep waterways and canals open. Improve storm water controls to prevent or reduce flooding during and after storms.

3 months ago

Renourishment of beaches and flood barriers. Enforcement of speed limits and fireworks laws.

3 months ago

Educate tourist of rules which they do not use

3 months ago

Beach renourishment,

3 months ago

Beach renourishment, dune & seagrass augmentation, lifting streets & enhancing storm water capture, tighter restrictions on density on the island

3 months ago

I'm not aware of much info about your programs and I look on the Ocean Isle Beach website as well as social media.

3 months ago

Dune/beach restoration

3 months ago

There needs to be conservation and parks of natural areas as Sunset Beach has done. It seems that the goal is to sell every inch with no natural areas. You've run off the deer and wildlife and there is no natural coastline that is undeveloped.

3 months ago

Slow down the land development!!!

3 months ago

I'm really not aware of the programs you have. You are pretty invisible on this issue!

3 months ago

I think there should be a restriction on building any more housing in this area.

3 months ago

Living dunes

3 months ago

Beach renurishment

3 months ago

Dune Creation and Dune/Beach vegetation.

3 months ago

storm drains on roads that are floofing

4 months ago

11. In what ways could the Town of Ocean Isle Beach promote representation and equitable outcomes for vulnerable populations?

I don’t know. We can’t pick who buys homes here.

2 months ago

Reach out to ALL Property Owners to ensure they have feedback mechanisms that are as convenient to them as possible.

3 months ago

They could have someone from this population to attend these community meetings and eventually become a member of city council.

3 months ago

DK

3 months ago

Apartments

3 months ago

Stop clear cutting
Enforce higher fines on developers

3 months ago

Create committees and ask any interested person to volunteer for membership on committees of their choice.

3 months ago

I dont think this should be a priority of the town.

3 months ago

N/a

3 months ago

continue representation from people that live on the island.

3 months ago

more planning meetings and forums for discussion to be more broad-based and participatory & inclusive of the affected homeowners

3 months ago

Slow down the approval of projects until proper infrastructure is in place to handle the growth.

3 months ago

Communication and data that that clearly describes how projects ,changes I'm
N one part of town impact and benefit the whole town

3 months ago

One of our most vulnerable populations are our wildlife. We need to restrict growth responsibly.

3 months ago

Keep free parking/beach access. Public spaces (walking trails, park, bathrooms).

3 months ago

Don't care. Stop letting the 3 wealthiest families get around zoning restrictions and build as many houses as they want. Can't wait to see the new East End development get washed away as the groin fails

3 months ago

Continue outreach programs in place with the town.

3 months ago

Limit environmental impact

3 months ago

Don’t spend any public resources on DEI projects or staffing

3 months ago

Identify the "vulnerable population.".

3 months ago

1

3 months ago

Stop over-development

3 months ago

Education and understanding, OIB has seen shifts and changes in the population and those who now own properties. Helping them understand the uniqueness of island life. Along with other changes that it can face over time.

3 months ago

…ask their opinion

3 months ago

I don’t see this as an issue.

3 months ago

What vulnerable populations? OIB is small, which is good.

3 months ago

Keep doing what you are doing!

3 months ago

provide transportation

3 months ago

Full time Residents need a voice. The town council believes OIB to be a “resort”. It is no for the full time residents; it is a community and one of the few remaining unspoiled beaches on this part of the coast. Environmental preservation needs to happen now, not later.

3 months ago

Environmental protection would be a good start. Start protecting wetlands and vulnerable areas of the shoreline. Stop building on the east end of the island.

3 months ago

Assemble a committee comprised of residents/citizens from these respective vulnerable populations. Give them seats at the table and a safe space that allows them to voice their concerns, objections, approvals, ideas, and/or compromises.

3 months ago

Vulnerable populations of people, animals… I don't understand the question.

3 months ago

To actually "see" the residents and take appropriate action to mitigate their vulnerability.

3 months ago

Provide information and allow those who want to participate to express their opinions.

3 months ago

Build Levees or Storm Gates

3 months ago

communication

3 months ago

Limit /control growth. OIB has reached/over populated some areas alteady.

3 months ago

Please give an example of 'vulnerable population' now existing in a town of 650 residents owning homes worth hundreds of thousands of dollars on the island

3 months ago

I feel like if we can plant/nurture native plants and trees as well as preserve marshes we can beautify and protect OIB somewhat from flooding. Live oak's not palm trees should be planted. Plant beneficial plants/trees. The area at the roundabout looks barren and commercial. Needs more green!

3 months ago

Require builders and developers to contribute to an affordable housing fund for every lot/acre developed.

3 months ago

Continue to work with local, state, and federal agencies to promote shoreline protection.

3 months ago

more terminal groins

3 months ago

Education, preparedness and evacuation

3 months ago

control the builders

3 months ago

There needs to be a native plant buffer zone that cannot be removed for construction.

3 months ago

Vulnerable populations has different meanings in different communities. In my opinion, vulnerable populations in our commuity certainly includes the elderly. At a minimum, there should be a network of people who have information about the elderly individualas in the community and accountability for monitoring their welfare, particularly during times of emergency.

3 months ago

We're all vulnerable at this point.
How about putting us on the map as being not only the fastest growing but responsible and sustainable building? Protecting our coast, wetlands, forests and therefore our citizens.

3 months ago

I don't see the town doing anything - caters to wealthy homeowners, mostly retirees

3 months ago

We find the overcrowding at OIB very disturbing and unsafe. Traffic is out of control. We can no longer enjoy events. We are selling our property and will go elsewhere.

3 months ago

Recognize who is vulnerable, sometimes that is private owners.

3 months ago

They do a good job of this already.

3 months ago

3 months ago

N/c

3 months ago

Unsure

3 months ago

Create affordable housing in mew developments.

3 months ago

Be sure marginalized populations have disproportionately larger representation on advisory and decision-making groups. Use science, not politics, to inform decision making.

3 months ago

I don't know

3 months ago

I don't see them doing that

3 months ago

Stop the building now

3 months ago

I think we should focus on natural barriers and conservation of land.

3 months ago

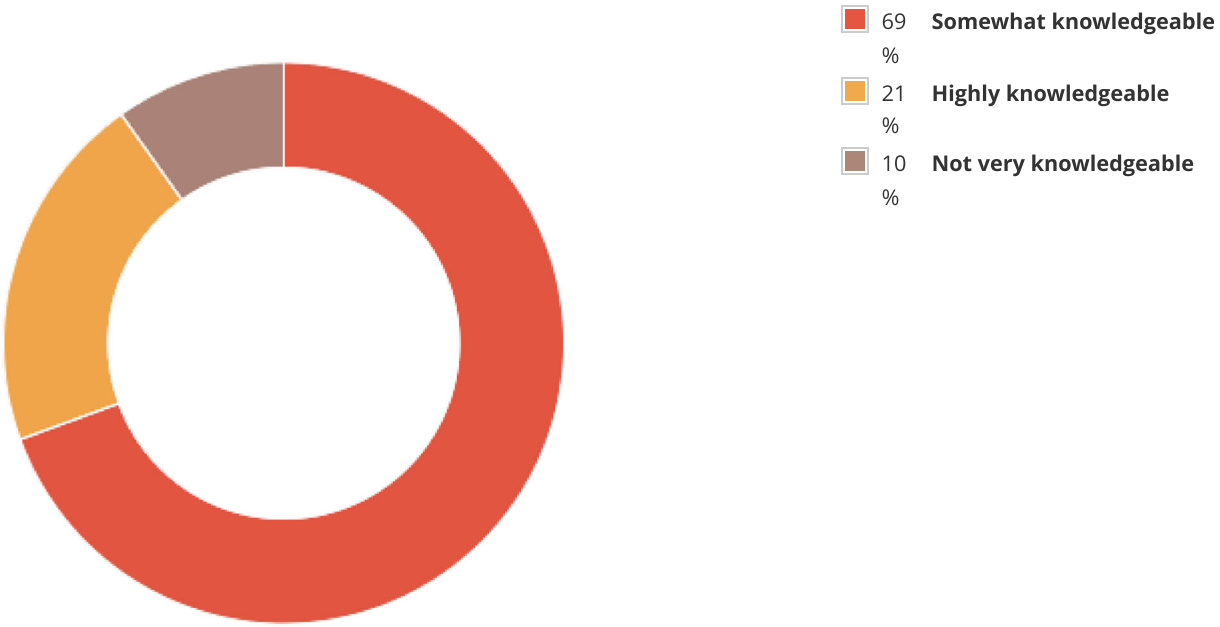
Need to keep our beaches wide and intact because that’s why people come to OIB

3 months ago

not be political

4 months ago

* 12. How knowledgeable are you on environmental and climate related hazards and their impacts to coastal communities?



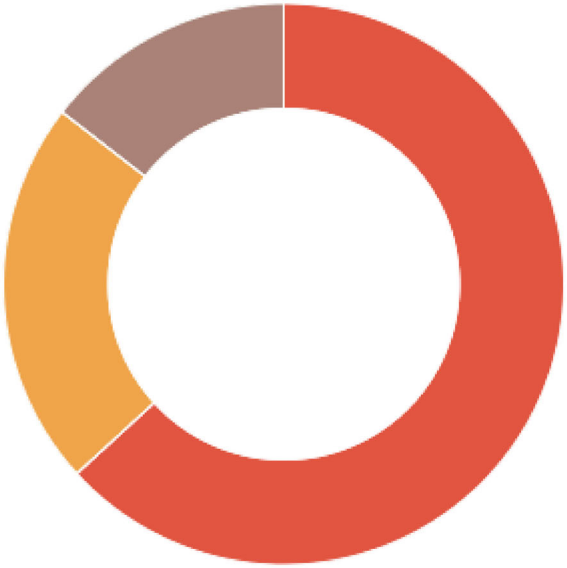
193 respondents

* 13. What are your preferred distribution channels to receive information about how to make your home, business, and community more resilient to natural hazards?

78%	Internet (Web Pages)	151
51%	Internet (Social Media)	98
50%	Mobile Messages/Alerts	96
38%	Mail	74
33%	Public meetings/workshops	64
8%	Newspaper	16
7%	Brochures or Flyers in Public Buildings	13
6%	Other	12
5%	Word of Mouth	9
2%	Church Bulletins	3

193 Respondents

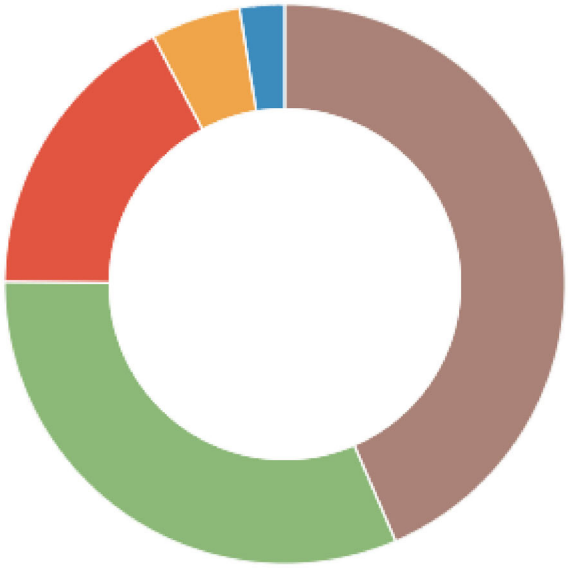
* 14. How satisfied are you with the level of public involvement in decision-making in the Ocean Isle Beach community relating to resilience and natural hazards?



- 63 % **Somewhat satisfied**
- 22 % **Very satisfied**
- 15 % **Unsatisfied**

193 respondents

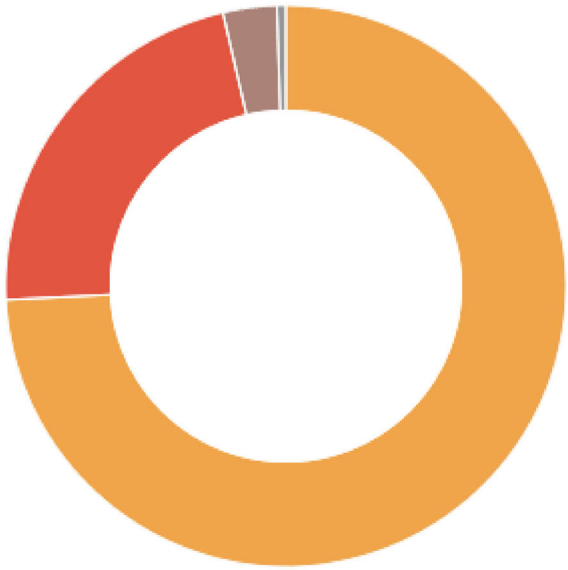
* 15. What is your age range?



- 44 % **56-69**
- 32 % **70 or older**
- 17 % **40-55**
- 5% **18-39**
- 3% **Prefer not to answer**

193 respondents

* 16. How many people live in your household?



- 74% **0 to 2**
- 22% **3 to 4**
- 3% **5 to 6**
- 1% **Others**

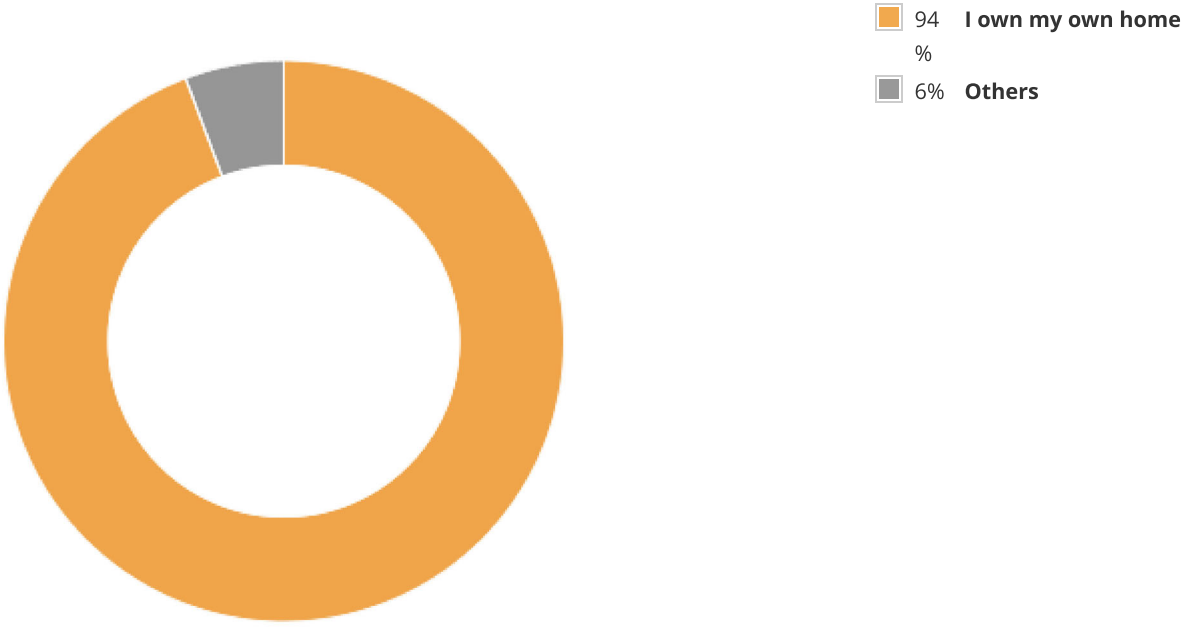
194 respondents

* 17. How long have you lived in Ocean Isle Beach?

- 22% **1-5 years**
- 21% **20 years or more**
- 20% **Do not live on Ocean Isle Beach**
- 17% **6-9 years**
- 17% **10-19 years**
- 4% **Less than one year**

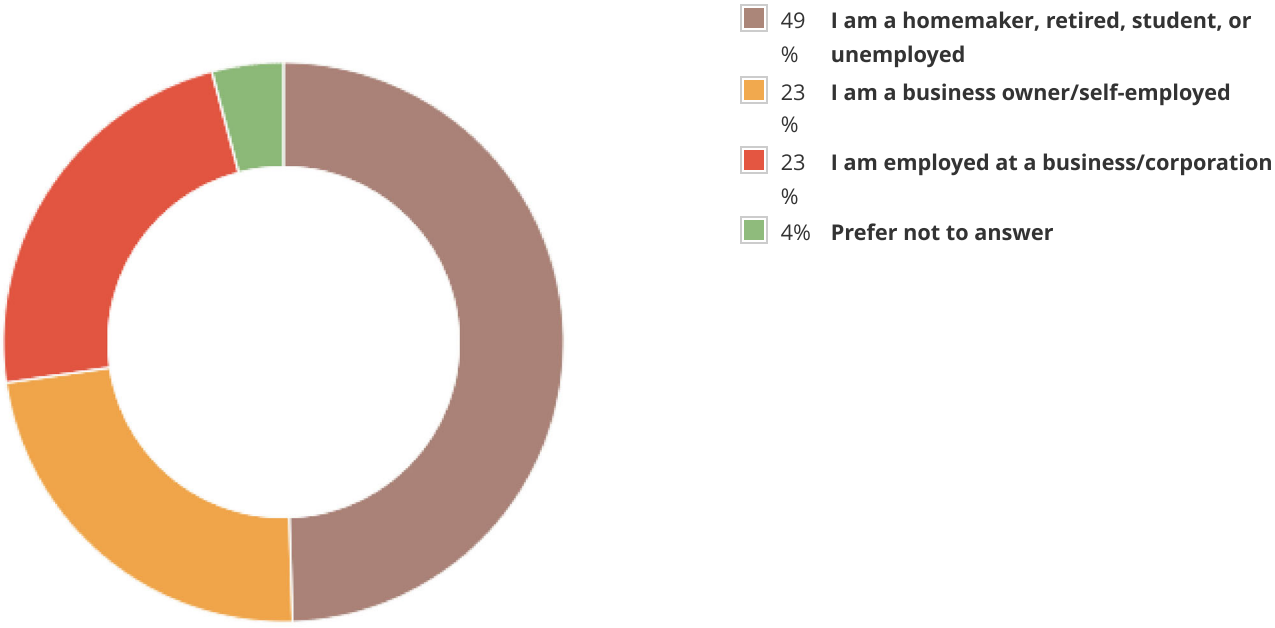
194 respondents

* 18. What is your living situation?



193 respondents

* 19. What best describes your employment situation?



194 respondents

Comments: Ocean Isle Beach - Resilient Coastal Communities Program - Public Meeting #1

Dune Creation and Dune/Beach vegetation.

3 months ago

Will this meeting be recorded?

4 months ago

Was the terminal groin ultimately beneficial to our resilience? Are renourishments helpful and worth the expense?

5 months ago

oceanisle BEACH

North Carolina RESILIENT COASTAL COMMUNITIES PROGRAM

OIB RESILIENT COASTAL COMMUNITIES PROGRAM PUBLIC MEETING #1

December 5, 2023

NC DIVISION OF COASTAL MANAGEMENT

moffatt & nichol

MEETING AGENDA

- Introductions
- Overview of RCCP Program
- Town of Ocean Isle Beach Concerns and Previous Resiliency Efforts
- Program Steps and Schedule
- Request for Input on Risk & Vulnerability Assessment and Potential Solutions
  - Hazards of concern

INTRODUCTIONS

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Justin Whiteside

Assistant Town Administrator

COMMUNITY ACTION TEAM

- Justin Whiteside, Assistant Town Administrator, Ocean Isle Beach (CAT Liaison)
- Casey Hayes, Town Clerk, Ocean Isle Beach
- Keith Dycus, Development Services Director, Ocean Isle Beach
- Adam Sellers, Utility Maintenance Supervisor, Ocean Isle Beach
- Tom Athey, Commissioner, Ocean Isle Beach
- Wayne Rowell, Commissioner, Ocean Isle Beach
- Jim Hoffman, Executive Director, Museum of Coastal Carolina
- David Hill, Business and Property Owner
- Jonathan Williamson, Business Owner

- Mackenzie Todd, Coastal Resiliency Coordinator, NC Division of Coastal Management (DCM)
- Kasen Wally, Coastal Resiliency Specialist, NC DCM

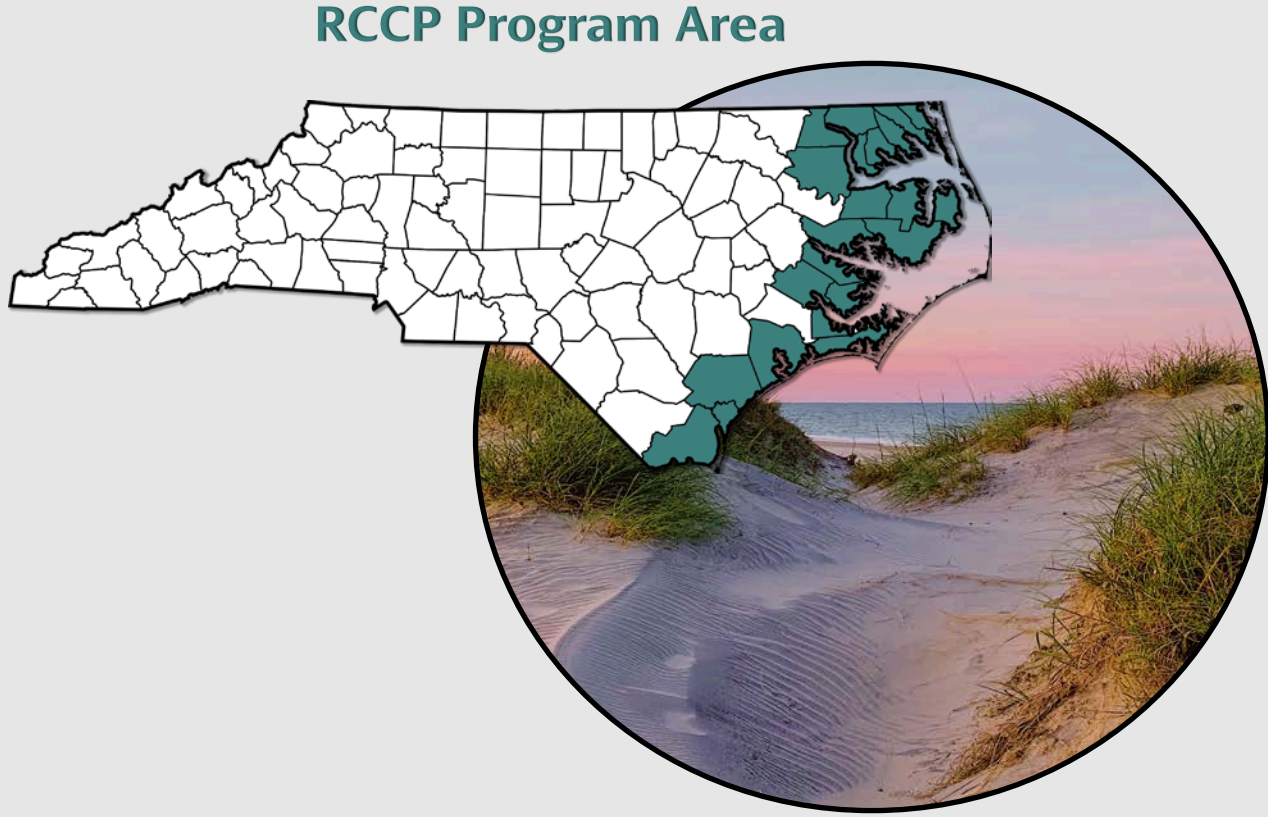
1

OVERVIEW OF RESILIENT COASTAL COMMUNITIES PROGRAM (RCCP)

NCDCM

PROGRAM BACKGROUND

- The foundation of the RCCP program was laid in 2016 through the RENA pilot program
- Executive Order 80 created the NC Climate Risk & Resilience Plan, which eventually led to the RCCP
- RCCP Funded through the General Assembly and a National Fish & Wildlife Foundation Grant
- Program Scope: 20 coastal CAMA counties

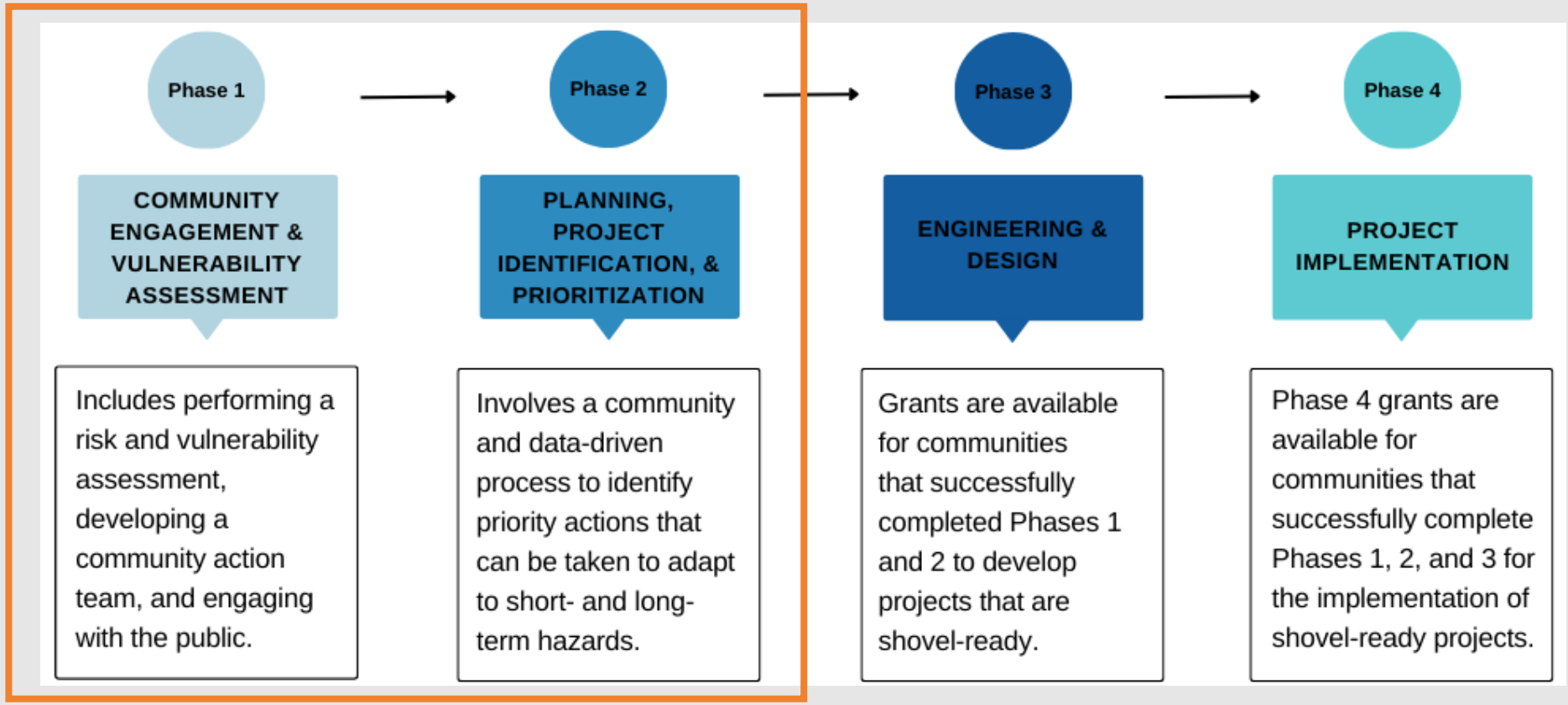


PROGRAM PARTNERS & FUNDING

PROGRAM OBJECTIVES

Address	Assist	Help	Advance	Link
Address barriers to coastal resilience at the local level	Assist communities with risk & vulnerability assessments	Help communities develop a portfolio of well-planned and prioritized projects	Advance priority projects to “shovel-ready” status	Link communities to funding streams for project implementation

PROGRAM PHASES



DELIVERABLES

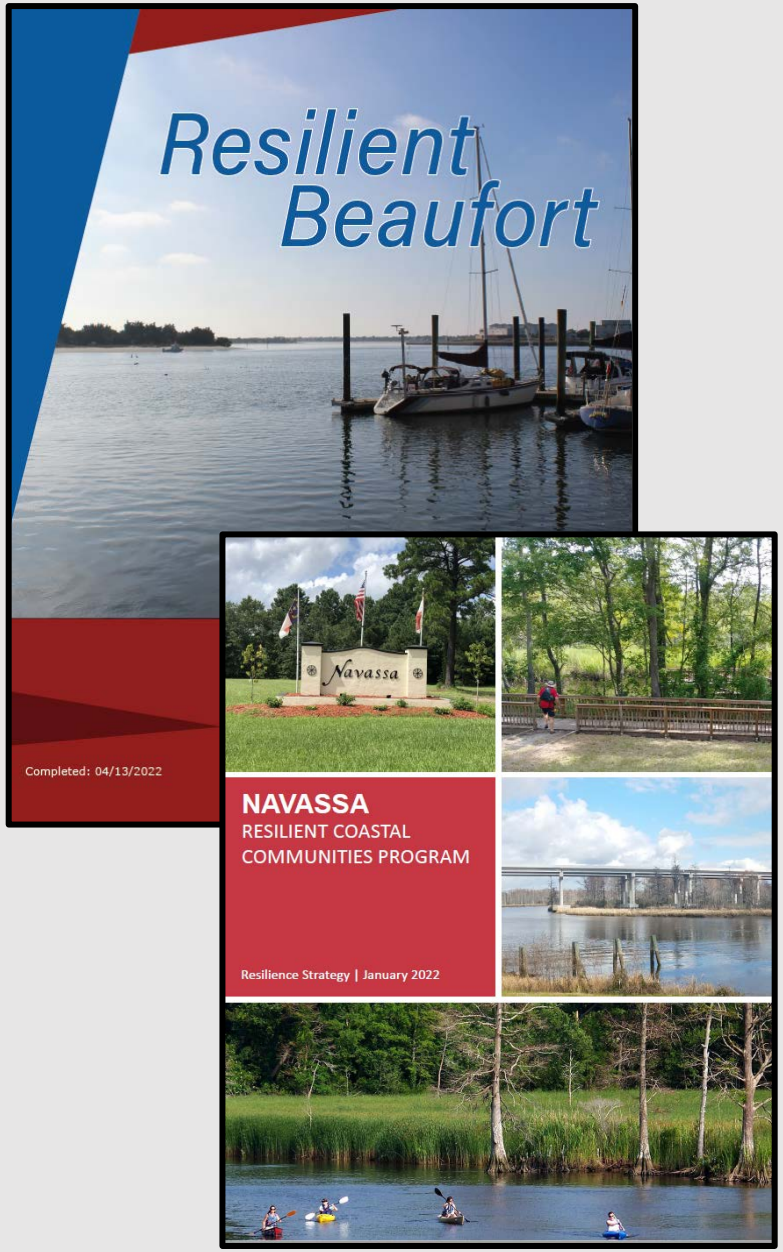
- The main deliverable will be a Resilience Strategy. The two components include:

1. Vulnerability Assessment Report:

- Details the quantitative and qualitative elements of assessment(s) performed

2. Project Portfolio:

- Outlines a series of options to address coastal hazards with local, community-specific information.



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TOWN OF OCEAN ISLE BEACH NEEDS, CONCERNS, AND LOCAL EFFORTS

Justin Whiteside, Town of Ocean Isle Beach

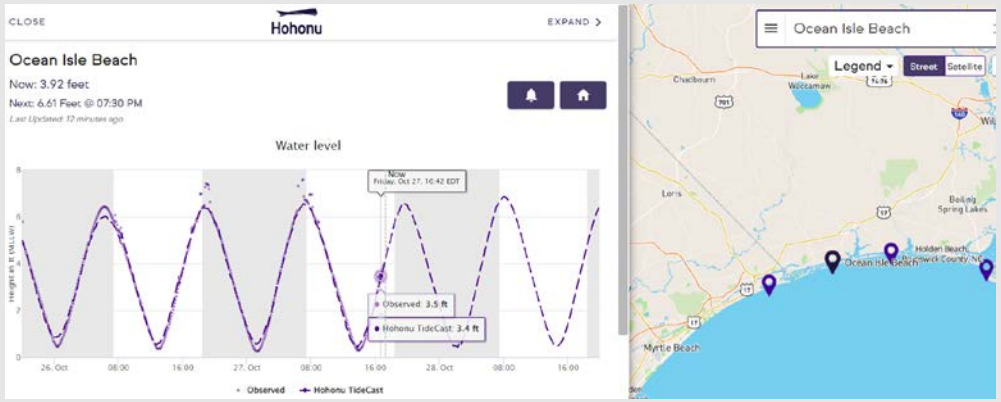
APPLICATION AND NEED

Town's primary concerns:

- Storm surge
- Heavy precipitation events
- Sea level rise
- Tidal flooding
- Erosion

PREVIOUS RESILIENCY EFFORTS

- 30-Year Beach Management Plan
- Beach Nourishment – Federal Coastal Storm Risk Management (CSRM) project
- Terminal Groin
- Dune Building
- Beach Monitoring & Analysis
- Hohunu Water Level Gauge
- Canal Study



REVIEW OF EXISTING EFFORTS AND PLANS

- Regular Review and Update of Town Ordinances
  - Chapter 18: Civil Emergencies
  - Chapter 22: Environment
  - Chapter 42: Soil Erosion and Sedimentation Control
  - Chapter 49: Stormwater Management
  - Chapter 50: Subdivisions
  - Chapter 66: Zoning
- Town of Ocean Isle Beach CAMA Land Use Plan
- Town of Ocean Isle Beach CIP
- Town of Ocean Isle Beach 30-Year Beach Management Plan
- Town of Ocean Isle Beach Comprehensive System-Wide Parks & Recreation Master Plan
- Town of Ocean Isle Beach Emergency Response Plan
- Southeastern NC Regional Hazard Mitigation Plan
- FEMA Community Rating System – Town of Ocean Isle Beach joined in 1992

3

INPUT ON RISK & VULNERABILITY ASSESSMENT AND POTENTIAL SOLUTIONS

Beth Sciaudone, Moffatt & Nichol

PHASE 1

- Develop Community Action Team
- Review Existing Plans & Efforts
- Set Vision & Goals
- Develop Community Engagement Strategy
- Identify & Map Critical Assets, Natural Infrastructure, and Socially Vulnerable Populations
- Conduct Risk & Vulnerability Assessment
  - Identify & Map Hazards
  - Assess Vulnerability
  - Estimate Risk

Deliverable: January 31, 2024

PHASE 2

- Identify Potential Solutions
  - Structural
  - Non-Structural
  - Nature-Based
  - Support basic community functions that are critical for absorbing, rebounding from, and adapting to hazards
- Consolidate & Prioritize Projects
- Public Meeting - March

Deliverable: May 15, 2024

DRAFT COMMUNITY VISION STATEMENT

- What is a Vision Statement?
  - Aspirational statement for where the community wants to be in the future
- Community Vision Statement
  - We envision a resilient future, where our community's natural and manmade beauty, sense of unity, and genuine concern for environmental stewardship serve as the foundation for adaptation, acclimation, and preparedness for challenges associated with coastal hazards.

ALIGNING COMMUNITY GOALS

- Goals can involve:
  - Education and outreach
  - Conservation and restoration
  - Plans, policies, and ordinances
  - Development and growth

- Draft community goals:
  - *Manage development and growth sustainability.*
  - *Implement nature-based and hybrid solutions to improve coastal resilience.*
  - *Review, revise, and update key plans, policies, and ordinances to strengthen resilience efforts.*
  - *Ensure critical infrastructure resilience.*
  - *Improve education and preparedness.*
  - *Reduce structural, environmental, and economic impacts from coastal hazards.*

CRITICAL ASSETS AND HAZARDS REVIEW

Figure 6 | Required Critical Assets to Map

- Data overview:
  1. Roads/Evacuation Routes
  2. Water/sewer lines
  3. Community Government Service Offices
     - OIB Town Hall
     - Community Center
     - Operations Buildings
     - Museum of Coastal Carolina
  4. Health Services
  5. Public Safety or Emergency Services
     - OIB Fire Station
     - OIB Police Station
     - Emergency Beach Access Points
     - Airport
  6. Natural Assets
     - Streams
     - Wetlands
     - Dunes
     - Water bodies
     - Open space

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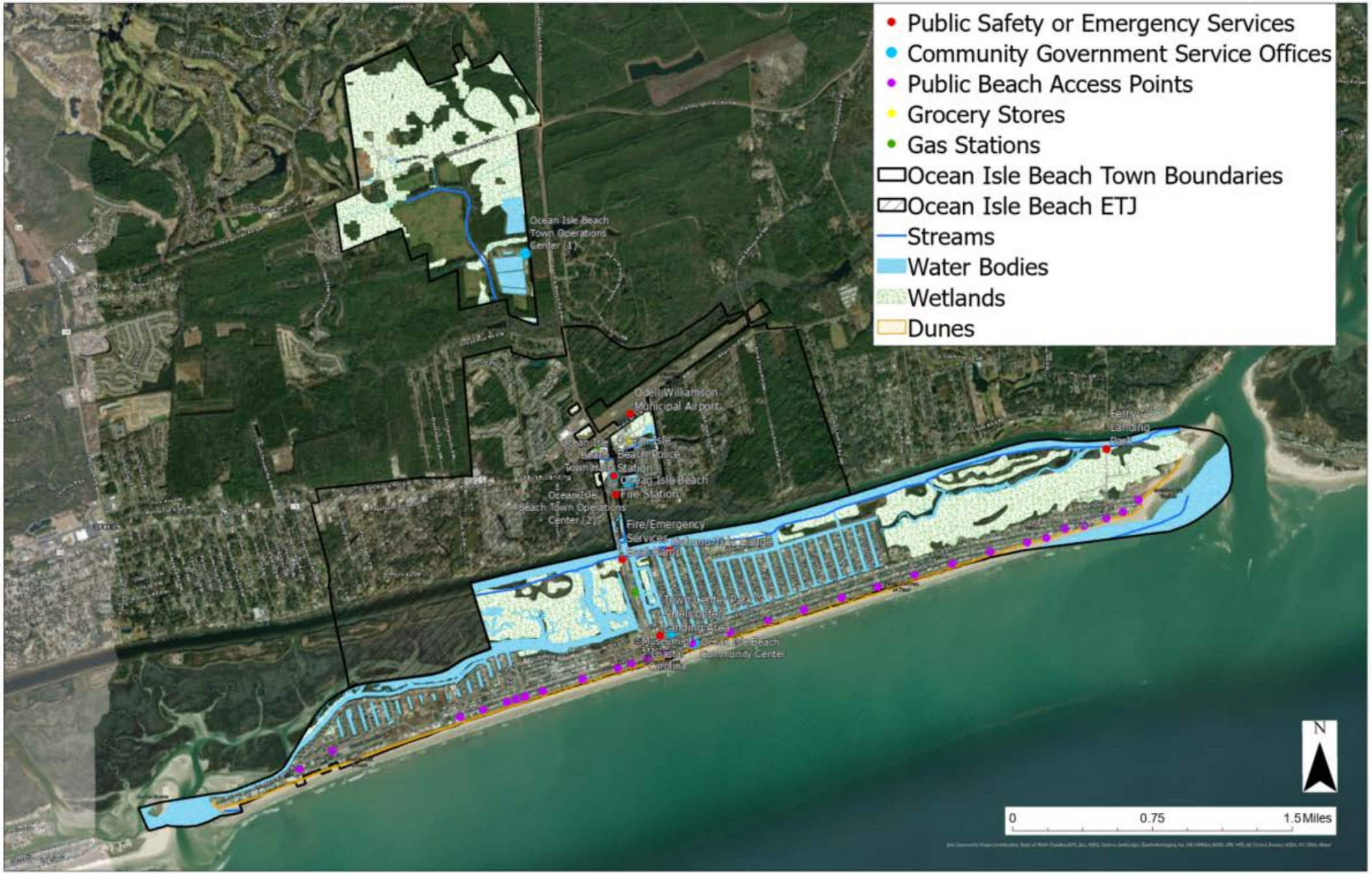
North Carolina RESILIENT COASTAL COMMUNITIES PROGRAM



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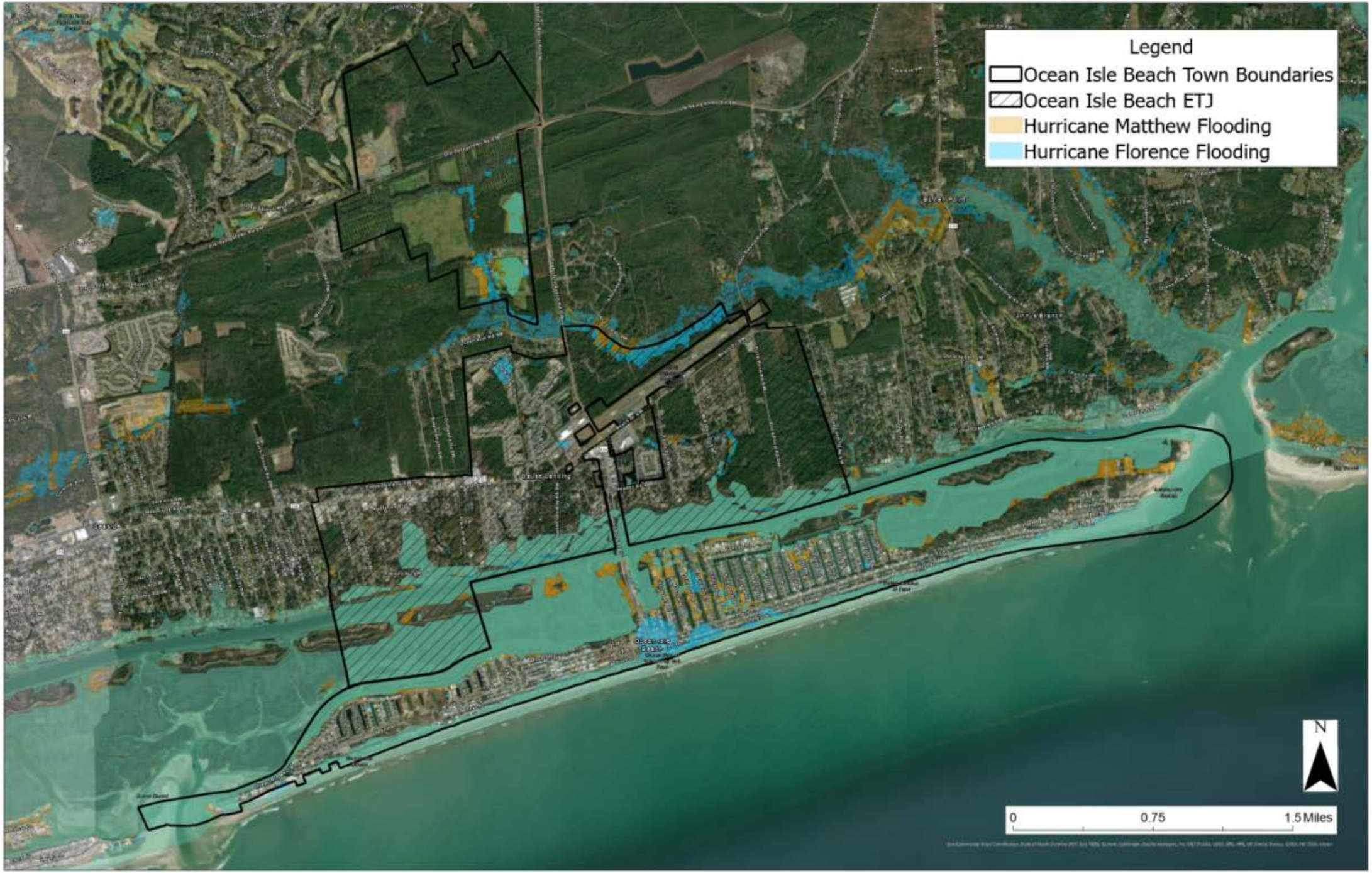

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ASSESSING VULNERABILITY

Vulnerability Score = Exposure Score + Sensitivity Score – Adaptive Capacity

The presence of people, assets, and ecosystems in places where they could be adversely impacted by hazards

Degree to which an asset is potentially affected when exposed to an impact

Ability of the asset and/or population to adjust to potential impacts from hazards with minimal disruption or cost

COMMUNITY INPUT

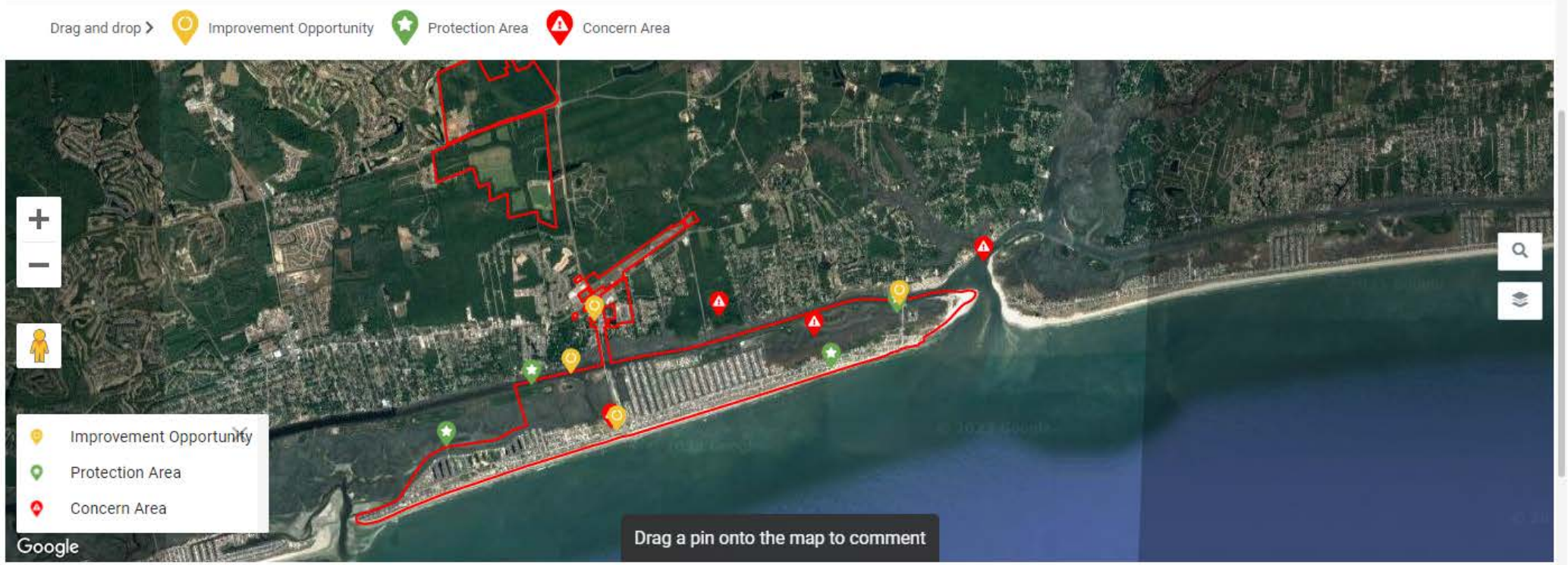
- Public Input on Current Issues/Problems/Needs
- Development of Goals & Objectives
- Potential Solutions to Identified Issues/Needs

- Public Survey Now Available on Ocean Isle Beach RCCP Project Website
- Interactive Map To Note Issues and Opportunities
- Email the Project Team OceanIsleBeachRCCP@PublicInput.com

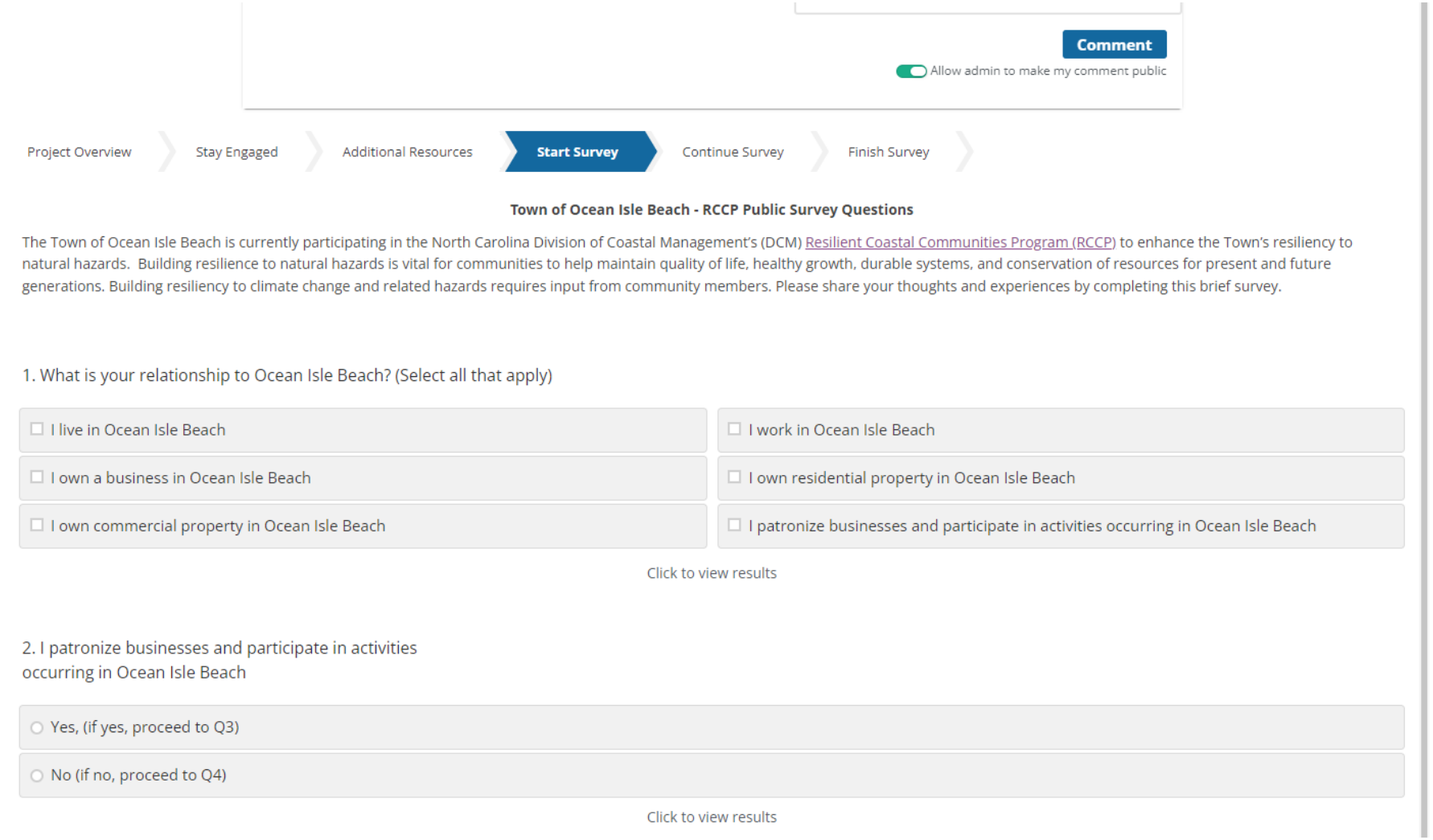
OCEAN ISLE BEACH RCCP WEBSITE

How will the Town of Ocean Isle Beach become more resilient to natural coastal hazards? What assets do we need to protect? What areas concern you? Where are the areas for improvement? We'd love to "see" your thoughts on the interactive map below!

Please "drag and drop" your idea pins onto the map below, using the themes as a guide. You can also provide comments, after dropping the pins onto the map, to further explain your thoughts.



OCEAN ISLE BEACH RCCP WEBSITE



Comment

Allow admin to make my comment public

Project Overview | Stay Engaged | Additional Resources | **Start Survey** | Continue Survey | Finish Survey

Town of Ocean Isle Beach - RCCP Public Survey Questions

The Town of Ocean Isle Beach is currently participating in the North Carolina Division of Coastal Management's (DCM) Resilient Coastal Communities Program (RCCP) to enhance the Town's resiliency to natural hazards. Building resilience to natural hazards is vital for communities to help maintain quality of life, healthy growth, durable systems, and conservation of resources for present and future generations. Building resiliency to climate change and related hazards requires input from community members. Please share your thoughts and experiences by completing this brief survey.

1. What is your relationship to Ocean Isle Beach? (Select all that apply)

- ☐ I live in Ocean Isle Beach
- ☐ I work in Ocean Isle Beach
- ☐ I own a business in Ocean Isle Beach
- ☐ I own residential property in Ocean Isle Beach
- ☐ I own commercial property in Ocean Isle Beach
- ☐ I patronize businesses and participate in activities occurring in Ocean Isle Beach

Click to view results

2. I patronize businesses and participate in activities occurring in Ocean Isle Beach

- ○ Yes, (if yes, proceed to Q3)
- ○ No (if no, proceed to Q4)

Click to view results

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North Carolina RESILIENT COASTAL COMMUNITIES PROGRAM

THANK YOU FOR YOUR INPUT!

NC DIVISION OF COASTAL MANAGEMENT

moffatt & nichol

Name	Sign In	Email Address (If Desired/Not Yet Provided)
Diane Fulwiler		
Alan Frelich		
Chad Lamprey		
Charlie Connor	cjc	
Chris Bryan		
Christian Byrd		
Connie Athey	CNA	
Cynthia Jones		
Ernie Ward		
Janice L Adams + Jim		janice.adams14@gmail.com
Jim Price	JP	jimprice95@icloud.com
Kathy Luckhaus		
Kim (Kimmie) Patrice Durham		
Knight Gaillard		
Krause Ken	KwK	
Patsy Calhoun		
Robert J Haubenreiser		
Robert R Jewell		
Wendy Hughes	WLH	
Mark Robertson		myrrobertson@yahoo.com
DAVE GREEN		davegreen1225@gmail.com
Savanna Tenenoff		
Dale Krause		d.krause744@gmail.com
Wayne Powell		You have my email
Jim Hoffman	JH	
Don Kauffman		DON.KAUFFMAN@EC.RR.COM
Tom Athey		~~Tom t~~ see town website
John Cummins		John@jpcummins.com

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North Carolina RESILIENT COASTAL COMMUNITIES PROGRAM

OIB RESILIENT COASTAL COMMUNITIES PROGRAM PUBLIC MEETING #2

March 14, 2024

NC DIVISION OF COASTAL MANAGEMENT

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MEETING AGENDA

- Introductions
- Overview of Program Phases and Progress
- Public Survey Results
- Risk and Vulnerability Assessment Results
- Candidate Projects Overview and Prioritization Exercise

INTRODUCTIONS

Beth Sciaudone

Project Manager

Dawn York

Senior Coastal Scientist

Rachel Baker

Coastal Scientist

Justin Whiteside

Town Administrator

COMMUNITY ACTION TEAM

- Justin Whiteside, Town Administrator, Ocean Isle Beach (CAT Liaison)
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OCEAN ISLE BEACH VISION STATEMENT

We envision a resilient future, where our community's natural and manmade beauty, sense of unity, and genuine concern for environmental stewardship serve as the foundation for adaptation, acclimation, and preparedness for challenges associated with coastal hazards.

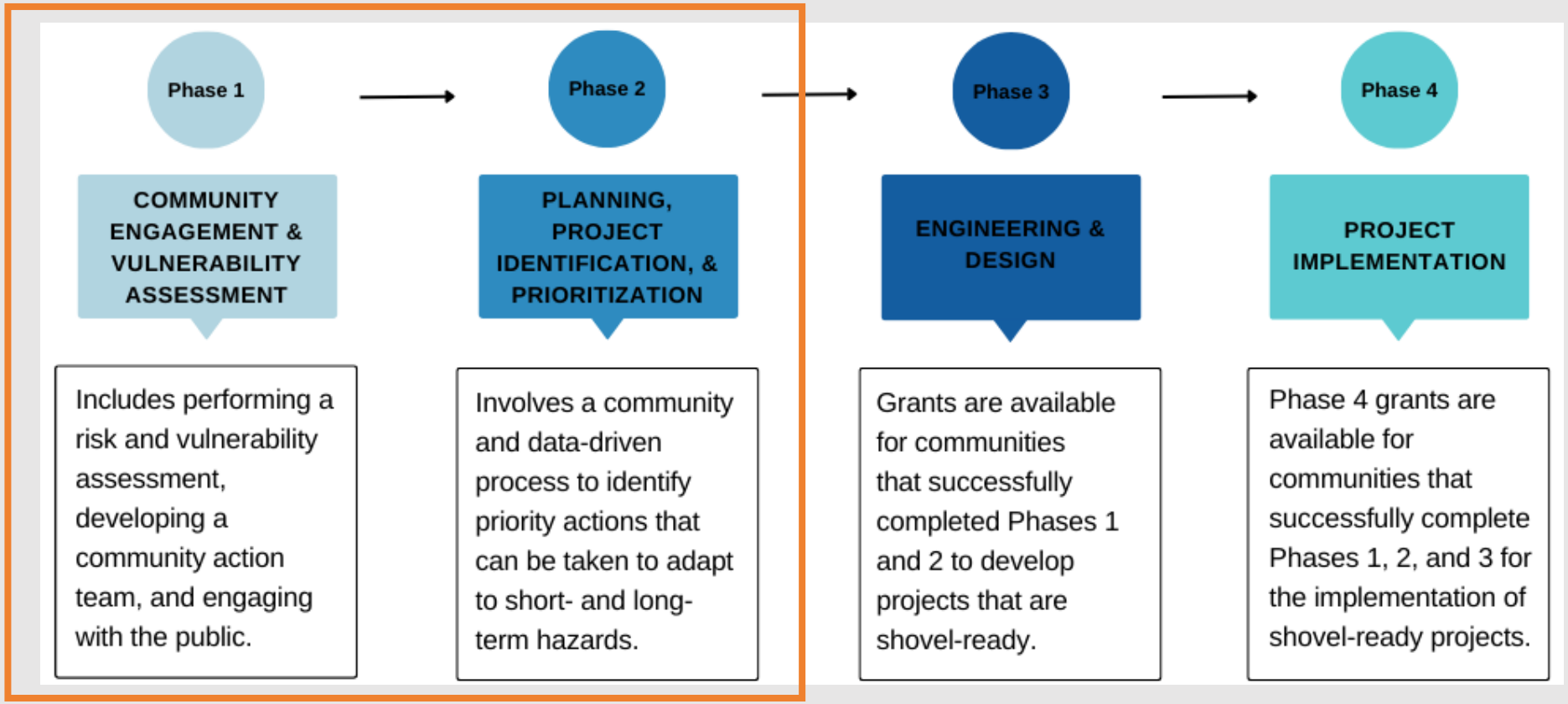
1

OVERVIEW OF PROGRAM STEPS AND SCHEDULE

PROGRAM OBJECTIVES

Address	Assist	Help	Advance	Link
Address barriers to coastal resilience at the local level	Assist communities with risk & vulnerability assessments	Help communities develop a portfolio of well-planned and prioritized projects	Advance priority projects to “shovel-ready” status	Link communities to funding streams for project implementation

PROGRAM PHASES



DELIVERABLES

- The main deliverable will be a Resilience Strategy. The two components include:

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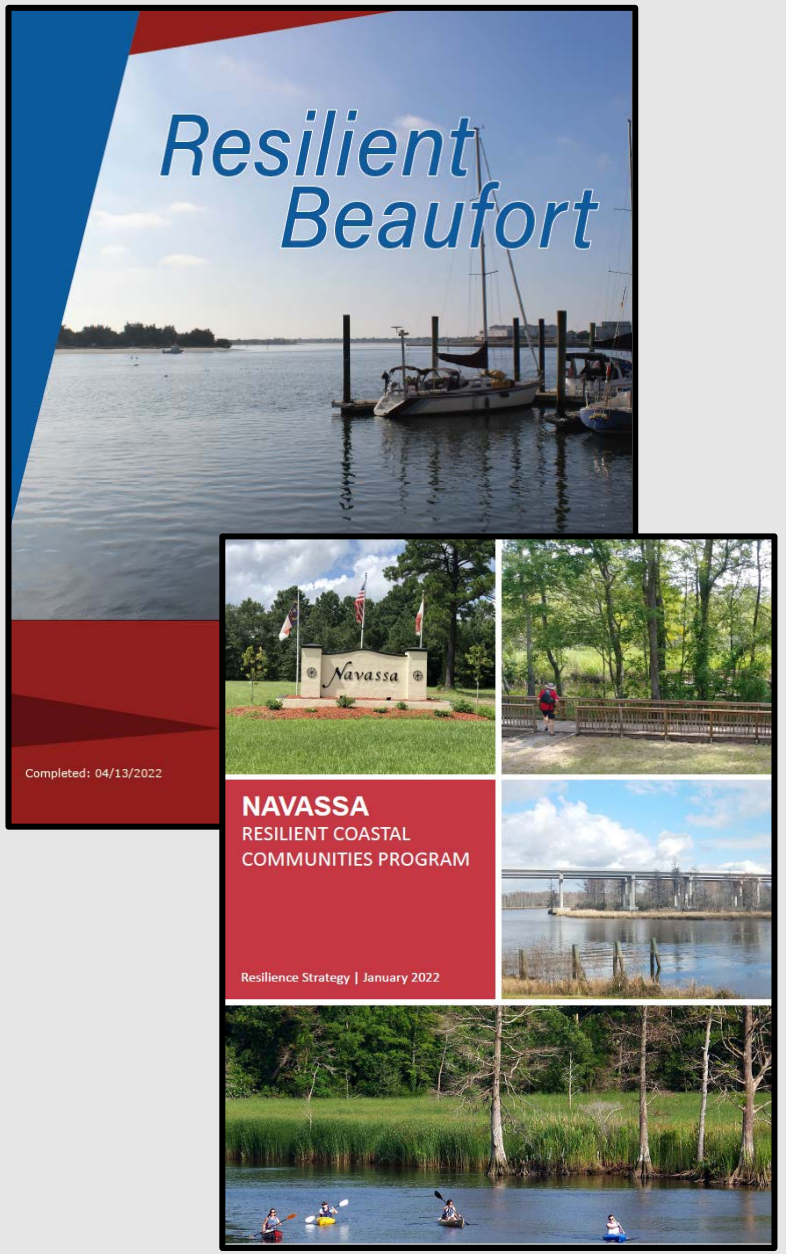

2

PUBLIC SURVEY RESULTS

RESPONDENTS AND DEMOGRAPHICS

- **Total Participants: 322**

Relationship to Ocean Isle Beach	Percent of Respondents
Own residential property in Ocean Isle Beach	71%
Patronize businesses and participate in activities occurring in Ocean Isle Beach	46%
Live in Ocean Isle Beach	38%
Work in Ocean Isle Beach	5%
Own a business in Ocean Isle Beach	4%
Own commercial property in Ocean Isle Beach	2%

KEY TAKEAWAYS

- **Over 80%** of respondents said to have been directly impacted previously by flooding caused by storm surge and/or tropical systems, tidal surge, or thunderstorms/intense rainfall

Natural Hazard	Percent of Respondents
Flooding caused by storm surge and/or rainfall from tropical systems	**83%**
Flooding caused by tidal surge (king tides and/or higher than normal tides)	**68%**
Flooding caused by thunderstorms and intense rainfall	**53%**
Stormwater	43%
Sea level rise	28%
Other	5%
Wildfires	4%

KEY TAKEAWAYS

- **70%** of respondents stated they were very concerned with the possibility of their community being impacted by flooding caused by storm surge/tropical systems, and **over half** were concerned about flooding caused by tidal surge

Natural Hazard	Very Concerned	Somewhat Concerned	Not Concerned
Flooding caused by storm surge and/or rainfall from tropical systems	**70%**	28%	2%
Flooding caused by tidal surge (king tides and/or higher than normal tides)	**58%**	35%	7%
Flooding caused by thunderstorms and intense rainfall	33%	47%	20%
Sea level rise	39%	39%	22%
Wildfires	8%	29%	63%
Stormwater	28%	50%	22%
Other*	11%	17%	72%

- Comments made in the "Other" field: wind, fire, storm debris, loss of power

KEY TAKEAWAYS

- **Highest Risk:** 86% of survey respondents believed that **people (injuries and/or loss of life)** are the asset most at risk from natural hazards in the community, followed by environmental assets (dunes, wetlands, water bodies, habitat areas, etc.), and infrastructure (roads, bridges, utilities, schools, etc.).

- **Highest Priorities:** 88% of survey respondents believed that protecting **private (residential and commercial) property** is “very important” to plan for protections from natural hazards, followed by protecting **critical facilities (police/fire stations, doctor’s offices, etc.)**

KEY TAKEAWAYS

- **Priorities regarding critical facilities:**
  Community members indicated that **protecting existing critical facilities from natural hazards** ranked higher on the priority list than the option of **strengthening emergency services** in the community.

- **Priorities regarding natural infrastructure:**
  - 78% of respondents believed that protecting the function of **natural features such as dunes, wetlands, and streams** is “very important”; and
  - The design and construction of **nature-based barriers (dunes, beaches, living shorelines, riparian buffers, etc.)** ranked highest (83%) in the steps that the community would like to see the local government take to reduce the risk of future damages to property from natural hazards, followed by restricting new development in flood prone areas.

3

RISK AND VULNERABILITY ASSESSMENT RESULTS

ASSESSING VULNERABILITY

Vulnerability Score = Exposure Score + Sensitivity Score – Adaptive Capacity

Exposure Score	Sensitivity Score	Adaptive Capacity
The presence of people, assets, and ecosystems in places where they could be adversely impacted by hazards	Degree to which an asset is potentially affected when exposed to an impact	Ability of the asset and/or population to adjust to potential impacts from hazards with minimal disruption or cost

ASSESSING VULNERABILITY

- **Hazards used in desktop assessment:**
  - Sea level rise (1 foot)
  - Storm surge from a major storm (category 3 hurricane or higher)
  - FEMA 1% annual chance flood zone
  - Inlet Hazard Area
  - High tide flooding

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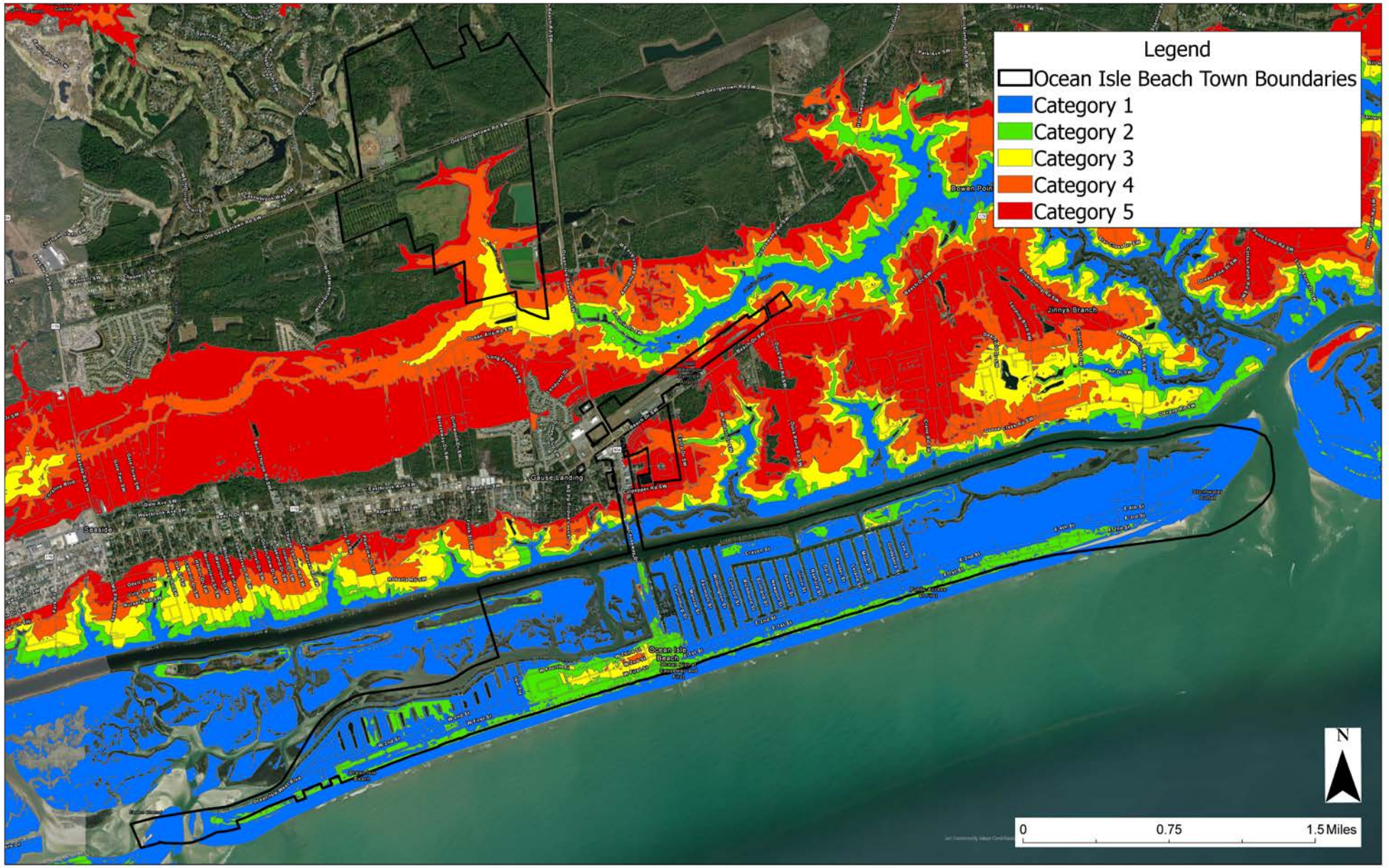

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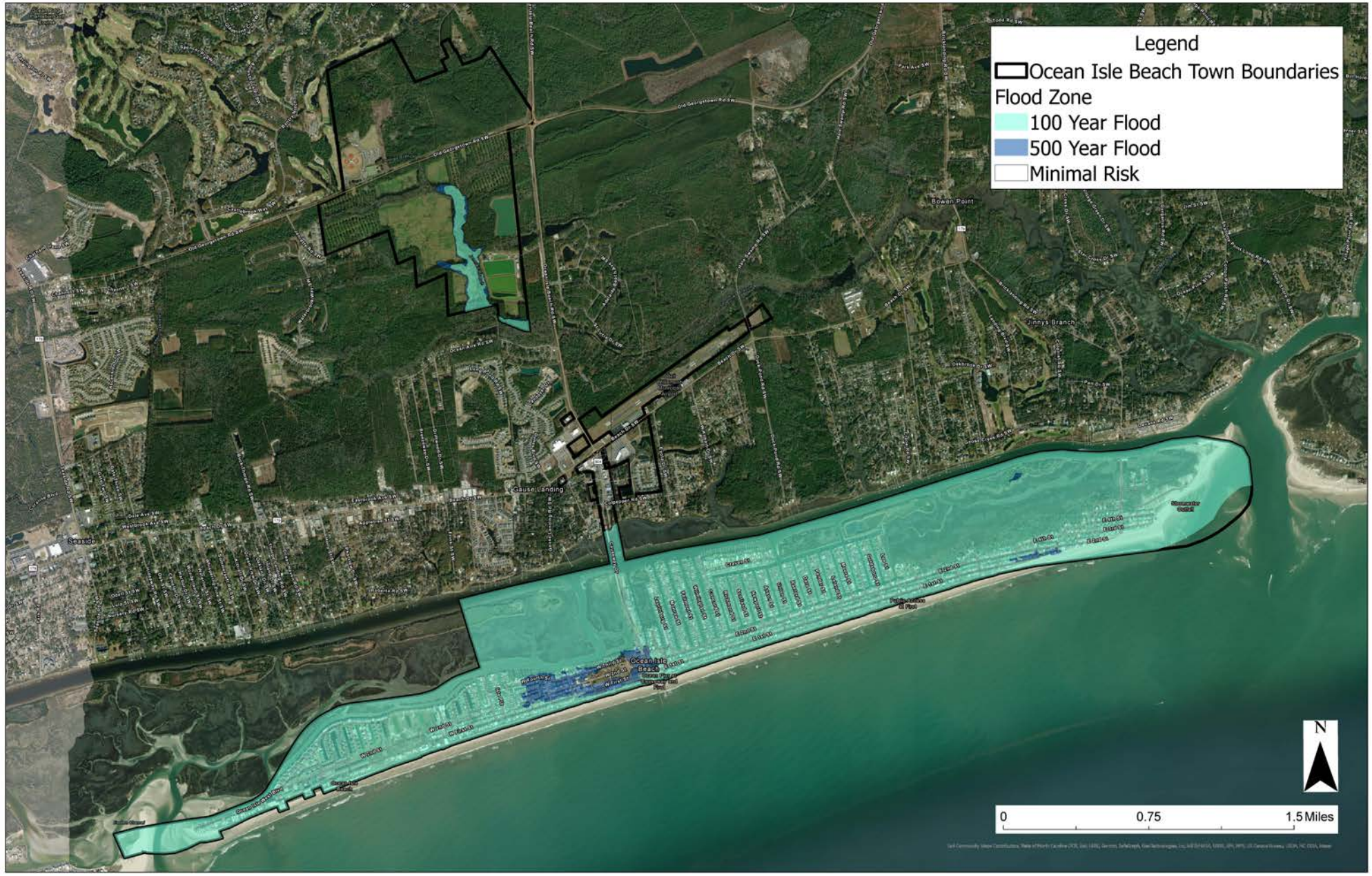

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North Carolina RESILIENT COASTAL COMMUNITIES PROGRAM

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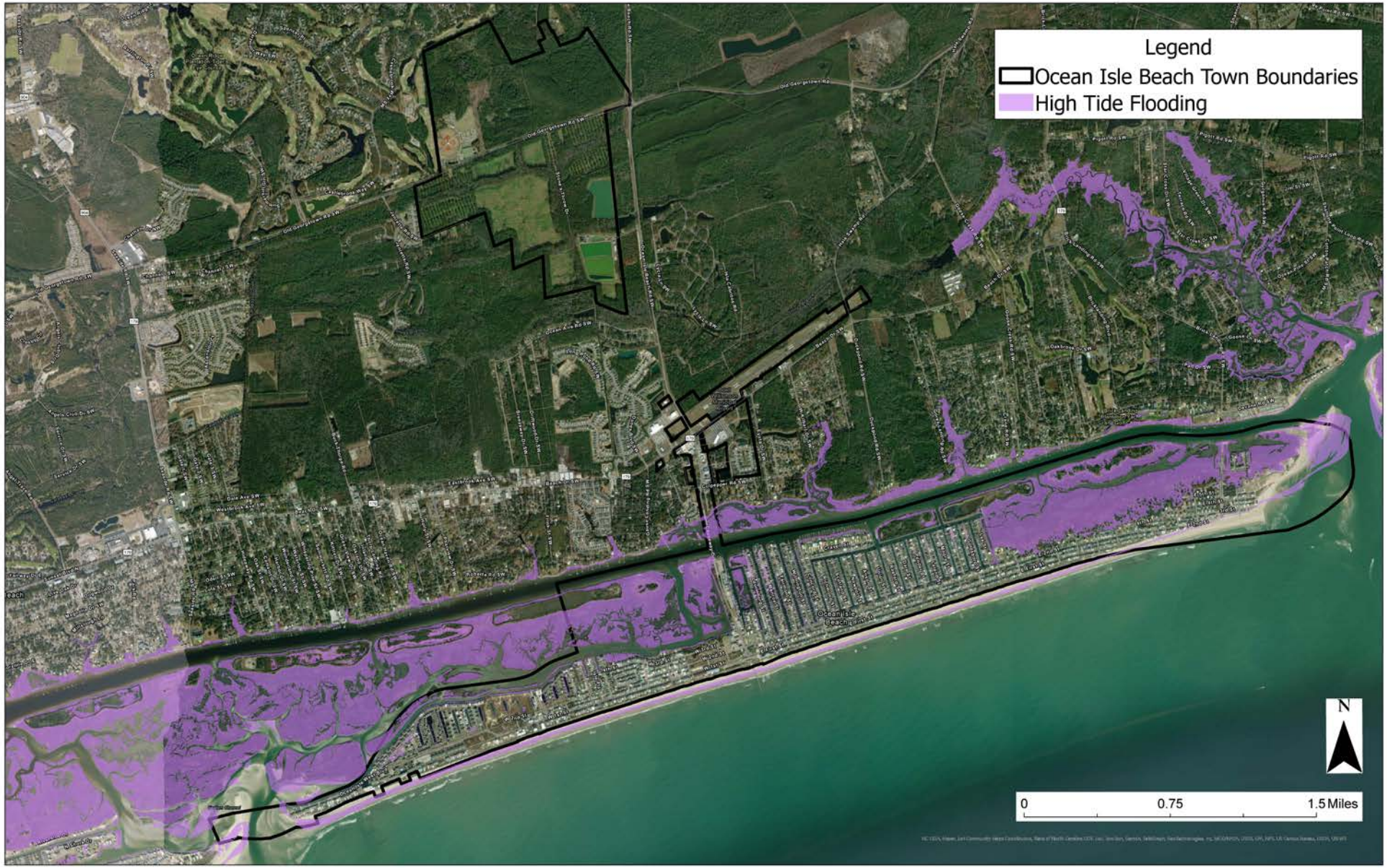

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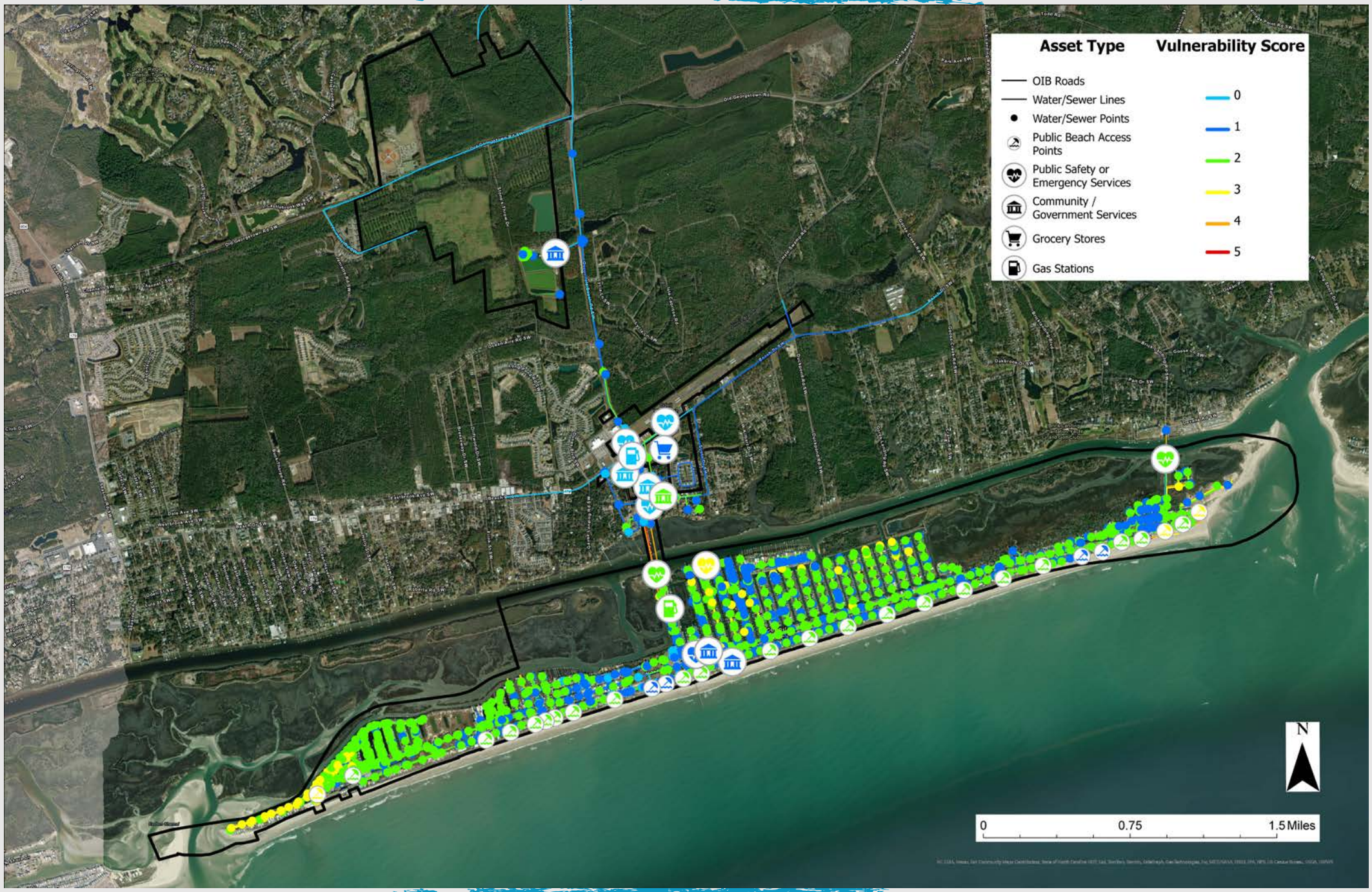

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HIGHEST IDENTIFIED VULNERABILITIES (4-5)

Asset	Exposure	Sensitivity	Adaptive Capacity	Vulnerability Score
Causeway Drive (Bridge)	3	3	1	5
Dunes	3	3	1	5
Water Bodies (2)	3	3	2	4
Sewer Force Main (1)	3	3	2	4
Sewer Gravity (1)	3	3	2	4
Water Pipes (10)	3	3	2	4

RESULTS OF VULNERABILITY SCORING

Asset	Exposure	Sensitivity	Adaptive Capacity	Vulnerability Score
Roads (7)	3	2	2	3
Water Pipes (59)	2	3	2	3
Sewer Gravity (42)	2	3	2	3
Sewer Force Main (8)	2	3	2	3
Valves (22)	2	3	2	3
Manhole (35)	2	3	2	3
Water Tower	1	3	1	3
Outfalls (16)	2	3	2	3
Catch Basins (5)	3	2	2	3
Pump Stations (3): W-5, E-3, E-26	2	3	2	3
Hohunu Tide Gauge	3	2	2	3
Wetlands (22)	3	2	2	3
Water Bodies (8)	2	3	2	3
Public Beach Accesses (3)	3	2	2	3

4

OVERVIEW OF POTENTIAL PROJECT IDEAS

OCEAN ISLE BEACH VISION STATEMENT

We envision a resilient future, where our community's natural and manmade beauty, sense of unity, and genuine concern for environmental stewardship serve as the foundation for adaptation, acclimation, and preparedness for challenges associated with coastal hazards.

OCEAN ISLE BEACH GOAL STATEMENTS

1. Manage development and growth sustainably.
2. Implement nature-based and hybrid solutions to improve coastal resilience.
3. Review, revise, and update key plans, policies, and ordinances to strengthen resilience efforts.
4. Ensure critical infrastructure resilience.
5. Improve education and preparedness.
6. Reduce structural, environmental, and economic impacts from coastal hazards.

POTENTIAL PROJECTS

1.1 Resilient Multimodal Transportation Feasibility Study (Goal #1)

- Aligns with Ocean Isle Bicycle and Pedestrian Plan (2014), property owner survey, CAT input.
- Improvements to pedestrian and bicyclist safety, better access to community destinations, greater opportunities for active lifestyle, reduced need for vehicle trips and carbon reductions, enhanced resilient multimodal network.

2.1 Dune Building and Preservation (Goal #2, Goal #4, Goal #6)

- Identified highest vulnerability score in risk & vulnerability assessment.
- Aligns with public survey input and CAT member suggestions.
- Increased level of storm protection for Town infrastructure, ecosystem benefits, nature-based solution.

POTENTIAL PROJECTS

2.2 Island Native Plant Giveaway: Rooted in Community (Goal #2, Goal #6)

- Aligns with public survey input and CAT member suggestions
- Native trees and plants will provide beauty, shade, and wildlife habitat while absorbing carbon dioxide and helping support flood water uptake.

2.3 Dune Infiltration Project to Reduce Stormwater Flooding (Goal #2, Goal #4, Goal #6)

- Aligns with vulnerability assessment, public survey input, and CAT member suggestions
- Benefits include reduction of stormwater flooding along Ocean Isle Beach roadways as well as water quality improvements.

POTENTIAL PROJECTS

<u>2.4 Living Shoreline Feasibility Study (Goal #2, Goal #4, Goal #6)</u>

- Aligns with public survey input and CAT discussions.
- Benefits include shoreline stabilization along the estuarine shoreline with ecosystem benefits.

<u>2.5 Ongoing Support for Federal Beach Nourishment Project/Terminal Groin Maintenance (Goal #2, Goal #4, Goal #6)</u>

- Aligns with risk and vulnerability assessment, public survey input and CAT discussions.
- Primary benefits are storm protection, wave impact and flooding reduction, as well as protection from long-term erosion and sea level rise impacts on infrastructure. Additional ecosystem and tourism benefits as well.

POTENTIAL PROJECTS

3.1 Update Cama Land Use Plan to Include Resilience (Goal #3, Goal #6)

- Aligns with public survey and CAT input.
- Primary benefit is to add resiliency considerations to the CAMA Land Use Plan such that the Town's land use is aligned with creating a resilient community.

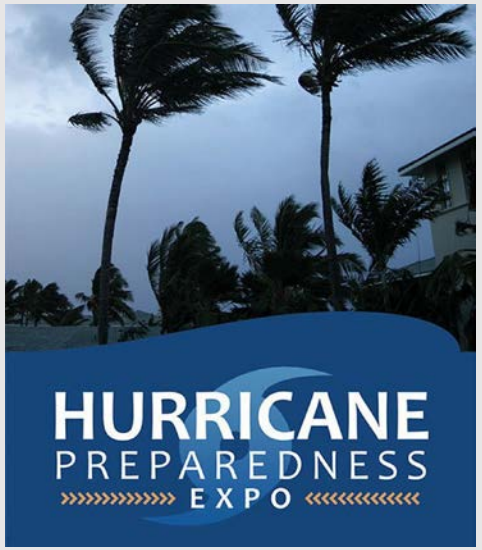
4.1 Raise Lift Station Control Panels in Flood-Prone Areas (Goal #4, Goal #6)

4.2 Purchase Backup Pumps & Generators for Lift Stations (Goal #4, Goal #6)

4.3 Coordinate with Brunswick Electric to Raise Transformer Pedestals in Flood-prone Areas (Goal #4, Goal #6)

- Align with flood risk assessment, CIP, and CAT member suggestions.
- Primary benefit is increased level of storm protection for Town infrastructure.

POTENTIAL PROJECTS



5.1 Conduct Annual Hurricane Expo (Goal #5, Goal #6)

- Aligns with survey data and CAT member input.
- Primary benefit is increased preparedness of property owners, residents, and tourists.

5.2 Resilience Programming with Museum of Coastal Carolina (Goal #5, Goal #6)

- Aligns with survey data and CAT member input.
- Multiple benefits including increased long-term engagement on resilience topics, increased preparedness of property owners, residents, and tourists.

POTENTIAL PROJECTS

5.3 Resilience Demonstration Project(s) at Ferry Landing Park (Goal #5, Goal #6)

- Aligns with survey data and CAT member input.
- Primary benefit is increased knowledge of resilience methods and opportunities by property owners, residents, and tourists.

6.1 Continue Community Rating System Participation (Goal #6)

- Public feedback and CAT member input.
- Benefits include flood mitigation and discounts on flood insurance for property owners.

COMMUNITY INPUT

Priority Rating	Candidate Projects	Ranking Order
H M L	1.1 Resilient Multimodal Transportation Feasibility Study	
H M L	2.1 Dune Building and Preservation	
H M L	2.2 Island Native Plant Giveaway: Rooted in Community	
H M L	2.3 Dune Infiltration Project to Reduce Stormwater Flooding	
H M L	2.4 Living Shoreline Feasibility Study	
H M L	2.5 Continued Support and Coordination for USACE Federal Project/Terminal Groin Maintenance	
H M L	3.1 Update CAMA Land Use Plan to Include Resilience Strategies	
H M L	4.1 Raise Lift Station Control Panels in Flood-Prone Areas	
H M L	4.2 Purchase Backup Pumps & Generators for Lift Stations	
H M L	4.3 Coordinate with Brunswick Electric to Raise Transformer Pedestals in Flood-prone Areas	
H M L	5.1 Conduct Annual Hurricane Expo	
H M L	5.2 Resilience Programming with Museum of Coastal Carolina	
H M L	5.3 Resilience Demonstration Project(s) at Ferry Landing Park	
H M L	6.1 Continue Community Rating System Participation	

THANK YOU FOR YOUR INPUT!

oceanisle BEACH

North Carolina
RESILIENT
COASTAL
COMMUNITIES
PROGRAM

NC DIVISION OF COASTAL MANAGEMENT

moffatt & nichol

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