Charlotte County /City of Punta Gorda Local Mitigation Strategy

Prepared by: The Charlotte County Local Mitigation Strategy Working Group **2025**

Promulgation Statement

Patrick Fuller
Director of Emergency Management
CHARLOTTE COUNTY, FL
CHARLOTTE COUNTY LOCAL MITIGATION STRATEGY PROMULGATION

February 18, 2025

The primary role of government is to provide for the welfare of its citizens. The welfare of citizens is never more threatened than during disasters. The goal of emergency management is to ensure that mitigation, preparedness, response, and recovery actions exist so that public welfare and safety is preserved.

The Local Mitigation Strategy (LMS) is a community developed plan to reduce and or eliminate the risks associated with natural and man-made hazards. The Local Mitigation Strategy's purpose will be achieved through the process of hazard mitigation. As used in the LMS, "hazard mitigation" refers to any actions taken by local governments, other government entities, or private interests to permanently reduce or eliminate short and long-term risks to people and their property from the effects of natural or manmade disasters. It will continue to evolve, responding to lessons learned from actual disaster and emergency experiences, and ongoing planning efforts. Therefore, in recognition of the emergency management responsibilities of the jurisdiction, I hereby promulgate the Charlotte County Local Mitigation Strategy.

Patrick Fuller

Charlotte County Emergency Management
Director

Table of Contents

1 Introduction

This is an introduction to the Local Mitigation Strategy and how it is active within Charlotte County. This section describes the local jurisdictions and organizations participated in the original planning process and the ongoing maintenance of the Charlotte County/Punta Gorda Local Mitigation Strategy (LMS).

The LMS Working Group was established to identify and recommend projects and programs that, when implemented, would eliminate, minimize, or otherwise mitigate the vulnerability of the people, property, environmental resources, and economic vitality of the community to the impacts of future disasters. These identified projects and programs are termed "mitigation initiatives" and constitute the most essential component of the Charlotte County/City of Punta Gorda Local Mitigation Strategy. The fundamental purpose of this plan is to guide, coordinate, and facilitate the efforts of the agencies, organizations, and individuals participating in the LMS Working Group as they seek funding, authorities, or other resources necessary for implementation of the identified mitigation initiatives. This section is broken down into the following subsections:

1.1 Purpose of the Plan

Per Florida Statute 252.35 and Rule 27P-22.005 each county in the state of Florida must have and maintain a Local Mitigation Strategy Plan. The Charlotte County Local Mitigation Strategy (LMS) is a community developed plan that uses a whole community approach planning for disasters.

The purpose of the plan is to identify hazards and vulnerabilities specific to Charlotte County. The Local Mitigation Strategy's purpose will be achieved through the process of hazard mitigation. As used in the LMS, "hazard mitigation" refers to any actions taken by local governments, other government entities, or private interests to permanently reduce or eliminate short and long-term risks to people and their property from the effects of natural or manmade disasters. In this regard, the Local Mitigation Strategy is a planning document.

The planning process began with the development of the Local Mitigation Strategy Working Group (LMSWG). An effective Working Group involves participation from all jurisdictions and stakeholders within the county. The planning work conducted to develop this document relies heavily on the expertise and authorities of the participating agencies and organizations. It is also based on research from existing plans, studies, and technical information.

1.2 Participating Jurisdictions

P2 (A1-b) The plan must list the jurisdiction(s) in the current plan that will seek approval.

R7 (B1-f) For multi-jurisdictional plans, when hazard risks differ across the planning area and between participating jurisdictions, the plan must specify the unique and varied risk information for each applicable jurisdiction and their assets outside the planning area.

A1 (F1-a) The jurisdiction must provide documentation of plan adoption, usually a resolution by the governing body or other authority, to receive approval.

A2 (F2-a) To receive approval, the participants must adopt the plan and provide documentation that the adoption has occurred.

Charlotte County, the City of Punta Gorda, Charlotte County Public Schools, and Englewood Area Fire Control District are the sole jurisdictions within the county, and both are active participants in the planning and maintenance process. Representatives from different segments of each governmental structure are included in the LMS Working Group as well as other non-governmental partners (NGOs), stakeholders, and community members.

Ideas and suggestions from these different sectors or agencies were requested during the planning process. By providing the LMS Working Group with information relating to the different perspectives, data, and community needs within Charlotte County, each jurisdiction helps to improve this document. The Interlocal Agreement between Charlotte County and the City of Punta Gorda is in the appendices, and the resolutions for the City, CCPS, and Englewood Area Fire Control District are included in this section.

STATE OF FLORIDA

DIVISION OF EMERGENCY MANAGEMENT

Ron DeSantis
Governor

Jared Moskowitz
Director

August 24, 2020

Patrick Fuller, Director
Charlotte County Emergency Management
26571 Airport Rd.
Punta Gorda, Florida 33982

Re: Local Hazard Mitigation Plan Approval Notification

Dear Director Fuller,

Congratulations! The enclosed letter constitutes the Federal Emergency Management Agency's (FEMA) formal approval of the Charlotte County Local Mitigation Strategy (LMS) plan for the following participating jurisdictions:

Charlotte County, Unincorporated

The plan has been approved for a period of five (5) years and will expire again on August 19, 2025.

The Mitigation Planning Unit would like to thank you for all of your hard work. It has been a pleasure working with you and we look forward to serving you in the future. If you have any questions regarding this matter, please contact your LMS Liaison Dan Curcio at Daniel.Curcio@em.myflorida.com or 850-815-4504.

Respectfully,

Miles E. Anderson

Digitally signed by Miles E. Anderson
DN: cn=Miles E. Anderson, o=DEM, ou=Mitigation, email=Miles.anderson@em.myflorida.com, c=US
Date: 2020.08.24 11:44:07 -04'00'

Miles E. Anderson,
Bureau Chief, Mitigation
State Hazard Mitigation Officer

MEA/dc

Attachments: 08/19/20 FEMA Approval Letter for Charlotte County, Unincorporated

CHG
BCC

RESOLUTION
NUMBER 2020- 108

A RESOLUTION OF THE BOARD OF COUNTY COMMISSIONERS OF CHARLOTTE COUNTY, FLORIDA, ADOPTING THE CHARLOTTE COUNTY / CITY OF PUNTA GORDA LOCAL MITIGATION STRATEGY AS THE FORMAL GUIDE FOR CHARLOTTE COUNTY'S HAZARD MITIGATION ACTIVITIES.

RECITALS

WHEREAS, the Charlotte County Board of County Commissioners approved an Interlocal Agreement between Charlotte County ("County") and the City of Punta Gorda ("City") on March 9, 2004, requiring that the County and City work jointly to revise and update the County / City Local Mitigation Strategy to ensure its compliance with the Disaster Mitigation Act of 2000; and

WHEREAS, pursuant to that Interlocal Agreement, the City / County Local Mitigation Strategy Working Group has jointly identified local hazards, has assessed county-wide and city-wide vulnerability to these risks and hazards and has prioritized mitigation initiatives that will reduce local vulnerability to these hazards in the form of the Charlotte County / City of Punta Gorda Local Mitigation Strategy; and

WHEREAS, initiatives identified on the Local Mitigation Strategy Initiatives List are given more consideration by state management funding programs such as the Hazard Mitigation Grant Program, the Emergency Management Preparedness Assistance Trust Fund, Communities Trust, Community Development Block Grant, Coastal Partnerships Initiative, and many others; and

WHEREAS, the Local Mitigation Strategy can also serve as the Flood Mitigation Plan as required of all communities participating in the National Flood Insurance

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Program; and

WHEREAS, the Local Mitigation Strategy is designed to be a process oriented document with review and revision policies that allow the Local Mitigation Strategy to be changed to meet new or changing conditions, including hazard-event frequency, perceived local needs, and funding opportunities; and

WHEREAS, the Charlotte County Board of County Commissioners adopted the 2015 Local Mitigation Strategy by Resolution 2015-070 on July 14, 2015; and

WHEREAS, Florida Division of Emergency Management requires review and update of the Local Mitigation Strategy every five (5) years; and

WHEREAS, the Local Mitigation Strategy Working Group has reviewed and updated the Local Mitigation Strategy as required.

NOW, THEREFORE, BE IT RESOLVED, by the Charlotte County Board of County Commissioners that:

1. The Board of Commissioners of Charlotte County hereby adopts the Charlotte County/City of Punta Gorda 2020 Local Mitigation Strategy as the formal guide for Charlotte County's hazard mitigation activities.

[SIGNATURE PAGE FOLLOWS]

PASSED AND DULY ADOPTED this 28th day of July, 2020.

BOARD OF COUNTY COMMISSIONERS
OF CHARLOTTE COUNTY, FLORIDA

By: _____
William G. Truex, Chairman

ATTEST:

Roger D. Eaton, Clerk of the Circuit
Court and Ex-officio Clerk of the
Board of County Commissioners

By: _____
Deputy Clerk

APPROVED AS TO FORM
AND LEGAL SUFFICIENCY:

By: _____
Janette S. Knowlton, County Attorney
LR20-0472 PSP (PSP)

City of Punta Gorda, Florida

Resolution No. 3535-2020

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF PUNTA GORDA, FLORIDA, ADOPTING THE CHARLOTTE COUNTY/CITY OF PUNTA GORDA LOCAL MITIGATION STRATEGY AS THE FORMAL GUIDE FOR CITY OF PUNTA GORDA HAZARD MITIGATION ACTIVITIES.

WHEREAS, the City Council of the City of Punta Gorda, Florida, approved an Interlocal Agreement between the Charlotte County (County") and City of Punta Gorda ("City") and on March 9, 2004, requiring that the County and City work jointly to revise and update the County/City Local Mitigation Strategy to ensure its compliance with the Disaster Mitigation Act of 2000; and

WHEREAS, pursuant to that Interlocal Agreement, the County/City Local Mitigation Strategy Working Group has jointly identified local hazards, has assessed county-wide and city-wide vulnerability to these risks and hazards and has prioritized mitigation initiatives that will reduce local vulnerability to these hazards in the form of the Charlotte County/City of Punta Gorda Local Mitigation Strategy; and

WHEREAS, initiatives identified on the Local Mitigation Strategy Initiatives List are given more consideration by state management funding programs such as the Hazard Mitigation Program Grant, the Emergency Management Preparedness Assistance Trust Fund, Communities Trust, Community Development Block Grant, Coastal Partnerships Initiative, and many others; and

WHEREAS, the Local Mitigation Strategy also serves as the Flood Mitigation Plan as required of all communities participating in the National Flood Insurance Program; and

WHEREAS, the Local Mitigation Strategy is designed to be a process-oriented document with review and revision polices that allow the Local Mitigation Strategy to be changed to meet new or changing conditions, including hazard-event frequency; perceived local needs, and funding opportunities; and

WHEREAS, the Florida Division of Emergency Management requires review and updates of the Local Mitigation Strategy every five (5) years; and

WHEREAS, the Local Mitigation Strategy Working Group has reviewed and updated the Local Mitigations Strategy as required by law.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF PUNTA GORDA, FLORIDA, THAT:

I. The City Council of the City of Punta Gorda hereby adopts the Charlotte County/City of Punta Gorda 2020 Local Mitigation Strategy as the formal guide for the City's hazard mitigation activities.

ADOPTED in a regular meeting of the City Council of the City of Punta Gorda, Florida, this 21 day of October 2020.

NANCY PRAFKE, Mayor

ATTEST:

KAREN SMITH, City Clerk

APPROVED AS TO FORM:

DAVID M. LEVIN, City Attorney

Resolution 2024-002

RESOLUTION OF THE BOARD OF CHARLOTTE COUNTY PUBLIC SCHOOLS, FLORIDA, ADOPTING THE CHARLOTTE COUNTY / CITY OF PUNTA GORDA LOCAL MITIGATION STRATEGY AS THE FORMAL GUIDE FOR CHARLOTTE COUNTY PUBLIC SCHOOLS HAZARD MITIGATION ACTIVITIES.

WHEREAS, the Charlotte County Board of County Commissioners approved an Interlocal Agreement between Charlotte County ("County") and the City of Punta Gorda ("City") on March 9, 2004, requiring that the County and City work jointly to revise and update the County / City Local Mitigation Strategy to ensure its compliance with the Disaster Mitigation Act of 2000; and

WHEREAS, pursuant to that interlocal Agreement, the City / County Local Mitigation Strategy Working Group has jointly identified local hazards, has assessed county-wide and city-wide vulnerability to these risks and hazards and has prioritized mitigation initiatives that will reduce local vulnerability to these hazards in the form of the Charlotte County / City of Punta Gorda Local Mitigation Strategy; and

WHEREAS, initiatives identified on the Local Mitigation Strategy Initiatives List are given more consideration by state management funding programs such as the Hazard Mitigation Grant Program, the Emergency Management Preparedness Assistance Trust Fund, Communities Trust, Community Development Block Grant, Coastal Partnerships Initiative, and many others; and

WHEREAS, the Local Mitigation Strategy is designed to be a process oriented document with review and revision policies that allow the Local Mitigation Strategy to be changed to meet new or changing conditions, including hazard-event frequency, perceived local needs, and funding opportunities; and

WHEREAS, the Florida Division of Emergency Management requires review and updates of the Local Mitigation Strategy every five (5) years; and

WHEREAS, the Local Mitigation Strategy Working Group has reviewed and updated the Local Mitigation Strategy as required by law.

NOW, THEREFORE, BE IT RESOLVED by the BOARD OF CHARLOTTE COUNTY PUBLIC SCHOOLS, FLORIDA, THAT:

1. The Board of Charlotte County Public Schools hereby adopts the Charlotte County/City of Punta Gorda 2020 Local Mitigation Strategy as the formal guide for hazard mitigation activities.

Adopted in a regular meeting of the Board of Charlotte County Public Schools, Florida this 11th day of June 2024.

Agenda Item Details

Meeting	Jun 11, 2024 - Regular School Board Meeting
Category	G. ACTION AGENDA
Subject	2. Resolution 2024-002 to Adopt Charlotte County/City of Punta Gorda Local Mitigation Strategy as the Formal Guide for Charlotte County Public Schools Hazard Mitigation Activities.
Access	Public
Type	Action
Recommended Action	Approval is requested to adopt Charlotte County/City of Punta Gorda Local Mitigation Strategy as the Formal Guide for Charlotte County Public Schools Hazard Mitigation Activities.

Public Content

Resolution 2024-002 of the Charlotte County/City of Punta Gorda Local Mitigation Strategy as the Formal Guide for Charlotte County Public Schools Hazard Mitigation Activities.

Resolution 2024-002 Adopting Local Mitigation Strategy (4).docx (23 KB)

Administrative Content

Motion & Voting

Approval is requested to adopt Charlotte County/City of Punta Gorda Local Mitigation Strategy as the Formal Guide for Charlotte County Public Schools Hazard Mitigation Activities.

Motion by John LeClair, second by Wendy Atkinson.
Final Resolution: Motion carries
Yea: Kim Amontree, Wendy Atkinson, John LeClair, Cara Reynolds, Bob Segur

Resolution 2024-1425

A RESOLUTION OF THE BOARD OF FIRE COMMISSIONERS OF THE ENGLEWOOD AREA FIRE CONTROL DISTRICT, ENGLEWOOD, FLORIDA, ADOPTING THE CHARLOTTE COUNTY / CITY OF PUNTA GORDA LOCAL MITIGATION STRATEGY AS THE FORMAL GUIDE FOR ENGLEWOOD AREA FIRE CONTROL DISTRICT HAZARD MITIGATION ACTIVITIES.

WHEREAS, the Charlotte County Board of County Commissioners approved an Interlocal Agreement between Charlotte County ("County") and the City of Punta Gorda ("City") on March 9, 2004, requiring that the County and City work jointly to revise and update the County / City Local Mitigation Strategy to ensure its compliance with the Disaster Mitigation Act of 2000; and

WHEREAS, pursuant to that interlocal Agreement, the City / County Local Mitigation Strategy Working Group has jointly identified local hazards, has assessed county-wide and city-wide vulnerability to these risks and hazards, and has prioritized mitigation initiatives that will reduce local vulnerability to the hazards in the form of the Charlotte County / City of Punta Gorda Local Mitigation Strategy; and

WHEREAS, initiatives identified on the Local Mitigation Strategy Initiatives List are given more consideration by state management funding programs such as the Hazard Mitigation Grant Program, the Emergency Management Preparedness Assistance Trust Fund, Communities Trust, Community Development Block Grant, Coastal Partnerships Initiative, and many others; and

WHEREAS, the Local Mitigation Strategy also serves as the Flood Mitigation Plan as required of all communities participating in the National Flood Insurance Program and

WHEREAS, the Local Mitigation Strategy is designed to be a process-oriented document with review and revision policies that allow the Local Mitigation Strategy to be changed to meet new or changing conditions, including hazard-event frequency, perceived local needs, and funding opportunities and

WHEREAS, the Florida Division of Emergency Management requires review and updates of the Local Mitigation Strategy every five (5) years and

WHEREAS, the Local Mitigation Strategy Working Group has reviewed and updated the Local Mitigation Strategy as required by law.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF FIRE COMMISSIONERS OF THE ENGLEWOOD AREA FIRE CONTROL DISTRICT THAT:

1. The Englewood Area Fire Control District hereby adopts the Charlotte County/City of Punta Gorda 2020 Local Mitigation Strategy as the formal guide for hazard mitigation activities in the Charlotte County portion of the District.

PASSED AND ADOPTED BY THE BOARD OF FIRE COMMISSIONERS OF THE ENGLEWOOD AREA FIRE CONTROL DISTRICT, ENGLEWOOD, FLORIDA, THIS 20th DAY OF NOVEMBER 2024

BOARD OF FIRE COMMISSIONERS OF THE ENGLEWOOD AREA FIRE CONTROL DISTRICT, ENGLEWOOD, FLORIDA

By: _____
(Chair)

Attorney for the Englewood Area Fire Control District

_____
Lori Wellbaum, Esquire

ATTEST:
By: _____
Clerk

2 Working Group Organization

P1 (A1-a) The plan must document the current planning process.

The Working Group is composed of a wide variety of participants from Charlotte County, the City of Punta Gorda, and their partners. It is broken down into the following subsections:

2.1 Process
2.2 The Working Group Organizational Structure
2.3 Roles of the LMS Working Group

2.1 Process

Individual jurisdictions, as well as their agencies and local organizations, are really the key to accomplishing the planning process. The effort begins with developing a community profile of Punta Gorda and Charlotte County to document the basic characteristics of their community that are relevant to controlling the impacts of disasters. Vulnerability assessments of key facilities, systems, and neighborhoods within or serving the jurisdictions are conducted to specifically define how these may be vulnerable to the impacts of all types of disasters. Finally, the jurisdictions and their organizations use the vulnerability assessments to formulate and characterize mitigation initiatives that they could implement if the resources to do so became available. Once these proposed initiatives are coordinated, the LMS Working Group can then decide whether to incorporate them into the Charlotte County/City of Punta Gorda Local Mitigation Strategy.

The participating jurisdictions, organizations, and individuals in the Charlotte County LMS Working Group have all worked diligently to complete this plan and will continue to do so in the future to create a truly disaster resistant community for the benefit of all its citizens.

2.2 The Working Group Organizational Structure

The Charlotte County/City of Punta Gorda LMS Working Group encourages participation by all interested government entities, agencies, organizations, and individuals. The Working Group is intended to represent a partnership between the public and private sector of the community, working together to create a disaster resistant community. The proposed mitigation initiatives developed by the Working Group and listed in this plan, when implemented, are intended to make the entire community safer from the impacts of future disasters, for the benefit of every individual, neighborhood, business, and institution. The LMS Working Group is led by a chairperson and vice chair but is a collaborative group to share information among partners.

The LMS Working Group has expanded on its past attempts to get the public involved. Methods to achieve involvement are articles in the newspaper, emails to employees, mailings to repetitive loss properties, and phone calls and emails regarding grant opportunities. These methods of reaching out to the public and the notifications of the meetings are intended to allow all participants including those underserved and vulnerable populations to play an active part in the Local Mitigation Strategy. It reaches them where they are via social media, email, mail, and telephone. Unfortunately, while the

LMS Working Group strives to have adequate representation from local government agencies, business interests, community organizations, institutions, and the public, these entities do not always want to become involved in the planning process. The LMS Working Group continues to reach out to these entities to attempt to get some form of representation from each of these groups. If these groups cannot attend the meetings, the document is available online prior to adoption for review and any comments. Public comments can also be stated before the Board of County Commissioners prior to the plan being officially adopted. Charlotte County Emergency Management will continue in the endeavor to gain more representation and involvement from the public during the entire process.

2.3 Roles of the LMS Working Group

P3 (A1-b) The plan must list the representative from each jurisdiction that will seek approval and how they participated in the planning process.

Individual jurisdictions, as well as their agencies and local organizations, are the key to accomplishing the planning process. The effort begins with developing a community profile of Punta Gorda and Charlotte County to document the basic characteristics of each community that are relevant to the potential impacts of disasters. Vulnerability assessments of key facilities, infrastructure systems, and neighborhoods within or serving the jurisdictions are conducted to specifically define how each may be vulnerable to the impacts of all types of disasters. The jurisdictions and their organizations use the vulnerability assessments to formulate and characterize mitigation initiatives that they could implement if the resources to do so become available. Once these proposed initiatives are identified, the LMS Working Group can then decide whether to incorporate them into the Charlotte County/City of Punta Gorda Local Mitigation Strategy.

The LMS Working Group represents both local jurisdictions and other key organizations participating in the planning process and makes all decisions regarding the planning process. The LMS Working Group is also responsible for the overall evaluation of gaps in the community as well as the approval of proposed mitigation initiatives for incorporation into the plan, and for determining the priorities for implementation of those initiatives.

The LMS Working Group reviews the results of technical analyses and planning activities that are fundamental to the development of this plan. These activities include conducting the hazard identification and vulnerability assessment processes, as well as promoting and coordinating the mitigation initiatives that are proposed by other members of the LMS Working Group. Address the promotion of projects, plain maintenance, sharing information and funding opportunities.

The following lists the participants and their roles on the Emergency Management Advisory Group. This list includes all public and private sector representatives who have accepted the invitation to be involved in the LMS working group:

Name	Agency	Position
Alisa True	Charlotte County Purchasing	Senior Contract Specialist

Angela Hogan	COAD/ Gulf Coast Partnership	CEO
April Santos	Charlotte County Public Works	Grants Analyst
Ashlyn Gamble	Charlotte County Emergency Management	Emergency Management Specialist
Bradley Geelen	Charlotte County Emergency Management	Emergency Management Coordinator
Brandon Moody	Administration	Water Quality Manager
Brandon Watkins	Charlotte County Emergency Management	Emergency Management Specialist
Ashley Aguiar	Englewood Water District	Executive Assistant
Brittany Comrie	Budget & Administrative Services	Grants Analyst
Brittany Metzler	City of Punta Gorda - City Manager	Planner I
Bryan Hatfield	Charlotte County Utilities	Operations Project Manager
Carol Colicchio	Charlotte County Fiscal	Senior Financial Analyst
Carrie Walsh	Charlotte County Human Services	Director
Christine Fankhauser	Charlotte County Emergency Management	Emergency Management Specialist and LMS Chair
Claire Jubb	Administration	Assistant County Administrator
Dave Watson	Charlotte County Utilities	Director
David Freed	Charlotte County Community Development	Floodplain Coordinator
Donna Bailey	Charlotte County Community Development	Floodplain Coordinator
Doug Blevins	Charlotte County Radio Communications	Manager
Elizabeth Nocheck	Charlotte County Community Development	Senior Planner
Ellen Pinder	Charlotte County Emergency Management	Emergency Management Coordinator
Emily Lewis	Charlotte County Administration	Deputy County Administrator
Gordon Burger	Charlotte County Budget and Admin	Director of Budget and Admin
Holden Gibbs	City of Punta Gorda - Fire Department	Fire Chief
James Gentile	Charlotte County Budget and Admin	Grants and Project Manager
Jamie Scudera	Charlotte County Community Services	Project Manager
Jason Fair	Charlotte County Public Safety	Director
Jeff Proffitt	Charlotte County Public Works	Pest Management Operations Supervisor
Jeffery Briseindine	GIWA	Consultant
Jie Shao	Charlotte County Community Development	Planner, Principal
Joe King	Charlotte County Public Schools	Coordinator of Security/EM
Joe Pepe	Florida Department of Health	Administrator
Karen Bliss	Charlotte County Public Works	Projects Manager

Karlene McDonald	Charlotte County Public Works	Operations Supervisor
Karly Greene	Charlotte County Public Works	Manager, Maintenance and Operations
Keith Ledford	Englewood Water District	Technical Support Manager
Kevin Easton	Englewood Fire Department	Fire Chief
Kevin Mangels	Charlotte County Budget and Admin	Division Manager
Lakshmi Gurram	Charlotte County Metropolitan Planning Organization	Principal Planner
Laurie Kimball	Charlotte County Human Services	Grants Analyst
Lonne Moore	Charlotte County Community Services	Project Manager
Lorenzo Daetz	Charlotte County Public Works	Solid Waste Supervisor
Syndi Merriman	Charlotte County Utilities	Projects Manager
Matthew Logan	Charlotte County Public Works	Projects Manager
Mike Desjardins	Charlotte County Public Schools	District Title IX Coordinator
Mike Koenig	Charlotte County Community Services	Resource Manager
Mike Thames	Punta Gorda Airport	Safety and Security Compliance Specialist
Mitchell Austin	City of Punta Gorda - City Manager	Urban Design Manager
Patrick Fuller	Charlotte County Emergency Management	Director
Raju Gopinath	Charlotte County Budget and Admin	GIS Manager
Richard Allen	Charlotte County Public Works	Solid Waste Operations Manager
Richard Lehmkuhl	City of Punta Gorda - City Manager	Grants Coordinator and LMS Vice Chair
Ron Everts	City of Punta Gorda Public Works	Public Works Director
Roger Johnson	Charlotte Harbor Water	Head Plant Operator
Scott Schermerhorn	Charlotte County Public Works	Mosquito and Aquatic Weed Control Manager
Shaun Cullinan	Charlotte County Community Development	Planning & Zoning Official
Stephen Kipa	Charlotte County Budget and Admin	Real Estate Services Manager
Steve Adams	City of Punta Gorda Utilities	Utility Engineering Manager
Tara Brady	Administration	Projects Manager
Teresa VanderWaag	Charlotte County Facilities	Facilities Manager
Tina Powell	Charlotte County Community Services	Parks and Natural Resources Manager
Todd Davis	Charlotte County Sheriff's Office	Captain
Tommy Scott	Charlotte County Community Services	Director
Travis Perdue	Charlotte County Facilities	Director
Tyler Canfield	City of Punta Gorda - Fire Department	Operations Chief
Zinnia Vargas	Charlotte County Budget and Admin	Financial Manager

3 Planning Process

Individual jurisdictions, as well as their agencies and local organizations, are the key to accomplishing the planning process. The effort began with developing a community profile for Punta Gorda and Charlotte County to document the basic characteristics of the community that are relevant to controlling the impacts of disasters. Vulnerability assessments of key facilities, systems, and neighborhoods within or serving the jurisdictions are conducted to specifically define how these may be vulnerable to the impacts of all types of disasters. Finally, the jurisdictions and their organizations use the vulnerability assessments to formulate and characterize mitigation initiatives that they could implement if the resources to do so became available. Once these proposed initiatives are coordinated, the LMS Working Group can then decide whether to incorporate them into the Charlotte County/City of Punta Gorda Local Mitigation Strategy.

The participating jurisdictions, organizations, and individuals in the Charlotte County LMS Working Group worked diligently to complete this plan and will continue to do so in the future to create a truly disaster resistant community for the benefit of all its citizens. This section is broken down into the following subsections:

3.1 Background and Purpose

The LMS Working Group was established to identify and recommend projects and programs that, when implemented, would eliminate, minimize, or otherwise mitigate the vulnerability of the people, property, environmental resources, and economic vitality of the community to the impacts of future disasters. These identified projects and programs are termed “mitigation initiatives” and constitute the most essential component of the Charlotte County/City of Punta Gorda Local Mitigation Strategy. The

fundamental purpose of this plan is to guide, coordinate, and facilitate the efforts of the agencies, organizations, and individuals participating in the LMS Working Group as they seek funding, authorities, or other resources necessary for implementation of the identified mitigation initiatives.

3.2 The Planning Process

The planning process began with the development of the LMS Working Group as an organization by obtaining participation from both Charlotte County and the City of Punta Gorda. The Interlocal Agreement between Charlotte County and the City of Punta Gorda is in the Introduction to the LMS. The planning work conducted to develop this document relies heavily on the expertise and authorities of the participating agencies and organizations. It is also based on research from existing plans, studies, and technical information. The LMS Working Group is confident that the best judgment of the participating individuals, because of their role in the community, can achieve a level of detail in the analysis that is more than adequate than that found in reference materials for purposes of local mitigation planning. As the planning process described herein continues, more detailed and costly scientific studies of the mitigation needs of the community can be defined as initiatives for incorporation into the plan and implemented as resources become available to do so.

3.3 Establishing the Planning Schedule

As indicated in the exhibit below, the LMS Working Group initially establishes a planning schedule for the upcoming planning period that allows the participants to anticipate their involvement in the technical analyses and evaluations that they will be asked to do. The Plan Maintenance Process Section of this LMS details the timeframe for when these analyses and evaluations should be completed. At the outset of the planning period, the LMS Working Group defines the goals that the planning process is attempting to achieve, as well as the specific objectives within each goal that will help to focus the planning efforts. The goals and objectives established by the LMS Working Group for this planning period are described in the Mitigation Goals and Objectives Section of the Mitigation Strategy Part of this LMS document.

Conducting the needed analyses and then formulating proposed mitigation initiatives to avoid or minimize all vulnerabilities of the community to future disasters is an enormous effort, and one that must take place over a long period of time. Therefore, the goals and objectives set by the LMS Working Group are intended to help focus the effort of the participants, for example, by directing attention to certain types of facilities or neighborhoods, or by emphasizing implementation of selected types of proposed mitigation initiatives.

3.4 Hazard Identification and Risk Estimation

The LMS Working Group identifies the natural hazards that threaten portions or all the community where possible, specific geographic areas subject to the impacts of the identified hazards are delineated. The LMS Working Group also uses general information to estimate the relative risk of the various hazards as an additional method to focus their analysis and planning efforts. The LMS Working Group compares the likelihood or probability that a hazard will impact an area, as well as the

consequences of that impact to public health and safety, property, the economy, and the environment. This comparison of the consequences of an event with its probability of occurrence is a measure of the risk posed by that hazard to the community. The LMS Working Group compares the estimated relative risks of the different hazards it has identified to highlight which hazards should be of greatest concern during the upcoming mitigation planning process.

Depending on the participating jurisdiction, a variety of information resources regarding hazard identification and risk estimation have been available. The planners representing the jurisdiction have attempted to incorporate consideration of hazard specific maps, whenever applicable, and have attempted to avail themselves of GIS-based analyses of hazard areas and the locations of critical facilities, infrastructure components, and other properties located within the defined hazard areas. The hazard specific maps considered are listed below:

1. Repetitive Loss Areas *5.3*
2. Storm Surge Zones *5.5.1*
3. FIRM *5.5.2*
4. Storm Surge Risk *5.5.2*
5. Future Land Use Development Trends Maps 1 & 2 *5.4*
6. Coastal Erosion Hazard Area *5.5.6*
7. US Drought Monitor *5.5.7*
8. MSMP Ditch Maintenance 2024 *6.3.1*
9. Major Drainage Basins *6.3.1*
10. Open Space in Hazard Areas *6.3.1*

The LMS Working Group used information provided by the property appraiser's office to determine valuations and potential losses by hazard for every structure located within the county. An explanation of how this was done can be found in the Introduction portion of the Risk Assessment Part of this document. By analyzing valuation and potential losses for the county on a parcel-by-parcel level, the LMS Working Group gets a more complete picture of potential damage. This information, which is contained in several spreadsheets and databases, can be queried to determine risk for any combination of reasons. This flexibility allows the LMS Working Group to obtain the most complete picture.

Estimating the relative risk of different hazards is followed by the assessment of the vulnerabilities in the likely areas of impact to the types of physical or operational agents potentially resulting from a hazard event. Two methods are available to the LMS Working Group to assess the communities' vulnerabilities to future disasters.

3.5 Vulnerability Assessment

The first avenue is a methodical, qualitative examination of the vulnerabilities of all structures within the county to the impacts of future disasters. For the participating jurisdictions and organizations, the individuals most familiar with the facility, system, or neighborhood through a guided, objective assessment process complete the assessment. The process ranks both the hazards to which the facility,

system, or neighborhood is most vulnerable, as well as the consequences to the community should it be disrupted or damaged by a disaster. This process typically results in identification of specific vulnerabilities that can be addressed by specific mitigation initiatives that can be proposed and incorporated into this plan. As an associated process, the LMS Working Group also reviews past experiences with disasters to see if those events highlighted the need for specific mitigation initiatives based on the type or location of damage they caused. Again, these experiences can result in the formulation and characterization of specific mitigation initiatives for incorporation into the plan.

The second avenue for assessment of community vulnerabilities involves comparison of the existing policy, program, and regulatory framework promulgated by local jurisdictions to control growth, development, and facility operations in a manner that minimizes vulnerability to future disasters. The LMS Working Group members can assess the individual jurisdictions' existing codes, plans, and programs to compare their provisions and requirements against the hazards posing the greatest risk to that community. If indicated, the participating jurisdiction can then propose development of additional codes, plans, or policies as mitigation initiatives for incorporation into the Charlotte County/City of Punta Gorda Local Mitigation Strategy for future implementation when it is appropriate to do so.

3.6 Developing Hazard Mitigation Initiatives

This process enables the LMS Working Group participants to highlight the most significant vulnerabilities, and to assist in prioritizing subsequent efforts to formulate and characterize specific hazard mitigation initiatives to eliminate or minimize those vulnerabilities. Once the highest priorities are defined, the LMS Working Group participants can identify specific mitigation initiatives for the plan that would eliminate or minimize those vulnerabilities.

A methodical, objective procedure for characterizing and justifying the mitigation initiative proposed by each participating jurisdiction for incorporation into this plan has been established. This procedure involves describing the initiative, relating it to one of the goals and objectives established by the LMS Working Group, and justifying its implementation based on its economic benefits and/or protection of public health and safety, as well as valuable or irreplaceable resources. A benefit to cost ratio is established for each initiative to demonstrate that it would indeed be worthwhile to implement when the resources to do so became available. Further, each proposed mitigation initiative is "prioritized" for implementation in a consistent manner by each participating organization using a set of ten objective criteria.

3.7 Developing the Local Mitigation Plan

Once the above procedure is completed by the agency or organization developing the proposed mitigation initiative, the information used to characterize the initiative is submitted to the LMS Working Group for review and inter-jurisdictional coordination. On receipt of an initiative, the LMS Working Group evaluated the level of public demand for the proposal and considered its potential for conflict with other jurisdiction's program or interests. The LMS Working Group also assures that the proposal is consistent with the goals and objectives established for the planning period and confirms that it would

not duplicate or harm a proposal submitted by another jurisdiction or agency. If there is such a difficulty with a proposed initiative, it is returned to the submitting organization for revision or reconsideration.

3.8 Approval of the Current Edition of the Plan

At the end of each planning period, a plan document such as this is prepared for release to the community and for action by the governing bodies of the jurisdictions and organizations that participated in the planning process. To facilitate this action, the plan provides hazard assessment information and proposed initiatives in separate discussions grouped by jurisdiction or key organization. With this approach, the governing body only needs to approve, endorse, or act on its own component of the plan, and to address the implementation of mitigation initiatives its own representatives proposed. Consequently, there is no need for one jurisdiction or organization to be concerned with acting on proposals made by and for another.

3.9 Implementation of Approved Mitigation Initiatives

Once incorporated into the Charlotte County/City of Punta Gorda Local Mitigation Strategy, the agency or organization proposing the initiative becomes responsible for its implementation. This includes developing a budget for the effort or applying to state and federal agencies for financial support for implementation.

3.10 Benefits of the Planning Process

It is important to emphasize that the procedure used by the LMS Working Group is based on the following important concepts:

- A multi-organizational, multi-jurisdictional planning group establishes specific goals and objectives to address the community's vulnerabilities to all types of hazards.
- It utilizes a logical, stepwise process of hazard identification, risk evaluation, and vulnerability assessment, as well as review of past disaster events, that is consistently applied by all participants.
- Mitigation initiatives are proposed for incorporation into the plan only by those jurisdictions or organizations with the authorities and responsibilities for their implementation.
- The process encourages participants to propose specific mitigation initiatives that are feasible to implement and clearly directed at reducing specific vulnerabilities to future disasters.
- Proposed mitigation initiatives are characterized in a substantive manner, suitable for this level of planning, to assure their cost effectiveness and technical merit, as well as coordinated among jurisdictions to assure that conflicts or duplications are avoided.

3.11 The Local Mitigation Strategy 5-Year Update

FEMA requires that Local Mitigation Strategies undergo a thorough update every five years. Accordingly, the LMS Working Group conducted a thorough update of the Charlotte County/Punta Gorda multijurisdictional LMS. This involves in addition to the same processes described above, a meticulous review and revision of every section of the LMS. The changes made to this document are outlined as followed:

i. Plan Adoption

   a. The resolutions were approved and are included in Section 1.2 of this plan.

ii. Planning Process

   a. Past project update: The LMS Working Group reviewed and updated the status of the previously submitted LMS projects. This information is provided in tables in the Mitigation Strategy Part of the plan and is organized according to whether a project has been completed, removed, or deferred (including the explanation of why those projects were deferred). Tables of these projects are in Appendix D.

iii. Risk Assessment

   a. New analyses of hazard vulnerability: The LMS Working Group conducted hazard vulnerability analyses using the most recent and best available population and property appraiser data.

   b. Inclusion of recent hazard occurrences: The LMS Working Group consulted extensive literature containing reports of hazard events that have occurred since the update. If the event did not cause extensive damage or cost to the County, it was not listed. Cyber Incidents, Pandemic, Civil Disturbance, Solar/Magnetic Events were included with this update cycle.

iv. Mitigation Strategy

   a. The LMS Working Group reviewed and changed some of the goals and objectives.

   b. New projects: The LMS Working Group actively solicited for new projects throughout the update period. These projects are presented in a ranked order according to how high they scored in a vote held at our second public LMS Working Group meeting, and according to their scores in a thorough benefit-cost review conducted by the LMS Working Group. The LMS Working Group benefit-cost review was based on a benefit-cost scoring worksheet, a copy of which is included in this LMS. The score a project received in the benefit-cost review was given priority over the LMS Working Group vote when calculating a project's final ranking.

c. The LMS Working Group added projects and initiatives to improve Charlotte County's and Punta Gorda's Community Rating System (CRS) standing.

v. Plan Maintenance Process

a. It is required that the LMS be updated every five years. During the time in between updates, records will be kept in the CCEM LMS online file recording meeting documentation and project updates. Once approved, the updated LMS will be incorporated into any relevant local planning mechanisms.

b. Partnerships with LMS members will be preserved by inclusion in the bi-annual LMS working group meetings and feedback will be requested on existing projects along with recommendation for future projects.

3.12 Local Mitigation Strategy Working Group Meetings

LMS Working Group meetings are held twice a year with meeting notices published online, both on the EM Website and social media, and sent out to a list of stakeholders. The meeting notices are included in Appendix A as well as sign-in sheets for the meetings.

The stakeholders discuss the sections that may need further review. How the tasks would be divided is described as follows: The property appraiser's office and the GIS departments will be responsible for updating the maps, demographical information, and property estimations; Community development is responsible for updating the CRS requirements, floodplain management sections, and information regarding community development; All stakeholders are asked to give feedback on the mitigation initiatives, goals, objectives, and future projects. They are also asked to read the plan and give input.

After these meetings, the LMS Working Group members are in constant contact with each other concerning potential mitigation projects. All agencies and members responsible for updating the project list for the LMS are given access to WebEOC to add and edit projects. The compiled list is then available to all agencies and members of the LMS workgroup in an electronic format.

4 Existing Plan Mechanisms

P6 (A4) The plan must document what existing plans, studies, reports, and technical information were reviewed and how they were incorporated, if appropriate, into the development/update of the plan.
S1 (C1-a) The plan must describe how the existing authorities, policies, programs, funding, and resources of each participant are available to support the mitigation strategy. This must include a discussion of the existing building codes and land use development ordinances or regulations.
S2 (C1-b) The plan must describe the ability of each participant to expand on and improve the capabilities described in the plan.

Both Charlotte County and the City of Punta Gorda have mechanisms in place that guide and inform the planning process. This section is broken down into the following subsections:

4.1 Charlotte County
- *i. 8th Edition Florida Building Code*
- *ii. Smart Charlotte 2050 Comprehensive Plan*
- *iii. Comprehensive Emergency Management Plan (CEMP)*
- *iv. Community Wildfire Protection Plan (CWPP)*
- *v. Public Information/Education Program on Emergency Preparedness*
- *vi. Hazardous Materials Program*
- *vii. One Charlotte, One Water*

4.2 City of Punta Gorda
- *i. Article 14, Land Development Regulations, Flood Damage Prevention*
- *ii. City of Punta Gorda Emergency Plan*
- *iii. City of Punta Gorda Comprehensive Plan*
- *iv. City of Punta Gorda Downtown Redevelopment Plan*
- *v. City of Punta Gorda Building Regulations Code, Chapter 7, Article V, Floodplain Management*

4.3 Charlotte County/City of Punta Gorda
- *i. Flood Warning Program Annex*

4.4 Expanding On Abilities/Identifying Gaps

4.1 Charlotte County

i. 8th Edition Florida Building Code

The basic rationale for this building code, which is used by most local governments in the state, is to protect the health, safety, and general welfare of the public as it relates to the construction and occupancy of buildings and structures. This concept is very important because it provides an underlying basis for a building code to address wind hazards from hurricanes and tornadoes.

https://www.charlottecountyfl.gov/departments/community-development/building-construction/building-codes.stml

ii. Smart Charlotte 2050 Comprehensive Plan

The Comprehensive Plan has several land use regulations that directly and indirectly relate to hazard mitigation activities.

iii. Comprehensive Emergency Management Plan (CEMP)

The Charlotte County CEMP identifies the way the County will function in the event of an emergency. The CEMP delineates emergency chains-of-command, and roles of various governmental agencies in disaster preparedness, response, recovery, and mitigation. Specifically, preparedness and response activities are forms of mitigation in that they are intended to reduce the loss of life and property prior to a threatening disaster.

iv. Community Wildfire Protection Plan (CWPP)

The Charlotte County CWPP addresses the challenges of the Wildland/Urban Interface (WUI). The plan identifies and prioritizes areas for hazardous fuel reduction treatments, recommends measures homeowners and communities can take to reduce ignitability of structures in the addressed areas, and identifies community education and outreach. Then plan is a mitigation program to protect the loss of life and property should a wildfire occur.

v. Public Information/Education Program on Emergency Preparedness

The Office of Emergency Management works with other entities to promote public information and education of a variety of emergency preparedness issues.

vi. Hazardous Materials Program

Both local governments participate in the various State and Federal Hazardous Materials Reporting Programs, as coordinated through the Local Emergency Planning Committee. Information gathered by the LEPC is made available to local Fire Departments, Sheriff, and Emergency Management Departments, for the purpose of enabling emergency responders to have advanced knowledge of dangers posed by hazardous materials. This plan is a mitigation program to protect the loss of life and property should a hazardous materials event occur.

vii. One Charlotte, One Water

One Charlotte, One Water is the holistic approach to water quality Charlotte County takes to ensure its policies and practices contribute to the long-term health, enjoyment, and availability of our water. It treats all water – our harbor, rivers, bays, canals, creeks, potable water, wastewater, stormwater, reclaimed water – as one water.

4.2 City of Punta Gorda

i. Article 14, Land Development Regulations, Flood Damage Prevention

This article addresses building codes and other regulations for structures located in all areas of special flood hazard within the City of Punta Gorda. Included under this regulation are a minimum finished floor elevation and a requirement to obtain a flood proofing certificate.

ii. City of Punta Gorda Emergency Plan

The City of Punta Gorda's Emergency Plan identifies the way the City will function in the event of an emergency. The Emergency Plan delineates emergency chains-of-command, and roles of various governmental agencies in disaster response, preparedness, recovery, and mitigation. Specifically, response and preparedness activities are forms of mitigation in that they are intended to reduce the loss of life and property prior to a threatening disaster.

iii. City of Punta Gorda Comprehensive Plan

The Comprehensive Plan has several land use regulations that directly and indirectly relate to hazard mitigation activities.

iv. City of Punta Gorda Downtown Redevelopment Plan

This plan addresses the problems of seasonal flooding in the downtown area by working to improve drainage facilities in the waterfront area.

v. City of Punta Gorda Building Regulations Code, Chapter 7, Article V, Floodplain Management

The Floodplain Management Code of the City of Punta Gorda [Chapter 7, Article V] includes construction and site design requirements for new buildings, facilities, and other site improvements to minimize future flood damage to a proposed building and its site.

4.3 Charlotte County/City of Punta Gorda

i. Flood Warning Program Annex

The Charlotte County Flood Warning Program establishes a framework through which Charlotte County may prevent, prepare for, respond to, and recover from salt water or freshwater flooding conditions that could adversely affect the health, safety and general welfare of Charlotte County's residents or visitors.

4.4 Expanding On Capabilities/Identifying Gaps

Charlotte County and its jurisdictions are able to expand and improve their capabilities through the next planning cycle by utilizing different funding availabilities, developing and/or revising policies to address changes in risks and hazards, regularly reviewing and updating plans related to mitigation and risk, and closely tracking changes in development. There are no gaps or lack of capabilities identified at this time for Charlotte County and its jurisdictions, but there are processes already in place that would allow the gaps to be addressed as needed. The Charlotte County Comprehensive Emergency Management Plan (CEMP) is updated every 5 years and is in the process of being reviewed for a 2026 submission. Charlotte 2050 is a document that establishes the vision of the citizens about how the County will grow in the future. It contains goals, objectives, and policies that reflect this vision and which guide development and

preservation. It was originally adopted in 2010, and some amendments have been made during the implementation of the plan. The last Evaluation and Appraisal Review (EAR) was in 2021.

5 Hazard Identification and Risk Assessment

Each hazard's section contains all the information pertaining to that hazard. This includes a profile of the hazard in general and a history of the hazard in Charlotte County in particular, and an assessment of the county's vulnerability to the hazard. Exceptions occur, however, whenever a hazard has overlapping impacts. This is most notable in the case of tropical cyclones, where the section "Tropical Cyclones" analyzes the impact of storm surge, and "Thunderstorms/High Wind Events" analyzes the impact of a tropical cyclone's wind. The order of the sections in the Risk Assessment part of the LMS is very roughly determined by the level of concern the LMS Working Group believes each hazard deserves. For an overview of how the LMS Working Group evaluated the threat of each hazard, please consult the table on page 30. This section is broken down into the following subsections:

5.1 Hazard Identification

R2 (B1-a) The plan must provide rationale for the omission of any natural hazards that are commonly recognized to affect the jurisdiction(s) in the planning area.

R3 (B1-b) The plan must include information on location for each identified hazard.

R4 (B1-c) The plan must provide the extent of the hazards that can affect the planning area.

The following table addresses the top hazards to potentially affect Charlotte County and its jurisdictions. The hazards were separated by type: Natural or Technological. Each hazard is further explained later in this section. For the hazard, that section includes two main components (as further described below): hazard identification and vulnerability analysis. The vulnerability analysis is usually further divided into three sections: history of hazard occurrence, probability of hazard occurrence, and an estimation of potential losses. Probability has three categories: high likely to (occur), Medium (may occur), Low (low occurrence). Annually means once every year. Distribution indicates areas affected by each hazard. County-wide includes the county and its jurisdictions (the City of Punta Gorda, Charlotte County Public Schools, and Englewood Area Fire Control District). If a hazard has scales of severity, like a hurricane's Saffir-Simpson scale, this section outlines those scales.

Type	Hazard	Probability	Impact	Frequency	Distribution	Overall Vulnerability (based on probability + impact + frequency)
Natural	Coastal Erosion	Medium	Moderate	Annually	Coastal areas and barrier islands	High
	Drought	Medium	Major	5-10 Years	Charlotte County and its jurisdictions	Medium
	Earthquakes	Low	Minor	500 Years	Charlotte County and its jurisdictions	Low
	Exotic Pests	Low	Minor	Continuous	Charlotte County and its jurisdictions	Low
	Extreme Heat	High	Minor	Annually	Charlotte County and its jurisdictions	Medium
	Flooding	Medium	Major	1-2 Years	Localized	High
	Freeze	Medium	Minor	5-10 Years	Charlotte County and its jurisdictions	Low
	High Wind Event	High	High	1-2 Years	Charlotte County and its jurisdictions	High
	Pandemic	Low	High	100 Years	Charlotte County and its jurisdictions	Low
	Sinkholes	Low	Minor	30+ Years	Localized	Low
	Solar/Magnetic	Low	Moderate	N/A	Charlotte County and its jurisdictions	Low
	Tornado	Medium	Moderate	Several Per Year	Charlotte County and its jurisdictions	Medium
	Tropical Cyclone	Medium	Major-Catastrophic	2-3 Years	Coastal areas and barrier islands	High
	Tsunami	Low	Major	500 Years	Coastal areas and barrier islands	Low
	Wildfire	High	Moderate	Several Per Year	Charlotte County and its jurisdictions	Medium
Technological	Dam Failure	Low	Minor	N/A	Three parcels in northwest corner of county	Low
	Hazardous Materials	Medium	Minor	Several Per Year	Charlotte County and its jurisdictions	Medium
	Terrorism	Low	Major-Catastrophic	N/A	Charlotte County and its jurisdictions	Low
	Critical Infrastructure Disruption	High	Moderate	Several Per Year	Charlotte County and its jurisdictions	Medium
	Civil Disturbance	Low	Moderate	N/A	Localized	Low

The following hazards were not included due to the little to no risk of the hazard: Nuclear Power Plant Incidents, Mass Immigrations, Coastal Oil Spill, Epidemic, and Major Traffic Accidents. For further information on these hazards and their impact on Charlotte County and its jurisdictions refer to the Comprehensive Emergency Management Plan. The impacts of lightning and hail are omitted since mitigation efforts for these impacts are the same as projects submitted for high wind events.

5.2 Vulnerability Analysis

i. Hazard History

The hazards section catalogues recent occurrences of hazards that had some impact on Charlotte County or its jurisdictions. It records the date, place, and a description of an event. Much of the data in this section was collected from NOAA's NCDC Storm Event Database.

ii. Probability of Hazard Occurrence

Since much of this plan is concerned with natural hazards, the LMS Working Group was careful not to give probability excessive attention. Natural hazards are not very predictable. For example, we can say that structures located in the 100-year floodplain have a 1% chance of flooding annually. Of course, this does not mean that these structures will experience flooding exactly once every hundred years. On the contrary, they may not experience flooding for 500 years or, on the other hand, may experience flooding for five consecutive years. The terms high, medium, and low are used to describe the probability of each hazard occurring in the county. High means the hazard could occur every year; medium means the hazard could occur within a five-year period; and low means the hazard could occur in a period greater than five years.

iii. Estimation of Potential Losses

This section inventories the losses that Charlotte County or its jurisdictions stand to lose in a worst-case-scenario hazard. This is a monetary value referred to as "total exposure." This is most often a dollar amount calculated by adding a structure's building value, its content value, and its functional use value. The values of the county's buildings were obtained from the Charlotte County Property Appraiser. This process is somewhat further explained at the beginning of the subsequent section, Charlotte County Asset Overview.

The total asset exposure to a hazard is broken down, whenever possible, into the jurisdictions this Local Mitigation Strategy was designed for, Charlotte County or its jurisdictions. The exposure value is further divided into land use types.

5.3 Charlotte County Asset Overview

R8 (B2-b) The plan must describe the potential impacts on each participating jurisdiction and its identified assets.

R11 (B2-c) The plan must address repetitively flooded NFIP-insured structures by including the estimated numbers and types (residential, commercial, institutional, etc.) of repetitive/severe repetitive loss properties for each jurisdiction.

i. Charlotte County Assets by Land Use Type

According to Charlotte County Property Appraiser records, there are 129,998 buildings located in Charlotte County, with a total building value of approximately $39.75 billion. However, the value of an asset at risk to hazards is often much more than the value of a building alone. Accordingly, the dollar values shown in the table below represent a calculation of the replacement value of Charlotte County buildings. According to FEMA's publication "Understanding Your Risks: Identifying Hazards and Estimating Losses," the replacement value of a building is the value of a building itself plus the value of its contents and, where appropriate, its functional use value. For agricultural land, a property's agricultural value was added as well since such assets are also at risk to hazards.

Within Charlotte County, 94.1% of the structures are classified as residential land use. These structures represent 85.1% of the total value for the County. While only 2.2% of the structures

in Charlotte County are classified as commercial (the land use type containing the second greatest number of buildings), the commercial land use has 7% of the total value for the County.

2024	City of Punta Gorda		Charlotte County		Both Jurisdictions	
Land Use	No. of Structures	Total Exposure	No. of Structures	Total Exposure	No. of Structures	Total Exposure
Agriculture	0	$0	1,830	$177,878,201	1,830	$177,878,201
Commercial	405	443,153,566	2,455	$2,356,379,843	2,860	$2,799,533,409
Government	164	$306,719,322	802	$930,937,574	966	$1,237,656,896
Industrial	76	$28,644,812	955	$542,444,940	1,031	571,089,752
Institutional	76	$154,657,271	614	$892,507,380	690	$1,047,164,651
Misc.	13	$13,494,709	254	$60,501,147	267	$73,995,856
Residential	9,604	$4,671,209,383	112,750	$29,165,635,825	122,354	$33,836,845,208
Total	**10,338**	**$5,617,879,063**	**119,660**	**$34,126,284,910**	**129,998**	**$39,744,163,973**

Source: Charlotte County Property Appraiser

ii. Charlotte County Assets by Jurisdiction

Wherever possible in this LMS, the analysis of assets, risks, and potential losses will be broken down between the unincorporated areas of Charlotte County and its only jurisdiction, the City of Punta Gorda. Within Punta Gorda's city limits lie 8% of the county's total structures. Collectively they amount to 14.1% of the total value of all county structures. Also, of note is the fact that many of Charlotte County's historic structures are within or just outside Punta Gorda's city limits.

iii. Charlotte County Economy, Tax Base, and Major Employers

The economy of Charlotte County, FL employs 68K people. The largest industries in Charlotte County, FL are Retail Trade (10,627 people), Health Care & Social Assistance (10,024 people), and Construction (7,199 people), and the highest paying industries are Finance & Insurance ($64,545), Wholesale Trade ($57,429), and Public Administration ($56,181). Median household income in Charlotte County, FL is $62,164. Males in Charlotte County have an average income that is 1.34 times higher than the average income of females, which is $56,054. During calendar year 2023, Charlotte County welcomed an estimated 986,100 visitors; tourism generated an estimated $723,304,800 in direct expenditures and made an estimated $1,061,050,000 economic impact.

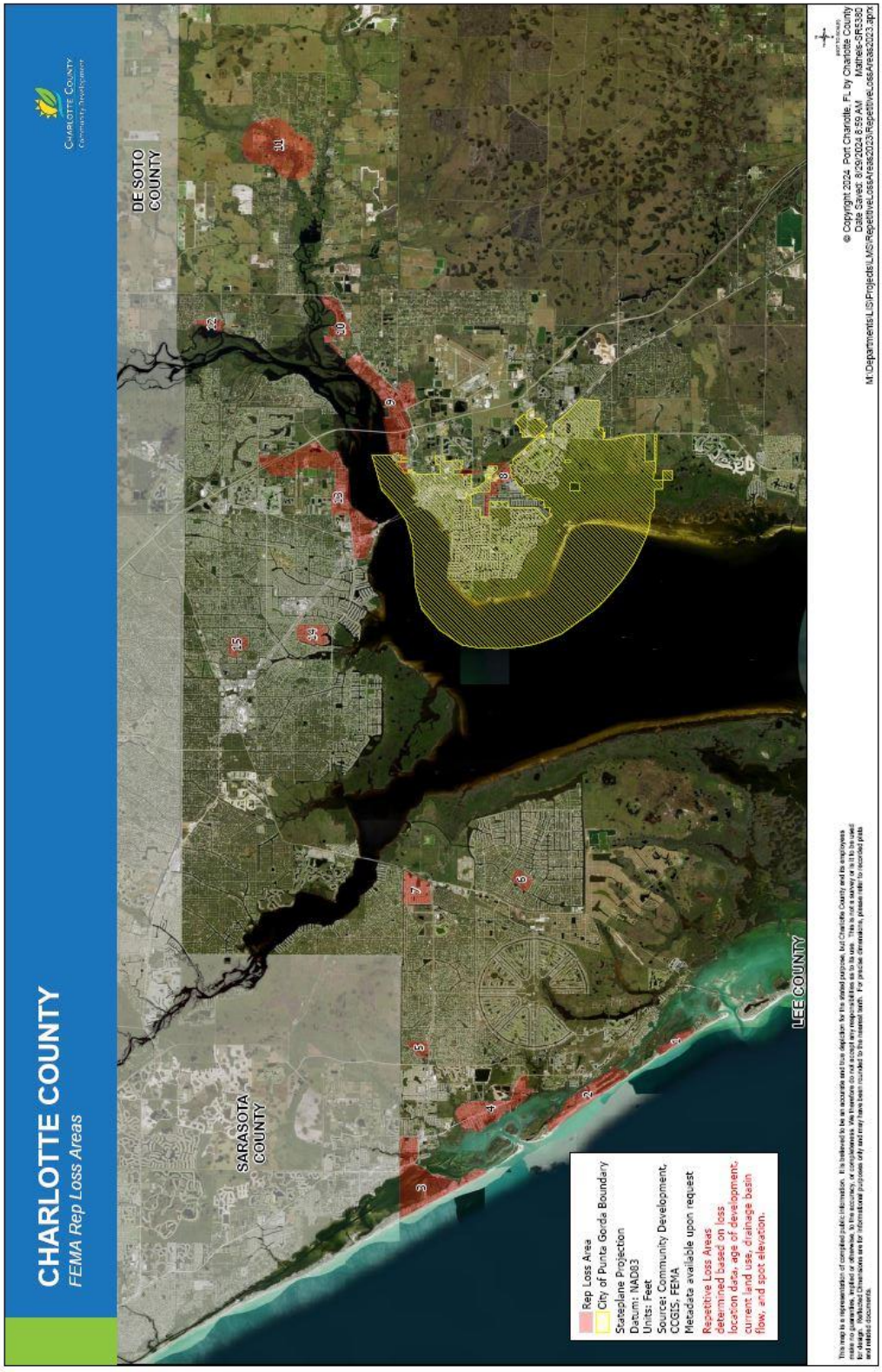
iv. Repetitive Loss Properties

There are 161 repetitive loss structures in Charlotte County and its jurisdictions. This is comprised of 136 in the county and 25 structures in the City of Punta Gorda. These repetitive loss structures make up 0.13% of the total number of structures in the County. This accounts for 1.21% of all repetitive loss properties in the state of Florida. These structures are scattered throughout both Charlotte County and Punta Gorda, with most clustering on the islands in the western section of the county.

Repetitive Loss Structures in Charlotte County by Land Use				
	City of Punta Gorda	Charlotte County	Charlotte County	Both Jurisdictions Combined
Land Use	No. of Structures	Repetitive Loss #s	SRL #s	No. of Structures
Commercial	4	10	3	17
Residential	21	99	24	144
Total	**25**	**109**	**27**	**161**

Since the repetitive loss properties stand to incur the most damage from a storm event, as history has proven, Charlotte County and the City of Punta Gorda are making meaningful efforts to acquire and destroy these properties, thus eliminating any future monetary losses. As of December 30, 2024, the number of NFIP policies in force in Charlotte County was 20,178 and 6,802 in Punta Gorda. Charlotte County has had 4,399 total losses which resulted in a payout totaling $61,824,023.25. The City of Punta Gorda has had 788 total losses which resulted in a payout totaling $3,673,017.26.

Repetitive Loss Areas



i. Critical Facilities

A critical facility is a structure which essential services and functions for victim survival, continuation of public safety actions, and/ or disaster recovery is performed. There are 68 structures in Charlotte County that are critical facilities. These structures are labeled essential services and are scattered throughout both Charlotte County and Punta Gorda.

Critical facilities within the county and its jurisdictions have various levels of vulnerability. However, a large majority of these "critical" facilities are considered vulnerable to tropical or flooding events due to their geographic location and the county's low elevation. Other vulnerabilities include loss of power and physical damage to the facility.

5.4 Land Use & Development Trends

i. East County (East of range line 23E/24E and Interstate 75)

Eastern Charlotte County is distinctively rural in nature. Very few public services are provided to the few residents of this county section. Currently most of this section of the county's land use is occupied by agriculture and preservation land. Due to East County's inland location and relatively large amount of agricultural land use, it stands to suffer more from certain disasters than the rest of the county. These disasters include wildfire, drought, freeze, and pests.

ii. South County (West of range line 23E/24E and south of the Peace River)

This portion of the county contains the only municipality, the City of Punta Gorda. It is characterized by a greater mix of residential and commercial. This section of the county contains the county's most historically significant buildings. Everything else being equal, historical structures should receive more mitigation attention than non-historical structures.

iii. Mid County (Northwest of the Peace River and Northeast of the Myakka River)

Despite not having any incorporated areas, this section of the county has more residents than the other three combined. The type of land use is mostly residential and commercial. However, vacant residential and commercial lands comprise a large portion of Mid County. While this means that the potential for growth is there, Charlotte County is not expected to experience significant levels of growth in the short term. Charlotte County provides full urban service across this section of the county.

iv. West County (Southwest of the Myakka River)

West County's land use pattern is like that found in Mid County. The most distinguishing characteristic of West County is its miles of coastline. They encourage growth and development but are more vulnerable to the extent of the impacts of tropical cyclones than the other sections of the county. Only this section of the county is susceptible to erosion.

v. Future Projections and Population

Population - Charlotte County and its only municipality, the City of Punta Gorda, will continue to experience population growth in the ensuing decades. New residents will increase the demand for urban services and infrastructure – more potable water and sanitary sewage, additional roadways and roadway improvements, and the need for expanded police and fire protection to name a few.

According to the Florida Economic and Demographic Research, the population of Charlotte County for 2020 is 186,847, up from 159,978 from 2010. For every five-year period following, up until the year 2050, Charlotte County can expect to experience a consistent amount of growth, with projections of over 270,000 residents.

Seasonal Population - Seasonal residents and tourists flock to Southwest Florida during the winter months between November and April, with most visiting during the months of January, February, and March. The greatest impact on infrastructure and services is encountered during this three-month time span. According to the Smart Charlotte 2050 comprehensive plan over 34,000 seasonal residents as of 2016 visit the county throughout the year.

Residential Land Use Needs - Projected housing demand and residential land allocation can be determined by the projected population and numbers of persons per dwelling unit. The projected number of dwelling units needed in the future would be determined for each area of the county by dividing persons per dwelling units into the projected populations. These figures provide an estimation of how many future homes will be needed, and in turn, the amount of land necessary to provide for them.

Planning Cluster Demographics

Babcock Ranch
- Household Size: 2.43
- Vacancy Rate: 13%
- Seasonal Population: Unknown

Burnt Store Road
- Household Size: 2.03
- Vacancy Rate: 25.2%
- Seasonal Population: 911

East
- Household Size: 2.17
- Vacancy Rate: 19.3%
- Seasonal Population: 2,662

Mid
- Household Size: 2.23
- Vacancy Rate: 16.8%
- Seasonal Population: 11,539

Punta Gorda
- Household Size: 1.92
- Vacancy Rate: 23.1%
- Seasonal Population: 4,874

West
- Household Size: 2.05
- Vacancy Rate: 29.8%
- Seasonal Population: 14,199

Population Forecast								
	2024	2025	2030	2035	2040	2045	2050	9995
Babcock Ranch	7,592	9,267	20,788	32,289	38,371	40,559	41,233	41,513
Burnt Store Road	5,564	6,700	10,084	14,403	19,269	22,822	23,837	36,597
East	18,752	19,191	21,817	23,523	25,102	26,647	27,791	55,940
Mid	104,629	107,256	115,698	122,699	128,535	133,835	138,777	200,662
Punta Gorda	25,200	25,559	27,081	28,664	30,241	31,592	32,694	36,661
West	50,687	51,598	56,411	61,606	66,819	71,854	76,754	121,647
Sum	212,424	219,571	251,879	283,184	308,337	327,309	341,086	493,020

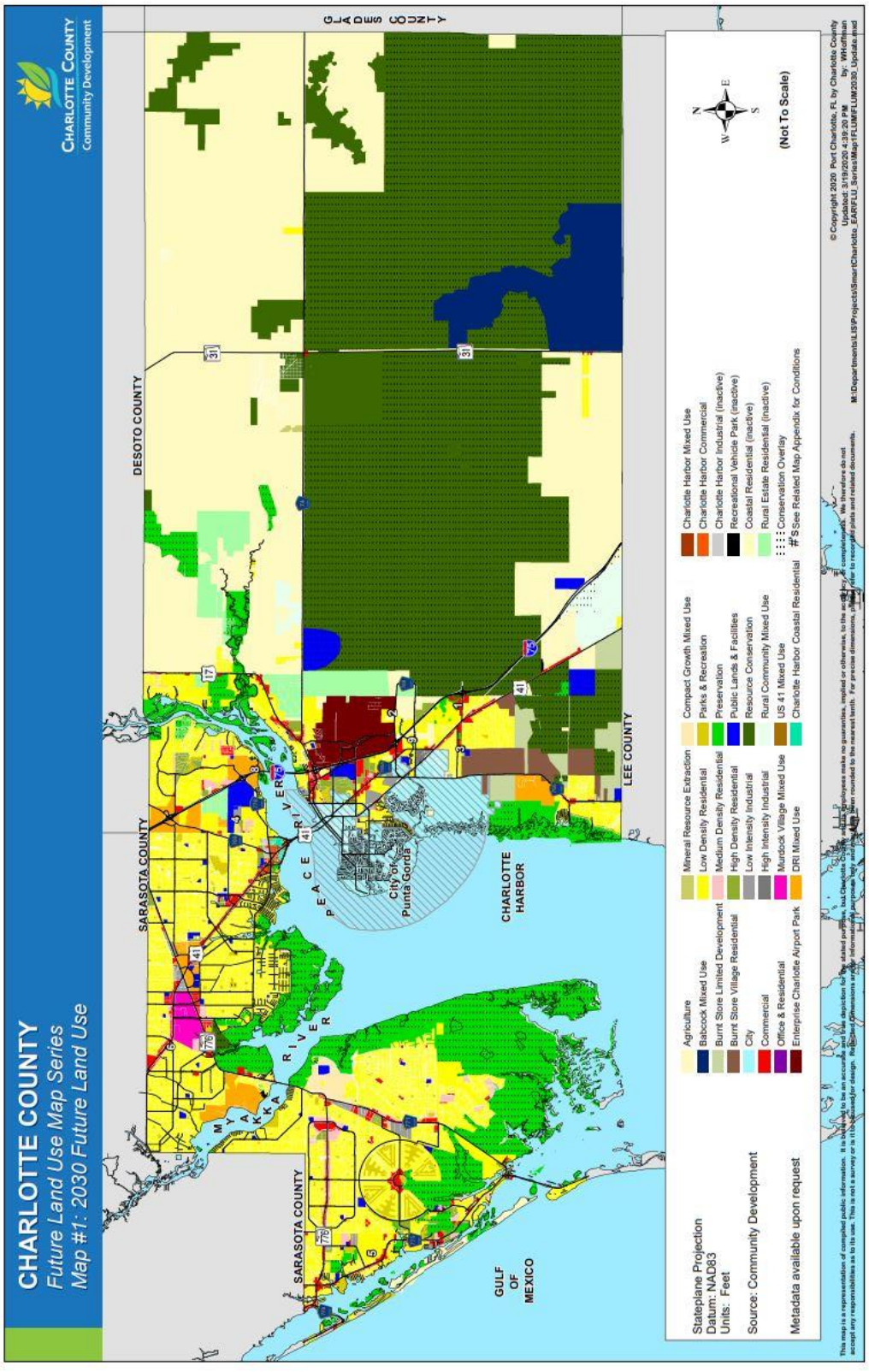
Charlotte County Population Forecast by Cluster

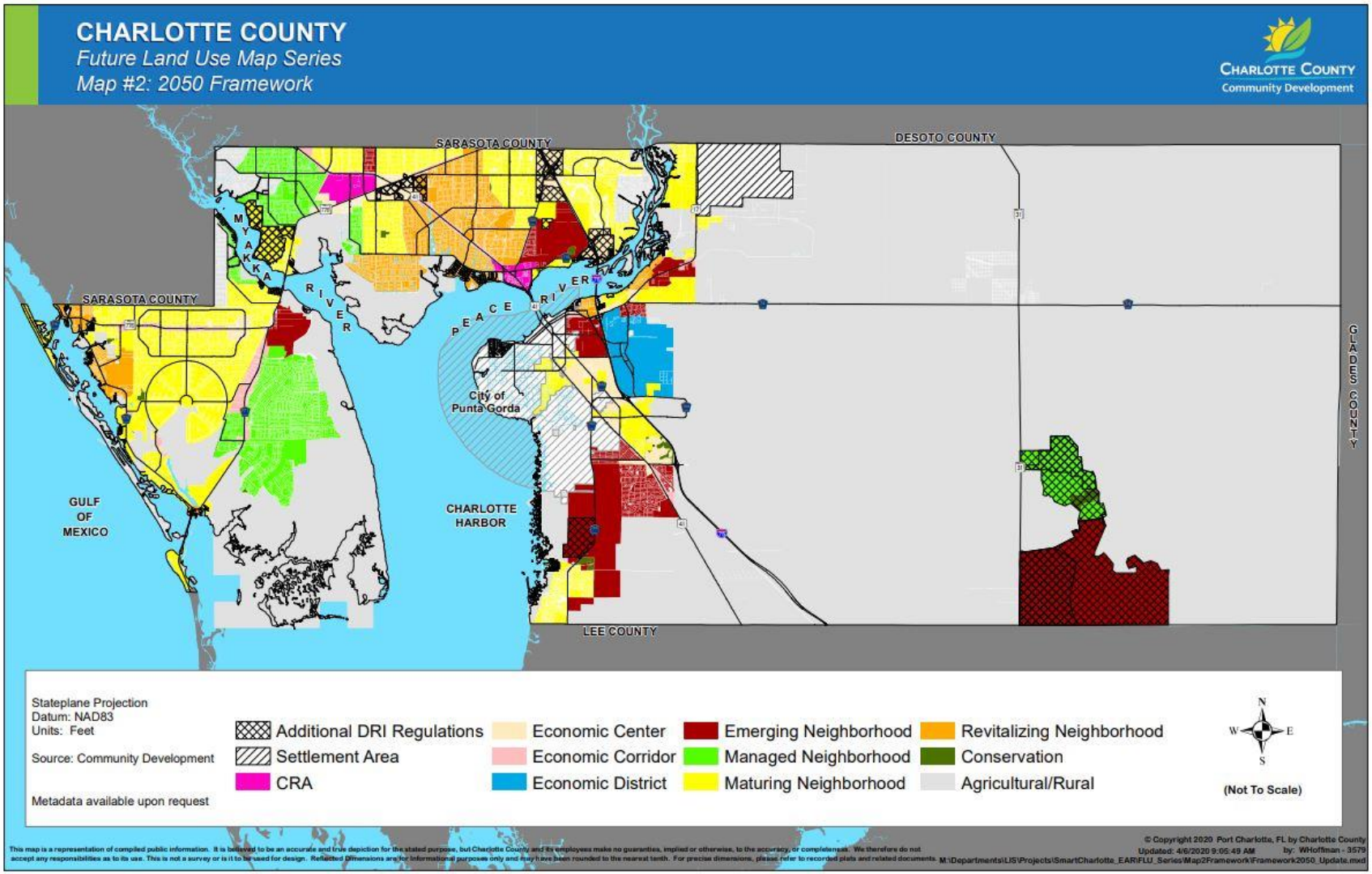
Source: Charlotte County Community Development

Since Hurricane Charley, many buildings in Charlotte County, including critical infrastructure, have either been replaced by stronger more fortified buildings or the existing buildings have been hardened to be more resilient. Codes and standards have been strictly enforced to make sure new construction is being built to code. Flood controls are on a phased reconstruction cycle to improve flood control. Drainage in Punta Gorda is also in a phased reconstruction cycle to improve roadway flooding. The result of those efforts was shown after Hurricane Ian. The 2024 hurricane season presented events that will allow for additional opportunities for growth.

Although there has been an increase in population for Charlotte County and its jurisdictions, which also leads to an increase in development and vulnerability, all jurisdictions work to address the mitigation of risks and hazards, such as flooding, coastal erosion, and other events that could cause loss of life and property. Some of the methods utilized include existing planning mechanisms, and both the City of Punta Gorda and Charlotte County are completing vulnerability studies to enhance their mitigation efforts. The City completed their Vulnerability Assessment and finalized their report in December of 2024. The County study will be completed soon.

Future Land Use Development Trends




CHARLOTTE COUNTY
Future Land Use Map Series
Map #2: 2050 Framework
CHARLOTTE COUNTY
Community Development
SARASOTA COUNTY
DESOTO COUNTY
SARASOTA COUNTY
MYAKKA RIVER
PEACE RIVER
City of Punta Gorda
GULF OF MEXICO
CHARLOTTE HARBOR
LEE COUNTY
GLADES COUNTY
Stateplane Projection
Datum: NAD83
Units: Feet
Source: Community Development
Metadata available upon request
Additional DRI Regulations
Settlement Area
CRA
Economic Center
Economic Corridor
Economic District
Emerging Neighborhood
Managed Neighborhood
Maturing Neighborhood
Revitalizing Neighborhood
Conservation
Agricultural/Rural
N
W
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S
(Not To Scale)
This map is a representation of compiled public information. It is believed to be an accurate and true depiction for the stated purpose, but Charlotte County and its employees make no guaranties, implied or otherwise, to the accuracy, or completeness. We therefore do not accept any responsibilities as to its use. This is not a survey or is it to be used for design. Reflected Dimensions are for informational purposes only and may have been rounded to the nearest tenth. For precise dimensions, please refer to recorded plats and related documents.
© Copyright 2020 Port Charlotte, FL by Charlotte County
Updated: 4/6/2020 9:05:49 AM by: WHoffman - 3579
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5.5 Individual Hazards and Risk Assessments

R1 (B1-a) The plan must include a description of all natural hazards that can affect the jurisdiction(s) in the planning area and their assets, such as dams, located outside of the planning area.

R5 (B1-d) The plan must include information on previous occurrences for each hazard that affects the planning area.

R6 (B1-e) The plan must include the probability of future events for the identified hazards that can affect the planning area.

R9 (B2-a) The plan must describe the overall vulnerability of each participant to the identified hazards.

5.5.1 Tropical Cyclone

Hazard Identification

According to the National Oceanic and Atmospheric Administration (NOAA) a tropical cyclone is a warm-core low pressure system, without any front attached, that develops over the tropical or subtropical waters and has an organized circulation. These include hurricanes and typhoons.

There are several favorable environmental conditions that must be in place before a tropical cyclone can form. They are:

- Warm ocean waters (at least 80°F / 27°C) throughout a depth of about 150 ft. (46 m).
- An atmosphere which cools fast enough with height such that it is potentially unstable to moist convection.
- Relatively moist air near the mid-level of the troposphere (16,000 ft. / 4,900 m).
- Generally, a minimum distance of at least 300 miles (480 km) from the equator.
- A pre-existing near-surface disturbance.
- Low values (less than about 23 mph / 37 km/h) of vertical wind shear between the surface and the upper troposphere. Vertical wind shear is the change in wind speed with height.

Tropical cyclones are categorized by wind speed, as shown in the table below.

TROPICAL CYCLONE CLASSIFICATION SYSTEM	
Category	**Wind Speed**
Tropical Depression	Maximum sustained winds near the surface less than 39 mph
Tropical Storm	Winds of 39 – 73 mph
Hurricane	Winds of 74 mph or more

The hurricane season is officially from June 1 to November 30. Peak activity is in early to mid-September. Occasionally, there may be a tropical cyclone that occurs in May or December. Hurricanes are classified using the following Saffir-Simpson Hurricane Damage Potential Scale, based on central barometric pressure and wind speed (Table III.4-2).

SAFFIR-SIMPSON HURRICANE DAMAGE POTENTIAL SCALE					
Category	**Central Pressure (Millibars)**	**Central Pressure (Inches)**	**Winds (mph)**	**Winds (Knots)**	**Damage**
1	>980	>28.94	74 - 95	64 – 82	Minimal
2	965 – 979	28.50 – 28.91	96 – 110	83 – 95	Moderate
3	945 – 964	27.91 – 28.49	111 – 129	96 – 112	Extensive
4	920 – 944	27.17 – 27.90	130 – 156	113 – 136	Extreme
5	<920	<27.17	>157	>137	Catastrophic

Potential Impact

Hydro meteorological hazards associated with tropical cyclones include the following: coastal flooding caused by storm surge; riverine flooding caused by heavy rains; tornadoes; and windstorms due to extremely strong winds. For more information, please refer to the section dedicated to each of the hazards (Section 5.5.)

Historically, the worst damage from tropical cyclones comes from coastal flooding caused by storm surge. Surge is simply water that is pushed toward the shore by the force of the winds swirling around the storm. This advancing surge combines with the normal tides to create the tropical cyclone storm tide, which can increase the mean water level 15 feet or more. According to the National Hurricane Center (NHC), the greatest potential loss for life related to a tropical cyclone is from the storm surge. The highest surge in the U.S. reached more than 28 feet and was generated by Hurricane Katrina in Southern Mississippi in 2005. When the surge reaches land, the influx of water can cause extensive coastal flooding.

Hurricane-force winds also can cause extensive damage and death. The eye at a hurricane's center is a relatively calm, clear area approximately 20-40 miles across. The eyewall surrounding the eye is composed of dense clouds that contain the highest winds in the storm. Precursor winds will affect land well before the most damaging winds of the eye (FEMA/NWS).

Tropical Cyclone Risk Analysis

History

The extensive damage caused by Hurricane Charley in 2004 and Hurricane Ian in 2022 had a large effect on Charlotte County and have allowed the County to leverage Federal hazard

mitigation funding. To help mitigate the potential loss of life and property countywide, the County has rebuilt and strengthened many of its critical facilities since these disasters. Charlotte County is working to fund and complete other projects on its projects list to continue its efforts to be more resilient when preparing for future disasters.

October 9, 2024, Hurricane Milton

On September 29, 2024, an area of interest was identified in the western Caribbean. The area gained enough strength over the next week to be classified as Tropical Storm Milton on October 5. The first briefing by the National Weather Service the evening of October 5 identified the cone as encompassing the majority of the state, with Charlotte County just south of the center of the cone. Milton was forecast to become a major hurricane prior to landfall. Threats with Milton included strong winds, heavy rainfall, and storm surge. Charlotte County would receive some sort of impact no matter where the storm made landfall. After landfall, damage assessments indicate Milton affected over 6,000 homes in Charlotte County with 1,030 affected, 2,119 with minor damage, 2,510 with major damage, and 237 destroyed. Because Helene and Milton occurred in such close proximity time-wise, the total erosion damage was totaled together. The total number of CY of erosion equaled 385,461.

September 26, 2024, Hurricane Helene

Helene was first identified as an area of interest in the western Caribbean on September 18, 2024. When the first cone was released on September 23, the National Hurricane Center also advised there was a potential for storm surge, heavy rainfall, and strong winds for portions of the Florida panhandle and Gulf coast. At one point coastal areas of Charlotte County were forecast to see greater than 9 feet of storm surge, although that was reduced the following day to between 3-5 feet. On September 26, as Helene moved past Charlotte County with multiple areas seeing rising waters. Individual Assistance was requested due to 1,939 households receiving major damage because of flood waters. Both IA and PA were designated for Charlotte County on September 28 with an amount yet to be determined.

August 13, 2024, Hurricane Debby

Charlotte County Emergency Management began monitoring Disturbance 15 located east of Barbados on July 29. For several days, it continued to move toward the northwest and was anticipated to turn north and travel up the east coast of Florida. On August 3, Tropical Depression 4 had made it to the western portion of Cuba and was now forecast to parallel the Gulf coast of Florida. There was a potential storm surge threat with Debby for Charlotte County of over 3 feet in some areas that would coincide with several high tide cycles. Post Debby, there were 31 residences that received minor damage from flooding, and one home with major damage as the result of a fire caused by flood waters. The estimated cost of damages was $738,913 for residential, and 32,705 CY of sand at $3,320,591.

August 29, 2023, Hurricane Idalia

Idalia originated in the far eastern Pacific Ocean on August 23.The disturbance moved northeastward until it reached the Caribbean Sea on August 25 when it developed into a low-

pressure system. On August 26 it was a tropical depression, and on August 27 it was a tropical storm. The forecast path for the storm took it north with impacts to be felt in Charlotte County in the form of wind, rain, and storm surge. At one point there were almost 20,000 FPL customers in Charlotte County without power, wind gusts were steady between 55-65 MPH with a maximum gust of 61MPH, and a peak water level of 3.57MHHW was measured in North Port Charlotte. A total of 84 residences had major damage from over 18" of flooding, with damage estimates at $1,524,973.

September 28, 2022, Hurricane Ian

Hurricane Ian began as a tropical wave on September 15, eventually becoming Tropical Depression Nine. Charlotte County remained within the forecast cone where Ian could make landfall. The county was prepared for the impacts of a passing storm, including storm surge. Ian took a sudden turn on September 28 and made landfall that afternoon at Cayo Costa as a Category 4 storm with wind speeds of 155 MPH. Rainfall more than 25 inches was seen in some locations within Charlotte County, and extreme winds pelted residents for several hours. Damages incurred from Hurricane Ian resulted in more than 24,000 homeowners and renters in Charlotte County being approved for individual assistance resulting in grant funding exceeding $82 million, and 352 households were approved for Direct Housing in the county.

November 11, 2020, Hurricane Eta (non-landfall)

Hurricane Eta was a hurricane that developed from a tropical wave that moved off the coast of Africa around October 22. It became a tropical depression on October 31. Eta reached a Cat 4 and made landfall in Nicaragua on November 3. The storm made its way inland before looping around and exiting into the Gulf of Honduras. Eta made its way upward, crossing Cuba and into the Keys of Florida before turning west again into the Gulf of Mexico. It briefly became a hurricane again, traveling along the Gulf Coast of Florida, before making landfall near Cedar Key on November 12 as a tropical storm. Charlotte County saw minor damage including downed limbs and vegetation, torn or damaged canopies, street flooding,

September 24, 2017, Hurricane Irma:

Hurricane Irma was a record-setting storm that hit the state of Florida in two locations. At one point, Irma maintained 185 MPH winds for 37 hours in total. At one point during the storm, nearly all the electrical power was lost in Charlotte County. Debris that was generated by the storm took nearly four months to completely remove. Approximately 15 miles of publicly owned/maintained seawalls were damaged by Irma in the City of Punta Gorda. A total of 14,709 people from Charlotte County applied to FEMA for individual assistance resulting in $5,050,911 in grants, and 156 residents were checked into hotels due to storm damage to their primary homes. Estimated $5 to 6 million in damage to private and public resources caused by this powerful hurricane hitting Charlotte County as well as much of the State.

October 24, 2005, Hurricane Wilma:

Hurricane Wilma produced tropical storm force winds across much of southwest and west central Florida. In Charlotte County, a peak wind gust from the north of 70 MPH was reported at

the Punta Gorda Airport at 851 AM EDT. Heavy rains of 4 to 8 inches caused urban street flooding and filled ditches to capacity. State Road 31 was flooded 4 miles north of the Lee County Line. As of November 18th, there were 931 insurance claims that totaled $529,000 (NOAA).

September 25, 2004, Hurricane Jeanne:

Hurricane Jeanne followed nearly the same path across Florida as Hurricane Frances three weeks earlier and was the unprecedented 4th hurricane to damage Florida during the 2004 Hurricane Season. After four hurricanes in only six weeks, 69.0% of households applied for and received a total of $38 million in Individual Assistance.

August 13, 2004, Hurricane Charley:

Hurricane Charley, a powerful but compact Category 4 hurricane made landfall August 13th. The center of Charley crossed the barrier islands of Cayo Costa and Gasparilla Island then moved up Charlotte Harbor before making landfall at Mangrove Point, just southwest of Punta Gorda. The airport in Punta Gorda recorded sustained winds of 87 mph with gusts to 112 mph before the wind equipment blew apart. No storm surge was reported but Charlotte Harbor reported a four-foot drop in the water level. Hurricane Charley caused 4 direct fatalities, over $5.4 billion (2004 USD) in damages, and damaged/destroyed over 16,000 homes and 656 commercial buildings.

September 10, 1960, Hurricane Donna:

Hurricane Donna was the first "named" storm to impact southern Florida. Donna made two landfalls in Florida. The first landfall was in the southern part of the state, impacting Everglades City, before moving up the west coast and briefly heading out into the Gulf again before making an abrupt turn to the east and making a second landfall north of Fort Myers. Severe storm damage was reported in Punta Gorda, although no specific details were recorded. Citrus crops in the county were reported to have a loss of 75% of grapefruit and 40-50% of oranges. There were areas along the coast that saw 11' of storm surge and it was reported that Charlotte Harbor was drained of water.

Probability of Tropical Cyclone Occurrence

Due to the frequent occurrences of tropical cyclones in the Charlotte County area in the past, the probability that the county will experience more in the future is high. The entire county is equally vulnerable to the effects of a tropical cyclone.

Estimating Potential Losses

Tropical cyclone damage is caused by storm surge, flooding, and winds. Storm surge is the most damaging of all tropical storm impacts. The potential risks associated with the storm surge aspect of tropical cyclones are the sole focus of this section's analysis. The risks associated with high winds and flooding are discussed in their respective sections of this plan.

The SLOSH (Sea, Lake, and Overland Surges from Hurricanes) model is the computer model developed by the National Weather Service for coastal inundation risk assessment and the prediction of storm surge. It estimates storm surge heights resulting from historical, hypothetical, or predicted hurricanes.

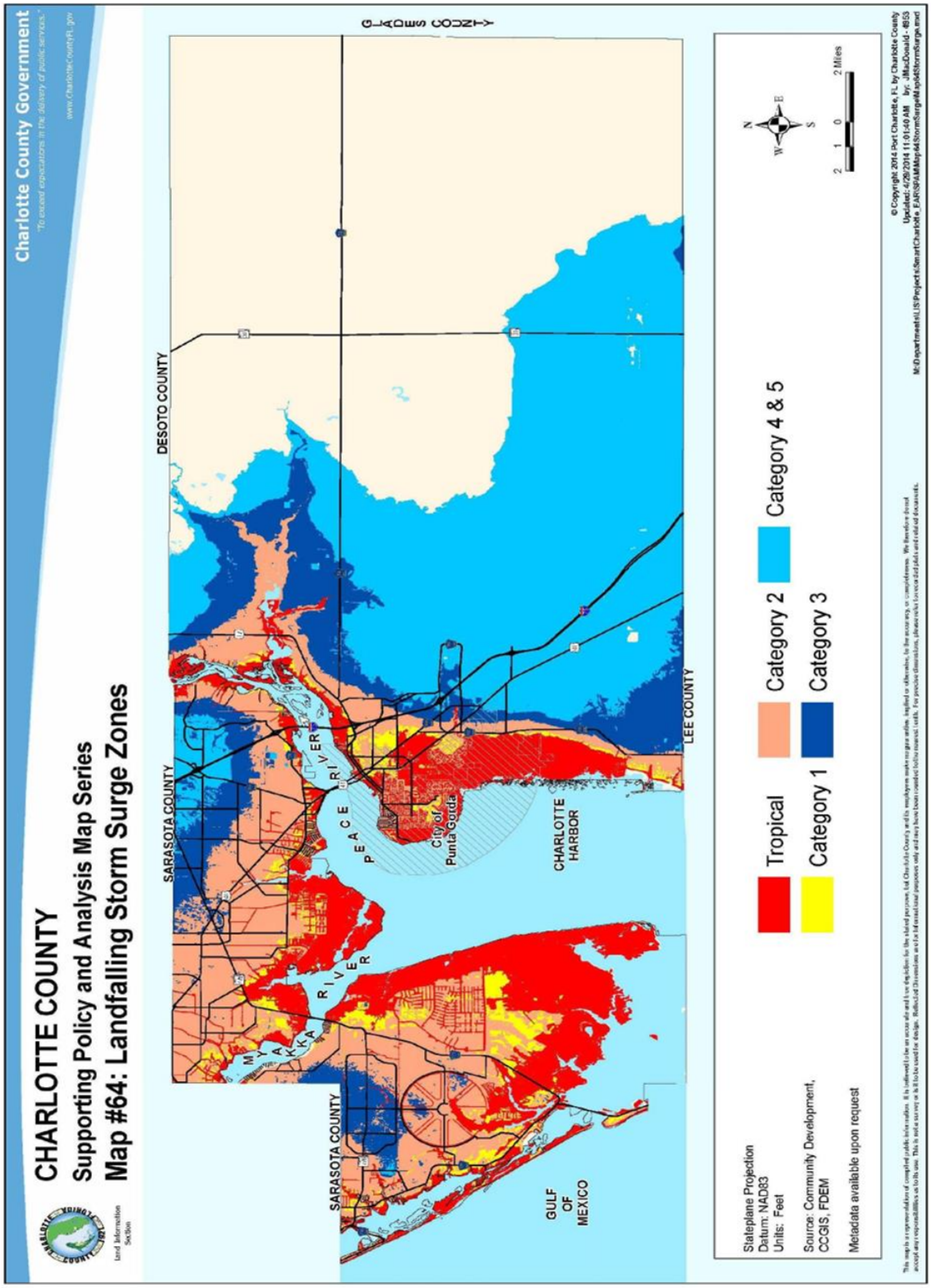
The potential impacts a Tropical Cyclone can have on Charlotte County and its jurisdictions which includes the City of Punta Gorda would be large scale and have lasting effects. The County or its jurisdictions would incur many costs to respond to and recover from such an event. The costs incurred would be both short-term and long-term with lasting effects County-wide but especially on its vulnerable populations such as the elderly, fiscally constrained and agricultural depending on the affected areas. High category hurricanes are the highest risk for counties in Florida and can have a detrimental effect on land, agriculture, property, and structures. There is also the risk of impact on County facilities and critical infrastructure that services the community which must be kept as operational as possible during an event. These critical facilities and infrastructure are managed and prioritized in the Emergency Operation Center during the event.

The population of Charlotte County continues to grow, with the US Census Bureau recording a 13.3% increase from April 1, 2020, to July 1, 2024. There has also been an increase in structures built within the county. These increases bring with them an increased risk of loss. The extent of the loss would depend upon the type of tropical event. A wind event would have different losses than a storm surge event, and the intensity of the event would also render different impacts. However Florida's Building Codes have adopted higher standards which in turn decreases vulnerability.

Potential Future Risk

Charlotte is a coastal county making it more vulnerable to the storms that come from the Gulf. This includes tropical cyclones, and high wind events. Damage from high winds, storm surge, and rain-induced flooding can impact all structures and utilities. The structures most susceptible to damage are older buildings, dilapidated housing, and other less hardened properties such as mobile homes. Widespread electrical outage is probable, as well as water and sewage backup in flooded areas. Depending on the intensity of the event, economic and environmental impacts can be severe. All populations may be impacted by these events, but those at highest risk are the elderly, the disabled, lower income, and the homeless. Charlotte County has 54,859 homes built before the code change in 1992 and 8,587 mobile homes.

Storm Surge Zones



5.5.2 Flooding

PS7 (A4) For jurisdictions with structures for which National Flood Insurance Program coverage is available, regulatory flood mapping products are required to be incorporated, if applicable.

Hazard Identification

According to FEMA, floods are the most common and widespread of all natural disasters, except for fire, flood water often damages property and can even kill. Floods can also cause damages such as pollution of the wells and city water systems, making them unsafe to use (IFAS Disaster Handbook). Freshwater flooding along rivers and streams can and does cause significant property damage and has the potential of causing personal injury and deaths.

A flood, as defined by the National Flood Insurance Program (NFIP) is: A general and temporary condition of partial or complete inundation of two or more acres of normally dry land area or of two or more properties (at least one of which is your property) from:

- Overflow of inland or tidal waters;
- Unusual and rapid accumulation or runoff of surface waters from any source;
- Mudflow; or
- Collapse or subsidence of land along the shore of a lake or similar body of water because of erosion or undermining caused by waves or currents of water exceeding anticipated cyclical levels that result in a flood as defined above.

Floods can be slow or fast rising but generally develop over a period of days. Floods can come in the form of "flash floods," which usually result from intense storms dropping large amounts of rain within a brief period. Flash floods occur with little or no warning and can reach full peak in only a few minutes (IFAS Disaster Handbook). Other floods are more gradual, as with a large storm front, a tropical storm, or a hurricane washing ashore (FEMA).

Flood Risk Analysis

History

Charlotte County has a history of flooding due to rainfall events and storm surge events. The following is a listing of dates in which Charlotte County residents have submitted flood insurance claims to the National Flood Insurance Program. The dollar figures reflected in the figures below include damage to County infrastructure, along with damages to homes and businesses.

June 2003
Excessive Rainfall: 16-20" of rain fell across the county within a 24-hour period. $4.75 million. 41 residences.

Sept 2001
Tropical Storm Gabrielle: Direct hit caused widespread flooding. $4-6 million. 300 homes impacted.

Sept 2000
Hurricane Gordon: Passing hurricane caused flooding in Manasota Key and Punta Gorda. $132,584.

Sept 1999
Tropical Storm Harvey: Passing storm caused flooding in Manasota Key and on Gulf Blvd. $21,592.

Sept 1998
Hurricane Georges: Passing hurricane caused abnormally high surf, causing beach erosion with minor flooding in homes on Manasota Key. $3,559.

Sept 1997
Excessive Rainfall: Up to 10" of rain fell in Port Charlotte causing widespread street flooding and intrusion into homes. $15,847.

Oct 1996
Tropical Storm Josephine: No landfall, some street flooding in Englewood from high tide, one home fell into the water because of beach erosion. $253,631.

June 1995
On June 23, 15 inches of rain fell in a 24-hour period causing extreme flooding and damage estimated at over $3.5 million. This was the culmination of two weeks of constant rain followed by an 8-hour downpour.

March 1993
Winter Rainstorm: Flooding caused by high tides, blowing winds. $383,009.

June 1992
Excessive Rainfall: Flooding due to 6 days of rain. 23.5" fell in Murdock, 18" in Punta Gorda, 28" in Englewood. $1.6 million.

Nov 1988
Tropical Storm Keith: Appx 2" of rain fell, flooding in Punta Gorda and other low-lying areas due to high tides and minimal storm surge. $224,385.

Sept 1988
Stalled front with excessive rain: Homes in Grove City suffered flooding damages. 11.5” fell in Englewood, 7.5” in Punta Gorda, 4.5” in Port Charlotte. $1,067.

Aug. 1985
Hurricane Elena (no landfall). Storm surge caused flooding of up to 5' in some areas. Flood insurance claims of $161,356.46 were paid out.

March 1983
Abnormal high tide. Flooding occurred in the City of Punta Gorda. Flood insurance claims of $7,967.89 were paid out.

June 1982
No-name Storm. Several inches of rainfall along with a minimal, but damaging storm surge; approx. 10,965 acres of land flooded with salt water; approximately 1800 acres of land flooded with freshwater rain runoff; damage estimates approx. $1,000,000.

June 1972
Hurricane Agnes (no landfall). 5"-7" rainfall in Charlotte County; caused flooding of 3"-6" in parts of County; damages approx. $62,105.

Other Events
Hurricane Charley in August 2004 caused an estimated $5.4 billion in damage to public and private resources for Charlotte County. Hurricane Wilma in October 2005 brought 4-8 inches of heavy rains and caused urban street flooding as well as filling ditches to capacity. Hurricane Irma in September 2017 caused an estimated $5-6 million in damage to public and private resources in Charlotte County and impacted most of the state. Hurricane Ian in 2022, Hurricane Helene and Hurricane Milton in 2024 all brought excessive rainfall and storm surge which caused flooding in low-lying and coastal areas, including barrier islands. All three storms caused major damage and qualified Charlotte County for both IA and PA assistance.

Probability of Flooding Occurrence

The county’s very low elevation, coastal location, and climate all lead to the conclusion that the occurrence of a flood in Charlotte County is highly probable. The probability of freshwater flooding has been quantified by FEMA through the National Flood Insurance Program (NFIP). Areas subject to flooding, the 100-year floodplain, have been delineated in Flood Insurance Rate Maps (FIRM) for the County. The model used to determine the 100-year floodplain is a cumulative model, which means that it is based on several storm events; no one storm will inundate all the areas within the flood zone. This information was linked with the information from the property appraiser’s office to determine the 100-year floodplain designation for each parcel.

Estimating Potential Losses

To determine the potential losses a flood could cause in Charlotte County, the floor elevation needed to be established for each structure in the County. This number was then subtracted from the depth of the flood waters to determine the level of flood water damage for each individual structure within the county. Using depth damage calculation tables provided by FEMA, the amount of building loss, content value loss, functional use loss, and total value loss were determined.

The estimations of potential losses due to a flood will be analyzed according to FEMA's flood zone designations. These designations are used for the purposes of the National Flood Insurance Program (NFIP) and divide land areas into four separate categories of risk in the table on the next page. See the map of the FEMA FIRM Zones on page 53. The population of Charlotte County continues to grow, with the US Census Bureau recording a 13.3% increase from April 1, 2020, to July 1, 2024. There has also been an increase in structures built within the county. These increases bring with them an increased risk of loss. The extent of the loss would depend upon the magnitude of the flooding event. Florida's Building Codes have adopted higher standards which in turn decreases vulnerability.

The potential impacts a flood can have on Charlotte County and its jurisdictions which includes the City of Punta Gorda would be large scale and have lasting effects. The County or its jurisdictions would incur many costs to respond to and recover from such an event. The costs incurred would be both short-term and long-term with lasting effects County-wide but especially on its vulnerable populations such as the elderly, fiscally constrained and agricultural depending on the affected areas. Flooding can have a detrimental effect on land, agriculture, property, and structures. There is also the risk of impact on County facilities and critical infrastructure that services the community which must be kept as operational as possible during an event. Flooding is a higher risk in the City of Punta Gorda where the elevation is lower than in other part of the county.

Risk Level	Zone Codes	Description
Lower	C and X	As this designation implies, there is a low, but still meaningful, flood risk. 40% of all flood claims occur in low- to moderate-risk areas. Flood insurance is an important safeguard, even for those in areas of low risk.
Moderate	B and X	This designation means that the risk for flooding is reduced, but there is still flood risk. 40% of all flood claims occur in low- to moderate-risk areas. Moderate flood risk areas may have reduced their risk with mitigation efforts, such as levees, or they experience shallow flooding. Flood

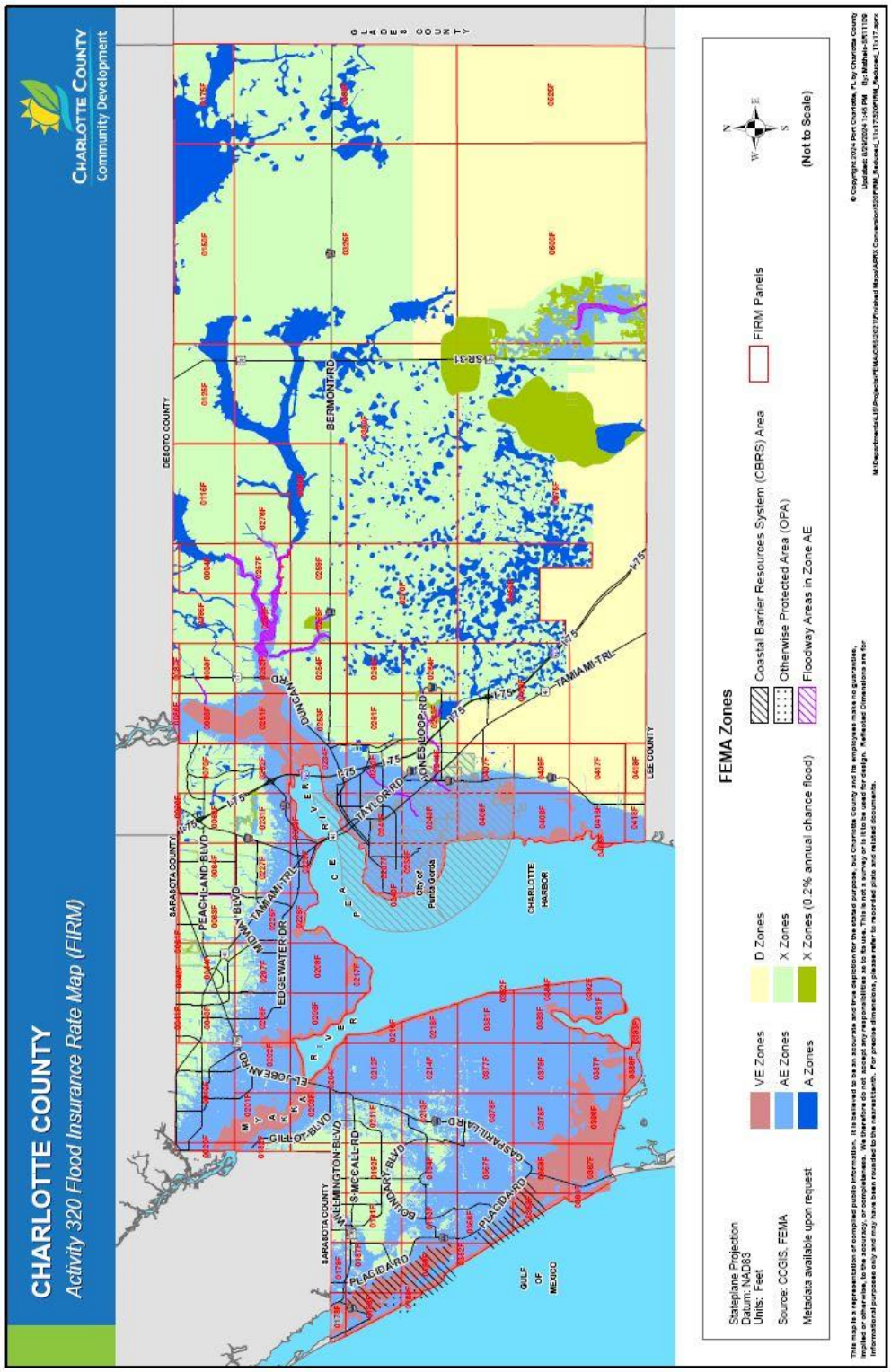
		insurance is an important safeguard for those in areas of moderate risk.
High	A, AE, AO, AR, and A99	In communities that participate in the National Flood Insurance Program (NFIP), flood insurance is mandatory for properties located in high-risk flood zones if mortgages are federally backed.
High - Coastal	V and VE	These areas have a 26% chance of flooding over the life of a 30-year mortgage. In communities that participate in the NFIP, flood insurance is mandatory for federally backed mortgages.
Undetermined	D	Zone D includes areas with possible flood hazards, but because no flood hazard analysis has been conducted to determine probability, the flood risk in these areas is undetermined. Insurance rates are based on the uncertainty of the flood risk. Flood insurance is recommended.

Source: FEMA Map Service Center

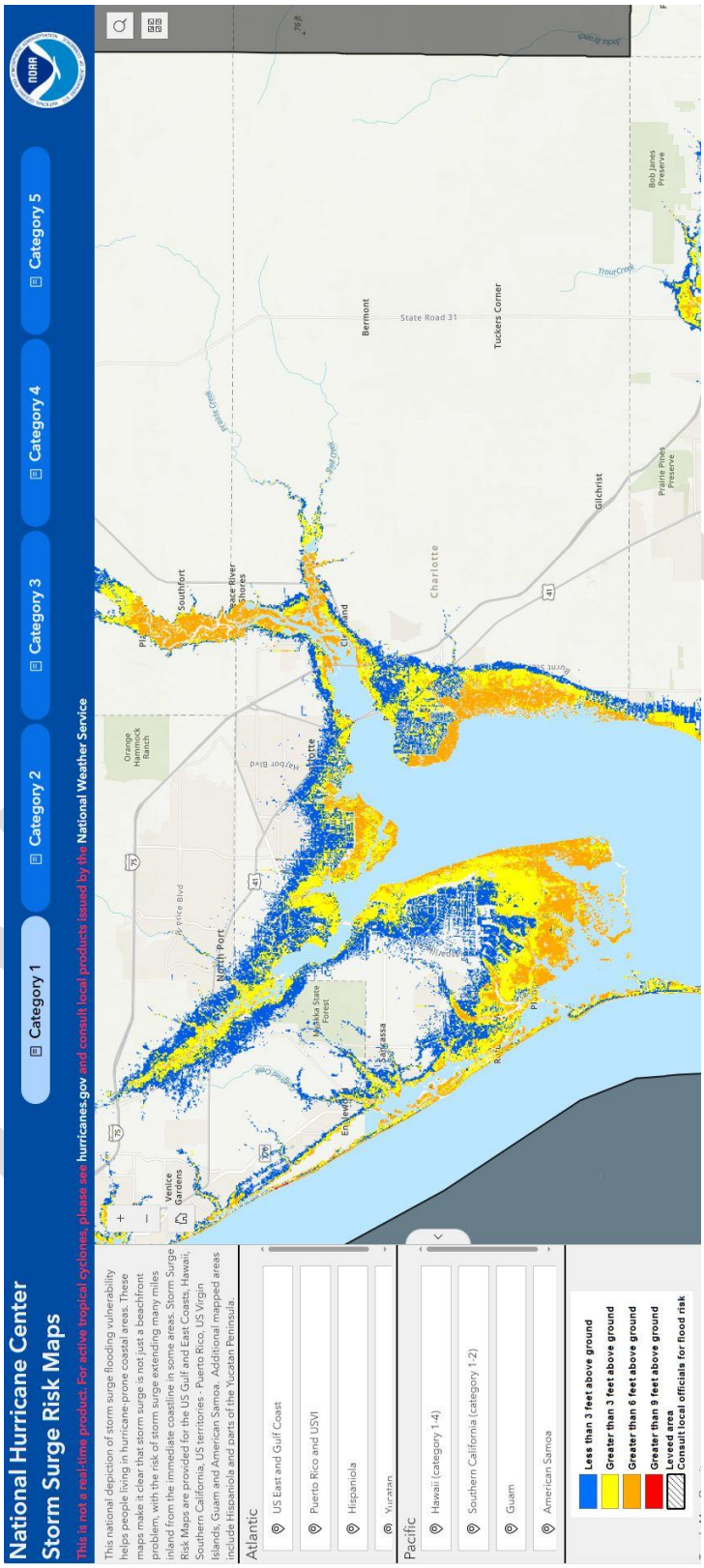
Please refer to Appendix D the Charlotte County Flood Warning Program for information pertaining to warning and evacuating residents. This annex will describe the various types of flooding that could occur, provide procedures for disseminating warning information, and for determining, assessing, and reporting the severity and magnitude of impact on flooded areas. This document will also establish the concept under which the county government will operate in response to flood emergencies and create a framework for expeditious, effective, and coordinated employment of local resources.

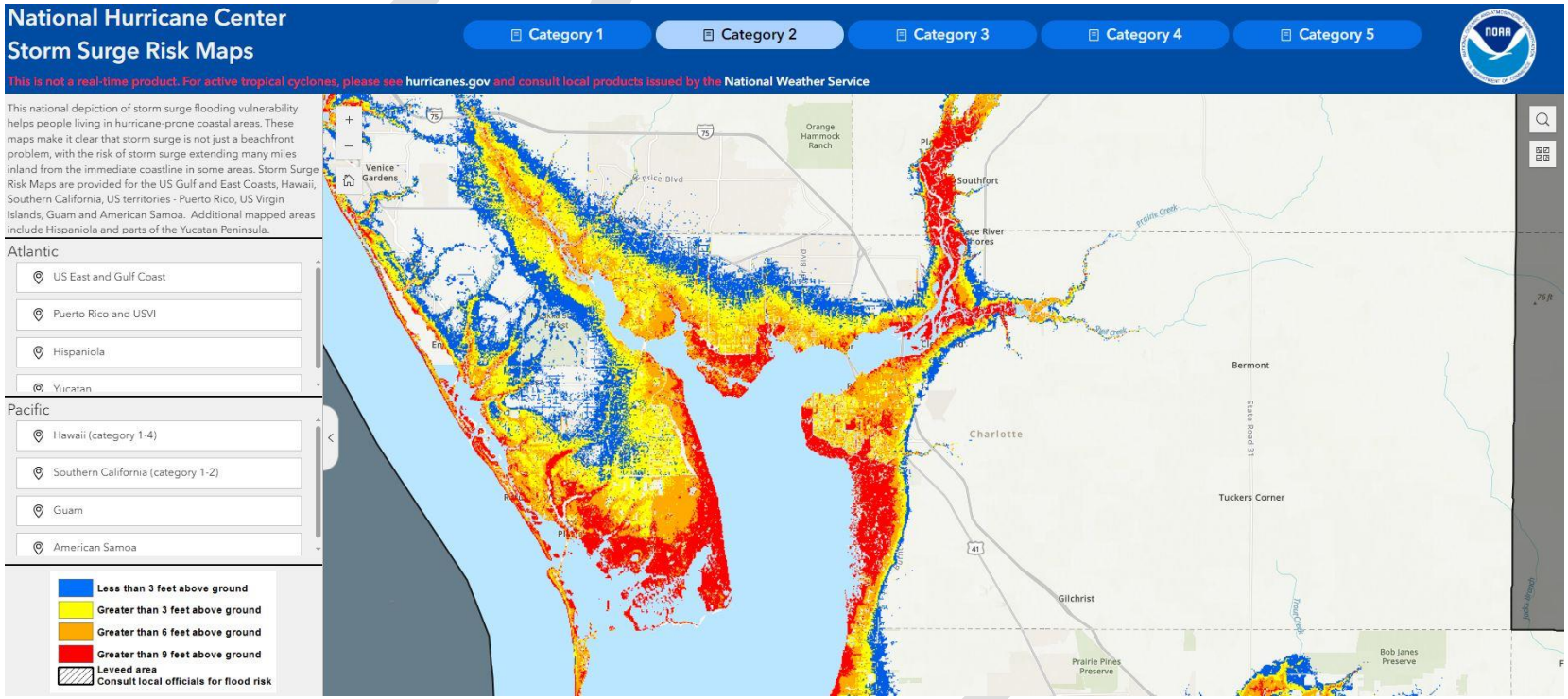
The following maps provide more acute information regarding flooding effects and vulnerability for the county and its Jurisdictions.

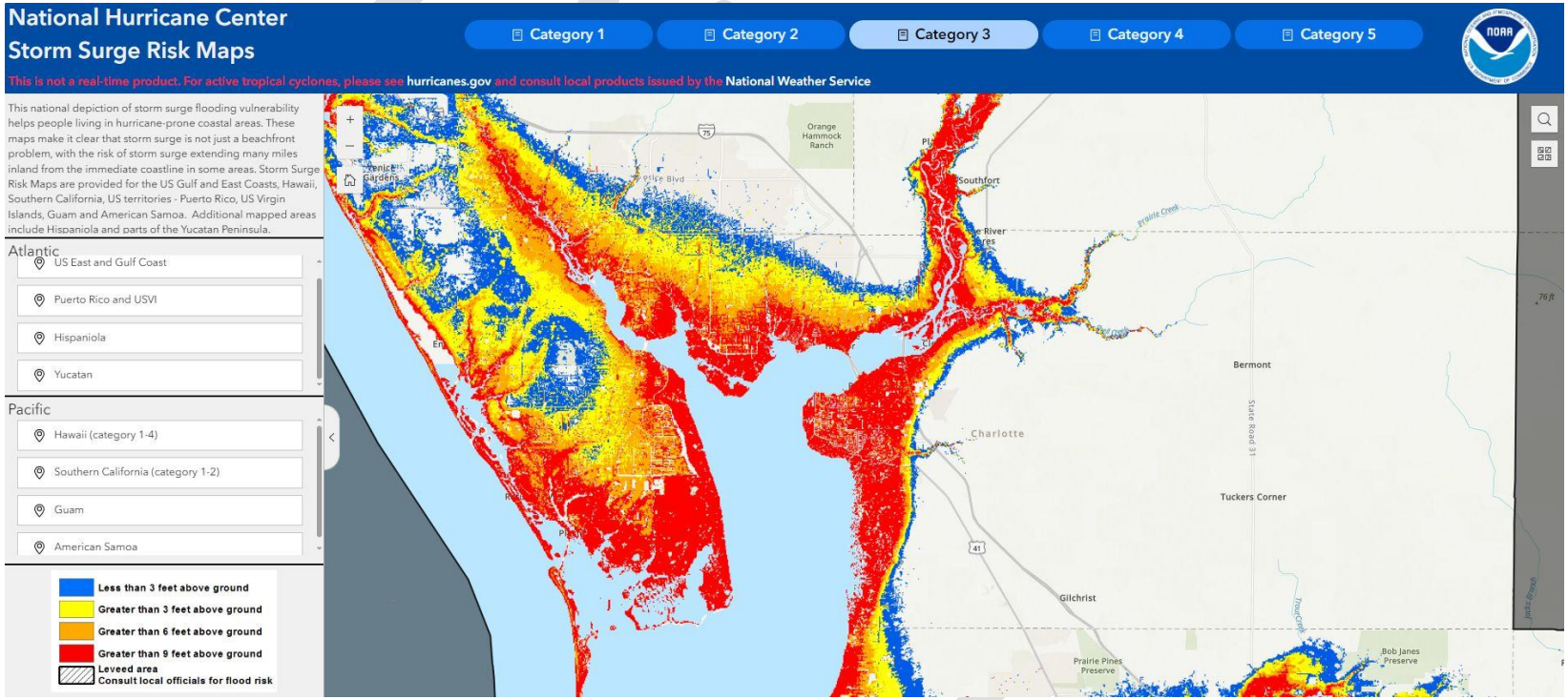
Flood Insurance Rate Map (FIRM)



Storm Surge Risk Maps




National Hurricane Center
Storm Surge Risk Maps
Category 1
Category 2
Category 3
Category 4
Category 5
This is not a real-time product. For active tropical cyclones, please see hurricanes.gov and consult local products issued by the National Weather Service
This national depiction of storm surge flooding vulnerability helps people living in hurricane-prone coastal areas. These maps make it clear that storm surge is not just a beachfront problem, with the risk of storm surge extending many miles inland from the immediate coastline in some areas. Storm Surge Risk Maps are provided for the US Gulf and East Coasts, Hawaii, Southern California, US territories - Puerto Rico, US Virgin Islands, Guam and American Samoa. Additional mapped areas include Hispaniola and parts of the Yucatan Peninsula.
Atlantic
US East and Gulf Coast
Puerto Rico and USVI
Hispaniola
Yucatan
Pacific
Hawaii (category 1-4)
Southern California (category 1-2)
Guam
American Samoa
Less than 3 feet above ground
Greater than 3 feet above ground
Greater than 6 feet above ground
Greater than 9 feet above ground
Leveed area
Consult local officials for flood risk
Venice Gardens
Orange Hammock Ranch
Southfort
Bermont
Charlotte
Tuckers Corner
Gilchrist
Prairie Pines Preserve
Bob Janes Preserve


National Hurricane Center
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Category 1
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Atlantic
US East and Gulf Coast
Puerto Rico and USVI
Hispaniola
Yucatan
Pacific
Hawaii (category 1-4)
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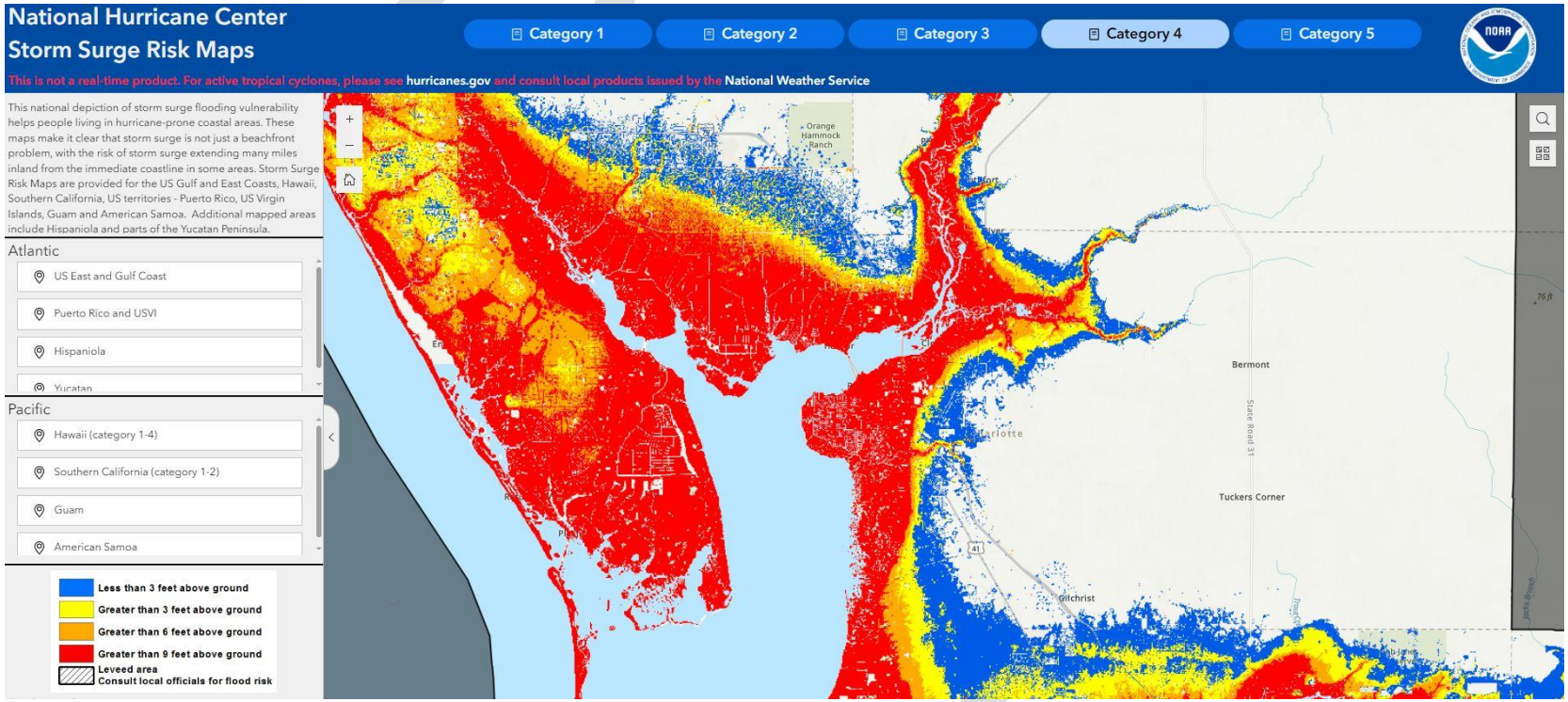
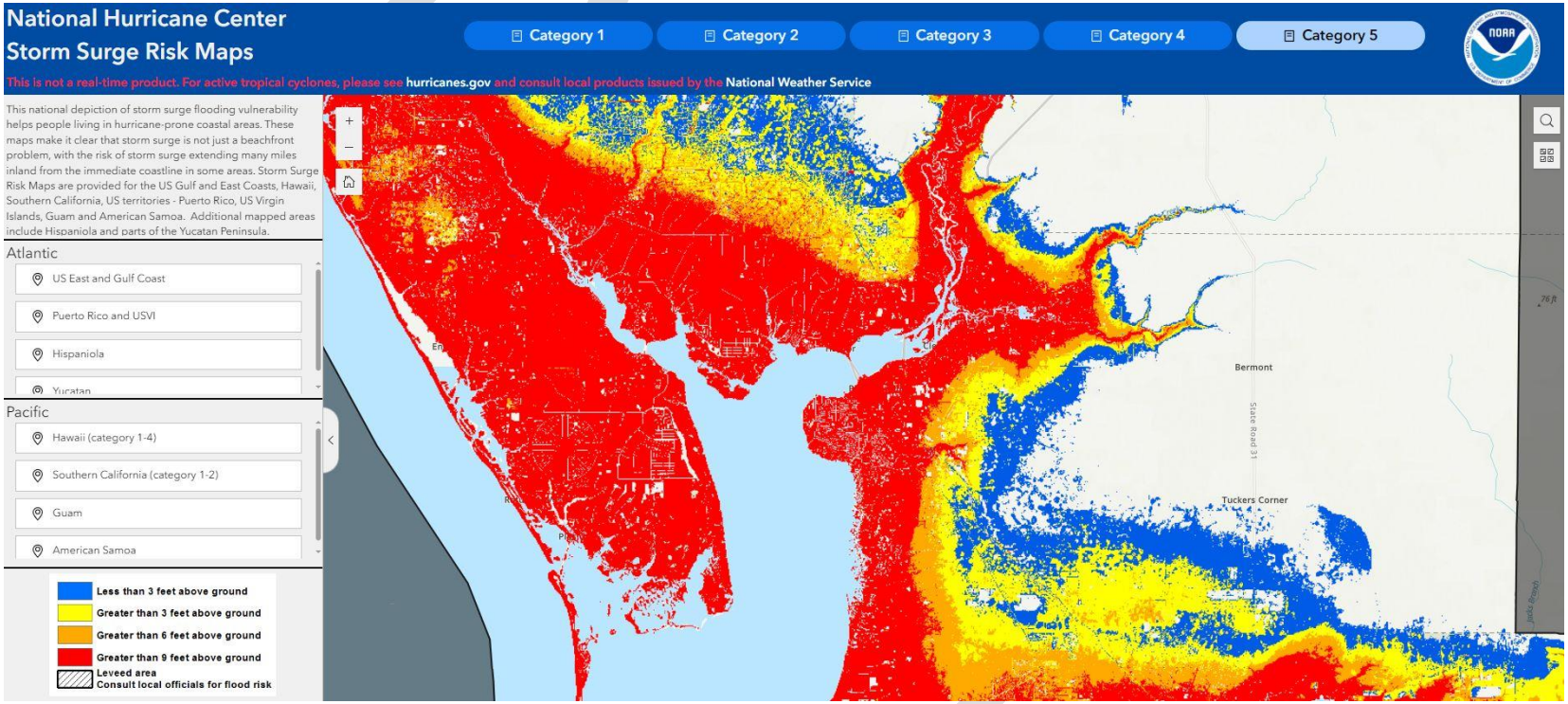
Guam
American Samoa
Less than 3 feet above ground
Greater than 3 feet above ground
Greater than 6 feet above ground
Greater than 9 feet above ground
Leveed area
Consult local officials for flood risk
Orange Hammock Ranch
Southport
Bermont
Charlotte
Tuckers Corner
Gilchrist
Prairie Pines Preserve
Bob Janes Preserve
Prairie Creek
State Road 31
76 ft


National Hurricane Center
Storm Surge Risk Maps
Category 1
Category 2
Category 3
Category 4
Category 5
This is not a real-time product. For active tropical cyclones, please see hurricanes.gov and consult local products issued by the National Weather Service
This national depiction of storm surge flooding vulnerability helps people living in hurricane-prone coastal areas. These maps make it clear that storm surge is not just a beachfront problem, with the risk of storm surge extending many miles inland from the immediate coastline in some areas. Storm Surge Risk Maps are provided for the US Gulf and East Coasts, Hawaii, Southern California, US territories - Puerto Rico, US Virgin Islands, Guam and American Samoa. Additional mapped areas include Hispaniola and parts of the Yucatan Peninsula.
Atlantic
US East and Gulf Coast
Puerto Rico and USVI
Hispaniola
Yucatan
Pacific
Hawaii (category 1-4)
Southern California (category 1-2)
Guam
American Samoa
Less than 3 feet above ground
Greater than 3 feet above ground
Greater than 6 feet above ground
Greater than 9 feet above ground
Leveed area
Consult local officials for flood risk
Orange Hammock Ranch
Bermont
Tuckers Corner
Gilchrist
State Road 121
41
76 ft


National Hurricane Center
Storm Surge Risk Maps
Category 1
Category 2
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Atlantic
US East and Gulf Coast
Puerto Rico and USVI
Hispaniola
Yucatan
Pacific
Hawaii (category 1-4)
Southern California (category 1-2)
Guam
American Samoa
Less than 3 feet above ground
Greater than 3 feet above ground
Greater than 6 feet above ground
Greater than 9 feet above ground
Leveed area
Consult local officials for flood risk
Bermont
Tuckers Corner

5.5.3 Wildfire

Hazard Identification

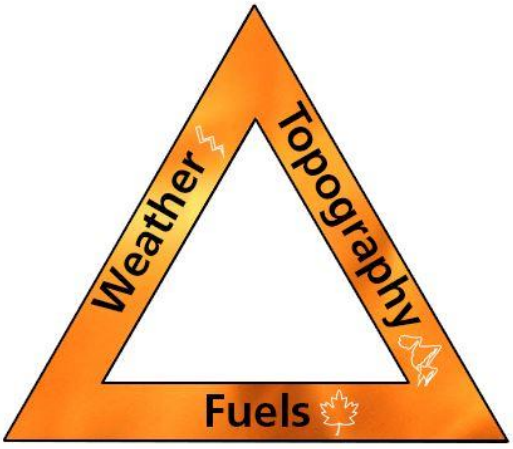
Fires are a natural part of the ecosystem in Florida. However, wildfires can present a substantial hazard to life and property in growing communities. There is a potential for losses due to wildland/urban interface (WUI) fires in Charlotte County or its jurisdictions.

A wildfire is an uncontrolled fire spreading through vegetative fuels, endangering and possibly consuming structures. They often begin unnoticed, spread quickly, and are usually signaled by dense smoke that fills the area for miles around. Vegetative fuels, including those that are characteristic of wildlands, such as trees, grasses, understory growth, and ground litter; and those that are purchased at nurseries for home or community landscaping purposes, including trees, mulch, grasses, and ornamental plants, fuel wildfires according to the Wildfire Hazard Mitigation Handbook published by FEMA (FEMA P-754).

A wildland fire is a wildfire in an area which development is essentially nonexistent, except for roads, railroads, power lines, and similar facilities. According to the Handbook, in the wildland/urban interface, buildings and other human development intermingle with vegetative fuels, exposing the development to potential fire damage when wildfires occur. Other factors that affect the vulnerability of development to wildfire are location, weather conditions during the wildfire, and the fire-suppression capabilities of local response agencies.

Wildfires are nature's way of managing wild plant life and regenerating growth. But they also can be the result of other factors. Wildfires can be caused by lightning, campfires, uncontrolled burns, smoking, vehicles, trains, equipment use, and arsonists. According to the National Park Service (NPS), nearly 85% of wildland fires in the United States are caused by humans.

Wildfire behavior is influenced by many factors, including geography, climate, weather, and topography. The NPS uses the Fire Behavior Triangle to present the three legs of fuels, weather, and topography. The type and amount of fuel, as well as its burning qualities and level of moisture affect wildfire potential and behavior. The continuity of fuels, expressed in both horizontal and vertical components is also a factor, in that it expresses the pattern of vegetative growth and open areas. Topography is important because it affects the movement of air (and thus the fire) over the ground surface. The slope and terrain can change the rate of speed at which fire travels. Weather affects the probability of wildfire and has a significant effect on its behavior. Temperature, humidity, and wind (both short and long term) affect the severity and duration of wildfires.



Wildfire Risk Analysis

History

According to the Florida Forest Service, there have been multiple wild/forest fire events officially reported in Charlotte County since 2019. These events resulted in no deaths. However, they did burn over 2,500 acres with over $250,000 in property damage. The following is a brief description of significant wildfire events in the county.

June 9, 2024, Punta Gorda:
A brush fire ignited along SR 31 and Bermont Road due to an unknown source and burned 250 acres.

April 23, 2022, Englewood:
At least 140 acres of forest and 10 acres of residential brush were ignited by an unknown source. A boat, fences, and some storage sheds were damaged in the blaze.

February 24, 2020, Rural Charlotte County:
A fire was ignited due to unknown sources in the Placida Sands area, burning 222 acres of brush and forest, and two firefighters suffered minor injuries.

May 30, 2017, Rural Charlotte County:
Multiple fires were sparked throughout the county with lightning thought to be the cause. Nine of the fires were located inside the Cecil Webb Wildlife Management Area and burned up to 100 acres.

May 13, 2017, Port Charlotte:
A brush fire broke out near Yorkshire Street and Raintree Loop due to unknown sources and burned 125 acres of brush and forest.

April 16, 2017, Punta Gorda:
A wildfire ignited near the Babcock Ranch Preserve Footprints Trail. It burned approximately 205 acres of brush and was started by an unknown source.

April 5, 2017, Punta Gorda:
A wildfire ignited near Oil Well Road from an unknown source and burned 180 acres of brush and trees.

March 17, 2017, Punta Gorda:
A wildfire ignited near Oil Well Road from an unknown source and burned 302 acres of brush and trees.

April 5, 2015, Babcock Ranch:
A wildfire ignited from an unauthorized burn of pallets and burned 467 acres of trees and brush.

March 6, 2013, Punta Gorda:
A wildfire ignited from an unauthorized debris burn and burned 500 acres of trees and brush.

April 11, 2012, Punta Gorda:
A wildfire ignited from an unknown source and burned 164 acres of trees and brush.

June 25, 2011, Punta Gorda:
A wildfire ignited after a lightning strike and burned 172 acres of trees and brush.

June 6, 2011, Babcock Ranch:
A wildfire ignited from an unknown source and burned 243 acres of trees and brush.

April 30, 2011, Punta Gorda:
A wildfire ignited after a lightning strike and burned 778 acres of trees and brush.

April 28, 2011, Port Charlotte:
A wildfire ignited after a lightning strike. This fire consumed a total of 230 acres of trees and brush.

March 20, 2011, Punta Gorda:
A wildfire ignited from an unknown source and burned 205 acres of trees and brush.

Probability of Wildfire Occurrence

Given the history of wildfire occurrences and the current low levels of development in the county, the probability of future wildfire occurrences is considered as medium. We could expect at least one wildfire a year burning at least 100 acres.

Estimating Potential Losses

Loss estimation for wildfire events is difficult because there are so many factors that will influence where damage will occur and the amount of damage that will occur.

The potential impacts a wildfire can have on Charlotte County and its jurisdictions which includes the City of Punta Gorda would be large scale and have lasting effects. The County or its jurisdictions would incur many costs to respond to and recover from such an event. The costs incurred would be both short-term and long-term with lasting effects County-wide but especially on its vulnerable populations such as the elderly, fiscally constrained and agricultural depending on the affected areas. Large scale wildfires can have a detrimental effect on land, agriculture, property, and structures. There is also the risk of impact on County facilities and critical infrastructure that services the community which must be kept as operational as possible during an event. The population of Charlotte County continues to grow, with the US Census Bureau recording a 13.3% increase from April 1, 2020, to July 1, 2024. There has also been an increase in structures built within the county. These increases bring with them an increased risk of loss. The extent of the loss would depend upon the magnitude of the wildfire event.

Potential Future Risk

In assessing physical vulnerability, the most important factor is the extent to which structures get damaged when they are exposed to fire and heat. Structures located near the wildland/urban interface area are at the greatest risk for damage from wildfires. The history of wildfires in Charlotte County mainly shows the burning of brush and timber in comparison to the destruction of structures. However, as development pushes forward into areas that are currently brush and timber, more structures will face the risk of wildfire damage.

Locations for wildfires are sometimes hard to predict and can be dependent on exigent factors. However, Charlotte County does have areas that are more susceptible to wildfires and have wildfire events occur there on a frequent basis during dry seasons. These higher risk areas are heavily wooded areas in different locations throughout the county. The largest planning area at risk is The Fred C. Babcock/Cecil M. Webb Wildlife Management area due to its vast wooded areas, (spanning over 80,000 acres) and new home developments along Bermont Road. The Englewood Peninsula has the second largest planning area for at risk locations. Locations in Englewood that are prone to these fires include: South Gulf Cove and Placida. El Jobean is another high-risk area located just north of the South Gulf Cove area across the Myakka River. Tropical Gulf Acres is another high-risk area located in South County between Burnt Store Road and US 41.

To mitigate this risk, the National Weather Service takes action to inform those potentially impacted by wildfire risk by issuing advisories regarding the potential for wildfires and its impacts. Those advisories are as follows:

- Fire Weather Watch: indicates weather conditions could result in critical fire weather conditions in the next 72 hours.
- Red Flag Warning: indicates ongoing or imminent critical fire weather in the next 24 hours.
- Extreme Fire Behavior: implies that a wildfire is either moving fast, has prolific crowning or spotting, has fire whirls, or has a strong convection column.

These advisories help residents of Charlotte County and its jurisdictions to be better prepared and limit the damage sustained.

5.5.4 Tornado

Hazard Identification

The National Weather Service defines a tornado as "a violently rotating column of air in contact with the ground and extending from the base of a thunderstorm. A condensation funnel does not need to reach to the ground for a tornado to be present; a debris cloud beneath a thunderstorm is all that is needed to confirm the presence of a tornado, even in the total absence of a condensation funnel" (National Weather Service, 2003). Tornadoes are defined in terms of the Enhanced Fujita Scale, which ranks tornadoes based on wind speed and damage potential and separates them into six categories.

Enhanced Fujita (EF) Scale

Rating	Wind Speed (mph)	Damage Intensity
EF-0	65-85	Gale/minor
EF-1	86-110	Moderate
EF-2	111-135	Significant
EF-3	136-165	Severe
EF-4	166-200	Devastating
EF-5	>200	Incredible

Tornado Risk Analysis

Using Charlotte County's history of tornado events along with the National Oceanic Atmospheric Administration's database the risk Charlotte County or its jurisdictions face from high wind events was determined. Charlotte County has not experienced any historical tornado incidences greater than an EF2. Being that tornadoes are unpredictable in nature Charlotte County could be susceptible to all six categories of tornado. However, an EF4 tornado is the greatest strength tornado that has affected the state of Florida according to the National Oceanic and Atmospheric Administration.

History

There is no recorded history of a tornado with a classification greater than EF1 occurring in Charlotte County. Of the tornado events that have occurred in Charlotte County, 80% of them were EF0 tornadoes and 12% of them were classified as EF1 tornadoes. This means that most of the tornado events that occur in Charlotte County are events that cause only moderate damage.

April 30, 2023, Rural Charlotte County:
A band of early morning showers developed a circulation with a brief tornado touching down in eastern Charlotte County. A virtual survey was done based off damage photos. A metal barn was destroyed, several telephone poles were snapped, a section of a fence was destroyed, and a trailer was overturned and pushed into a tree. Start and end points are estimated based off radar data. This tornado was rated an EF1.

January 16, 2022, Placida and Port Charlotte:
Two tornadoes were spawned in Charlotte County ahead of a line of strong thunderstorms in the early morning hours. A waterspout formed in Gasparilla Sound and moved onshore as a tornado in Placida, damaging at least 35 homes and a marina storage facility. A brief tornado was produced in the west Port Charlotte area, where two homes sustained major damage, and two others had minor damage. Both tornadoes were rated EF1.

March 1, 2017, Palm Shores and Manasota Key:
Two EF1 tornadoes touched down in separate locations in Charlotte County. The Palm Shores tornado was estimated to have peak wind at 100 MPH, was on the ground for .2 miles, and had a maximum width of 100 yards. Damage included trees snapped or uprooted, a pickup truck that had been flipped over, and a construction outbuilding that sustained moderate damage. The Manasota Key tornado was estimated to have peak wind at 105 MPH, was on the ground for .1 miles, and had a maximum width of 75 yards. The damage was consistent with a waterspout moving onshore, and consisted of moderate roof damage to multiple homes, and trees snapped or uprooted.

February 24, 2016, Punta Gorda & Port Charlotte:
An EF1 tornado with 97 mph winds hit the Deep Creek area of Charlotte County and an EF-0 tornado hit the Murdock area of Charlotte County. A total of 34 homes were damaged in Deep Creek.

January 27, 2012, Charlotte Harbor:
A tornado touched down and caused significant roof damage to a single-family home and an apartment complex. Damage was estimated at $30,000. This tornado was rated an EF1.

June 21, 2006, Charlotte Harbor:
A weak waterspout moved onshore as a tornado in the Harbor View mobile home park along the Peace River. Damage was limited to aluminum car ports and small sheds. Estimated damage was $30,000. This tornado was not officially rated.

June 21, 2006, Port Charlotte:
A small but destructive tornado rapidly developed near the merger of the east and west coast sea breezes over Port Charlotte. One home was destroyed. Estimated damage was $500,000. The tornado caused damage in several locations along its path, most of which was rated as EF0/EF1, but damage rated at EF2 occurred on East Tarpon Boulevard NW.

Probability of Tornado Occurrence

While history shows that the probability of a tornado occurrence in Charlotte County is high, the probability of a severe tornado (EF3 or higher) occurring is very low. On the other hand, even an EF2 tornado has the potential to cause destruction wherever it touches down, and it could touch down anywhere in the county.

Estimating Potential Losses

Identifying assets at risk for tornado damage is virtually impossible since tornadoes are so unpredictable. It can be assumed that every structure has an equal chance of exposure to a tornado event. Therefore, all assets of Charlotte County should be included in the exposure zone. Please see the asset overview section (Section 5.3) of this report for a representation of Charlotte County and the city of Punta Gorda's Assets.

There is less than one recorded EF3-EF5 tornado per 3,700 mi^2 for Charlotte County. However, as FEMA points out, the nature of tornadoes is that they strike at random. The whole county is considered when looking at the probability and location of occurrence for any strength tornado. The LMS working group has been working to harden critical facilities to protect them against hazards such as tornados that could potentially affect the county and its residents.

The population of Charlotte County continues to grow, with the US Census Bureau recording a 13.3% increase from April 1, 2020, to July 1, 2024. There has also been an increase in structures built within the county. These increases bring with them an increased risk of loss. The extent of

the loss would depend upon the magnitude of the event. Florida's Building Codes have adopted higher standards which in turn decreases vulnerability.

Potential Future Risk

The risk for tornado damage will increase as more and more people move to the area and more and more structures are built. The Land Uses and Development Trends section of this risk analysis addresses where some of this future growth is projected to occur. Due to the unpredictability of tornado events, it is not possible to make a reasonable extent scale for this hazard.

Most tornadoes form from thunderstorms. Development needs warm, moist air from the Gulf of Mexico and cool, dry air from Canada. When these two air masses meet, they create instability in the atmosphere. Charlotte County is a coastal county making it more vulnerable. The structures most susceptible to damage are older buildings, dilapidated housing, and other less hardened properties such as mobile homes. All populations may be impacted by these events, but those at highest risk are the elderly, the disabled, lower income, and the homeless. Charlotte County has 54,859 homes built before the code change in 1992 and 8,587 mobile homes. This would make 60% of the homes in Charlotte County more vulnerable to tornados.

5.5.5 High Wind Events

Hazard Identification

High wind events bring with them the threat of numerous individual hazards but, the sole concern of this section of the LMS is with the high wind hazardous aspect of thunderstorms. Accordingly, the LMS Working Group ran multiple tropical cyclone models using HAZUS which simulated winds much higher than would be expected from a thunderstorm. This means that mitigation actions for tropical cyclone-type winds would also mitigate thunderstorm wind damage.

Thunderstorms result from the rapid upward movement of warm, moist air. They can occur inside warm, moist air masses and at fronts. As the warm, moist air moves upward, it cools, condenses, and forms cumulonimbus clouds that can reach heights of over 12.45 miles. As the rising air reaches its dew point, water droplets and ice form and begin falling towards the Earth's surface. As the droplets fall, they collide with other droplets and become larger. The falling droplets create a downdraft of cold air and moisture that spreads out at the Earth's surface, causing the strong winds commonly associated with thunderstorms.

High Wind Event Risk Analysis

The potential threat to Charlotte County or its jurisdictions was ascertained by using the National Oceanic Atmospheric Administration's database along with Charlotte County's history of thunderstorms and high wind events.

History of Thunderstorms and High Wind Events

According to the National Climatic Data Center of NOAA, 2 significant thunderstorm/high wind events were recorded in Charlotte County in the last ten years. These events resulted in no deaths or injuries. An estimated $105,000 thousand in property damage is attributed to these events. Following is a brief description of the thunderstorm/high wind events that have been recorded by NOAA in Charlotte County since 2004. Tropical cyclones always involve high winds.

June 10, 2012, South Charlotte:
Several trees were uprooted, and power poles knocked down. A mobile home sustained minor roof damage, and the roof of a shed was blown 150 feet away. A central pivot irrigation rig was also twisted and damaged by the wind. Damage estimates from this event in the region reached $50,000.

April 12, 2004, Regional:
An unusually strong pressure gradient developed between small scale high and low-pressure systems across central and southern Florida. A 41-knot wind gust was recorded at the Charlotte County Airport in Punta Gorda. Damage estimates from this event in the region reached $55,000.

Probability of Thunderstorms or High Wind Events

Considering the area's frequent past occurrence of events, along with the almost daily summer thunderstorm and seasonal tropical cyclones the county experiences, the probability of a thunderstorm or high wind event is high. The entire county is equally vulnerable to the effects of thunderstorms and/or high wind events.

Charlotte is a coastal county making it more vulnerable from the storms that come from the Gulf. This includes tropical cyclones, and high wind events. Damage from high winds, storm surge, and rain-induced flooding can impact all structures and utilities. The structures most susceptible to damage are older buildings, dilapidated housing, and other less hardened properties such as mobile homes. Widespread electrical outage is probable, as well as water and sewage backup in flooded areas. Depending on the intensity of the event, economic and environmental impacts can be severe. All populations may be impacted by these events, but those at highest risk are the elderly, the disabled, lower income, and the homeless.

Estimating Potential Losses

Charlotte is a coastal county making it more vulnerable from the storms that come from the Gulf. This includes tropical cyclones, and high wind events. Damage from high winds, storm surge, and rain-induced flooding can impact all structures and utilities. The structures most susceptible to damage are older buildings, dilapidated housing, and other less hardened properties such as mobile homes. Widespread electrical outage is probable, as well as water and sewage backup in flooded areas. Depending on the intensity of the event, economic and environmental impacts can be severe. All populations may be impacted by these events, but those at highest risk are the elderly, the disabled, lower income, and the homeless.

The population of Charlotte County continues to grow, with the US Census Bureau recording a 13.3% increase from April 1, 2020, to July 1, 2024. There has also been an increase in structures built within the county. Charlotte County has almost half the homes built before the code change in 1992 and over 8,500 mobile homes. This brings an increased risk of loss. The extent of the loss would depend upon the magnitude of the wind event. Florida's Building Codes have adopted higher standards which in turn decreases vulnerability.

Potential Future Risk

The potential impacts a high wind event can have on Charlotte County and its jurisdictions which includes The City of Punta Gorda could range from isolated to widespread with have lasting effects. The County and its jurisdictions populations are located mostly around the coastal areas of the county which increases the risk associated with this type of event. Both the county and its jurisdictions would incur costs to respond to and recover from such an event. The costs incurred could be both short-term and long-term with lasting effects County-wide but especially on its vulnerable populations such as the elderly, fiscally constrained and agricultural depending on the affected areas. There is also the risk of impact on County facilities and critical infrastructure that services the community which must be kept as operational as possible during an event.

To help mitigate the risk of high winds, the National Weather service issues advisories which can assist with preparation prior to an event. Those advisories are as follows:

- High Wind Warning: Sustained, strong winds with even stronger gusts are happening. Seek shelter. If you are driving, keep both hands on the wheels and slow down. NWS offices issue this product based on local criteria.
- High Wind Watch: Sustained, strong winds are possible. Secure loose outdoor items and adjust plans as necessary so you're not caught outside. NWS offices issue this product based on local criteria.
- Wind Advisory: Strong winds are occurring but are not so strong as to warrant a High Wind Warning. Objects that are outdoors should be secured and caution should be taken if driving. NWS offices issue this product based on local criteria.

- Gale Warning: Gale Warnings are issued for locations along the water when one or both of the following conditions is expected to begin within 36 hours and is not directly associated with a tropical cyclone: sustained winds of 34 to 47 knots (39 to 55 mph) or frequent gusts (duration of two or more hours) between 34 knots and 47 knots. Make sure your vessel is secure in port.
- Hurricane Force Wind Warning: Hurricane Force Wind Warnings are issued for locations along the water when one or both of the following conditions is expected to begin within 36 hours and not directly associated with a tropical cyclone: sustained winds of 64 knots or greater or frequent gusts (duration of two or more hours) of 64 knots (74 mph) or greater. Make sure your vessel is secure in port.

Both the Gale Warning and Hurricane Force Wind Warning are specific to counties with a coastline, whether tropical or other large bodies of water. Charlotte County is a coastal county, so these warnings apply. Its jurisdiction, the City of Punta Gorda, also lies along a large body of water, Charlotte Harbor, so these apply to the City as well. These advisories can provide advanced notification to those in the affected area so preparations can be made prior to the event. This prevents potential losses as a result.

5.5.6 Coastal Erosion

Hazard Identification

Charlotte County spends millions of dollars each year on projects that work to enhance the coastal environment. Coastal erosion is one of the biggest problems Charlotte County's beaches encounters. Aside from the potential tourism dollars that may be lost, there are people's homes and businesses that could potentially be damaged from coastal erosion.

NOAA defines beach erosion as "The carrying away of beach materials by wave action, tidal currents, littoral currents, or wind." Coastal erosion is a natural process even in pristine environments. However, in areas where human activity negatively impacts the shoreline, coastal erosion can become a serious problem. It is estimated that coastal erosion in the U.S. costs $700 million annually. (National Sea Grant Office).

Coastal Erosion Risk Analysis

Over the next 60 years, erosion may claim 1 out of 4 houses within 500 feet of the US shoreline (H. John Heinz Center Report, April 2000). This statistic helps form the basis of the 60-year Coastal Erosion Hazard Area. The 60-year Coastal Erosion Hazard Area represents the land expected to be lost to coastal erosion over the next 60 years. The Evaluation of Erosion Hazards Study prepared for FEMA by the H. John Heinz III Center for Science, Economics, and the Environment establishes this zone as land within 500 feet from the coastline.

Since the rate at which the beach erodes varies from place to place, for Charlotte County's analysis, all the properties located within the boundary of the Coastal Conservation Construction Line (CCCL) were designated as members of the Coastal Erosion Hazard Area.

History

The history of coastal erosion events in Charlotte County is not easy to document. However, there are events that can be recorded such as tropical storms, hurricanes, and/or tornadoes that lead to coastal erosion. The following events, documented through the National Climatic Data Center of NOAA, discuss coastal erosion for Charlotte County. The extent of erosion annually is 4.4 cubic feet of sand loss per year any major storm could increase sand loss to over 10,000 cubic feet.

October 9, 2024, Hurricane Milton

Hurricane Milton made landfall just north of Charlotte County near Siesta Key and brought more storm surge than Hurricane Helene just two weeks prior. The total erosion for Charlotte County in CY for both Helene and Milton equaled 385,461 on Manasota Key, and for just Milton, the erosion estimate equaled 142,173 CY at Stump Pass Beach State Park.

September 25, 2024, Hurricane Helene

Hurricane Helene passed by Charlotte County prior to making landfall in the Big Bend of Florida but brought extensive storm surge that caused significant beach erosion to coastal areas of the county. The total number of CY erosion for Helene was included with erosion for Milton.

August 13, 2024, Hurricane Debby

Hurricane Debby passed by Charlotte County prior to making landfall in the Big Bend of Florida but caused coastal erosion as it passed. The damaged equaled 32,705 CY to Manasota Key.

September 28, 2022, Hurricane Ian

Ian made landfall at Cayo Costa, which is just south of Charlotte County. Charlotte County was moderately impacted by Ian. According to the Department of Environmental Protection, Manasota Key at Englewood Beach saw over 32,000 cubic yards volume (CY) change per foot of shoreline, Don Pedro Island saw almost 40,000 CY, and Gasparilla Island saw almost 11,000 CY. Don Pedro and Gasparilla Island also saw minor dune erosion.

August 19, 2008, Tropical Storm Fay

Tropical Storm Fay was the first storm in recorded history to make landfall four times in Florida. Even though she was only a tropical storm, Fay caused beach erosion to Knight Island which resulted in over $3 million of damage, and a loss of over 147,000 cubic yards of beach.

September 23, 2004, Hurricane Jeanne

Hurricane Jeanne caused further erosion damage to the Don Pedro Island dune system.

September 5, 2004, Hurricane Frances

Hurricane Frances struck Florida on its east coast. It caused a slight increase in the level of erosion in areas where Hurricane Charley had previously intensified the erosion process. Hurricane Frances caused major dune erosion on Don Pedro Island (FDEP).

August 13, 2004, Hurricane Charley

Hurricane Charley made landfall on the Southwest coast of Florida as a category 4 hurricane. It caused minor beach erosion on Englewood Beach, Port Charlotte State Recreation Area, and on the North end of Gasparilla Island. Knight Island suffered the largest amount of damage which resulted in over $3.7 million of beach restoration.

Probability Of Coastal Erosion Occurrence

There have been several events in the past five years, however the probability of an erosion event is medium. Accordingly, the LMS Working Group both analyzed the assets at risk to this hazard and considered potential projects that would reduce the impacts of an occurrence of this hazard.

Estimating Potential Losses

Over 2% of Charlotte County's structures are in the coastal erosion hazard area. These structures account for 5.5% of the county's building value and 5.0% of the county's estimated value. Erosion of the beaches is measured by the cost per cubic yard of sand and includes the cost of contractors and mobilization and demobilization. As can be seen from the map on page 75, all the properties vulnerable to erosion are in unincorporated Charlotte County (there are none in Punta Gorda), and more specifically, all are on the islands in the Gulf Coast to the west of mainland Charlotte County. This hazard is costly overtime but not a direct hazard to residents.

The population of Charlotte County continues to grow, with the US Census Bureau recording a 13.3% increase from April 1, 2020, to July 1, 2024. There has also been an increase in structures built within the county. These increases bring with them an increased risk of loss. The extent of the loss would depend upon the magnitude of erosion. Coastal erosion may cause property damage when severe but is unlikely to cause injury or death.

Potential Future Risk

While Charlotte County has several structures located in the Coastal Erosion Hazard Area, it is important to note that there are projects in the works to prevent erosion of Charlotte County's coastline. The primary vehicle for implementing the beach management planning recommendations is the Florida Beach Erosion Control Program. This is a program established for the purpose of working in concert with local, state, and federal governmental entities to achieve the protection, preservation, and restoration of the coastal sandy beach resources of

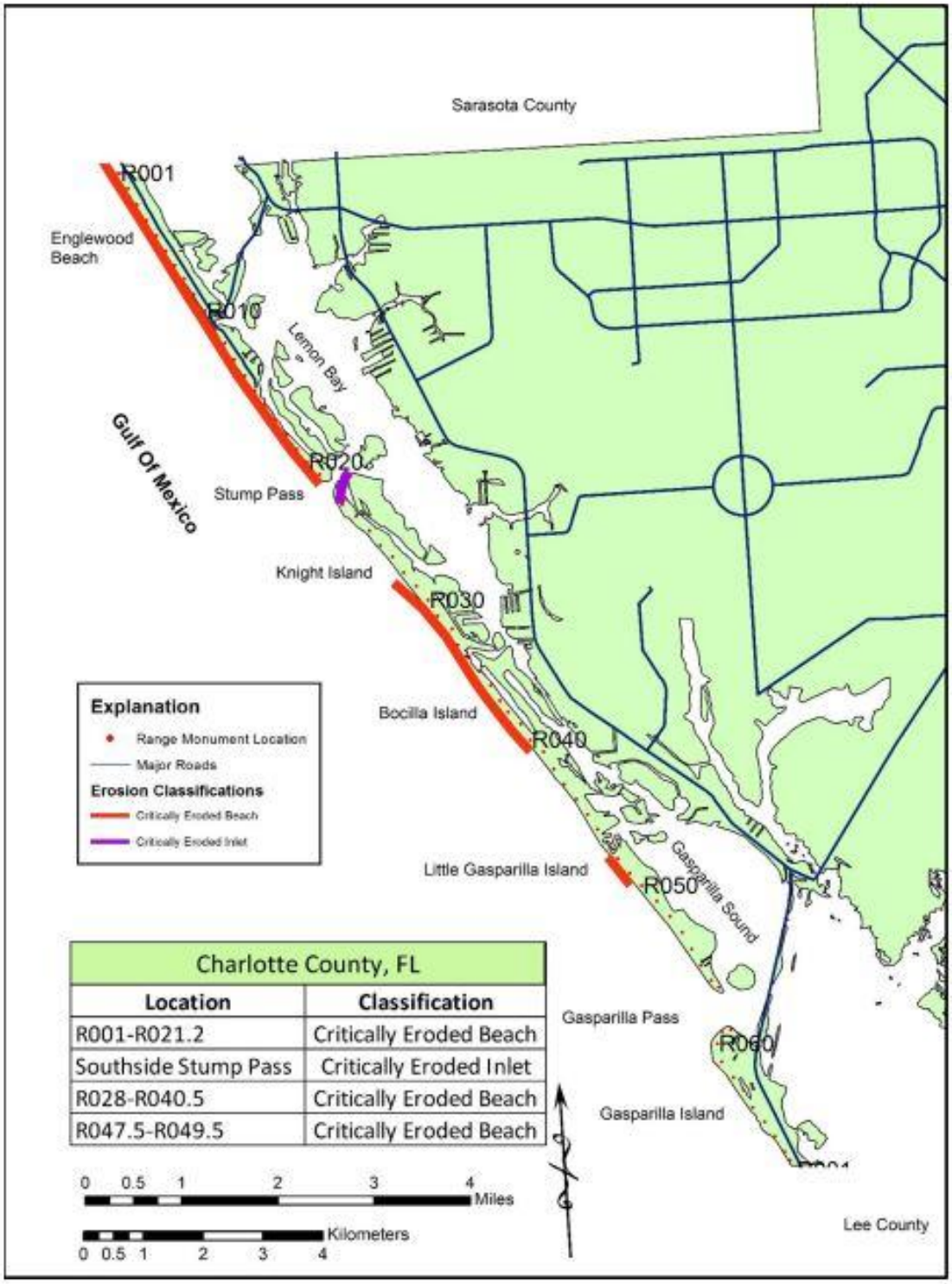
the state. Under the program, financial assistance in an amount of up to 50 percent of project costs is available to Florida's county and municipal governments, community development districts, or special taxing districts for shore protection and preservation activities located on the Gulf of Mexico, Atlantic Ocean, or Straits of Florida.

As of August 2024, the Florida Department of Environmental Protection states there are currently three critically eroded areas (6.5 miles), and one critically eroded inlet shoreline (0.1 mile). Critically eroded meaning the highest affected areas in the county in this case. This data has not been updated after Hurricane Helene and Hurricane Milton.

The County has included Coastal Planning goals, objectives, and policies into Charlotte 2050. This includes coastal resource protection, estuarine quality protection, addressing development in high hazard areas, coastal planning areas, and a resiliency initiative. These goals intend to preserve the coastal resources, prevent coastal erosion, and be thoughtful regarding any future development in these high hazard areas. The segment of Charlotte 2050 addressing the coastal concerns is included in Appendix F.

Charlotte County Coastal Erosion Hazard Area

Florida Department of Environmental Protection
Critically Eroded Beaches in Florida, | August 2024



The above map shows our coastal erosion areas. The Coastal Construction Control Line (CCCL) is a program implemented to help preserve the beaches in the State. It is a standard for the design of property and buildings so that the coastal resources are not disrupted and lost. Red lines show where our most critical erosion has happened (areas that initiated EO's). The map also depicts the areas of the County/Jurisdiction that are community redevelopment areas.

5.5.7 Drought

Hazard Identification

A drought is a period of unusually persistent dry weather that persists long enough to cause serious problems such as crop damage and/or water supply shortages. The severity of the drought depends upon the degree of moisture deficiency, the duration, and the size of the affected area. A prolonged drought can have a serious economic impact on a community. Increased demand for water and electricity may result in shortages of resources. Moreover, food shortages may occur if agricultural production is damaged or destroyed by a loss of crops or livestock. Heat related illness can be very serious for the elderly, small children, chronic invalids, overweight individuals, and those taking certain medications, drugs, or alcohol. A prolonged drought can have a serious economic impact on a community.

Drought Risk Analysis

History

All areas of Charlotte County are equally susceptible to all types of droughts. This is especially the case during the dry season in January through May. Several periods of drought have been experienced over the years in Charlotte County, including a time in 2012 when 100% of the county was rated a D2 for several months. There have also been shorter periods of time when the entire county has been rated a D2, including 2017, 2023, and 2024. The most extreme drought was experienced in 2012 when 100% of the county was rated D4 for at least one month, and smaller portions (under 50%) remained at that level for three months.

Probability of a Drought Occurrence

Charlotte County's probability of a drought occurrence is medium based on hydrological factors (precipitation), as noted on in the table for hazard identification in section 5.1.

Estimating Potential Losses

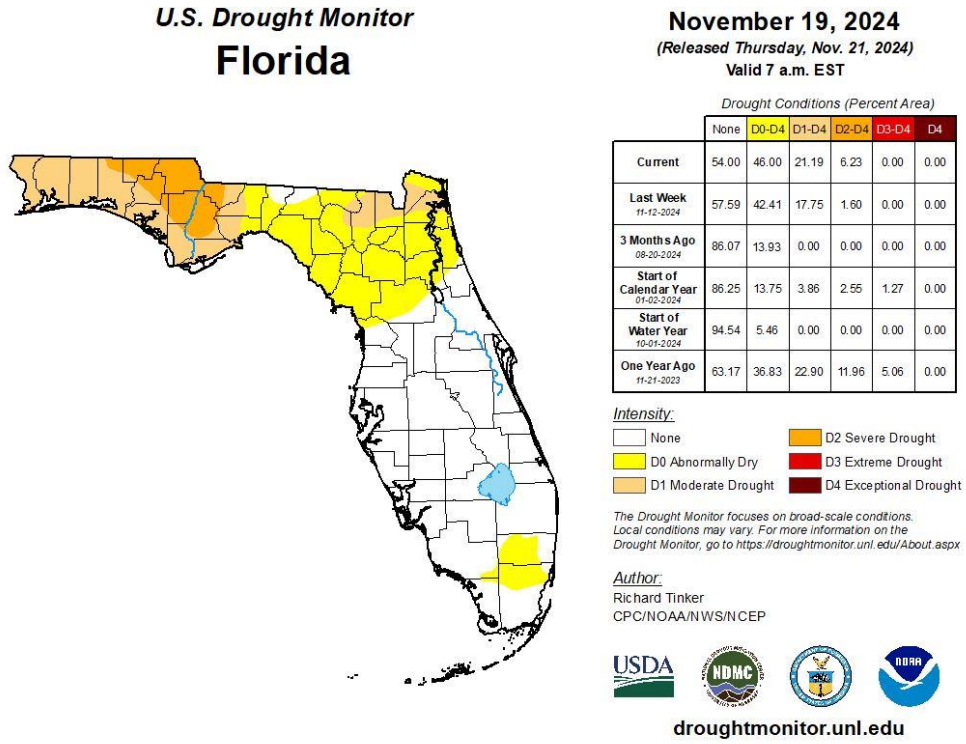
The Charlotte County assets that are most vulnerable to the threat of drought are agricultural. According to the Florida Department of Agriculture, Charlotte County contains over 9,000 acres

of citrus crops and almost 15,000 head of livestock. Additionally, portions of the county's land are devoted to the production of other fruits and vegetables. Should a severe drought occur and persist, these assets will be hit the hardest, and the most severe consequence would be a long-term loss in revenue from citrus production. These are revenue and food lifelines within Charlotte County's land area primarily. Recovery from this type of hazard would be a long process that would be costly to those affected as well as detrimental to supply chain and commerce.

Potential Future Risk

Charlotte County is, always has been, and always will be vulnerable to drought. When water levels are low in both the Peace and Myakka Rivers, water treatment plants and sewer treatment plants lose their ability to withdraw water from them. In the future, we can expect this problem to become more evident because of the increase in population and therefore a higher demand on water resources. A worst-case scenario for drought in Charlotte County would be a severe drought.

Florida Drought Severity



The above graph shows a snapshot in time of the current drought conditions of Florida as found on the NOAA drought monitor. The key shows the severity scale for droughts and what could potentially affect the planning area. Charlotte County and its Jurisdictions have the potential to

be affected by up to a D4 scale drought which would cause serious impacts on the local environment which includes over 9,000 acres of citrus crops and almost 15,000 head of livestock. A drought of D4 magnitude would impact the whole planning area including the City of Punta Gorda with both short and long term affects to the environment and residents.

5.5.8 Extreme Heat

Hazard Identification

Temperatures that hover 10 degrees or more above the average high temperature of 92 °F for the region and last for several weeks are defined as extreme heat. Humid or muggy conditions, which add to the discomfort of high temperatures, occur when a "dome" of high atmospheric pressure traps hazy, damp air near the ground. A heat wave is an extended time interval of abnormally and uncomfortably hot and unusually humid weather. To be a heat wave, such a period should last at least one day, but conventionally it lasts from several days to several weeks (FDEM).

Extreme Heat Risk Analysis

History

NOAA does not have detailed records of an extreme heat event in Charlotte County. There has not been any occurrence of extreme heat. The highest recorded temperature in Florida was 109°F in 1931, therefore that is what Charlotte County could expect as the extent of extreme heat.

Probability of an Extreme Heat Occurrence

The probability of an event occurring in the future should be considered as low. Lee County, just south of Charlotte, does have recorded extreme heat events. This, considered with the facts that the average summer high temperature in Charlotte County can already be considered very hot, and that the world's climate is very dynamic, should not allow us to discount the possibility of an extreme heat event in Charlotte County. An extreme heat event can occur equally throughout the county.

Estimating Potential Losses

An extreme heat event would not have a direct impact on the county's physical assets. On the other hand, an event could entail potential negative impacts on the local economy. For example, loss of revenue from tourists whom the heat might deter from visiting the area.

The potential impacts an extreme heat incident can have on Charlotte County and its jurisdictions which includes The City of Punta Gorda would be widespread. The County or its jurisdictions would not incur as many physical costs. The costs incurred would be both short-

term and long-term on its vulnerable populations such as the elderly, fiscally constrained and agricultural depending on the affected areas. A large percentage of Charlotte County's population are 65+ who would be most affected by an extreme event because of their underlying health issues. The costs occurred because of this outcome would be costly.

Potential Future Risk

The potential future risk that this hazard poses is expected to increase. As the county's population increases, it is obvious that the number of individuals exposed to and vulnerable to extreme heat will increase in kind. The National Weather Service will issue advisories related to heat should the need arise. Those advisories are as follows:

- Excessive Heat Outlook – Issued when the potential exists for an excessive heat event within the next three to seven days.
- Heat Advisory – Issued within 12 hours of extremely dangerous heat conditions. Advisories are generally issued when the maximum heat index is expected to be 100 degrees Fahrenheit or higher for at least two days.
- Excessive Heat Watches – Issued when conditions are favorable for an excessive heat event within the next 24 to 72 hours. Watches are used when the risk of a heat wave has increased but the timing is still uncertain.
- Excessive Heat Warning – Issued within 12 hours of extremely dangerous heat conditions. Warnings are generally issued when the maximum heat index is expected to be 105 degrees Fahrenheit or higher for at least two days.

These advisories help prepare residents for the potential for extreme heat occurrences and hopefully mitigate the impacts should an extreme heat event occur.

5.5.9 Exotic Pests and Disease

Hazard Identification

Because of its sub-tropical climate, unique animal and plant life, and robust $6 billion agriculture industry, Florida is inherently susceptible to the introduction of foreign plant and animal pests and diseases. The State has been plagued by repeated outbreaks of exotic pests and diseases over the past few years. Animal disease organisms can live for months in meat and meat products, such as sausage and many types of canned hams sold abroad. Foot-and-mouth disease, African swine fever, and classical swine fever (hog cholera) are a few of the several livestock diseases that could cost billions of dollars to eradicate if introduced to U.S. livestock. These diseases are not present in the United States but are known to occur in many foreign countries from which travelers and importers bring meat products (USDA).

Exotic Pest and Disease Risk Analysis

While exotic pest and disease infestations/outbreaks do not cause a direct impact on structures that can be measured in terms of numbers of buildings or total value, it can impact the County. The risk analysis for pest or disease outbreak focuses on the agricultural elements of the County.

History

Following is a brief description of three recent outbreaks of citrus canker as tracked by the Department of Agriculture and Consumer Services.

January 10, 2006, Charlotte County:
All Charlotte County Environmental Protection (CCEP) activity ended.

December 17, 2005, to January 14, 2006, Charlotte County:
One new positive find located in 40S24E22.

November 2, 2005, Charlotte County:
An expanded quarantine replaced the Farabee Grade quarantine.

October 16 to November 15, 2005, Charlotte County:
Two new positive finds located in 40S27E31 and 40S27E19.

October 15, 2005, Charlotte County:
Two new positive finds located in 40S24E34 and 40S27E16.

August 6, 2005, Charlotte County:
Nine new positive finds located in 40S27E22, 40S27E23, 40S27E24, 41S27E18, 40S27E35, 41S27E18 and 41S27E08.

July 2, 2005, Charlotte County:
Three new commercial canker finds involving approximately 1,022 acres.

May 19, 2005, Charlotte County:
Citrus canker was confirmed in a commercial citrus grove.

January 25, 2005, Punta Gorda:
Citrus canker was confirmed on three trees in the Deep Creek area of Punta Gorda.

October 20, 2004, Charlotte County:

Citrus canker was confirmed positive in 2 areas in Punta Gorda and in a Hamlin orange grove located in Township 40S, Range 26E, and Section 12 in eastern Charlotte County, east of Highway 31, near the DeSoto County line. Hurricane Charley caused a widespread infection throughout the grove.

Probability of an Exotic Pest or Disease Occurrence

The probability of an Exotic Pest or Disease occurrence is hard to predict but would be low unless there is a worldwide event.

Estimating Potential Losses

The Charlotte County assets that are most vulnerable to the threat of exotic pests and diseases are agricultural. According to the Florida Department of Agriculture, Charlotte County contains over 9,000 acres of citrus crops, and almost 15,000 head of livestock. Additionally, portions of the county's land are devoted to the production of other fruits and vegetables. Should a severe pest or disease outbreak occur, these assets will be hit the hardest.

An exotic pest or disease outbreak in would cause a widespread impact throughout the county and its jurisdictions. The agricultural industry of more than 9,000 acres and almost 15,000 head of livestock located in Charlotte County would be the greatest area of impact. The citrus industry in Florida is a billion-dollar industry and over 9,000 acres of the 21,000 acres of crop land throughout Charlotte County is Citrus fields. Losses of these crops would be a long-term effect on revenue, jobs, and supply chain in the area. However, there has been a reduction in the number of agricultural acres and head of livestock since the last update of the LMS, so the potential losses have decreased. The City of Punta Gorda would not feel as much of a direct impact due to their geographical location and lack of rural areas, but the long-term impacts of revenue and job loss would affect all jurisdictions.

Potential Future Risk

Florida is a very popular travel destination and attracts visitors from all around the globe, visitors who could unintentionally be carrying objects like fruit infected with communicable diseases or hosting nonnative pests. Even with the increased population and risks the probability of a pest or disease outbreak is low.

5.5.10 Dam Failure

Hazard Identification

Dam failure can be caused by either floodwaters that raise the water level above the dam's capacity or by unsound dam construction leading to a breach in the dam. Residents and assets

downstream from the dam are exposed to differing levels of risk to a dam failure depending on the dam's hazard potential classification and their distance from the failed dam.

Dam Failure Risk Analysis

The closest dam to Charlotte County, Peace River Reservoir #2, is located on the Peace River in DeSoto County at about five miles to the nearest point in Charlotte County. The area is triangular, and it is bordered on the SE by 0.94 miles of Kings Highway (769); bordered on the SW by 0.91 miles of Interstate 75; and bordered on the N by 0.96 miles of the Charlotte County/ DeSoto County line. The hazard potential for this dam is considered as "high." All the information in this section was found in the "Peace River/Manasota Regional Water Supply Authority Reservoir Emergency Action Plan."

History

There is no record of a past occurrence of a dam failure in Charlotte County.

Probability of a Dam Failure

Even though this is considered a high hazard risk dam, the probability of a failure occurring should be considered as low, given that a dam hazard risk analysis is determined relative to all other dams rather than all-natural hazards.

Estimating Potential Losses

Should this dam fail, the losses experienced in Charlotte County would be very minor. This is due to two circumstances: 1) six buildings (all commercial) sit in the Charlotte County area predicted to be flooded by a dam failure with only a 1-foot flood depth; 2) the danger to the human population in the dam flood zone at the time of a breach is rather low since they would have sufficient time to be warned and evacuate (16 hours) before the flood water reaches one foot in the expected flood area. The six commercial properties in the exposure area are Wal-Mart, Murphy's Gas Station, Five Guys/Alpine Dental, Culver's, Arby's, and Wells Fargo Bank, and they amount to a total exposure value of $28,112,520 from assessor's page. The potential loss could increase if more development occurs in this small portion of the county, but would be limited as there is not much room for additional development in the area that would be impacted in the event of a dam failure.

Potential Future Risk

The potential future risk posed by this dam should be expected to increase if either the capacity of the reservoir increases, further development of the area, or it is discovered that the dam is structurally unsound. In the event of a dam failure the extent of damage would only affect the three commercial properties near that area and would be minimal.

5.5.11 Freezes

Hazard Identification

A freeze is a condition that exists when, over a widespread area, the surface temperature of the air remains below freezing (32ºF or 0ºC) for a sufficient time to constitute the characteristic feature of the weather. A freeze is a term used for the condition when vegetation is injured by these low air temperatures, regardless of if frost is deposited. Frost is a cover of ice crystals produced by deposition of atmospheric water directly on a surface at or below freezing.

Freeze Risk Analysis

While winter storms and freezes do not cause a direct impact on structures that can be measured in terms of numbers of buildings or total value, it can impact the county. The risk analysis for freezes focuses on the agricultural elements of the County.

History

According to the National Climatic Data Center of NOAA, three freeze events were reported in Charlotte County since 2010. No other freeze events have been recorded within the county. A description of these events follows.

December 15, 2010, Charlotte County:
Charlotte County recorded sub-freezing temperatures for around 4 hours across mainly eastern portions of the county. The ASOS station at the Charlotte County Airport experienced the coldest temperature across the county of 29 degrees, which was a new record low for the station. The county has 21,663 acres of harvested farmland, which is approximately $1.59 million in crop damages.

February 10, 2010, Charlotte County:
Charlotte County felt sub-freezing temperatures for 1 to 2 hours across mainly eastern portions of the county. It has 21,663 acres of harvested farmland, which is approximately $34 thousand in crop damages.

January 10, 2010, Charlotte County:
Charlotte County had below-freezing temperatures for around 10 hours, with temperatures below 28 degrees for 2 to 3 hours. The lowest temperature across the county of 23 degrees was set at a station in Port Charlotte. The county has 21,663 acres of harvested farmland, which translates into approximately $2.56 million in crop damages.

Probability of a Freeze

Charlotte County can expect a moderate freeze at least once every two years giving it a medium probability. A freeze can occur equally throughout the county. It is estimated that a

severe freeze that can potentially destroy all crops can be expected once every 5-10 years on average. Freezes normally occur at night.

Estimating Potential Losses

The Charlotte County assets that are most vulnerable to the threat of freezes are agricultural. According to the Florida Department of Agriculture, Charlotte County contains over 9,000 acres of citrus crops, and almost 15,000 head of livestock. Additionally, portions of the county's land are devoted to the production of other fruits and vegetables. Should a severe freeze occur, these assets will be hit the hardest, and the most severe consequence would be a long-term loss in revenue from citrus production. The number of acres of agricultural land and head of livestock has declined since the last update to the LMS, thus the potential loss has also declined.

While the greatest impact of freezes is to agricultural production located within Charlotte County, freezes may also affect people countywide and necessitate the opening cold weather shelters. These locations are opened to those seeking shelter when certain low temperatures and wind chill are reached. This requires the mobilization of personnel and resources for the protection of homeless persons or residents of sub-standard dwellings. The need for cold weather sheltering affects both Charlotte County and the City of Punta Gorda equally.

Potential Future Risk

All crops are susceptible to freeze damage. The primary winter growing season is November through March. As the population increases, the demand placed on farmers becomes higher. Due to this larger demand, we can expect to have higher financial losses in the future.

In the winter months, Charlotte County often sees temperatures drop below 32 degrees for as long as 4 to 6 hours with the lowest temperature being 22. The National Weather Service issues advisories in advance of these events so residents can be prepared for the potential temperature drop. The advisories are as follows:

- Freeze Watch - Issued when there is a potential for significant, widespread freezing temperatures within the next 24 to 36 hours.
- Freeze Warning - Issued when significant, widespread freezing temperatures are expected.
- Frost Advisory - Issued when the minimum temperature is forecast to be 33 to 36 degrees on clear and calm nights during the growing season.

These advisories can assist with prevention of negative impacts as a result of freeze events, both to agriculture and the human population of Charlotte County and its jurisdictions.

5.5.12 Earthquakes

Hazard Identification

An earthquake is a sudden, rapid shaking of the Earth caused by the breaking and shifting of rock beneath the Earth's surface. Earthquakes result from crust strain, volcanism, landslides, or the collapse of caverns. Earthquakes, which strike suddenly and without warning, can occur at any time of the year and at any time of the day or night.

Earthquakes are measured in terms of their magnitude. Magnitude is measured in terms of the Richter scale, an open-ended logarithmic scale that describes the energy release of an earthquake through a measure of shock wave amplitude.

The Richter Scale	
Magnitude	Effect
0-2.0	Micro earthquakes, not felt.
2.0-2.9	Generally, not felt or recorded.
3.0-3.9	Often felt, but rarely causes damage.
4.0-4.9	Shaking and rattling of items but no significant damage caused.
5.0-5.9	Affects weak construction and causes mild damage to stronger construction.
6.0-6.9	Affects area up to 160 km from the epicenter, in populated areas.
7.0-7.9	"Major" earthquake, causes serious damage up to ~100 km
8.0-8.9	"Great" earthquake, great destruction, loss of life over several 100 km

Earthquake Risk Analysis

Earthquakes can cause buildings and bridges to collapse; disrupt gas, electric, and phone service; and sometimes trigger landslides, avalanches, flash floods, fires, and huge, destructive ocean waves (tsunamis). The structures most susceptible to damage can depend on the material that the structure is made from, the type of earthquake wave (motion) that is affecting the structure, and the ground on which the structure is built. Even though the entire county would be impacted in the event of an earthquake the damage (if any) would be minimal.

History

According to the U.S. Geological Survey (USGS), only two recorded earthquakes (both very minor) have occurred near Charlotte County: both in Lee County in 1948, and 1930.

Probability of Earthquake Occurrence

Florida is situated on the trailing (or passive) margin of the North American Plate. This is the fundamental reason that Florida has an extremely low incidence of earthquakes. Due to the historically low probability that the Charlotte County or its jurisdictions will experience an

earthquake, the potential damages caused by earthquakes will not be analyzed in the risk assessment portion of this document.

Estimated Potential Loss

Should a major earthquake be recorded in Charlotte County, there could be loss of structures including buildings and bridges, possibly even loss of life. However, this is likely not going to occur.

Potential Future Risk

The potential future risk of an Earthquake occurrence is minimal.

5.5.13 Sinkholes

Sinkholes are a fact of life in Florida. They occur because the state of Florida is underlain by limestone, a type of rock that is slowly dissolved by weak natural acids found in rain and rain reacting with decaying vegetation after absorbing carbon dioxide, and in the pore spaces in soil. The abrupt formation of sinkholes may follow extreme rain producing events such as tropical storms or hurricanes. This is because the weight of a large amount of rainwater at the earth's surface may bring about the collapse of an underground cavity if its limestone "ceiling" has become thin. Any structure above a sinkhole would sustain damage.

Hazard Identification

Sinkholes are common where the rock below the land surface is limestone, carbonate rock, salt beds, or rocks that can naturally be dissolved by water circulating through them. As the rock dissolves, spaces and caverns develop underground. Sinkholes are dramatic because the land usually stays intact for a while until the underground spaces just get too big. If there is not enough support for the land above the spaces, then a collapse of the land surface can occur. These collapses can be small, or they can be huge and can occur where a house or road is on top.

The most damage from sinkholes tends to occur in Florida, Texas, Alabama, Missouri, Kentucky, Tennessee, and Pennsylvania. The entire state of Florida resides over the Florida Aquifer. However, only a small part of the aquifer is unconfined. This means the water table is at atmospheric pressure and able to rise and fall. Charlotte County lies over a confined portion of the aquifer. A confined aquifer has layers of impermeable material both above and below it, and less likely to experience sinkholes.

Sinkhole Risk Analysis

History

Five sinkholes have been recorded in Charlotte County according to USF Esri. None of these were significant, although a utility pole was reported to have fallen in the Murdock area of Port Charlotte in 2014. This instance was reportedly caused by a water main break, and the hole was 6' deep. The other four were not as deep and no other damage was reported.

Probability of Sinkhole Occurrence

The probability of a sinkhole occurring in Charlotte County or its jurisdictions is very low but not impossible.

Estimating Potential Losses

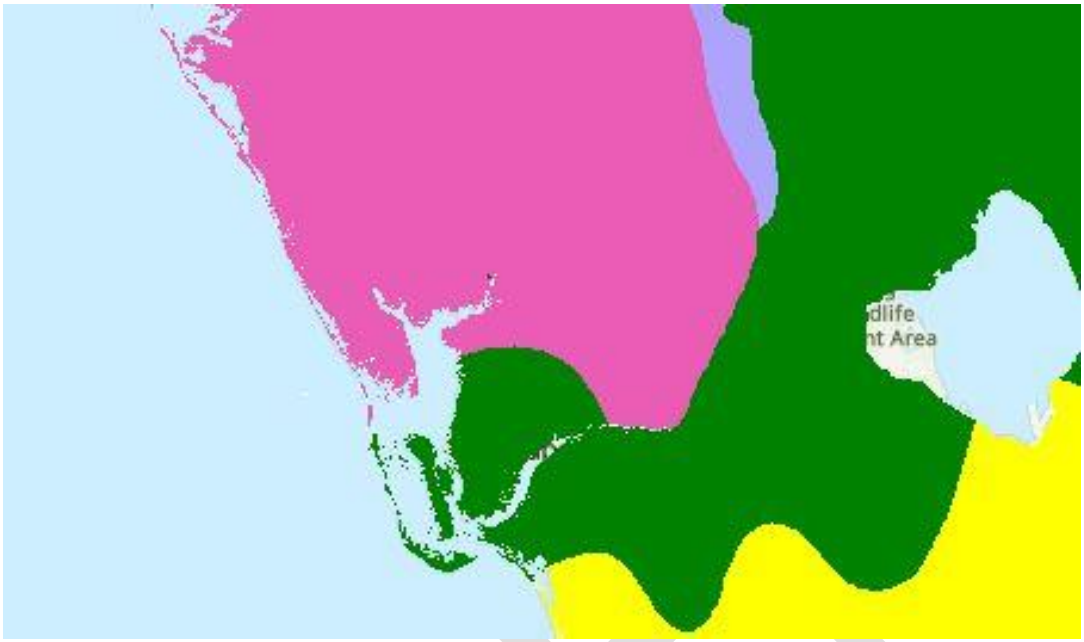
Due to the historically low probability that Charlotte County area will experience sinkholes, the potential damages caused by sinkholes will not be analyzed in the risk assessment portion of this document.

Even though the entire county is considered when looking at the probability and location of occurrence for a sinkhole, the impact would be minimal.

Potential Future Risk

The potential future risk for a Sinkhole occurrence is low. The State of Florida has indicated there are four Sinkhole Zones within the Florida Peninsula:

- Zone 1 (Yellow): This region consists of exposed or thinly covered carbonate rocks. Broad and shallow sinkholes are common in this area. Cities in the zone 1 region include Miami, Coral Springs, Hialeah, and Hollywood.
- Zone 2 (Green): This region has permeable sand that varies in thickness from 20 to 200 feet. It mainly consists of small cover subsidence. Zone 2 cities include Fort Lauderdale, Port St. Lucie, and Orlando.
- Zone 3 (Purple): Zone 3 has cohesive, low-permeable soil that forms abrupt collapse sinkholes. Cities in zone 3 include Tampa, Tallahassee, and St. Petersburg.
- Zone 4 (Pink): This region consists of deeply inter-bedded carbonate rocks and cohesive clayey sands. Sinkholes are uncommon in this region but collapse and small subsidence sinkholes can occur in shallow beds. Cities located in zone 4 include Jacksonville and St. Augustine.



As shown in the map above, Charlotte County lies within the Pink, or Zone 4. Zone 4 is the least likely area of the state to have an occurrence of a sinkhole. However, as it is still possible, education continues with the residents of Charlotte County and its jurisdictions to inform and assist with response should the need arise.

5.5.14 Tsunami

Hazard Identification

Tsunamis, also called seismic sea waves or, incorrectly, tidal waves, are ocean waves triggered by large earthquakes that occur near or under the ocean, volcanic eruptions, submarine landslides, or by onshore landslides in which large volumes of debris fall into the water. Offshore and coastal features can determine the size and impact of tsunami waves. Reefs, bays, entrances to rivers, undersea features, and the slope of the beach all help to modify the tsunami as it approaches the coastline. When the tsunami reaches the coast and moves inland the water level can rise many feet. In extreme cases, water level has risen to more than 50 feet for tsunamis of distant origin and over 100 foot for tsunami waves generated near the earthquake's epicenter.

Tsunami Risk Analysis

History

There is no historical record of a tsunami impacting any of Charlotte County's coast.

Probability of Tsunami Occurrence

According to MEMPHIS, Florida is in a 500-year tsunami category which gives it a very low probability. The impact of such an event would be minimal and not a threat to life and property. The extent of the storm would be the same as hide tide.

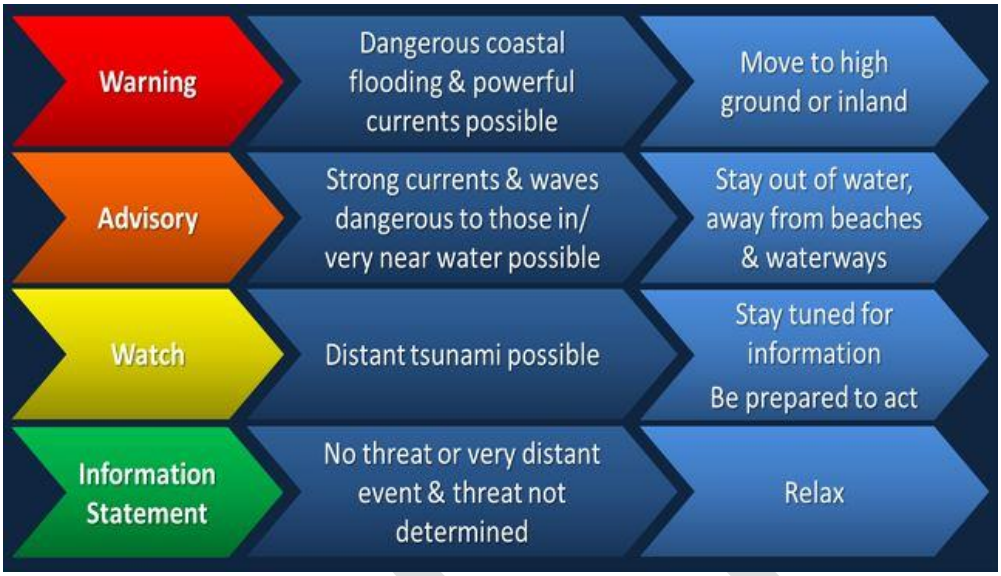
There are no significant earthquake sources within the Gulf of Mexico that are likely to generate tsunamis, despite recent seismic activity in the area. Tsunami propagation from significant earthquake sources outside the Gulf of Mexico, such as the northern Panama Convergence Zone, Northern South America, Cayman Trough, the Puerto Rico trench, or the Gibraltar area shows that wave amplitude is greatly attenuated by the narrow and shallow passages into the gulf, and as a result, these tsunami sources do not constitute a tsunami hazard to the Gulf of Mexico coast. (USGS http://nws.weather.gov/nthmp/documents/GoM-Final01regionalAssessment.pdf)

Estimation of Potential Losses

Due to the historically low probability that the Charlotte County area will experience a tsunami and its location in the 500-year tsunami risk zone, the potential damages caused by tsunamis will not be analyzed in the risk assessment portion of this document. In addition, many of the mitigation activities that would be done to mitigate for storm surge would simultaneously mitigate for potential tsunami damage. The entire county is considered when looking at the probability and location of occurrence for a tsunami, but the effect would be the same as high tide. Refer to the storm surge portion of this plan to address vulnerability of this type of hazard.

Potential Future Risk

The potential future risk for a tsunami is low. The Gulf of Mexico is much shallower than the Atlantic Ocean on the east coast, making the probability of a tsunami in Charlotte County very low, but not necessarily impossible. Should the threat arise, there are several advisories that could be issued by the National Tsunami Warning Center. These advisories are as follows:



There have been no occurrences of tsunamis in Charlotte County or its jurisdictions.

5.5.15 Hazardous Materials

Hazard Identification

Hazardous materials are materials that if released, can pose a threat to human health or the environment. Hazardous material releases can cause acute or chronic health effects, damage to property, expensive cleanup/contractor costs, serious injury and even death. The storage of hazardous materials ranges from residential storage of household products to bulk storage of large volumes for industrial purposes. Hazardous materials are transported by various methods such as railcars, barges, and trucks. For purposes of this study, only those locations where the bulk storage of hazardous materials is present will be addressed because the amount of bulk storage material affects its potential risk.

Charlotte County is vulnerable to both transportation accidents involving hazardous materials and hazardous material spills from fixed facilities. Major transportation routes include I-75, US 41, S.R. 776, C.R. 74, Kings Highway, and Veterans Blvd. Hazardous materials carriers are not prohibited from traveling on these roads, so the threat of accidents involving hazardous materials is always present. Charlotte County also has the Seminole Gulf Railroad which runs through many residential areas in Punta Gorda. This route is used mainly for carrying cargo, including hazardous materials. This adds to the threat of hazardous materials spills in Charlotte County should an accident occur.

Hazardous material spills from fixed facilities also present a threat. Currently, Charlotte County has 7 facilities that are registered as carrying extremely hazardous substances (EHS).

Hazardous Materials Risk Analysis

History

There have not been any major incidents involving hazardous materials.

Probability of Hazardous Materials Occurrence

The threat of hazardous materials spills in Charlotte County is medium.

Estimating Potential Losses

The worst-case scenario would involve the release of a highly toxic hazardous material near a highly populated area. Local hazmat specialty teams would likely be taxed and require additional outside support. Acute medical care facilities would be overwhelmed.
Mass decontamination would be required; contamination of first responders, response vehicles, and medical treatment centers would exponentially complicate response actions. The hazardous material could potentially leach into the soil and affect the water supply. It could potentially take months or years to fully clean up a hazardous material release or spill, resulting in unknown costs. The population of Charlotte County continues to grow, with the US Census Bureau recording a 13.3% increase from April 1, 2020, to July 1, 2024. This could mean an additional loss in regard to the population. The extent of the loss would depend upon the magnitude and location of the event. Charlotte County has lost the service of one of the three hospitals, so there could be additional inundation at the two remaining hospitals.

Potential Future Risk

The potential future risk for a Hazardous Materials occurrence is low.

5.5.16 Terrorism

Hazard Identification

A terrorist incident could involve a wide variety of materials or actions, or combinations of materials and actions. These could range from uncomplicated incidents impacting relatively small areas, to highly complex incidents with very widespread physical or economic consequence. The response to such an incident would require specialized personnel and resources beyond the capabilities of Charlotte County and its municipalities, and require assistance from mutual aid organizations, adjacent counties, the State of Florida, and the Federal government.

Terrorism can originate from several sources, both international and domestic. The most common methods are the use of six different types: conventional (explosives), biological (Anthrax, etc.), radiological, cyber, chemical, and nuclear.

The critical infrastructures in Charlotte County could be considered potential targets for a terrorist attack and an attack on these locations could have important and potentially widespread consequences for adjacent neighborhoods or the community. This is described further in the next Section below, Critical Infrastructure Disruption.

Terrorism Risk Analysis

History

There have not been any incidents caused by acts of terrorism.

Probability of Terrorism Occurrence

Terrorism vulnerabilities are low in Charlotte County; however, it is possible.

Estimating Potential Losses

No location is immune from terrorism. Locations such as the Charlotte County Administration Building, the Charlotte County Justice Center, and the Punta Gorda City Hall can be defined as potential targets for terrorism, but no past or current indications have pointed to these being designated as known targets.

Potential Future Risk

The potential future risk for a Terrorism occurrence is low.

5.5.17 Critical Infrastructure Disruptions

Hazard Identification

Charlotte County has many facilities and systems that are "Critical Infrastructure" whose continued and uninterrupted operation is necessary for the health, safety, and well-being of the community. This hazard may become present through an accident, sabotage, or terrorism. This hazard includes, but is not limited to, utility disruptions, cyberattack, computer threat, and communications system failures.

A “cyber terrorist attack” could also result in extensive disruption to computer networks, telecommunication systems or Internet services, and be intended to cause severe or widespread economic damage and/or physical impacts in the community.

This hazard can cause other hazardous incidents to occur. These may include, but are not limited to, hazardous material spills, delay of medical operations, and loss of ability to provide power or communications, and loss of ability to provide utility services.

Critical Infrastructure Disruption Risk Analysis

History

There is no historical record of a Critical Infrastructure Disruption impacting any of Charlotte County.

Probability of Critical Infrastructure Disruption Occurrence

The hazard of a Critical Infrastructure Disruption is a low threat in Charlotte County.

Estimating Potential Losses

The actual extent of such a loss is dependent upon several factors including but not limited to type of disruption, scale, type of infrastructure affected, and the availability of resources to lessen the impact of the incident.

Potential Future Risk

The potential future risk for a Critical Infrastructure Disruption is low but most likely would be related to a severe weather event.

5.5.18 Cyber Incidents

Hazard Identification

Cyber incidents are a growing threat that can affect a community on all levels. These incidents have a rapid onset and can be difficult to detect and mitigate. Cyber incidents can be malicious attacks on a computer or computer run system aimed at disruption, damage or theft of confidential information and use of systems. They can also be attributed to a glitch or human error. These incidents are an unauthorized use of or exploitation of electronic information which undermines confidentiality, availability, and integrity of many systems. In 2013 the United States intelligence community deemed cyber threats the top global threat followed closely by terrorism. The term Cyber incident is a broad designation that encompasses many

types of cyber related attacks such as: Denial-of-service (DoS), Man-in-the middle attack (MitM), Phishing, Drive-by attack, Password attack, SQL Injections, Cross-site scripting attack (XSS), Eavesdropping attacks and many other types of breaches.

Cyber Incident Risk Analysis

History

There is no historical record of large-scale Cyber Incidents in Charlotte County.

Probability of Cyber Incident Occurrence

The probability of Cyber Incident is High in Charlotte County.

Estimating Potential Losses

The potential losses due to a Cyber Incident can vary from a short down time of systems to a major catastrophic event. A major catastrophic event due to a Cyber Incident would be devastating to the citizens and critical infrastructure in Charlotte County as well as Punta Gorda its jurisdiction. It would require major down time to assess and fix, paper backups for many processes that run solely on computer, and a halt of certain operations. Effects of such an incident could include, loss or release of confidential information, a loss in wages and productivity, a loss of critical systems, lower public safety, and response to other incidents, as well as a loss of trusts and confidence.

Potential Future Risk

Potential future risk of incidents like this occurring is high and on the rise. Multiple Cyber incidents have taken place in the United States and in the State of Florida in the past 10-15 years. It is a hazard unlike others that must be monitored and prepared for.

5.5.19 Pandemic

Hazard Identification

A pandemic is a widespread occurrence of an infectious disease bigger than an epidemic. It must include the spread of the disease over several countries or continents and affect a significant proportion of the population. Up until 2020, this was not at the forefront of anyone's minds when it came to planning. Covid-19 changed that. What was once just a lesson in history books became a reality. It was discovered just how quickly and widespread a disease could be, and what resources would need to be utilized to address needs that arise.

Pandemic Risk Analysis

History

In March of 2020, Charlotte County began to shut down because of the Covid-19 pandemic. Over 1,000 Charlotte County residents lost their lives by the end of 2023, and almost 93,000 in the state of Florida (flhealthcharts.gov). What was first identified as the SARS-CoV-2 virus in Wuhan, China in December 2019, spread quickly to all areas of the globe. This virus was difficult to contain because it spread through water droplets from an infected person. Vaccines were made available in late 2020.

Probability of Pandemic Occurrence

The probability of a Pandemic is not considered high in Charlotte County because of lessons learned from the Covid-19 pandemic, but there is still a possibility of a future outbreak of Covid or another type of disease.

Estimating Potential Losses

The potential losses due to a Pandemic in Charlotte County include financial losses and loss of life. Businesses would suffer because of loss of revenue due to closure, with brick-and-mortar businesses suffering the most. Those businesses remaining open would also see impacts from workplace absences. The workforce would suffer because of loss of jobs due to business closures. This would mostly impact the lower-income adults, and more specifically minorities. As a result of a drop in income, an increase in debt could occur. Air travel would see an impact due to restrictions on passenger capacity. Healthcare systems face the threat of being overwhelmed, with workers and other resources being excessively strained.

Another thing to take into consideration is that the average age of residents in Charlotte County is older than all of Florida except The Villages, and the virus hit the elderly population harder than any other age group. The population of Charlotte County continues to grow, with the US Census Bureau recording a 13.3% increase from April 1, 2020, to July 1, 2024. This increase brings an increased risk of loss. The extent of the loss would depend upon the magnitude of the event.

Potential Future Risk

According to the University of Nebraska Medical Center, who was integral in the initial nation-wide response to the Covid pandemic, the potential future risk of another pandemic occurring within the next 10 years is low to moderate.

5.5.20 Solar/Magnetic Event

Hazard Identification

Solar storms/magnetic events can have impacts to communication systems across the globe. Communications systems largely rely on satellites and radio frequencies to connect. This not only includes cellular devices or radios, but also navigation systems and even the internet. Any sort of disruption in the earth's magnetic field can be very disruptive to daily life and safety. During a geomagnetic storm, some radio frequencies are absorbed, and others are reflected, leading to rapidly fluctuating signals and unexpected propagation paths (reproducing or multiplying in unplanned directions). (NASA.gov, 9/11/2024, "Space Technology 5.) Disruptions are not likely to have an impact on the weather. Most solar storms cause nothing more than aurora displays, but if large enough could impact electronic and technological systems.

Solar/Magnetic Event Risk Analysis

History

There have been no reports of a Solar/Magnetic Event impacting Charlotte County.

A G5 solar storm occurred in May of 2024, causing the aurora borealis to be seen over a significant area in the northern hemisphere. No major technological disruptions were reported. NOAA reports a solar event, called the Carrington Event of 1859, with aurora displays being seen as far south as the Caribbean. This event also caused interruptions in global telegraph communications, shocking some of the telegraph operators, and some fires were reported because of sparks igniting telegraph paper.

There have been several other solar events recorded by NASA and NOAA with impacts such as power outages, satellites being destroyed, and GPS signals being knocked out for short periods of time. Quebec Canada suffered a power loss in 1989 when a solar storm knocked out power for 9 hours.

Probability of Solar/Magnetic Event Occurrence

Solar events occur on a regular basis and are studied and monitored by NASA. There is the potential for larger storms like the Carrington Event, however NASA does not have the ability to predict when such storms would occur.

Estimating Potential Losses

The potential losses due to a solar/magnetic event can vary from a short down time of systems to a major catastrophic event. A major catastrophic event due to a solar/magnetic event would be devastating to the citizens and critical infrastructure in Charlotte County as well as Punta Gorda, its jurisdiction. It would require major down time to assess and fix, when possible, paper backups for many processes that run solely on computer, and a halt of certain operations. Effects of such an incident could include, loss of confidential information, a loss in wages and productivity, a loss of critical systems, lower public safety, and response to other incidents.

Potential Future Risk

Potential future risk of a solar/magnetic event are uncertain. While these storms occur on a regular basis, it is unknown what magnitude these regular occurrences may be.

6 Mitigation Strategy

There are several things that need to be considered when it comes to mitigation. Priorities must be identified after the goals are recognized. This process is highlighted in this section, which is broken down into the following subsections:

6.1 Mitigation Goals and Objectives

S4 (C3-a) The plan must include goals to reduce the risk of the identified hazards.

The mitigation strategy is made up of three main required components: mitigation goals, mitigation objectives, and mitigation actions. These provide the framework to identify, prioritize and implement actions to reduce risk to hazards. Mitigation goals are general guidelines that explain what the community wants to achieve with the plan. Mitigation actions are specific projects and activities that help achieve the goals. Objectives are broader than specific actions and connect goals with the actual mitigation actions.

The following numbered list reflects if the goal and the objectives are a short or long-term priority. Priorities among the following goals and objectives, as well as whether any or all the goals and objectives are to appear in the completed Local Mitigation Strategy Document; will be determined by the Charlotte County/City of Punta Gorda LMS Working Group.

There are no new operational changes in the goals and objectives for mitigation in Charlotte County in the past update cycle. The goals and objectives stay the same because the LMS working group agrees that these goals and objectives are the most viable to continue development and enhancement of all mitigation plans and outreach to better serve the county and its residents. The group continues to look at and prioritize mitigation projects to increase the resiliency of critical facilities through planning and mitigating against all hazards that can or do affect it. This is to ensure that when hazards strike the county, and its jurisdictions are better prepared to withstand and respond to them.

6.1.1 Short-term Goals and Objectives

GOAL 1: STRENGTHEN PLANS FOR POST-DISASTER, RECOVERY, AND MITIGATION PLANS.

Objective 1.1
Analyze, review, and update the Charlotte County post-disaster, recovery, and mitigation plans.

GOAL 2: IN ORDER TO ENHANCE HAZARD MITIGATION PLANNING AND SUBSEQUENT MITIGATION ACTIONS, THE CHARLOTTE COUNTY OFFICE OF EMERGENCY MANAGEMENT WILL TAKE A PROACTIVE LEAD TO ENSURE INTRA GOVERNMENTAL COORDINATION WITHIN ITS OWN AGENCIES AND INTERGOVERNMENTAL COORDINATION BETWEEN OTHER AGENCIES.

Objective 2.1
Implement disaster training programs and exercises.

Objective 2.2
Pre-establish and update a network of state and local contacts to coordinate Charlotte County needs.

Objective 2.3
Establish and protect the essential flow of information before, during, and after a disaster.

Objective 2.4
Encourage cooperation and participation between and among all Charlotte County departments in mitigation planning.

Objective 2.5
Ensure that the Charlotte County Hazard Mitigation Plan incorporates appropriate hazard mitigation measures as reflected in each agency's Emergency Support Function or Departmental Standard Operating Procedures.

GOAL 3: IMPROVE COORDINATION OF EMERGENCY MANAGEMENT INFORMATION THROUGH THE MEDIA TO INCREASE PUBLIC AWARENESS AND PARTICIPATION IN PREPAREDNESS, RESPONSE, MITIGATION, AND RECOVERY.

Objective 3.1
Develop and maintain a comprehensive, multi-media/multi-lingual public education campaign on emergency preparedness, response, mitigation, and recovery.

Objective 3.2

Provide educational programs and research to meet local, state, and regional planning growth management and hazard mitigation needs.

Objective 3.3
Establish a standardized format for use in dissemination of information to the media during a disaster.

Objective 3.4
Establish coordinated information and procedures for public information officers and media working in disasters.

6.1.2 Long-term Goals and Objectives

GOAL 4: CHARLOTTE COUNTY SHALL REDUCE THE VULNERABILITY AND EXPOSURE OF THE PUBLIC BY PROTECTING LIVES AND PROPERTY FROM THE LOSSES OF NATURAL DISASTERS.

Objective 4.1
Maximize the protection of the public's health, safety, and welfare as they are related to natural disasters.

Objective 4.2
Reduce the loss of personal and public property due to natural disasters through wind retrofits, flood proofing, relocation, demolition reconstruction, elevation, and private property acquisitions.

Objective 4.3
Require the protection of natural resources (such as environmentally sensitive lands) to maximize their mitigative benefits and to safeguard them from damage caused by natural disasters.

Objective 4.4
Ensure that Charlotte County's code and ordinances are sufficient to protect public property and safety.

Objective 4.5
Develop advance plans for the safe evacuation of coastal residents and other high-risk flood areas.

Objective 4.6
Protect coastal resources, marine resources, and dune systems from the adverse effects of development.

Objective 4.7

Ensure mitigation measures are effectively incorporated in the comprehensive system of coordinated planning, management, and land acquisition.

Objective 4.8

Encourage land and water uses which are compatible with the protection of sensitive coastal resources having value and benefits as mitigative measures.

Objective 4.9

Prohibit development and other activities which disturb coastal dune systems and ensure and promote the restoration of coastal dune systems that have been damaged.

GOAL 5: REDUCE THE VULNERABILITY OF CRITICAL FACILITIES, PUBLIC FACILITIES, AND HISTORIC STRUCTURES FROM NATURAL DISASTERS.

Objective 5.1

Disaster-proof existing and proposed critical facilities and historic structures, regarding location and construction (see the County Critical Facility Inventory in the Critical Facility Section of the Risk Analysis Part of this LMS document).

Objective 5.2

Develop and maintain energy preparedness plans that will be both practical and effective under circumstances of disrupted energy supplies.

Objective 5.3

Incorporate hazard mitigation measures in any rehabilitation or reuse of existing public facilities, structures, buildings, and historic structures.

GOAL 6: CHARLOTTE COUNTY SHALL PROTECT AND ACQUIRE UNIQUE NATURAL HABITATS AND ECOLOGICAL SYSTEMS (SUCH AS WETLANDS, HARDWOOD HAMMOCKS, PALM HAMMOCKS, AND VIRGIN LONGLEAF PINE FORESTS) AND RESTORE DEGRADED NATURAL SYSTEMS TO A FUNCTIONAL CONDITION IN ORDER TO MAXIMIZE HAZARD MITIGATION VALUES.

Objective 6.1

Conserve forests, wetlands, and coastal natural features to maintain their economic, aesthetic, and recreational values.

Objective 6.2

Acquire, retain, manage, and inventory public lands to provide conservation and related public benefits including hazard mitigation.

Objective 6.3
Promote the use of agricultural practices which are compatible with the protection of natural systems.

Objective 6.4
Encourage multiple use of forest resources, where appropriate, to provide for watershed protection, erosion control, and maintenance of water quality.

Objective 6.5
Protect and restore the ecological functions of wetland systems to ensure their long-term environmental, economic, and recreational values, including hazard mitigation practices.

Objective 6.6
Develop and implement a comprehensive planning, management, and acquisition program to ensure the integrity of Charlotte County's waterways.

Objective 6.7
Emphasize the acquisition and maintenance of ecologically intact systems in all land and water planning, management, and regulation.

6.2 Mitigation Initiatives

S5 (C4-a) The mitigation strategy must include an analysis of a comprehensive range of actions or projects that the participants considered to specifically address vulnerabilities identified in the risk assessment.

S7 (C5-a) The plan must describe the criteria used for prioritizing the implementation of actions. The criteria must include an emphasis on the extent to which benefits are maximized, in relation to the associated costs of the action.

Determining mitigation initiatives and prioritizing them is one of the most important functions of the LMS Working Group. By working together to determine which projects will provide the most benefit and what order they should be completed in, the LMS Working Group helps to maintain a focused effort to mitigate against natural hazard threats within the county.

6.2.1 Mitigation Strategies

This section outlines several mitigation strategies that can be pursued to address the identified risks to real property and structures. The short and long-term strategies identified in this section were reviewed by the Local Mitigation Strategy Working Group.

Charlotte County and City of Punta Gorda are involved in creating, implementing, and participating in various programs that work towards achieving the goals and objectives identified as the LMS Guiding Principles. To further the understanding of specific hazards and their associated mitigation initiatives/actions, a brief description follows in alphabetical order.

1. **Assessments-** Planning tools and techniques are used to reduce the threat of damage and disasters. Mitigation actions need to be reviewed from both a planning and an operational perspective. Initiatives and processes will need to be evaluated and possibly redesigned according to these assessments. Long-term redevelopment can better direct resources to meet mitigation objectives such as acquiring lands with repetitive flood losses for public or appropriate uses.

2. **Controlled and/or Prescribed Burns-**Controlled burns and urban preventative fire programs in cooperation with the local fire departments and state forestry departments will assist in managing wildfires within the county. Additional citizen awareness programs will only serve to augment current programs implemented through city and county initiative.

3. **Debris Movement and Management-**The ability to clear debris from roads and lands is necessary for immediate and long-term recovery. Mitigating actions include equipping trucks with necessary equipment and coordinating efforts to dispose of debris. Associated with this initiative is the process of reviewing areas that may produce great quantities of debris from natural features, such as trees and other types of foliage. The County have implemented such programs; however, additional efforts in private homeowner techniques for private property will assist to an even greater extent.

4. **Development Management-** Development management refers to the use of planning tools and techniques to reduce the threat of damage from disasters. Such tools can also be used to help direct long-term development patterns in a manner that can help minimize future threats. For example, greenways and parks could be developed in flood prone areas to collect water and minimize flooding to surrounding structures. Facilities or structures which have undergone repetitive damage could be relocated to areas of less risk. Flood management plans can direct efforts to reduce the community's vulnerability to flooding. Through long-term redevelopment plans, such as reducing density in higher risk areas, the city and county can help create neighborhoods that are more disaster resistant.

5. **Education/Coordination-** Public and private-sector coordination is vital for the short and long-term success of hazard mitigation. Recent efforts have focused on the inventory of critical facilities and the needs and desires of the public departments/agencies within Charlotte County. Efforts are being made to pull in more private sector participation. Expos and web announcements educate the public and private sector to the purpose of Hazard Mitigation. Exposure through newspapers, government cable access channels, county and city web pages, and social media will continue to keep interested parties informed and educated while new initiatives are being created and implemented.

6. **Emergency Services/Emergency Management Enhancements-** The coordination of emergency services is through the Office of Emergency Management's Emergency Operations Center. For many natural disasters the National Weather Service issues various types of warnings, which the Emergency Operations Center uses as indicators and then initiates community activities appropriate to the potential threat of the event. In addition, educating residents of what to do in case of an emergency can also help to mitigate potential loss of life in such incidents. For example, providing information to residents on what to do in the event of a hazardous materials incident and collection of unused hazardous chemicals could help reduce injuries and potential health consequences associated with airborne toxic chemicals.

7. **Flood Control-** Generally, flood control techniques involve improvements to the storm water and drainage facilities improving the flow of floodwaters to reduce areas subject to periodic floods. These techniques involve the rehabilitation and expansion of conveyance systems and creation of retention areas.

8. **Flood Prevention-** Through the regulatory activities of the various planning agencies, the preservation of open space and the restriction of development in the floodplain is a priority. The various development codes (Land Development Code) provide regulations that restrict and manage development activity in the floodplain by limiting wetlands encroachment and preserving open space.

9. **Flood Reduction/Protection-** Flood reduction involves techniques for flood control and protection such as elevating homes or land on the property owner's side and storm water and drainage improvements from the government's side. Typical retrofits for flooding include elevating buildings above the flood hazard level, providing watertight closures for doors and windows, and using floodwalls around ground level openings. Alternatively, such openings could be eliminated. Also included is the use of water-resistant materials, structural reinforcements to withstand water pressures and placement of mechanical and electrical elements in the upper parts of the building. Storm water and drainage mitigation typically includes improvements to the facilities to better control the flow of floodwaters or reduce areas subject to periodic flooding. These techniques involve the rehabilitation and expansion of conveyance systems and creation of retention areas.

10. **Hazardous Materials (HazMat)-** Mitigation of hazardous material incidents include techniques to reduce losses to emergency personnel, citizens, structures, and the environment. These techniques require extensive training to personnel as well as notification and education of the public.

11. **Wind Protection-** Wind protection focuses on reducing the damage from wind by strengthening floors, foundations, and wall/floor attachments of existing structures. Some common techniques that help prevent internal structural damage include the use of storm shutters and shatterproof glass or windows that are rated for the design speed of the site. Improving the way roofs are attached to the walls (i.e. using gable end bracing on frame gables, nail patterns, roof sheathing, hurricane straps, etc.) can keep roofs from lifting in hurricane-force winds.

Prioritizing Mitigation Initiatives

Once the vulnerability assessment and risk analysis are complete and the hazard mitigation opportunities have been identified, proper priorities must be established concerning each proposed project's impact on life safety, quality of life, cost effectiveness, and value to the overall community. This includes, but is not limited to, value as compared to other similar projects especially during times of limited funding availability. If a project is proven to be not cost effective, it will be removed from the list.

The benefit-cost review model used to establish the ranking (along with the LMS Working Group individual member's ranking of preference) is provided below. The list of projects submitted with this 2025 updated LMS is in ranked order following the review model.

6.2.2 Hazard Mitigation Project Evaluation Criteria Worksheet

Local Mitigation Strategy Prioritized Projects List

Determining mitigation initiatives or projects and prioritizing them is an important function of the LMS Working Group (LMSWG). These projects are added to the Prioritized Projects List (PPL) and generally have a mitigation nexus but can also be critical infrastructure, expansion of service, or capacity enhancements. The PPL is funding neutral list and seeks to be representative of the needs and developments of the County as well as its Jurisdictions. A scoring process exists for the prioritization of these initiatives for community benefit as well as for grant application submissions under certain Hazard Mitigation Assistance (HMA) programs.

LMS Scoring Committee

The LMSWG Scoring Committee is a subset or smaller group of LMSWG stakeholders who will review and score any new project additions at least once a year to ensure that the Prioritized Projects List (PPL) is reviewed and updated. This process will allow the PPL to be up to date for any annual or post disaster funding cycles that may open for application.

The Scoring Committee will be made up of eight participants from the larger LMSWG. This role will be voluntary and provided as an opportunity at LMS Working Group Meetings when there is a vacancy. The LMS Chair will do its best to ensure that there is equal representation from different agencies and organizations on the committee (i.e. County, City, Non-profits etc.).

Scoring Process

The scoring criteria sheet below is comprised of 12 questions each with several answers and associated points dependent upon the answer given. A total of 25 points can be obtained for

any given project. The Scoring Committee will be required to review the application narrative, scope, and benefits to properly score the project based off the scoring criteria sheet.

At the end of the scoring process the projects will be put into the final projects in order based off the point totals they received. If any projects receive the same rank based upon scores, each project will be re-reviewed by the Scoring Committee and a determination of ranking will be made through a survey of the committee. If there are subsequent disasters after one set of projects is scored, ranked, and submitted then it shall be added in rank order and differentiated by its disaster number.

LMS Scoring Criteria			Points
1	Appropriateness of the mitigation measure	**2 - Points:** Reduces vulnerability and is consistent with Local Mitigation goals. **1 - Point:** Needed but isn't tied to an identified vulnerability. **0 - Points:** Inconsistent with LMS goal or plans.	
2	Environmental Benefit	**2 - Points:** The project incorporates multiple green initiatives. **1 - Point:** The project incorporates one green initiative. **0 - Points:** The project incorporates no green initiatives.	
3	Consistent with existing plans and priorities.	**2 - Points:** Consistent with existing plans or community priorities. **1 - Point:** Somewhat consistent with existing plans or community priorities. **0 - Points:** Not consistent with existing plans or community priorities.	
4	Scope of Benefits	**2 - Points:** The project benefits the county and its Municipalities or jurisdictions. **1 - Point:** The project only benefits one jurisdiction.	
5	Potential to protect human lives	**2 - Points:** The project will help protect more than 1,000 lives **1 - Point:** The project will help protect up to 1,000 lives **0 - Points:** No lifesaving potential.	
6	Importance of Benefits	**2 - Points:** Needed for essential services. **1 - Point:** Needed for other services. **0 - Points:** No significant implications.	
7	Number of people to directly benefit from project implementation	**3 - Points**: More than 10,000 **2 - Points:** 5,000 –10,000 **1 - Point:** Fewer than 5,000	
8	Project Status	**2 - Points:** The project is shovel ready with design/engineering work complete. **1 - Point:** The project needs design, engineering, or a study prior to construction. **0 - Points:** The project is conceptual.	
9	Match Funding Availability	**2 - Points:** Match funding is Secured. **1 - Point:** Match funding is available. **0 - Points:** No matching funds have been identified.	
10	Flood Risk Benefit	**1 - Point:** The project mitigates a flood risk. **0 - Points:** The project does not mitigate any flood risks.	
11	Hazards Addressed	**3 - Points:** The project addresses more than two hazards. **2 - Points:** The Project addresses two hazards. **1 - Point:** The project only addresses one hazard. **0 – Points:** The project addresses no hazards.	
12	Does the project benefit the LMI community	**2 - Point:** The project benefits the LMI community. **0 - Points:** The project does not benefit the LMI community.	
		Total	**/25**

6.3 NFIP Compliance

PS7 (A4) For jurisdictions with structures for which National Flood Insurance Program coverage is available, regulatory flood mapping products are required to be incorporated, if applicable.
S3 (C2-a) The plan must describe participation in the NFIP for each participant, as applicable, in accordance with NFIP regulatory requirements.

Charlotte County and the City of Punta Gorda are active participants of the National Flood Insurance Program (NFIP). Both jurisdictions began participating in the NFIP in 1971. The current FIRM maps for the area took effect on December 15, 2022. The Floodplain Administrator for Charlotte County is the County Building Official or their designee, and that individual is housed in the Building Construction Services Department. The City of Punta Gorda has their own Floodplain Coordinator who is the Chief Building Official in the Building Department. To ensure continued compliance with the program, each participating community will:

1. Continue to enforce their adopted Floodplain Management Ordinance requirements, which include regulating all new development and substantial improvements in Special Flood Hazard Areas (SFHAs).
2. Continue to maintain all records pertaining to floodplain development, which shall be available for public review.
3. Continue to notify the public when there are proposed changes to the floodplain ordinance or Flood Insurance Rate Maps (FIRMs).
4. Continue to promote flood insurance for all properties.

6.3.1 COMMUNITY RATING SYSTEM (CRS)

The Community Rating System (CRS) is a voluntary program for NFIP participating communities. The goals of the CRS are to reduce flood losses, to facilitate accurate insurance ratings, and to promote the awareness of flood insurance. The CRS has been developed to provide incentives for communities to go above and beyond the minimum floodplain management requirements to develop extra measures to provide protection from flooding. The incentives are in the form of premium discounts. Currently both Charlotte County and the City of Punta Gorda are NFIP compliant, with CRS rankings of class 5 for the County, and class 6 for the City. Charlotte County residents receive a 25% discount on their flood insurance premiums, and City of Punta Gorda residents receive a 20% discount on their flood insurance premiums.

REDUCING OR ELIMINATING ALL LOSSES IN REPETITIVE LOSS AREAS

The current planning for this initiative includes the following:

1. Continue to contact all repetitive loss properties on an annual basis to notify them of their flood risk.

2. Notify all repetitive loss property owners of ways that they can reduce flood losses.
3. Maintain database of property owners interested in reducing their flood losses.
4. Notify State of any interest in owners reducing flood losses and facilitate the search for the appropriate funding.
5. Seek possible mitigation funding for repetitive loss properties.
6. In a post-disaster scenario, funding from the Hazard Mitigation Grant Program may be sought.

STORMWATER MANAGEMENT PLAN

Charlotte County has developed a Master Storm Water Management Plan (MSMP) and has continued to implement the capital improvement projects identified because of the areas studied.

The MSMP was developed in two phases. Phase 1 included development, mapping, and delineation of the drainage basins in Charlotte County; ranking and prioritizing basins based on needs; and a pilot study. The pilot study affected two basins in western Charlotte County known as Oyster Creek and Direct to Myakka River. The study was later referred to as the Oyster Creek/Newgate Drainage Study. As a result of the pilot study, Charlotte County consulted with a technical contractor to perform a detailed hydrologic and hydraulic analysis of the Oyster Creek/Newgate Area. From this analysis, ten capital projects were recommended. Charlotte County has completed construction of these capital projects.

The Phase II MSMP focused on the top ten priority basins identified in Phase I, which included two basins in West County, five basins in Mid County, and three basins in South County. Of these ten, the following basins received a detailed analysis: two basins in West County (which were identified for the pilot study) Oyster Creek and Direct to Myakka River and three basins in Mid County: Pellam - Auburn Basin, Fordham - Niagara Basin, and the Little Alligator Basin. The three basins in South County, which were determined to be less dependent on structural controls, were identified as basins which conveyed overland flow to primary drainage ditches, creeks, or rivers, and therefore, any flooding associated within these basins was directly related to the need for a maintenance program. Maintenance of these primary drainage ditches in south Charlotte County can now be addressed and funded through the South Charlotte Storm Water Unit (MSBU). As of December 2024, South Charlotte Stormwater MSBU funded 325,776 square yards of primary ditch maintenance in FY24.

REGULATIONS FOR SI/SD AND SFHAS

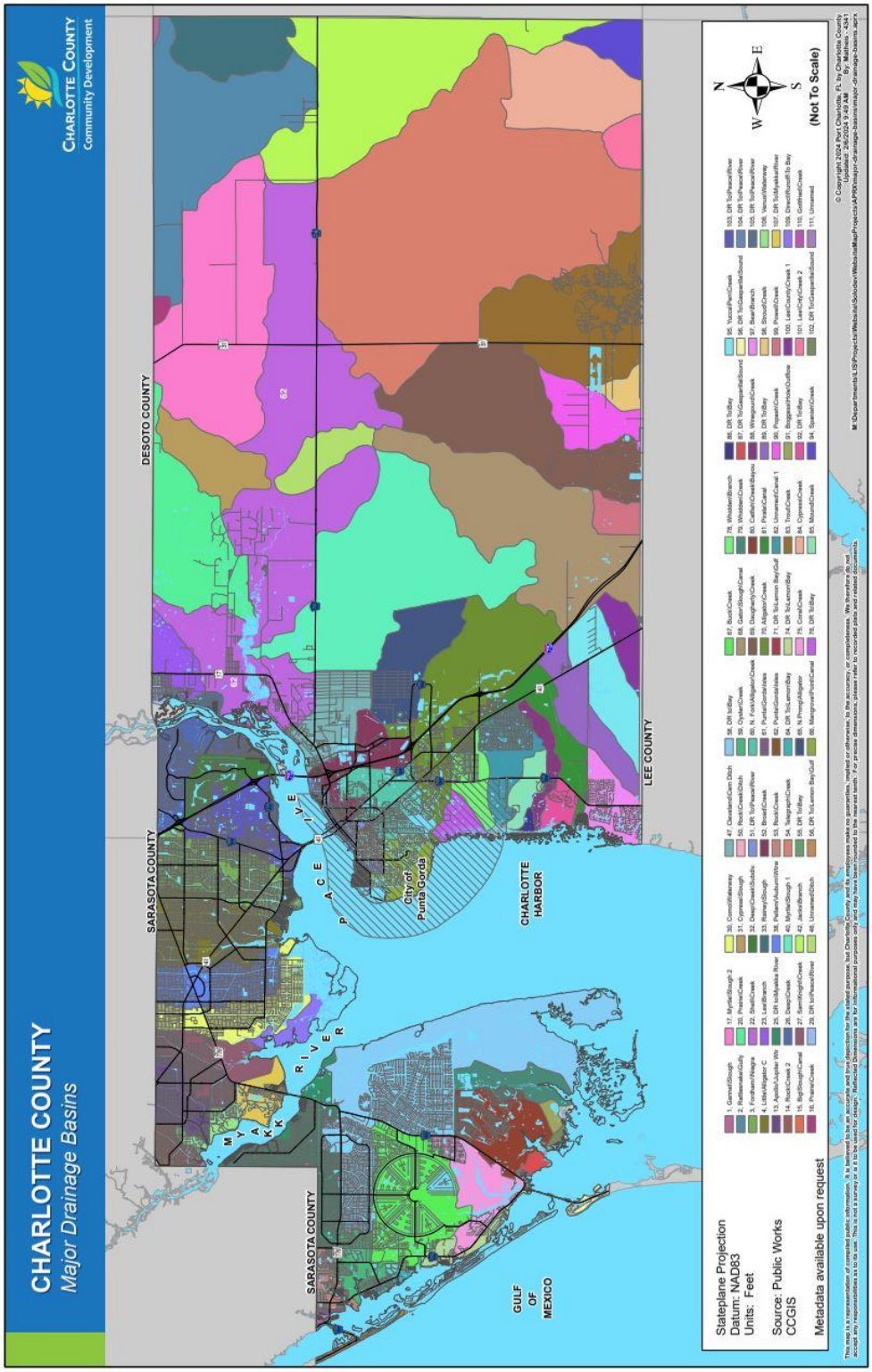
Charlotte County and its jurisdictions address the substantial improvement/substantial damage (SI/SD) and Special Flood Hazard Areas (SFHAs) through various regulations intended to comply with NFIP and FEMA requirements. The Charlotte County SI/SD Standard Operating Procedure (SOP) provides guidance on how to determine SI/SD for development proposals located within a FEMA high-risk flood zone, which includes all development proposals in or affected by SFHAs.

Several County departments are involved in this process, including the Community Development Floodplain Coordinator who determines whether improvements or repairs in the SFHAs constitute substantial improvement or repair of substantial damage; County Property Appraiser's Office who sets the adjusted building value by which the cost of the project is reviewed; Community Development who verifies compliance with the County's floodplain management regulations; and if need be, Code Enforcement and Building Department. The documents outlining these procedures are located in Appendix G.

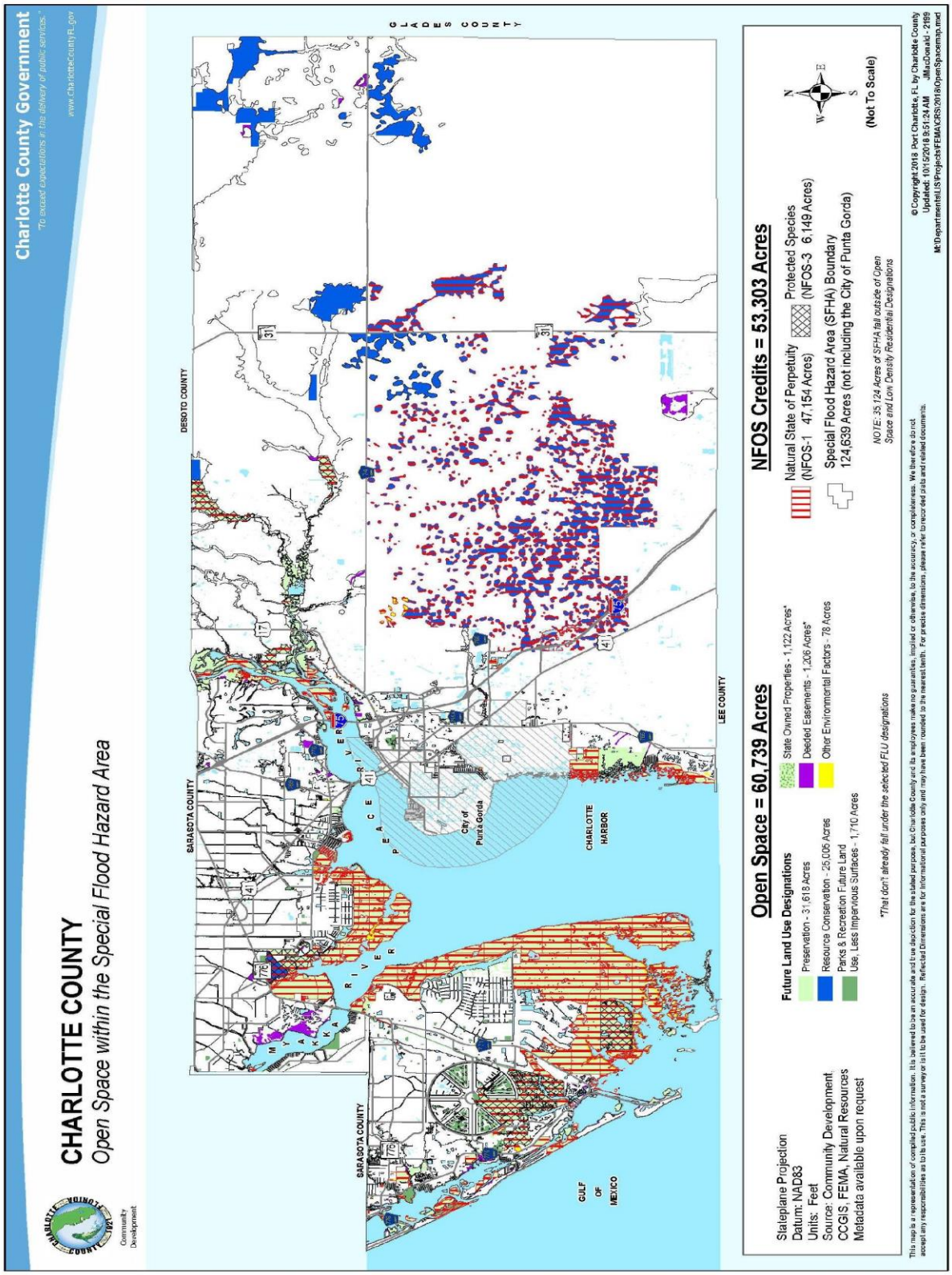
The City of Punta Gorda's processes and regulations are similar. They also utilize the County Property Appraiser's office for the adjusted building value. The City building department is the entity who reviews all information submitted through the building permitting process to ensure development in SFHAs are regulated. SI/SD are also determined through this permitting process.


CHARLOTTE COUNTY
South Charlotte Stormwater - Primary Ditches
Charlotte County
Public Works
Legend

Charlotte County Major Drainage Basins



Charlotte County Open Space within the Flood Hazard Area



7 Plan Maintenance Process

M1 (D1-a) The plan must describe how the participant(s) will continue to seek public participation after the plan has been approved and during the plan's implementation, monitoring, and evaluation.

The public will be invited and encouraged to participate in all processes of the plan from the review and updating to the tracking of implementation. Notices have been and will continue to be published on our website, social media, and made available at public buildings such as the libraries and Family Services Center. Although efforts were made for public involvement, the response was minimal and little to no input was received from residents outside of the agencies listed in the working group list in section 2.3. It is important to make sure that voice is heard to ensure a plan that is relevant. That's why it is important that this is a living, breathing document. Review and updating must be done on a regular basis to ensure the effectiveness of the plan. This section reviews that process and is broken down into the following subsections:

7.1 Updating the Plan

M2 (D2-a) The plan must identify how, when, and by whom the plan will be tracked for implementation over its five-year cycle.

M3 (D2-b) The plan must identify how, when, and by whom the plan will be assessed for effectiveness at achieving its stated purpose and goals.

M4 (D2-c) The plan must identify how, when, and by whom the plan will be reviewed and revised at least once every five years.

U1 (E1-a) The plan must describe changes in development that have occurred in hazard-prone areas and how they have increased or decreased the vulnerability of each jurisdiction since the previous plan was approved.

U2 (E2-a) The plan must describe how it was revised due to a change in priorities for each jurisdiction.

7.1.1 Plan Upkeep

The Florida Division of Emergency Management (DEM) Local Mitigation Strategy agreement with Charlotte County requires that the LMS Working Group establish an annual process/schedule for updating and revising the Local Mitigation Strategy document to reflect new information, revised goals, and/or new initiatives. The process is to revise and update the LMS document during one period each year or after a major disaster declaration in which new mitigation initiatives may need to be proposed based on damage assessment. The department responsible for monitoring the plan is the Office of Emergency Management, and the person responsible is an Emergency Management

Specialist in that office that serves as LMS Chair. The plan is monitored for changes in policies, procedures, along with any changes that would affect the plan on an ongoing basis. The goals and objectives are considered during this process to ensure they are effective and current with information sources utilized in the following schedule would also be utilized by the workgroup to update the LMS. The EM Specialist/LMS Chair will start the 5-year update 18 months prior to its expiration to revise and update information prior to submittal.

7.1.2 General Updating

This plan is updated on a yearly basis by soliciting input and feedback from stakeholders throughout the county. This is accomplished by holding meetings, sending and receiving information through email, and any other means of communication needed to adequately encompass the current needs in the county. Information to consider during this process will come from any real-world events that have occurred since the last plan update or any changes in statute or code. The update will be completed prior to May 1 each year taking into consideration events that have occurred within the county after the previous update.

Annual LMS Update Requirement

Chapter 27p-22 (Hazard Mitigation Grant Program) requires submittal of an Annual LMS Update to the Florida Division of Emergency Management by the last working weekday of each January. To meet this deadline, the following items will be updated in late December/early January of each year. This update will be completed by Office of Emergency Management staff (or their designee) with input from Working Group members.

- Working Group membership- will be updated to incorporate changes.
- Goals and Objectives- will be reviewed for changes.
- Mitigation Initiatives- projects will be monitored and reprioritized as needed.
- Existing Planning Mechanisms- will be monitored and changed as needed.
- Changes to the Working Group Organization and/or Planning Process- as needed.
  *Refer to general updating section to review process.

7.1.3 5-Year LMS Update Requirement

To meet the 5-year LMS Update requirement, Office of Emergency Management staff (or their designee) with input from Working Group members will review the entire document to be sure that the information included accurately reflects the status of Charlotte County and the City of Punta Gorda. The process will include a thorough revision of every section of the plan and will seek to actively involve the LMS Working Group and the public throughout the entire update process. All sections of the LMS document will be updated as necessary. This will allow the public and other organizations to have opportunities for involvement and input for the update.

The Working Group strives to include the public in its LMS process. To that end, efforts to reach out to more sectors of public are underway. Some of these efforts are as follows:

- Make the Charlotte County/City of Punta Gorda Local Mitigation Strategy document available for review at local libraries and governmental offices.
- Place the LMS document and/or links to it on several websites to increase exposure. These websites include, but are not limited to, the Charlotte County official website, the City of Punta Gorda official website, and the Southwest Florida Regional Planning Council website.
- Place announcements of future LMS Working Group meetings on websites, in newspapers, and emails to increase exposure.

It is important to include the public in the overall LMS process. Meeting dates and times are advertised as open to the public in multiple different venues. However, public participation is still very limited. After events such as Hurricane Ian in 2022, and hurricanes Helene and Milton in 2024, public interest in participating has been increasing. It is one of the tasks of the LMS Working Group to overcome such obstacles in obtaining and maintaining public involvement.

LMS Changes and Modifications

This plan is a living document that is subject to changes in defining procedural methods and techniques. A change to the plan does not require ratification by the Charlotte County Board of County Commissioners unless there is a major change in policy. Authority for changes to this plan is delegated to the Charlotte County Office of Emergency Management. The Charlotte County Emergency Management appointed LMS Chair, an EM Specialist from CCEM, is responsible for the coordination of changes with affected agencies, and after concurrence, may make changes to this plan. All changes will be applied electronically, and the updates will be available automatically. A notification of the changes will be sent to all stakeholders.

Evaluating the Plan

The local hazard mitigation plan is to be evaluated on an annual basis by the Charlotte County Office of Emergency Management. The Charlotte County Office of Emergency Management was selected as the organization to evaluate the mitigation plan since the Office serves as support staff for LMS working group, a committee with representatives from all the participating jurisdictions and organizations. In this role, the Office of Emergency Management has responsibility for maintaining the master copy of the LMS, for scheduling and facilitating meetings of the LMS working group, and collaborating with adjacent counties, the State of Florida, and the Federal Emergency Management Agency regarding the mitigation plan. In addition, frequently, the Office of Emergency Management is the contact point and coordinator for post-disaster funding opportunities for implementation of the proposed mitigation initiatives incorporated into the plan. The following represents evaluation criteria:

- Assessing recent emergency events and their impact, as well as the resultant influence and/or adjustments that are needed in the mitigation planning process

- Evaluating the progress in addressing the established mitigation goals and objectives, primarily through the development and implementation of initiatives for each goal and objective to ensure progress is being made
- Assessing the extent to which the mitigation plan is effectively interacting with other jurisdictional plans and programs related to mitigation issues, such as being incorporated into a jurisdiction's comprehensive plan, emergency management plan, capital improvement plan, storm water management plan, etc.

Changes in Development and Priorities

No significant changes have occurred since the last publication of the Charlotte County LMS. Priorities throughout the County were reassessed as a result of growth in both population and assets, but no major changes were needed. The LMS Working group continues to meet twice a year to identify mitigation initiatives and projects to help further strengthen the County's resiliency.

7.2 Incorporation of the LMS Into Other Planning Mechanisms

M5 (D3-a) The plan must describe the community's process to integrate the plan's date, information, and hazard mitigation goals and actions into other planning mechanisms.

M6 (D3-c) A multi-jurisdictional plan must describe each participant's individual process for integrating information from the mitigation strategy into their identified planning mechanisms.

M7 (D3-b) The plan must identify the local planning mechanisms where hazard mitigation information/actions may be integrated.

U4 (E2-c) The updated plan must explain how the jurisdiction(s) integrated information from the mitigation plan into other planning mechanisms, as a demonstration of progress in local hazard mitigation efforts.

Over the past few years, stakeholder participation in the LMS process has increased which has allowed these stakeholders to then take the information contained in the LMS and incorporate it into other local planning mechanisms. These planning mechanisms can be improved alongside the LMS document as hazards and information change or evolve. Keeping the LMS updated and accurate is imperative to the ability for these plans to change and expand because the following plans utilize LMS data to help with their annual updates. As population, demographics, and other factors change in the LMS they will also be reflected within the following plans through coordination with the LMSWG.

- Comprehensive Emergency Management Plan: The CEMP has been approved from the state. Once the LMS is approved the CEMP will be updated to reflect the most current data. The CEMP has since been renewed with updated LMS information over the last 5 years.

- Charlotte County Standard Building Code: Individuals in charge of maintaining the building codes should review the LMS for potential hazard vulnerabilities that the code as it stands might not sufficiently address. A copy of this approved LMS will be provided on the County's website for review. Current adopted codes are : 8th Edition (2023) of the Florida

Building Code; 2020 National Electrical Code; 8th Edition (2023) of the Florida Fire Prevention Code.

- Long Range Transportation Plan (LRTP): The current LRTP (2045) was updated to include a few elements directly related to natural hazard mitigation. Aspects of goal 3 of the LMS (Reduce the vulnerability of critical facilities, public facilities, and historic structures from natural hazards) are particularly relevant to the LRTP and the Charlotte County Emergency Management office will work with the MPO in incorporating it into the 2050 LRTP.

- Article 14, City of Punta Gorda Land Development Regulations, Flood Damage Prevention: This article addresses building codes and other regulations for structures located in all areas of special flood hazard within the City of Punta Gorda's jurisdiction. Included under this regulation are a minimum finished floor elevation and a requirement to obtain a flood proofing certificate. Decisions informed by the updated flood hazard evaluation in this LMS could result in further additions to this article.

- City of Punta Gorda Emergency Plan: Just as the county's CEMP could benefit from updated hazard information in the LMS, Punta Gorda's stands to as well. Since this LMS is a multijurisdictional plan, the city has actively participated in the update process. This plan has been updated to incorporate new information from the LMS.

- City of Punta Gorda Comprehensive Plan: This document in its present form contains extensive hazard mitigation initiatives. Nevertheless, the city will examine the approved LMS update to further improve the hazard mitigation aspect of its comprehensive plan. This plan has been updated to incorporate new information from the LMS.

- City of Punta Gorda Downtown Redevelopment Plan: During the ongoing annual update process, the city has the potential to strengthen this plan by proposing mitigation initiatives, informed by content in the LMS, which will harden vulnerable downtown structures against disaster. This plan has been updated to incorporate new information from the LMS.

- One Charlotte, One Water: This ties into mitigation because of the resiliency aspect of the plan, which will identify mitigation actions through a vulnerability assessment. One Charlotte, One Water is the holistic approach to water quality Charlotte County takes to ensure its policies and practices contribute to the long-term health, enjoyment, and availability of our water. Charlotte County is beginning work on a study to assess the risks and impacts to the county from existing and future climate conditions.

8 Appendices

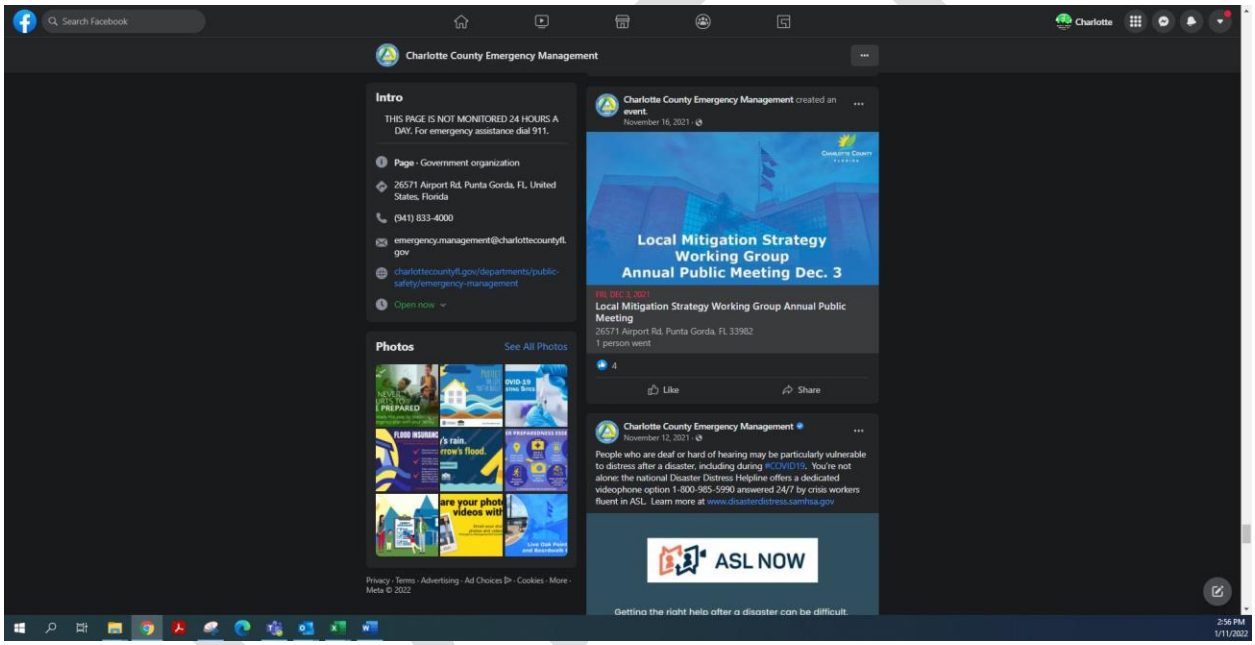
Appendix A – Local Mitigation Strategy Working Group Meetings
Appendix B – HAZUS Reports
Appendix C – Charlotte County Flood Warning Plan
Appendix D – Project List with notes
Appendix E – Interlocal Agreement with City of Punta Gorda
Appendix F – Charlotte 2050 Coastal Planning – Goals, Objectives and Policies

Appendix A - Local Mitigation Strategy Working Group Meetings

P4 (A2) The plan must provide documentation of an opportunity for stakeholders to be involved in the current planning process.

P5 (A3) The plan must document how the public had an opportunity to be involved in the current planning process and what that participation entailed, including how underserved communities and vulnerable populations within the planning area were provided an opportunity to be involved.

2021



Tomorrow Is Last Day of Hurricane Season!

Charlotte County Emergency Management from Charlotte County Emergency Management · 29 Nov

But let's not celebrate too much. Disasters can strike at any time - don't be unprepared. After our hurricane season ends tomorrow Nov. 30, Florida enters severe weather season until April.

Follow the essential prep tips below & learn disaster preparedness tips at https://FloridaDisaster.org/PlanPrepare.

L.FACEBOOK.COM

Edited 29 Nov · Posted Nov 29, 2021 · Subscribers of Charlotte County Emergency Management in General

THANK | 13 REPLY | 3

LMS Working Group

Charlotte County Emergency Management from Charlotte County Emergency Management · 16 Nov

The Charlotte County/Punta Gorda Local Mitigation Strategy Working Group will hold its annual public meeting at 11 a.m. on Dec. 3. This meeting will take place in person at the Charlotte County Emergency Operations Center.

The job of the LMS workgroup is to propose projects and identify funding sources for mitigation activities. Completed projects lessen environmental impacts, help reduce the loss of life, and lower the economic costs of disasters.

The public is invited to the meeting and may provide input. Participant names, emails, and comments will be subject to public record if they choose to attend this meeting.

16 Nov · Subscribers of Charlotte County Emergency Management in General

THANK | 5 REPLY

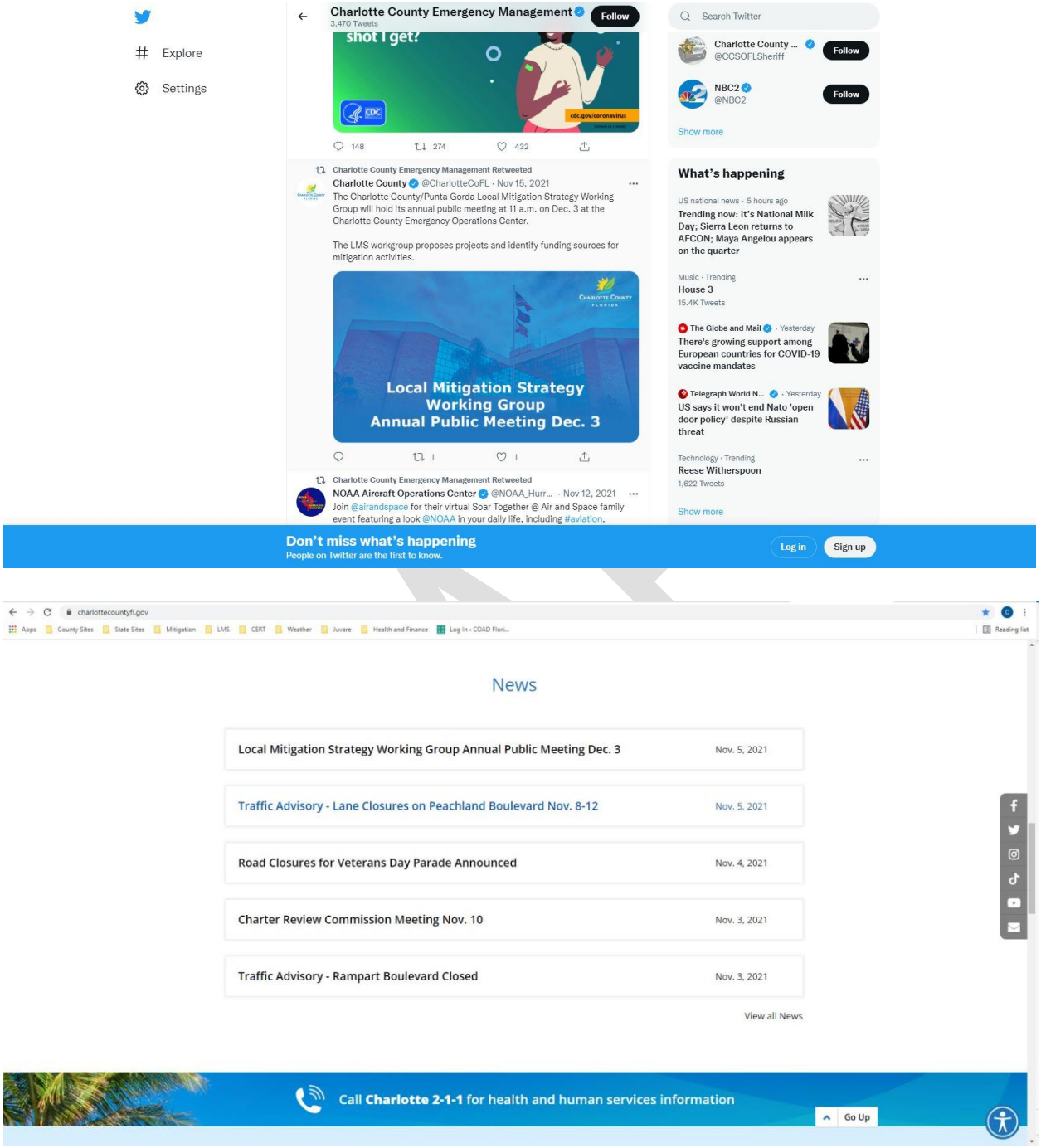
Family Communication Plan

Charlotte County Emergency Management from Charlotte County Emergency Management · 12 Nov

Today we have more ways to speak with one another than ever before. We are used to staying in touch with cell phones, internet, and email, but disasters can change things. There devices may not be available. Cell phone towers quickly become overloaded, the power could be out, your cordless phones, internet, and email are no longer working. What do you do?

Creation of a Family Communication Plan is an essential part of your emergency planning!

Edited 12 Nov · Posted Nov 12, 2021 · Subscribers of Charlotte County Emergency Management in General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148
274
432
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Charlotte County @CharlotteCoFL · Nov 15, 2021
The Charlotte County/Punta Gorda Local Mitigation Strategy Working Group will hold its annual public meeting at 11 a.m. on Dec. 3 at the Charlotte County Emergency Operations Center.
The LMS workgroup proposes projects and identify funding sources for mitigation activities.
Local Mitigation Strategy Working Group Annual Public Meeting Dec. 3
Charlotte County Emergency Management Retweeted
NOAA Aircraft Operations Center @NOAA_Hurr... · Nov 12, 2021
Join @airandspace for their virtual Soar Together @ Air and Space family event featuring a look @NOAA in your daily life, including #aviation,
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News
Local Mitigation Strategy Working Group Annual Public Meeting Dec. 3 Nov. 5, 2021
Traffic Advisory - Lane Closures on Peachland Boulevard Nov. 8-12 Nov. 5, 2021
Road Closures for Veterans Day Parade Announced Nov. 4, 2021
Charter Review Commission Meeting Nov. 10 Nov. 3, 2021
Traffic Advisory - Rampart Boulevard Closed Nov. 3, 2021
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Local Mitigation Strategy Working Group Annual Public Meeting Dec. 3
Home > News > detail
CHARLOTTE COUNTY, Fla. (Nov. 5, 2021) – The Charlotte County/Punta Gorda Local Mitigation Strategy Working Group will hold its annual public meeting at 11 a.m. on Dec. 3. This meeting will take place in person at the Charlotte County Emergency Operations Center.
The job of the LMS workgroup is to propose projects and identify funding sources for mitigation activities. Completed projects lessen environmental impacts, help reduce the loss of life, and lower the economic costs of disasters.
The public is invited to the meeting and may provide input. Participant names, emails, and comments will be subject to public record if they choose to attend this meeting.
For more information, contact the Charlotte County Office of Emergency Management at 941-833-4000 or Emergency.Management@CharlotteCountyFL.gov.
Back to News
Local Mitigation Strategy Working Group Annual Public Meeting Dec. 3
Traffic Advisory - Lane Closures on Peachland Boulevard Nov. 8-12
Road Closures for Veterans Day Parade Announced
Charter Review Commission Meeting Nov. 10
Traffic Advisory - Rampart Boulevard Closed
Charlotte County Government Calendar
Charlotte County Committee Vacancies
All News

Local Mitigation Strategy Working Group Annual Public Meeting Dec. 3

CHARLOTTE COUNTY, Fla. (Nov. 5, 2021) – The Charlotte County/Punta Gorda Local Mitigation Strategy Working Group will hold its annual public meeting at 11 a.m. on Dec. 3. This meeting will take place in person at the Charlotte County Emergency Operations Center.

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For more information, contact the Charlotte County Office of Emergency Management at 941-833-4000 or Emergency.Management@CharlotteCountyFL.gov.

Local Mitigation Strategy Work Group Annual Meeting			12/3/2021	
Name	Agency	Position	Email	Signature
Patrick Fuller	CCEM	Director	patrick.fuller@charlottecountyfl.gov	
John Smith	City of Punta Gorda	CRS-Coord.	jsmith@pgorda.us	
Kevin Easton	Englewood Fire	Fire Chief	keaston@englewood-fire.com	
Carrie Walsh	Human SVS	Dept director	carrie.walsh@charlotte-	
Joseph Pepe	FL. DEPT OF HEALTH	HEALTH OFFICER	JOSEPH.PEPE@FLHealth.GOV	
Dave Lupinetti	CCPS	Coordinator of District Security	Dave.Lupinetti@yourcharlotteschools.net	
Donna Bailey	C.C. Community Dev.	Floodplain Coordinator	Donna.bailey@charlottecountyfl.gov	
Mike Koenig	CC Community Svcs	Resource Mgr	mike.koenig@charlottecountyfl.gov	
Holden Gibbs	Punta Gorda Fire	Ops Chief	hgibbs@pgorda.us	
Ray Briggs	Punta Gorda Fire	Chief / E.M.	rbriggs@pgorda.us	
Doug Blevins	Radio Communications	Radio Manager	doug.blevins@charlottecountyfl.gov	
Brian Jules	Animal Control	Dir. Mgr.	Brian.Jules@CharlotteCountyFL.gov	
Ben Duke	Charlotte County Airport Authority	Airside Mgr	bduke@flypgd.com	
KEVIN MANGELS	BCC IT	NETWORK SVCS MGR	KEVIN.MANGELS@CHARLOTTECOUNTYFL.GOV	
Ray Desjardins	BCC IT	Sr. Div. Mgr	ray.desjardins@charlottecountyfl.gov	
Kim Corbett	Purchasing - BCC	Sr. Div. Manager	Kim.corbett@charlottecountyfl.gov	
Emily Lewis	Administration	Dep County Administrator	Emily.Lewis@charlottecountyfl.gov	

Local Mitigation Strategy Work Group Annual Meeting			12/3/2021	
Name	Agency	Position	Email	Signature
Zinnia Vargas	CC-Fiscal	Fin. Manager	Zinnia.vargas@charlottecountyfl.gov	
Rick Arthur	CC Fiscal	Fiscal Manager	Richard.Arthur@charlottecountyfl.gov	
Jim Darden	Fiscal	Sr Financial Analyst	jim.darden@ " " "	
MITCHELL AUSTIN	CITY OF PUNTA GORDA	PRINCIPAL PLANNER	MAUSTIN@PGORDA.US	
Tara Brady	CC Admin	Asset Mgr.	tara.brady@charlottecountyfl.gov	
Karly Greene	CC-PW	Operations Supervisor	Karly greene@charlottecountyfl.gov	Karly Greene
John Elias	CCPW	Director	john.elias@charlottecountyfl.gov	
Jason Ouimet	CCPW	M&O Manager	Jason.Ouimet@CharlotteCountyFL.gov	
Roger Warner	CC Facilities Clm	Facilities Mgr	Roger.Warner@CharlotteCountyFL.gov	
Bradley Geelen	CC EM	EM Specialist	bradley.geelen@charlottecountyfl.gov	
ELLEN PINDER	CCEM	EM COORDINATOR	ELLEN.PINDER@CHARLOTTE " "	
Lynne Stickley	CCEM	EM Spec.	Lynne.Stickley@ " "	

AGENDA

Local Mitigation Strategy Working Group Meeting

December 3, 2021

11:00 A.M. – 12:00 P.M.

Meeting called by Bradley Geelen - LMS Chair

Attendees: LMS Working Group 2021

Introduction

Emergency Management

Floodplain Coordinator

LMS Overview/Updates

What is the LMS

Current Projects

New Projects

Mitigation Funding

Project Scoring and Evaluation

Grant Application Process

Status of Current Grants

2022

Local Mitigation Strategy Working Group Meeting

Reply | Reply All | Forward | ...

Geelen, Bradley
To April Santos; Bailey, Donna; Ben Duke; Brady, Tara; Bryan Clemons; Cheryl Lilly; Darden, Jim; Dave Lupinetti; Elizabeth Nocheck; Ellen Pinder; Fair, Jason; Geelen, Bradley; Gentile, James; Gopinath, Raju; Harris, D'Juan; Hatfield, Bryan; Holden Gibbs; J LeBeau; J Ryan; Jie Shao; Jodie Fiske; Joe Pepe; **+33 others**

Fri 5/20/2022 2:58 PM

Retention Policy 10 Year Items Delete (10 years) Expires 5/17/2032

LMS Working Group,

The Office of Emergency Management would like to invite you to our upcoming Local Mitigation Strategy Working Group Meeting. The meeting is being held at the Emergency Operations Center on **June 17th 11:00am – 12:00pm**. Calendar Invite to follow.

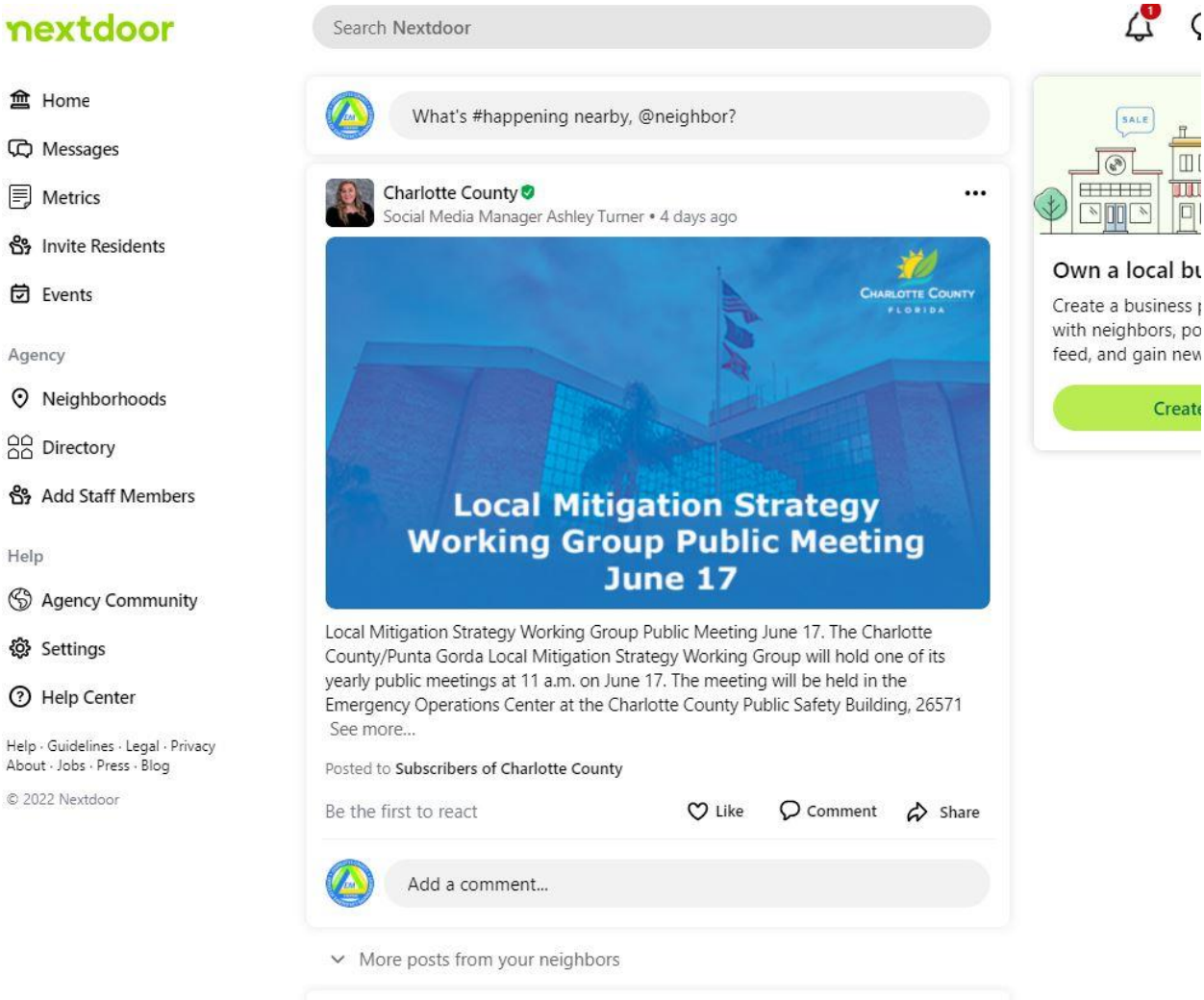
The LMS plan is developed to reduce and or eliminate the risks associated with natural and man-made hazards. During this meeting we will discuss:

- The plan as a whole
- The current Projects List
- Current Grant Application Status
- Potential new projects for the 2022 List (Please email me these if you cannot attend the meeting)
- Funding opportunities
- Grant Application Process/Application Building
- CRS and Floodplain Updates

If you cannot attend the meeting you will still receive emails when Notice Of Funding Opportunities (NOFOs) are released, projects are added, and LMS Work Group Updates are made. If anyone else in your respective department or office should also be included please let me know. If there are any questions regarding the LMS, the purpose of the work group, or projects please feel free to reach out to me.

Regards,

Bradley Geelen, FAEM
Emergency Management Specialist
Charlotte County Emergency Management
Office: 941-833-4000
Mobile: 941-467-4618
Email: bradley.geelen@charlottecountyfl.gov
Website | Facebook | Twitter | Instagram | Nextdoor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Events
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Neighborhoods
Directory
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Help
Agency Community
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Help Center
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What's #happening nearby, @neighbor?
Charlotte County
Social Media Manager Ashley Turner • 4 days ago
Charlotte County
Florida
Local Mitigation Strategy Working Group Public Meeting June 17
Local Mitigation Strategy Working Group Public Meeting June 17. The Charlotte County/Punta Gorda Local Mitigation Strategy Working Group will hold one of its yearly public meetings at 11 a.m. on June 17. The meeting will be held in the Emergency Operations Center at the Charlotte County Public Safety Building, 26571
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NEWS RELEASE

Local Mitigation Strategy Working Group Public Meeting June 17

CHARLOTTE COUNTY, Fla. (May 18, 2022) – The Charlotte County/Punta Gorda Local Mitigation Strategy Working Group will hold one of its yearly public meetings at 11 a.m. on June 17. This meeting will take place in person at the Charlotte County Emergency Operations Center.

The job of the LMS workgroup is to propose projects and identify funding sources for mitigation activities. Completed projects lessen environmental impacts, help reduce the loss of life, and lower the economic costs of disasters.

The public is invited to the meeting and may provide input. Participant names, emails, and comments will be subject to public record if they choose to attend this meeting.

For more information, contact the Charlotte County Office of Emergency Management at 941-833-4000 or Emergency.Management@CharlotteCountyFL.gov.

###

June 17th, 2022

Local Mitigation Strategy Working Group

Meeting Agenda

- Introductions
- Local Mitigation Strategy Presentation and Updates
    - Plan overview
    - The current Projects List
    - Status update for current projects
    - Call for new projects
    - Funding opportunities
    - Grant application building
    - Meetings
    - Questions
- Floodplain Coordinator Presentation and Updates
- Emergency Management Advisory Updates
- Questions or Comments

Charlotte County Emergency Management
26571 Airport Road, Punta Gorda, FL 33982
941.833.4000
CharlotteCountyFL.gov

June 2022 Local Mitigation Strategy Working Group Meeting

Name	Agency	Position	Email	Signature
Bradley Geelen	Charlotte County EM	EM Specialist - LMS Chair	Bradley.geelen@charlottecountyfl.gov	Bradley Geelen
Donna Bailey	BCC	Floodplain Coordinator	donna.bailey@charlottecountyfl.gov	
Patrick Fuller	CCEM	Em Director	patrick.fuller@charlottecountyfl.gov	
Joe Abe	FDOH	Administrator	JOSEPH.ABE@FLHEALTH.GOV	
Karen Bliss	CCPW	Project Manager	Karen.Bliss@charlottecountyfl.gov	Karen Bliss
Linda Sposito	C of PG	Sr PM	lsposito@cityofpuntagordafl.com	
Beaumont Hayden	City of Punta Gorda	Planner	Bhayden@cityofpuntagorda.com	
Zinnie Vargas	BCC	fiscal	zinnie.vargas@charlottecountyfl.gov	
Carol Colicchio	BCC	Fiscal	Carol.colicchio@charlottecountyfl.gov	Carol Colicchio
Tara Brady	BCC	Asset Manager	tara.brady@charlottecountyfl.gov	Tara Brady
Brandie Moody	BCC	WQ Manager	brandie.moody@charlottecountyfl.gov	
Hadden Gibbs	City of Punta Gorda Fire	Interim Fire Chief	hg.bbs@pgorda.us	
Tyler Canfield	City of Punta Gorda Fire	Interim Operations Chief	Jcanfield@pgorda.us	
Richard L Allen	BCC	Solid Waste Ops Manager	Richard.Allen@charlottecountyfl.gov	RLA
Scott Schermerhorn	BCC	Mosquito & Aq. Vc. Director	Scott.Schermerhorn@charlottecountyfl.gov	
Jeff Proffitt	BCC	OPS Sup - Mosq Aq Weed	jeff.proffitt@charlottecountyfl.gov	
Brian Hatfield	CCU	Project Manager	Brian.Hatfield@charlottecountyfl.gov	
Dave Watson	CCU	Interim Director	dave.watson@charlottecountyfl.gov	
Jason Faire	Public Safety	Director / Chief	Jason.Faire@CharlotteCountyFL.Gov	
Roger Warner	Facilities Const. Maint.	Facilities Manager	Roger.Warner@CharlotteCountyFL.gov	
Ellen Pinder	CCEM	Coordinator	Ellen.Pinder@charlottecountyfl.gov	
~~Patrick Fuller~~	~~CCEM~~	~~Director~~	~~Patrick.Fuller@charlottecounty.fl.gov~~	
Mike Thames	Punta Gorda Airport	Safety / Security	MThames@flypgd.com	
Ben Dike	Punta Gorda Airport	Operations and Regulatory Manager	Bdike@flypgd.com	
Tina Powell	CC Comm. Services	DNR Manager	tina.Powell@charlotte.county.fl.gov	Tina Powell
Jenny Harris	MPO	Director	Harris@CCMPO.gov	
Laurie Kimball	CC Human Services Dept.	Grant Analyst	Laurie.Kimball@charlottecountyFL.gov	Laurie A. Kimball

Name	Agency	Position	Email	Signature
Jason Ouimet	Public Works	M&O Manager	Jason.Ouimet@CharlotteCountyFL.gov	[signature]
Karly Greene	Public Works	Operations Supervisor	Karly.Greene@charlottecountyfl.gov	[signature]
Mike Koenig	CC Community Svcs	Resource Manager	Mike.Koenig@charlottecountyfl.gov	[signature]
LORENZO F. DAETZ	PW SOLID WASTE	SUPERVISOR	LORENZO.DAETZ@CHARLOTTECOUNTYFL.GOV	[signature]

LMS Meeting Follow-up

Geelen, Bradley

Reply | Reply All | Forward

To 'April Santos'; Bailey, Donna; 'Ben Duke'; Brady, Tara; 'Bryan Clemons'; 'Cheryl Lilly'; Colicchio, Carol; Darden, Jim; 'Dave Lupinetti'; DiCicco, Michael; 'Elizabeth Nocheck'; 'Ellen Pinder'; Fair, Jason; Geelen, Bradley; Gentile, James; Gopinath, Raju; Greene, Karly; Harris, D'Juan; Hatfield, Bryan; 'Holden Gibbs'; 'J LeBeau'; 'J Ryan'; 'Jie Shao'; **+34 others**

Fri 6/17/2022 3:42 PM

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2022 Updated LMS Projects List.xlsx 26 KB

Grants Overview Document 2022 LMS Meeting.docx 170 KB

Local Mitigation Strategy Work Group Meeting 2022.pptx 1 MB

Good Afternoon,

Thank you to those who attended todays Local Mitigation strategy Work Group Meeting. Attached is the slide deck, handout, and Projects List from today for your convenience.

As I discussed in todays meeting we would like to have follow-up meetings to discuss wish lists, potential projects, and application building with each of your respective agencies/departments. This will help us be in better standing to submit readymade projects when potential funding streams open.

Please feel free to book time with our office through this Bookings link: https://outlook.office365.com/owa/calendar/GrantProjectMeetings@CCBCC.onmicrosoft.com/bookings/
If you prefer an in person meeting or want further examples of a certain project types please indicate that in the notes of booking so I can adjust or come prepared with extra resources.

If there are any further questions please let me know.

Regards,

Bradley Geelen, FAEM
Emergency Management Specialist
Charlotte County Emergency Management
Office: 941-833-4000
Mobile: 941-467-4618
Email: bradley.geelen@charlottecountyfl.gov
Website | Facebook | Twitter | Instagram | Nextdoor

Local Mitigation Strategy Working Group Meeting

Geelen, Bradley

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To

Fri 11/18/2022 4:08 PM

Bcc Gamble, Ashlyn; Fuller, Patrick; Pinder, Ellen; Watkins, Brandon; Geelen, Bradley; April Santos; Bailey, Donna; Ben Duke; Brady, Tara; Bryan Clemons; Capt. Davis; Colicchio, Carol; Darden, Jim; Dave Lupinetti; DiCicco, Michael; Elizabeth Nocheck; Ellen Pinder; Fair, Jason; Gentile, James; Gopinath, Raju; Greene, Karly; Harris, D'Juan; Hatfield, Bryan; Holden Gibbs; J LeBeau; J Ryan; Jie Shao; Jodie Fiske; Joe Pepe; JTyler Canfield; Karen Bliss; Keith Ledford; Kevin Easton; Kipa, Stephen; Lakshmi N Gurram (Gurram@ccmpo.com); Laurie Kimball; Lewis, Emily; Linda Sposito; Lorenzo Daetz; Mangels, Kevin; Mike Desjardins; Mike Koenig; Mike Putnam; Mike Thames;

Retention Policy 10 Year Items Delete (10 years) Expires 11/15/2032

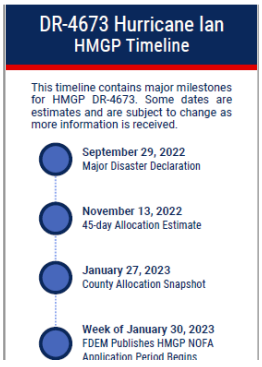
This is the most recent version, but you made changes to another copy. Click here to see the other versions.

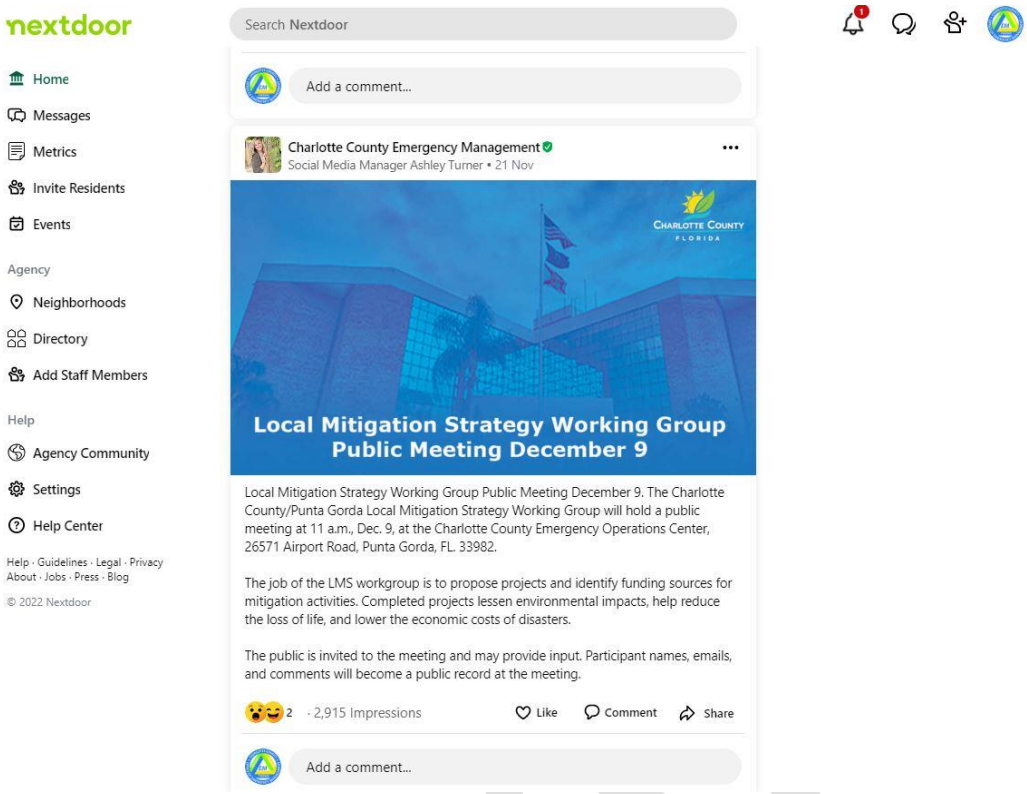
Good Afternoon LMS Working Group,

The Office of Emergency Management will be hosting a Local Mitigation Strategy Working Group Meeting on December 9th 2022 from 11:00am – 12:00 noon. This will follow the After Action Review meeting from 8:30am – 11:00am. We will be discussing some of the usual mitigation topics as well as what funding opportunities to expect post Hurricane Ian, and how to effectively apply for those.

As of now we are expecting the Notice of Funding Availability (NOFA) for the Hazard Mitigation Grant Program (HMGP) to be announced late January 2023 with the application window being open until May 1st (see below timeline). At the LMS meeting we will discuss what potential projects are currently on the LMS Projects List as well as any new projects brought forward to the group. This funding is tiered and the first round is allocated funds. So we will have a set amount of dollars available specifically to Charlotte County. Now is the time to look at your facilities, assets, wish lists etc. to identify projects that will reduce or eliminate the impacts of damage or loss in future disasters.

If there are any questions or you would like to discuss project ideas please feel free to reach out to our office. Please forward this notice to anyone in your organization who you believe should attend. A calendar invite will follow shortly.

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Social Media Manager Ashley Turner • 21 Nov
Charlotte County
Florida
Local Mitigation Strategy Working Group
Public Meeting December 9
Local Mitigation Strategy Working Group Public Meeting December 9. The Charlotte County/Punta Gorda Local Mitigation Strategy Working Group will hold a public meeting at 11 a.m., Dec. 9, at the Charlotte County Emergency Operations Center, 26571 Airport Road, Punta Gorda, FL. 33982.
The job of the LMS workgroup is to propose projects and identify funding sources for mitigation activities. Completed projects lessen environmental impacts, help reduce the loss of life, and lower the economic costs of disasters.
The public is invited to the meeting and may provide input. Participant names, emails, and comments will become a public record at the meeting.
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FLORIDA

NEWS RELEASE

Local Mitigation Strategy Working Group Public Meeting December 9

CHARLOTTE COUNTY, Fla. (Nov 21, 2022) – The Charlotte County/Punta Gorda Local Mitigation Strategy Working Group will hold one of its yearly public meetings at 11 a.m. on Dec 9. This meeting will take place in person at the Charlotte County Emergency Operations Center.

The job of the LMS workgroup is to propose projects and identify funding sources for mitigation activities. Completed projects lessen environmental impacts, help reduce the loss of life, and lower the economic costs of disasters.

The public is invited to the meeting and may provide input. Participant names, emails, and comments will be subject to public record if they choose to attend this meeting.

For more information, contact the Charlotte County Office of Emergency Management at 941-833-4000 or Emergency.Management@CharlotteCountyFL.gov.

###

Charlotte County/City of Punta Gorda Local Mitigation Strategy Meeting Sign-In				December 9th 2022
Name	Agency/Department	Position	Email	Signature
Dave Watson	CCU	Director	dave.watson@charlottecountyfl.gov	
Caroline Wannall	CCU	PR manager	caroline.wannall@charlottecountyfl.gov	
Karlene McDonald	PW	Interim Ops Supervisor	karlene.mcdonald@charlottecountyfl.gov	
Mary McFarland	CERT	Volunteer	boagtime@aol.com	
Nicole Dewitt	CPG	PI Manager	ndewitt@cityofpuntagordafl.com	
RAY BURROUGHS	EWD	ADMINISTRATOR	rburroughs@ewdfl.com	
Dave Wpinetti	C.C.P.S.	Coord District Security/EM	dave.wpinetti@yourcharlotteschools.net	
Angela Hogan	COAD/GCP	CEO	angela.hogan@gulfcoastpartnership.org	
Mike Koenig	CC Comm. Svcs	Resource Mgr	mike.koenig@charlottecountyfl.gov	
Carrie Walsh	Human Services	Director	carrie.walsh@charlottecountyfl.gov	
Laurie Kimball	Human Services	Grants Analyst	laurie.kimball@charlottecountyfl.gov	
JOE PEPE	FL DEPT OF HEALTH	ADMINISTRATOR	JOSEPH.PEPE@FLHEALTH.GOV	
Donna Bailey	Community Dev	Floodplain Coordinator	donna.bailey@charlottecountyfl.gov	
Alisa True	Purchasing	Senior Contract Spec	alisa.true@charlottecountyfl.gov	
Carol Colicchio	Fiscal	Senior Grants Analyst	Carol.colicchio@charlottecountyfl.gov	
Ray Desjardins	IT	Sr. Div. Mgr.	ray.desjardins@charlottecountyfl.gov	
Kathy Lindback	Purchasing	Contract Specialist	kathy.lindback@charlottecountyfl.gov	
Emily Lewis	Administration	Deputy County Administrator	Emily.Lewis@CharlotteCountyfl.gov	
GORDON BURGER	BUDGET & ADMIN	DIR BUDGET & ADMIN	Gordon.Burger@CharlotteCountyFl.gov	
ELLEN PINDER	EM	EM COORDINATOR	ELLEN.PINDER@CHARLOTTECOUNTYFL.GOV	
Bradley Geelen	Emergency Management	Emergency Management Specialist - LMS Chair	bradley.geelen@charlottecountyfl.gov	
Todd Dauis	CHARLOTTE COUNTY S.O.	CAPTAIN	tdavis@ccso.fl.net	
Bryan Clemons	City of PG - Public Works	Director	bclemons@cityofpuntagordafl.com	
HOLDEN GIBBS	PUNTA GORDA FIRE	FIRE CHIEF	hgibbs@pgorda.us	
Doug Blevins	Charlotte County Radio Comm	Radio Manager	doug.blevins@charlottecountyfl.gov	
JASON FAIR	CHARLOTTE CO PUBLIC SAFETY	DIRECTOR	JASON.FAIR@CHARLOTTECOUNTYFL.GOV	
Ashlyn Gamble	Charlotte Emergency Mgmt	EM specialist	Ashlyn.gamble@charlottecountyfl.gov	
Patrick Fuller	Charlotte Co. EM	Director	patrick.fuller@charlottecountyfl.gov	

LMS Meeting Information

Geelen, Bradley
To
Bcc April Santos; Bailey, Donna; Ben Duke; Blevins, Doug; Brady, Tara; Bryan Clemons; Burger, Gordon; Capt. Davis; Colicchio, Carol; Darden, Jim; Dave Lupinetti; Desjardins, Ray; DiCicco, Michael; Ellen Pinder; Fair, Jason; Gamble, Ashlyn; Geelen, Bradley; Gentile, James; Gopinath, Raju; Greene, Karly; Harris, D'Juan; Hatfield, Bryan; **+46 others**

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Mon 12/19/2022 8:11 AM

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Local Mitigation Strategy Work Group Meeting December 2022.pptx 973 KB
Charlotte LMSWG HMGP Presentation 12-9-22.pdf 544 KB
HMGP Pre NOFA Guidance.pdf 106 KB
Jump Start-Prelim EHP Review.pdf 148 KB
HMGP Post NOFA Guidance.pdf 132 KB

Good Afternoon,

Thank you for attending the Local Mitigation Strategy Meeting this past Friday. I wanted to remind everyone that bookings to discuss projects can be made here:
https://outlook.office365.com/owa/calendar/GrantProjectMeetings@CCBCC.onmicrosoft.com/bookings/

Attached are the slides our office presented as well as the information the State Mitigation Staff has provided. Information about the new WebEOC based projects list and how to access it will be coming soon.

If there are any questions please feel free to reach out.

Regards,

Bradley Geelen, FAEM
Emergency Management Specialist
Charlotte County Emergency Management
Office: 941-833-4000
Mobile: 941-467-4618
Email: bradley.geelen@charlottecountyfl.gov

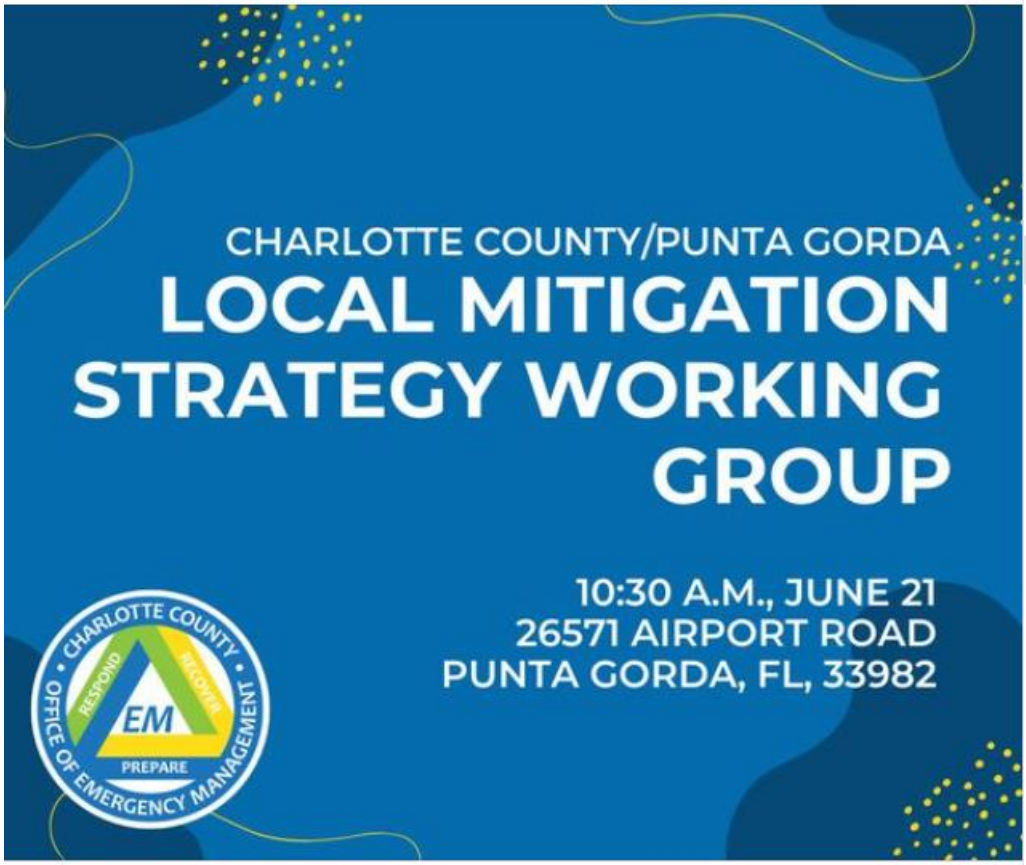
2023

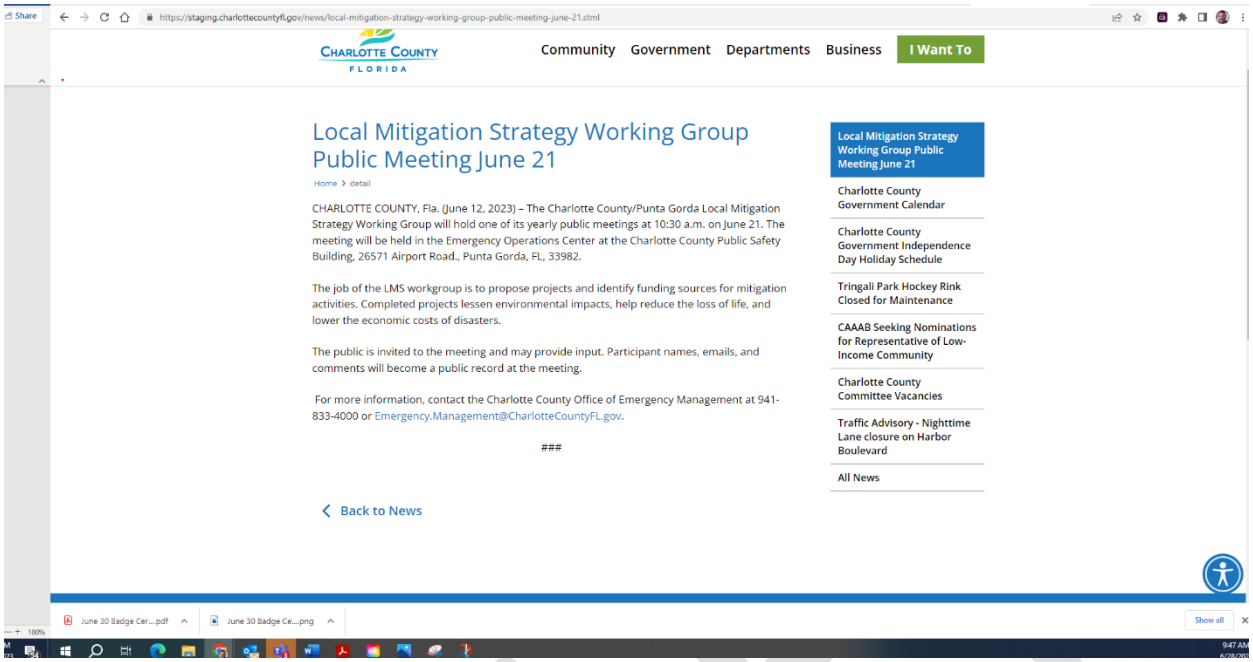
Charlotte County Emergency Management
June 13 at 6:00 AM ·

Join us at the annual public meeting of the Charlotte County/Punta Gorda Local Mitigation Strategy Working Group! The LMS workgroup plays a vital role in proposing projects and identifying funding sources for mitigation activities. By completing these projects, we can minimize environmental impacts, save lives, and reduce the economic costs of disasters.

June 21
10:30 a.m.
26571 Airport Road, Punta Gorda, FL, 33982.

W... See more




https://staging.charlottecountyfl.gov/news/local-mitigation-strategy-working-group-public-meeting-june-21.stml
CHARLOTTE COUNTY
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Local Mitigation Strategy Working Group Public Meeting June 21
Home > detail
CHARLOTTE COUNTY, Fla. (June 12, 2023) – The Charlotte County/Punta Gorda Local Mitigation Strategy Working Group will hold one of its yearly public meetings at 10:30 a.m. on June 21. The meeting will be held in the Emergency Operations Center at the Charlotte County Public Safety Building, 26571 Airport Road., Punta Gorda, FL, 33982.
The job of the LMS workgroup is to propose projects and identify funding sources for mitigation activities. Completed projects lessen environmental impacts, help reduce the loss of life, and lower the economic costs of disasters.
The public is invited to the meeting and may provide input. Participant names, emails, and comments will become a public record at the meeting.
For more information, contact the Charlotte County Office of Emergency Management at 941-833-4000 or Emergency.Management@CharlotteCountyFL.gov.
###
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Local Mitigation Strategy Working Group Public Meeting June 21
Charlotte County Government Calendar
Charlotte County Government Independence Day Holiday Schedule
Tringali Park Hockey Rink Closed for Maintenance
CAAAB Seeking Nominations for Representative of Low-Income Community
Charlotte County Committee Vacancies
Traffic Advisory - Nighttime Lane closure on Harbor Boulevard
All News
June 30 Badge Cer....pdf
June 30 Badge Ce....png
Show all

CHARLOTTE COUNTY
FLORIDA

NEWS RELEASE

Local Mitigation Strategy Working Group Public Meeting June 21

CHARLOTTE COUNTY, Fla. (June 21, 2023) – The Charlotte County/Punta Gorda Local Mitigation Strategy Working Group will hold one of its yearly public meetings at 10:30 a.m. on June 21. This meeting will take place in person at the Charlotte County Emergency Operations Center.

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For more information, contact the Charlotte County Office of Emergency Management at 941-833-4000 or Emergency.Management@CharlotteCountyFL.gov.

###

Charlotte County/City of Punta Gorda Local Mitigation Strategy Meeting Sign-In				June 21 2023
Name	Agency/Department	Position	Email	Signature
Gordon Burger	BoA	Dir for BoA	Gordon.Berger@charlottecountyfl.gov	
Matt Logan	PW Engineering	Project Manager	Matthew.Logan@charlottecountyfl.gov	
Karen Bliss	PW Engineering	PM	Karen.Bliss@charlottecountyfl.gov	
Donna Bailey	Community Dev.	CRS Coordinator	donna.Bailey@charlottecountyfl.gov	
Bradley Geelen	Charlotte EM / LMS chair	Em specialist	bradley.geelen@charlottecountyfl.gov	
STEPHEN KILPA	REAL ESTATE SVCS - CC	RES MANAGER	STEPHEN.KILPA@CHARLOTTECOUNTYFL.GOV	
Tara Prince	Real Estate	RES Coordinator	tara.prince@charlottecountyfl.gov	
Joe Pepe	FDOT-Charlotte	Administration	Joseph.Pepe@dot.fl.gov	
Patrick Fuller	CC Emergency Mgt	Director	PATRICK.FULLER@CHARLOTTECOUNTYFL.GOV	
Brandon Watkins	CC Emergency mgt	Specialist	brandon.watkins@charlottecountyfl.gov	
Jeffery Brisendine	Red Cross	Gov Ops	jeffb@criticaldrift.com	
BRYAN HATFIELD	CCU	DDOS, MGR	BRYAN.HATFIELD@CHARLOTTECOUNTYFL.GOV	
Dave Watson	CCU	Director	dave.watson@charlottecountyfl.gov	
Sarah Hiscock	CCU	intern	sarah.hiscock@charlottecountyfl.gov	
Luke Wright	CCU	Project manager	luke.wright@CharlotteCountyFl.gov	
RAY BURROUGHS	EWD	ADMINISTRATOR	rburroughs@EWDFL	
TERESA HERZOG	EWD	ADMIN. ASSIT.	therzog@EWDFL	
Tammy Scott	CC Comm Srvs	Director	tammy.scott@charlottecountyfl.gov	
Mike Koenig	CC Comm Svcs	Resource Mgr	mike.koenig@charlottecountyfl.gov	
Carrie Walsh	CC Human Services	Director	carrie.walsh@charlottecountyfl.gov	
Jamie Saudera	CC CommServ	Projects Mgr.	jamie.saudera@charlottecountyfl.gov	
Tina Powell	CC Comm. Serv.	PNR Mgr.	tina.powell@charlottecountyfl.gov	
Jack Hamm	CCDS	Director of School Support	Jack.Hamm@yourcharlotteschools.net	
EWEN PINDER	CCEM	LMS CO-CHAIR	EWEN.PINDER@CHARLOTTECOUNTYFL.GOV	

2024

Charlotte County Emergency Management

Intro

THIS PAGE IS NOT MONITORED 24 HOURS A DAY. For emergency assistance dial 911.

Page · Government organization

26571 Airport Rd, Punta Gorda, FL, United States, Florida

(941) 833-4000

emergency.management@charlottecountyfl.gov

charlottecountyfl.gov/departments/public-safety/emergency-management

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Photos See all photos

Charlotte County Emergency Management
March 11 at 12:48 PM ·

Join us at the annual public meeting of the Charlotte County/Punta Gorda Local Mitigation Strategy Working Group! The LMS workgroup plays a vital role in proposing projects and identifying funding sources for mitigation activities. By completing these projects, we can minimize environmental impacts, save lives, and reduce the economic costs of disasters.

April 4th, 2024
2:30pm to 3:30pm
26571 Airport Road, Punta Gorda, FL 33982

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CHARLOTTE COUNTY FLORIDA

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Local Mitigation Strategy Working Group Public Meeting April 4

Home > detail

CHARLOTTE COUNTY, Fla. (March 20, 2024) – The Charlotte County/Punta Gorda Local Mitigation Strategy Working Group will hold one of its yearly public meetings at 2:30 p.m. on April 4. The meeting will be held in the Emergency Operations Center at the Charlotte County Public Safety Building, 26571 Airport Road., Punta Gorda, FL, 33982.

The job of the LMS workgroup is to propose projects and identify funding sources for mitigation activities. Completed projects lessen environmental impacts, help reduce the loss of life, and lower the economic costs of disasters.

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For more information, contact the Charlotte County Office of Emergency Management at 941-833-4000 or Emergency.Management@CharlotteCountyFL.gov.

< Back to News

- Charlotte County Committee Vacancies
- Charlotte County Government Calendar
- Spring Renewal Social Event April 12
- Sam and Charlotte's Super Safari April 13, 2024
- National Go Fly a Kite Day Celebration at Harold Avenue Regional Park
- Volunteers Needed for Seagrass Monitoring Program
- **REVISED** Higgs Park Shuffleboard Courts Closed for Repairs
- All News

CHARLOTTE COUNTY
FLORIDA

NEWS RELEASE

Local Mitigation Strategy Working Group Public Meeting April 4

CHARLOTTE COUNTY, Fla. (April 4, 2024) – The Charlotte County/Punta Gorda Local Mitigation Strategy Working Group will hold one of its yearly public meetings at 2:30 p.m. on April 4. This meeting will take place in person at the Charlotte County Emergency Operations Center.

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###

Charlotte County/City of Punta Gorda Local Mitigation Strategy Working Group

Date: April 4th, 2024

Time: 2:30pm – 3:30pm

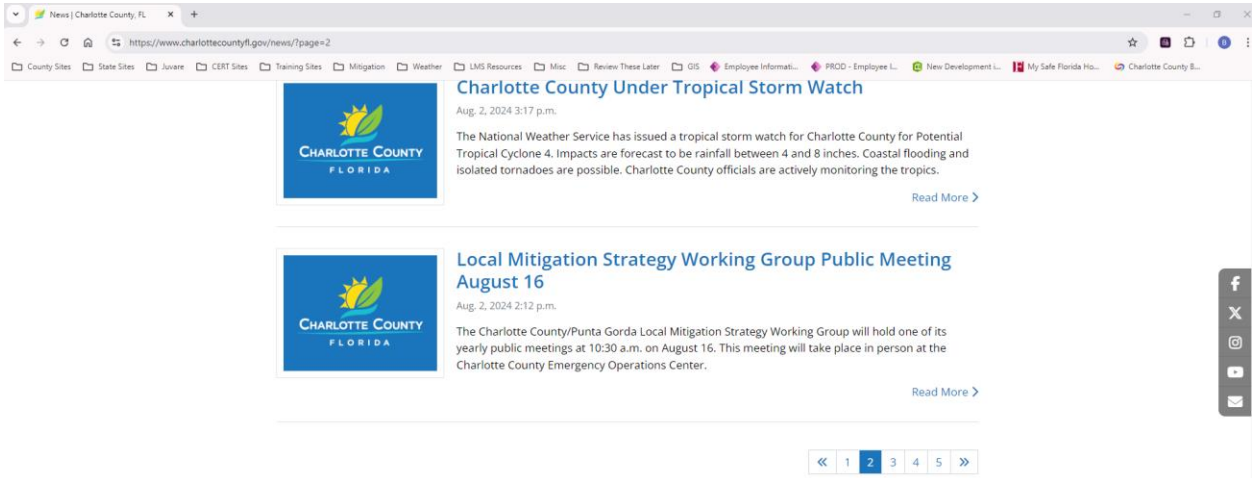
Agenda

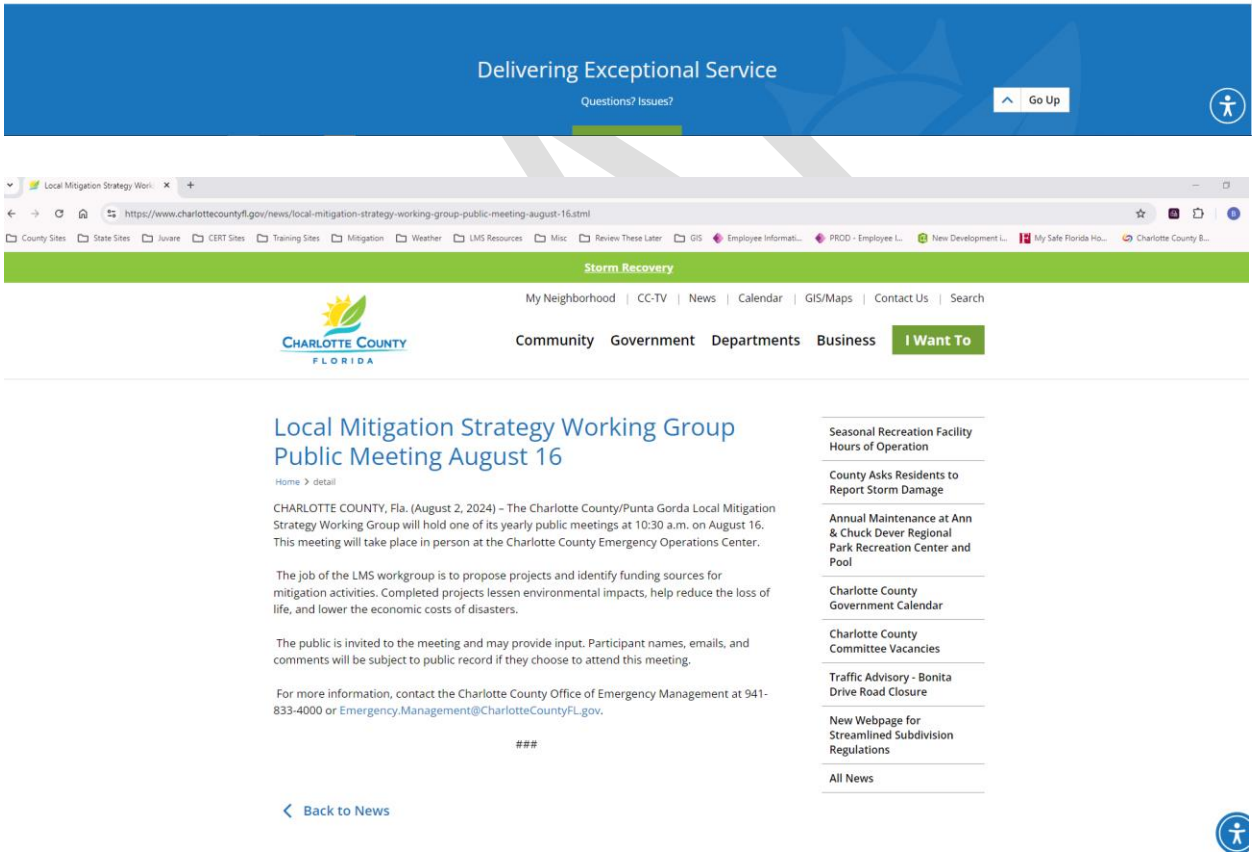
- Call To Order
- HMA Grants and Funding opportunities
- Status of Current Grants
- Application Process
- Projects List
- Meetings/Trainings
- Open Floor

Charlotte County Emergency Management
26571 Airport Road, Punta Gorda, FL 33982

941.833.4000
CharlotteCountyFL.gov

Charlotte County/City of Punta Gorda Local Mitigation Strategy Meeting Sign-In				April 4th 2024
Name	Agency/Department	Position	Email	Signature
Karen Bliss	Public Works- Engineering	Project Manager	Karen.Bliss@charlottecountyfl.gov	Karen Bliss
Kevin Mangels	B&A IT	JR. Division Manager	KEVIN.MANGELS@CHARLOTTECOUNTYFL.GOV	Kevin L Mangels
Cassandra Bonds	B&A - Fiscal	Senior Financial Analyst	cassandra.bonds@charlottecountyfl.gov	
Terese Vanderhaag	B&A - Grants	Grants Analyst	tvanderhaag@charlottecountyfl.gov	
Donna Bailey	Community Development	Floodplain Coordinator	donna.bailey@charlottecountyfl.gov	
Brandon Watkins	Emergency Management	Specialist	brandon.watkins@"	
Ashlyn Gamble	Emergency Management	EM Specialist	ashlyn.gamble@charlottecountyfl.gov	
Bradley Geeler	Charlotte County Emergency Management	EM Coordinator/LEMS Chair	Bradley.Geeler@charlottecountyfl.gov	
Patrick Fuller	Charlotte County Fire	Director	patrick.fuller@charlottecountyfl.gov	
Samantha Samples	American Red Cross	Disaster Program Manager	samantha.samples2@redcross.org	
Jeffrey Brisendine	American Red Cross	ECC Rep	jeff.brisendine@redcross.org	
Stephen Kips	Charlotte County - Real Estate	Manager	stephen.kips@charlottecountyfl.gov	
Lonnie Moore	Charlotte Co. Comm. Services	Pres. Man.	LONNIE.MOORE@CHARLOTTECOUNTYFL.GOV	
Carrie Walsh	CC Human Services	Director	carrie.walsh@charlottecountyfl.gov	
Mike Koenig	CC Community Svcs	Resource Mgr	mike.koenig@charlottecountyfl.gov	
MITCHELL AUSTIN	CITY OF PUNTA GORDA	URBAN DESIGN MGR.	MAUSTIN@PGORDA.US	
Danielle Berhel	City of Punta Gorda	Sr. Project Manager	dberhel@pgorda.us	
Jason Faith	Charlotte County Risk Supv	Director	Jason.Faith@CharlotteCountyFL.Gov	
Holden Gibbs	Punta Gorda Fire Dept	Fire Chief	hgibbs@pgorda.us	
Laurie Kimball	CC Human Services	Grants Analyst	Laurie.Kimball@charlottecountyfl.gov	
Travis Perdue	CC Facilities	Director	TRAVIS.PERDUE@CHARLOTTECOUNTYFL.COM	
Jody Mansell	Lighting District	Lighting Superintendent	Jody.mansell@charlottecountyfl.gov	
Jim Gentile	Grants	Manager	James.Gentile@charlottecountyfl.gov	
Cody Okelum	Engineering Utilities	Engineer	cody.okelum@charlottecountyfl.gov	


Charlotte County Under Tropical Storm Watch
Aug. 2, 2024 3:17 p.m.
The National Weather Service has issued a tropical storm watch for Charlotte County for Potential Tropical Cyclone 4. Impacts are forecast to be rainfall between 4 and 8 inches. Coastal flooding and isolated tornadoes are possible. Charlotte County officials are actively monitoring the tropics.
Read More
Local Mitigation Strategy Working Group Public Meeting August 16
Aug. 2, 2024 2:12 p.m.
The Charlotte County/Punta Gorda Local Mitigation Strategy Working Group will hold one of its yearly public meetings at 10:30 a.m. on August 16. This meeting will take place in person at the Charlotte County Emergency Operations Center.
Read More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Community Government Departments Business I Want To
Local Mitigation Strategy Working Group Public Meeting August 16
Home > detail
CHARLOTTE COUNTY, Fla. (August 2, 2024) – The Charlotte County/Punta Gorda Local Mitigation Strategy Working Group will hold one of its yearly public meetings at 10:30 a.m. on August 16. This meeting will take place in person at the Charlotte County Emergency Operations Center.
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###
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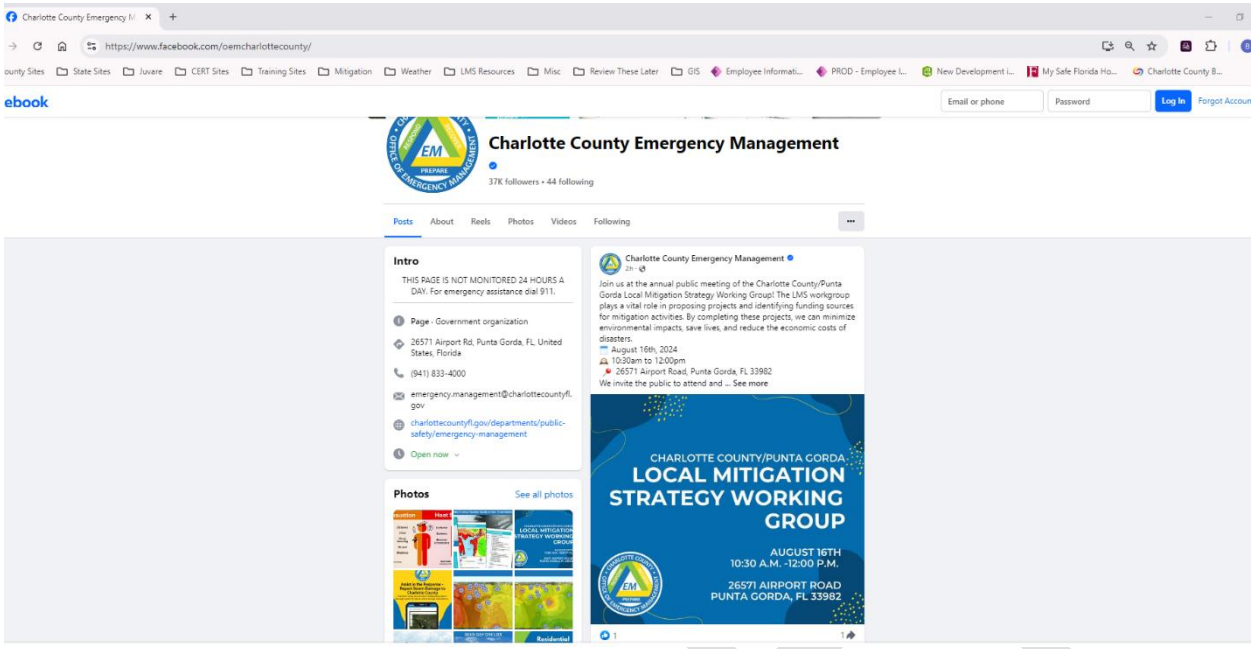
Seasonal Recreation Facility Hours of Operation
County Asks Residents to Report Storm Damage
Annual Maintenance at Ann & Chuck Dever Regional Park Recreation Center and Pool
Charlotte County Government Calendar
Charlotte County Committee Vacancies
Traffic Advisory - Bonita Drive Road Closure
New Webpage for Streamlined Subdivision Regulations
All News



CHARLOTTE COUNTY
FLORIDA

NEWS RELEASE

Local Mitigation Strategy Working Group Public Meeting August 16

CHARLOTTE COUNTY, Fla. (August 16, 2024) – The Charlotte County/Punta Gorda Local Mitigation Strategy Working Group will hold one of its yearly public meetings at 10:30 a.m. on August 16. This meeting will take place in person at the Charlotte County Emergency Operations Center.

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The public is invited to the meeting and may provide input. Participant names, emails, and comments will be subject to public record if they choose to attend this meeting.

For more information, contact the Charlotte County Office of Emergency Management at 941-833-4000 or Emergency.Management@CharlotteCountyFL.gov.

###


Charlotte County Emergency Management
Published by Charlotte Oem
· 18m ·
Last Friday, we held our public meeting for the Charlotte County/Punta Gorda Local Mitigation Strategy (LMS) Working Group! This group, which includes representatives from all local jurisdictions and key organizations involved in the planning process, is responsible for making official decisions regarding that process. Their role is vital in proposing projects and securing funding for mitigation efforts. By identifying and implementing these projects, we strive to reduce envi... See more
Agenda
Afternoon rain
12:19 PM
8/20/2024

Charlotte County/City of Punta Gorda Local Mitigation Strategy Meeting Sign-In				August 16th 2024
Name	**Agency/Department**	**Position**	**Email**	**Signature**
Tom Spencer	City of Punta Gorda	Acting Utilities Director	tspencer@pgorda.us	
Dave Watson	CCU	Director	dave.watson@charlottecountyfl.gov	
David Freed	Community Development	Floodplain coord.	David.Freed@charlottecountyfl.gov	
Luke Wright	CCU	Utilities	Luke.Wright@charlottecounty.gov	
Donna Bailey	Community Development	Floodplain Coordinator	donna.bailey@charlottecountyfl.gov	
Richard Lehmkuhl	City of Punta Gorda UD	Grants coordinator	rlehmkuhl@cityofpuntagordafl.com	
Bethany Moteler	City of Punta Gorda Urban Design	Planner	bmoteler@cityofpuntagordafl.com	
Kathleen Croteau	City of Punta Gorda	Floodplain adm	kcroteau@cityofpuntagordafl.com	
MITCHELL AUSTIN	CITY OF PUNTA GORDA	URBAN DESIGN MANAGER	MAUSTIN@CITYOFPUNTAGORDAFL.COM	
Carrie Walsh	CC Human Services	Director	carrie.walsh@charlottecountyfl.gov	
Joe Pepe	DEPT OF HEALTH - CHARLOTTE	ADMINISTRATOR	JOSEPH.PEPE@FLHEALTH.GOV	
Patrick Fuller	Charlotte County EM	Director	patrick.fuller@CharlotteCountyFL.gov	
Bradley Geelen	Charlotte County EM	EM Coordinator/LMS Chair	bradley.geelen@charlottecountyfl.gov	
Linda Harris	Skincredible by Lorte Rae	Owner-Nurse Practitioner	Lrae.harris@comcast.net	
Wayne Harris	Harris Executive Consulting	President	wayne.harris1@comcast.net	
Ashlyn Gamble	Emergency Mgmt	EM Specialist	ashlyn.gamble@charlottecountyfl.gov	
STEPHEN KIPA	REAL ESTATE SVCS	RES MANAGER	Stephen.kipa@ "	
Chris Fankhauser	CCEM	EM Specialist	christine.fankhauser@charlottecountyfl.gov	
TYLER CANFIELD	PGFD	OPERATIONS CHIEF	TCANFIELD@PGORDA.US	
Jamie Scudera	PNR	Project Mgr.	jamie.scudera@charlottecountyfl.gov	
LONNIE MOORE	PNR	PROJECTS MGR.	LONNIE.MOORE@CHARLOTTECOUNTYFL.GOV	
James Gentile	Grants	Manager	James.Gentile@charlottecountyfl.gov	
Kurt Williams	SBP	Resilience Fellow	Kwilliams@sbpusa.org	
Laurie Kimball	CCHS	Grants Analyst	Laurie.Kimball@charlottecountyfl.gov	
Brandon Moody	CCBOCC - Admin	Water Quality Manager	brandon.moody@charlottecountyfl.gov	
Keith Ledford	EWD	Technical Support Manager	kledford@englewoodwater.com	

Appendix B - HAZUS Reports

General Description of the Region

Hazus is a regional multi-hazard loss estimation model that was developed by the Federal Emergency Management Agency and the National Institute of Building Sciences. The primary purpose of Hazus is to provide a methodology and software application to develop multi-hazard losses at a regional scale. These loss estimates would be used primarily by local, state and regional officials to plan and stimulate efforts to reduce risks from multi-hazards and to prepare for emergency response and recovery.

The hurricane loss estimates provided in this report are based on a region that includes 1 county(ies) from the following state(s):

- Florida (Charlotte)

Note:
Appendix A contains a complete listing of the counties contained in the region.

The geographical size of the region is 708.49 square miles and contains 46 census tracts. There are over 85 thousand households in the region and a total population of 186,847 people. The distribution of population by State and County is provided in Appendix B.

There are an estimated 107 thousand buildings in the region with a total building replacement value (excluding contents) of 31,462 million dollars. Approximately 93% of the buildings (and 75% of the building value) are associated with residential housing.

Building Inventory

General Building Stock

Hazus estimates that there are 107,914 buildings in the region which have an aggregate total replacement valu million. Table 1 presents the relative distribution of the value with respect to the general occupancies. Appendix general distribution of the building value by State and County.

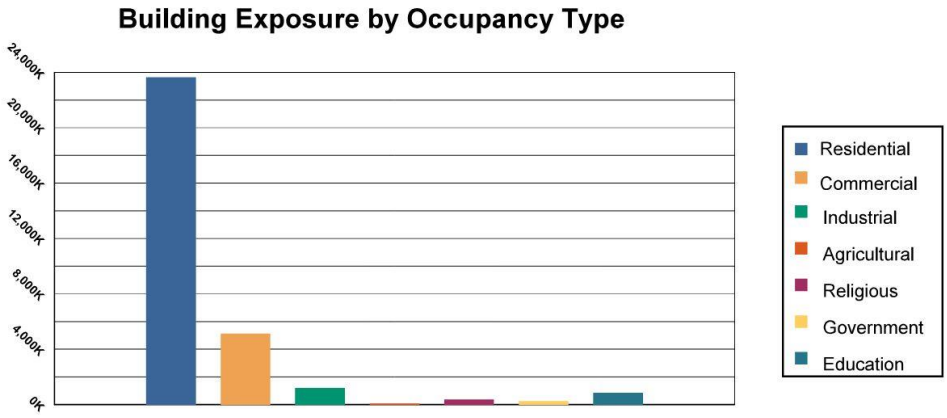


Table 1: Building Exposure by Occupancy Type

Occupancy	Exposure ($1000)	Percent of Tot
Residential	23,641,926	75.14%
Commercial	5,117,790	16.27%
Industrial	1,189,586	3.78%
Agricultural	73,125	0.23%
Religious	361,113	1.15%
Government	235,131	0.75%
Education	843,471	2.68%
Total	**31,462,142**	**100.00%**

Essential Facility Inventory

For essential facilities, there are 3 hospitals in the region with a total bed capacity of 727 beds. There are 37 schools, 22 fire stations, 5 police stations and 1 emergency operation facilities.

Hurricane Scenario

Hazus used the following set of information to define the hurricane parameters for the hurricane loss estimate provided in this report.

Scenario Name:	Probabilistic
Type:	Probabilistic

HAZUS™ FEMA

RiskMAP
Increasing Resilience Together

Hazus: Hurricane Global Risk Report

Region Name:	Charlotte2
Hurricane Scenario:	Probabilistic 10-year Return Period
Print Date:	Tuesday, November 12, 2024

Disclaimer:
Totals only reflect data for those census tracts/blocks included in the user's study region.

The estimates of social and economic impacts contained in this report were produced using Hazus loss estimation methodology software which is based on current scientific and engineering knowledge. There are uncertainties inherent in any loss estimation technique. Therefore, there may be significant differences between the modeled results contained in this report and the actual social and economic losses following a specific Hurricane. These results can be improved by using enhanced inventory data.

Building Damage

General Building Stock Damage

Hazus estimates that about 32 buildings will be at least moderately damaged. This is over 0% of the total number of buildings in the region. There are an estimated 0 buildings that will be completely destroyed. The definition of the 'damage states' is provided in the Hazus Hurricane technical manual. Table 2 below summarizes the expected damage by general occupancy for the buildings in the region. Table 3 summarizes the expected damage by general building type.

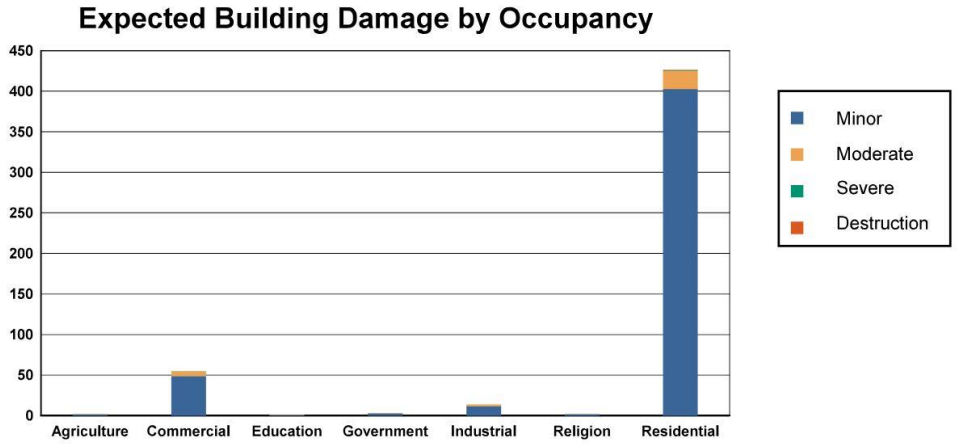


Table 2: Expected Building Damage by Occupancy : 10 - year Event

	None		Minor		Moderate		Severe		Destruction	
Occupancy	**Count**	**(%)**	**Count**	**(%)**	**Count**	**(%)**	**Count**	**(%)**	**Count**	**(%)**
Agriculture	197	99.15	1	0.72	0	0.12	0	0.01	0	0.00
Commercial	5,000	98.92	49	0.96	6	0.12	0	0.00	0	0.00
Education	72	98.78	1	1.13	0	0.09	0	0.00	0	0.00
Government	175	98.29	3	1.54	0	0.16	0	0.00	0	0.00
Industrial	1,470	99.08	12	0.79	2	0.12	0	0.01	0	0.00
Religion	250	99.26	2	0.68	0	0.06	0	0.00	0	0.00
Residential	100,247	99.58	403	0.40	23	0.02	1	0.00	0	0.00
Total	**107,412**		**470**		**31**		**1**		**0**	

Table 3: Expected Building Damage by Building Type : 10 - year Event

Building Type	None		Minor		Moderate		Severe		Destruction	
	Count	(%)	Count	(%)	Count	(%)	Count	(%)	Count	(%)
Concrete	3,727	99.14	32	0.86	0	0.01	0	0.00	0	0.00
Masonry	46,707	99.59	189	0.40	3	0.01	0	0.00	0	0.00
MH	9,819	99.97	2	0.02	1	0.01	0	0.00	0	0.00
Steel	7,654	98.50	100	1.29	17	0.21	0	0.00	0	0.00
Wood	39,511	99.65	133	0.34	6	0.01	1	0.00	0	0.00

Essential Facility Damage

Before the hurricane, the region had 727 hospital beds available for use. On the day of the hurricane, the model estimates that 727 hospital beds (100%) are available for use by patients already in the hospital and those injured by the hurricane. After one week, 100% of the beds will be in service. By 30 days, 100% will be operational.

Thematic Map of Essential Facilities

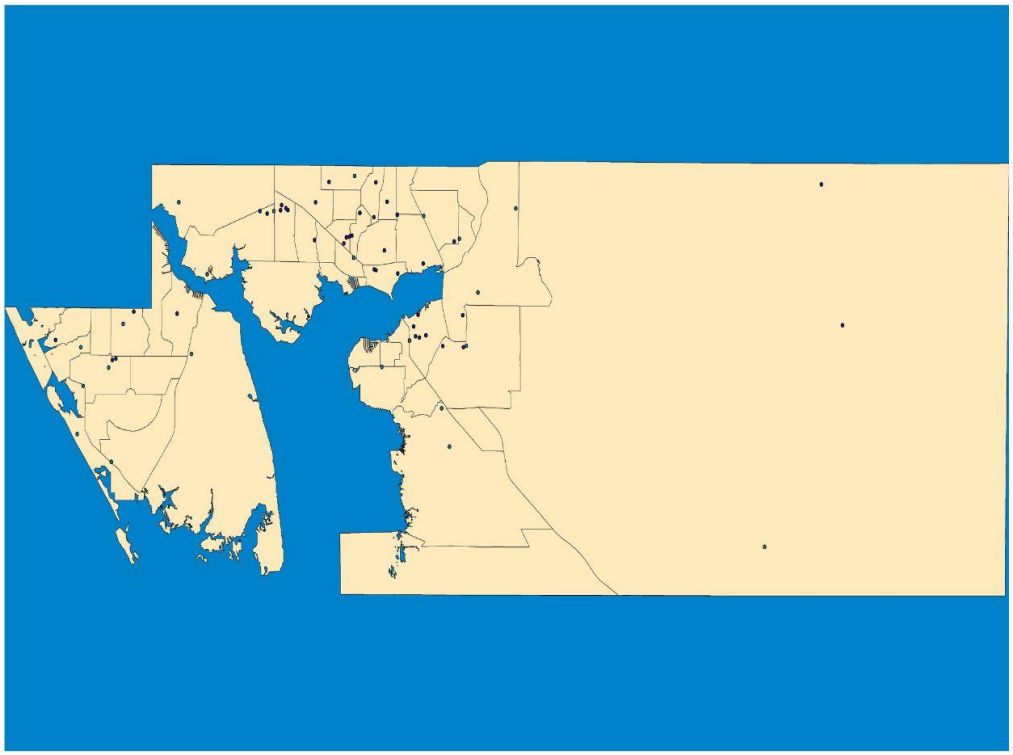
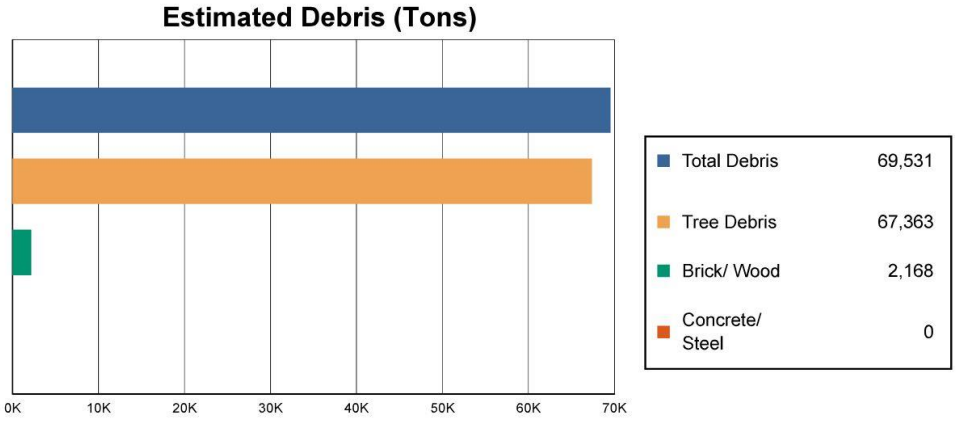


Table 4: Expected Damage to Essential Facilities

Classification	Total	# Facilities		
		Probability of at Least Moderate Damage > 50%	Probability of Complete Damage > 50%	Expected Loss of Use < 1 day
EOCs	1	0	0	1
Fire Stations	22	0	0	22
Hospitals	3	0	0	3
Police Stations	5	0	0	5
Schools	37	0	0	37

Induced Hurricane Damage

Debris Generation



Hazus estimates the amount of debris that will be generated by the hurricane. The model breaks the debris into four general categories: a) Brick/Wood, b) Reinforced Concrete/Steel, c) Eligible Tree Debris, and d) Other Tree Debris. This distinction is made because of the different types of material handling equipment required to handle the debris.

The model estimates that a total of 69,531 tons of debris will be generated. Of the total amount, 56,291 tons (81%) is Other Tree Debris. Of the remaining 13,240 tons, Brick/Wood comprises 16% of the total, Reinforced Concrete/Steel comprises of 0% of the total, with the remainder being Eligible Tree Debris. If the building debris tonnage is converted to an estimated number of truckloads, it will require 87 truckloads (@25 tons/truck) to remove the building debris generated by the hurricane. The number of Eligible Tree Debris truckloads will depend on how the 11,072 tons of Eligible Tree Debris are collected and processed. The volume of tree debris generally ranges from about 4 cubic yards per ton for chipped or compacted tree debris to about 10 cubic yards per ton for bulkier, uncompacted debris.

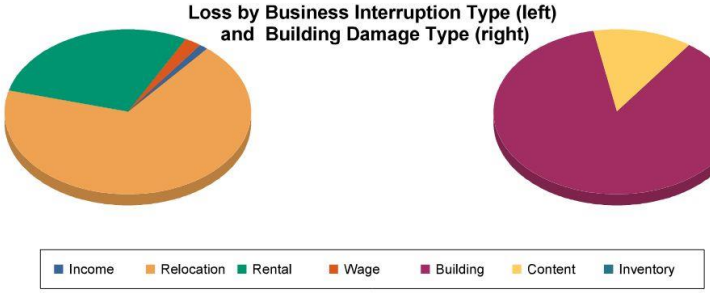
Economic Loss

The total economic loss estimated for the hurricane is 37.5 million dollars, which represents 0.12 % of the total replacement value of the region's buildings.

Building-Related Losses

The building related losses are broken into two categories: direct property damage losses and business interruption losses. The direct property damage losses are the estimated costs to repair or replace the damage caused to the building and its contents. The business interruption losses are the losses associated with inability to operate a business because of the damage sustained during the hurricane. Business interruption losses also include the temporary living expenses for those people displaced from their homes because of the hurricane.

The total property damage losses were 37 million dollars. 2% of the estimated losses were related to the business interruption of the region. By far, the largest loss was sustained by the residential occupancies which made up over 93% of the total loss. Table 5 below provides a summary of the losses associated with the building damage.



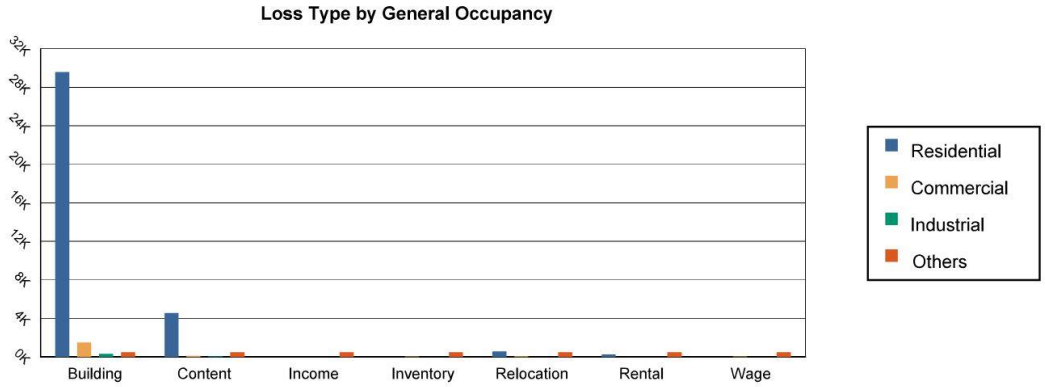


Table 5: Building-Related Economic Loss Estimates

(Thousands of dollars)

Category	Area	Residential	Commercial	Industrial	Others	Total
Property Damage						
	Building	29,571.11	1,476.29	292.33	441.19	31,780.92
	Content	4,552.40	111.73	52.38	28.29	4,744.79
	Inventory	0.00	10.55	8.65	0.41	19.62
	Subtotal	**34,123.51**	**1,598.57**	**353.36**	**469.89**	**36,545.33**
Business Interruption Loss						
	Income	0.00	8.57	0.69	0.03	9.29
	Relocation	547.82	50.87	10.02	11.56	620.27
	Rental	257.44	2.28	0.19	0.04	259.95
	Wage	0.00	20.19	0.47	0.78	21.44
	Subtotal	**805.26**	**81.91**	**11.37**	**12.41**	**910.95**

Total

Total	34,928.77	1,680.48	364.72	482.31	37,456.28

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Hazus: Hurricane Global Risk Report

Region Name:	Charlotte2
Hurricane Scenario:	Probabilistic 20-year Return Period
Print Date:	Tuesday, November 12, 2024

Disclaimer:

Totals only reflect data for those census tracts/blocks included in the user's study region.

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Building Damage

General Building Stock Damage

Hazus estimates that about 657 buildings will be at least moderately damaged. This is over 1% of the total number of buildings in the region. There are an estimated 7 buildings that will be completely destroyed. The definition of the 'damage states' is provided in the Hazus Hurricane technical manual. Table 2 below summarizes the expected damage by general occupancy for the buildings in the region. Table 3 summarizes the expected damage by general building type.

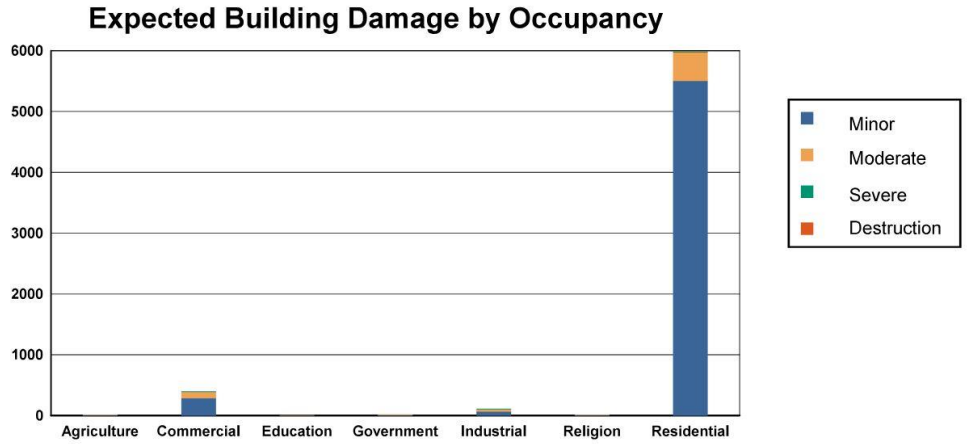


Table 2: Expected Building Damage by Occupancy : 20 - year Event

	None		Minor		Moderate		Severe		Destruction	
Occupancy	**Count**	**(%)**	**Count**	**(%)**	**Count**	**(%)**	**Count**	**(%)**	**Count**	**(%)**
Agriculture	184	92.42	10	4.95	4	2.07	1	0.55	0	0.02
Commercial	4,657	92.12	287	5.68	103	2.04	8	0.15	0	0.00
Education	66	90.79	5	6.78	2	2.41	0	0.02	0	0.00
Government	160	90.12	12	6.94	5	2.92	0	0.01	0	0.00
Industrial	1,372	92.44	69	4.66	35	2.39	7	0.50	0	0.01
Religion	236	93.60	13	5.35	2	0.99	0	0.06	0	0.00
Residential	94,678	94.05	5,506	5.47	466	0.46	15	0.02	7	0.01
Total	**101,353**		**5,904**		**619**		**32**		**7**	

Table 3: Expected Building Damage by Building Type : 20 - year Event

Building Type	None		Minor		Moderate		Severe		Destruction	
	Count	(%)	Count	(%)	Count	(%)	Count	(%)	Count	(%)
Concrete	3,536	94.08	197	5.24	25	0.67	1	0.02	0	0.00
Masonry	44,078	93.98	2,664	5.68	147	0.31	9	0.02	1	0.00
MH	9,716	98.92	80	0.82	18	0.19	0	0.00	8	0.08
Steel	7,019	90.32	472	6.08	260	3.35	20	0.25	0	0.00
Wood	37,218	93.86	2,319	5.85	105	0.26	9	0.02	0	0.00

Essential Facility Damage

Before the hurricane, the region had 727 hospital beds available for use. On the day of the hurricane, the model estimates that 727 hospital beds (100%) are available for use by patients already in the hospital and those injured by the hurricane. After one week, 100% of the beds will be in service. By 30 days, 100% will be operational.

Thematic Map of Essential Facilities

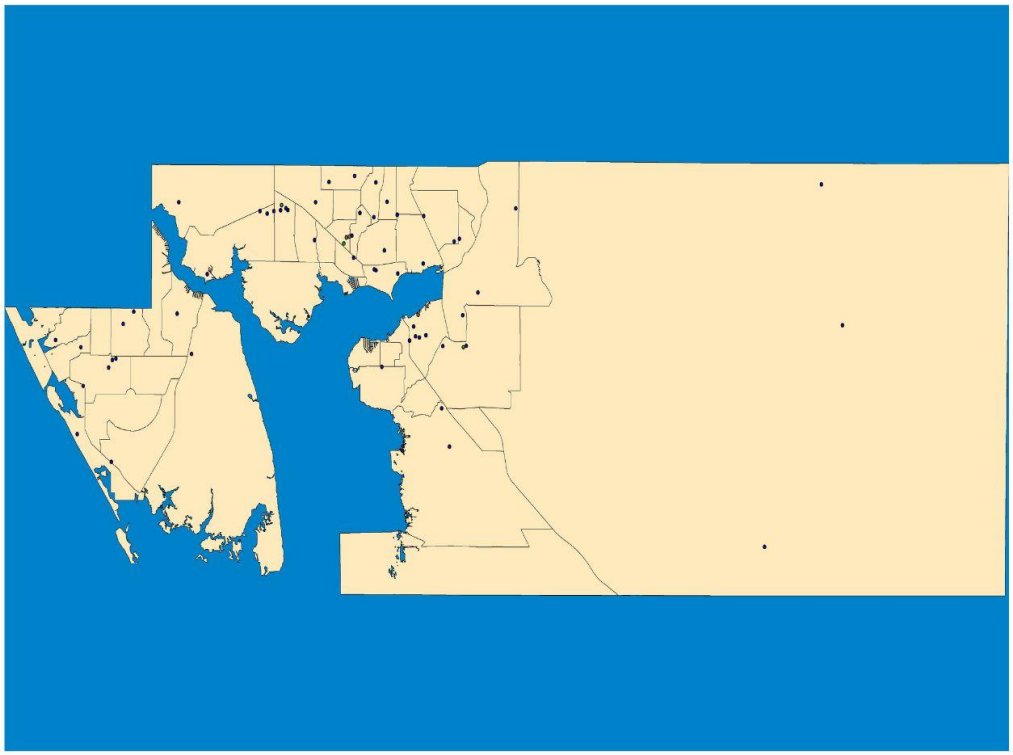
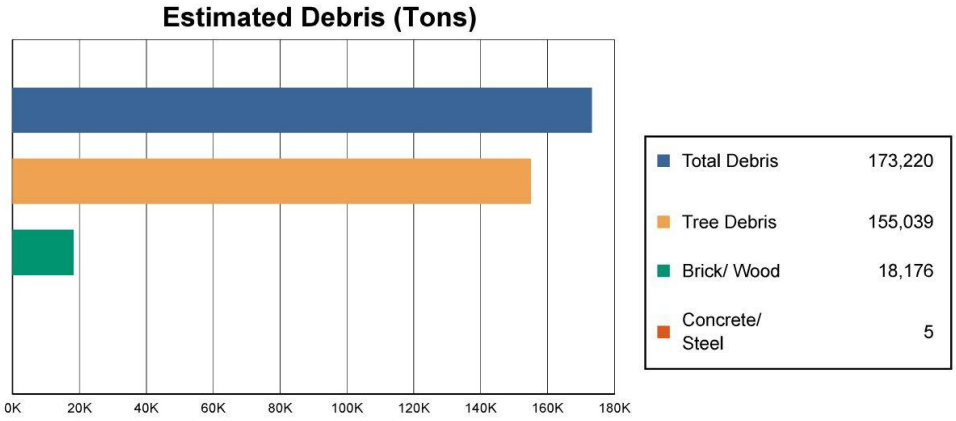


Table 4: Expected Damage to Essential Facilities

		# Facilities		
Classification	**Total**	**Probability of at Least Moderate Damage > 50%**	**Probability of Complete Damage > 50%**	**Expected Loss of Use < 1 day**
EOCs	1	0	0	1
Fire Stations	22	0	0	22
Hospitals	3	0	0	3
Police Stations	5	0	0	5
Schools	37	0	0	37

Induced Hurricane Damage

Debris Generation



Hazus estimates the amount of debris that will be generated by the hurricane. The model breaks the debris into four general categories: a) Brick/Wood, b) Reinforced Concrete/Steel, c) Eligible Tree Debris, and d) Other Tree Debris. This distinction is made because of the different types of material handling equipment required to handle the debris.

The model estimates that a total of 173,220 tons of debris will be generated. Of the total amount, 122,658 tons (71%) is Other Tree Debris. Of the remaining 50,562 tons, Brick/Wood comprises 36% of the total, Reinforced Concrete/Steel comprises of 0% of the total, with the remainder being Eligible Tree Debris. If the building debris tonnage is converted to an estimated number of truckloads, it will require 727 truckloads (@25 tons/truck) to remove the building debris generated by the hurricane. The number of Eligible Tree Debris truckloads will depend on how the 32,381 tons of Eligible Tree Debris are collected and processed. The volume of tree debris generally ranges from about 4 cubic yards per ton for chipped or compacted tree debris to about 10 cubic yards per ton for bulkier, uncompacted debris.

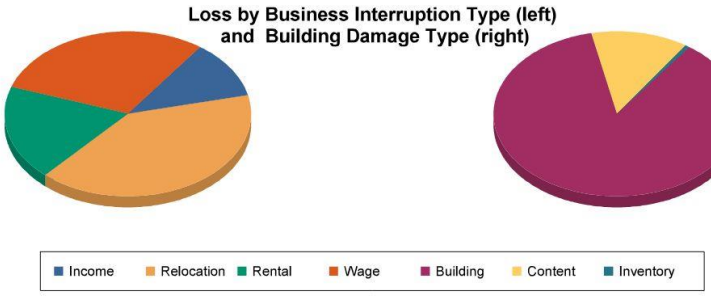
Economic Loss

The total economic loss estimated for the hurricane is 217.2 million dollars, which represents 0.69 % of the total replacement value of the region's buildings.

Building-Related Losses

The building related losses are broken into two categories: direct property damage losses and business interruption losses. The direct property damage losses are the estimated costs to repair or replace the damage caused to the building and its contents. The business interruption losses are the losses associated with inability to operate a business because of the damage sustained during the hurricane. Business interruption losses also include the temporary living expenses for those people displaced from their homes because of the hurricane.

The total property damage losses were 217 million dollars. 11% of the estimated losses were related to the business interruption of the region. By far, the largest loss was sustained by the residential occupancies which made up over 80% of the total loss. Table 5 below provides a summary of the losses associated with the building damage.



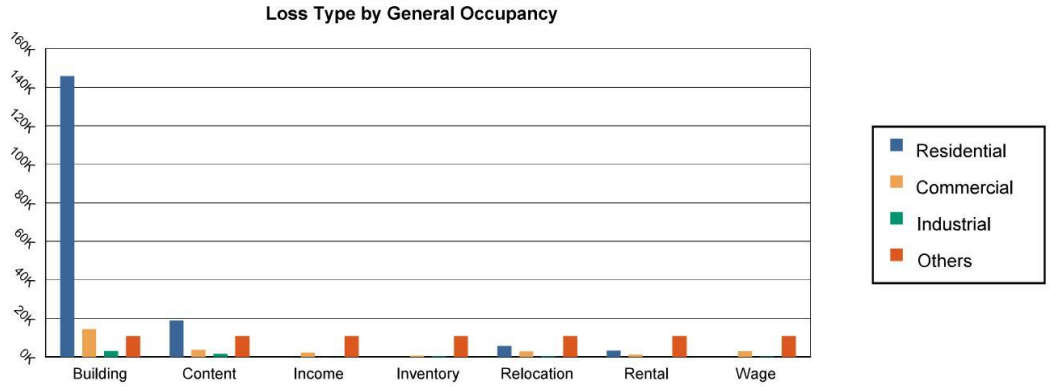


Table 5: Building-Related Economic Loss Estimates

(Thousands of dollars)

Category	Area	Residential	Commercial	Industrial	Others	Total
Property Damage						
	Building	145,815.86	14,353.66	3,009.16	4,323.66	167,502.34
	Content	18,896.11	3,676.11	1,477.58	990.08	25,039.88
	Inventory	0.00	653.26	232.85	52.72	938.83
	Subtotal	**164,711.97**	**18,683.04**	**4,719.58**	**5,366.45**	**193,481.05**
Business Interruption Loss						
	Income	0.00	2,169.29	44.62	480.55	2,694.46
	Relocation	5,577.04	2,798.84	295.83	862.57	9,534.29
	Rental	3,166.19	1,150.25	31.32	73.91	4,421.67
	Wage	0.00	2,968.33	71.84	4,038.88	7,079.04
	Subtotal	**8,743.23**	**9,086.71**	**443.61**	**5,455.90**	**23,729.45**

Total

Total	173,455.20	27,769.75	5,163.19	10,822.36	217,210.50

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Hazus: Hurricane Global Risk Report

Region Name:	Charlotte2
Hurricane Scenario:	Probabilistic 50-year Return Period
Print Date:	Tuesday, November 12, 2024

Disclaimer:

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Building Damage

General Building Stock Damage

Hazus estimates that about 5,348 buildings will be at least moderately damaged. This is over 5% of the total number of buildings in the region. There are an estimated 858 buildings that will be completely destroyed. The definition of the 'damage states' is provided in the Hazus Hurricane technical manual. Table 2 below summarizes the expected damage by general occupancy for the buildings in the region. Table 3 summarizes the expected damage by general building type.

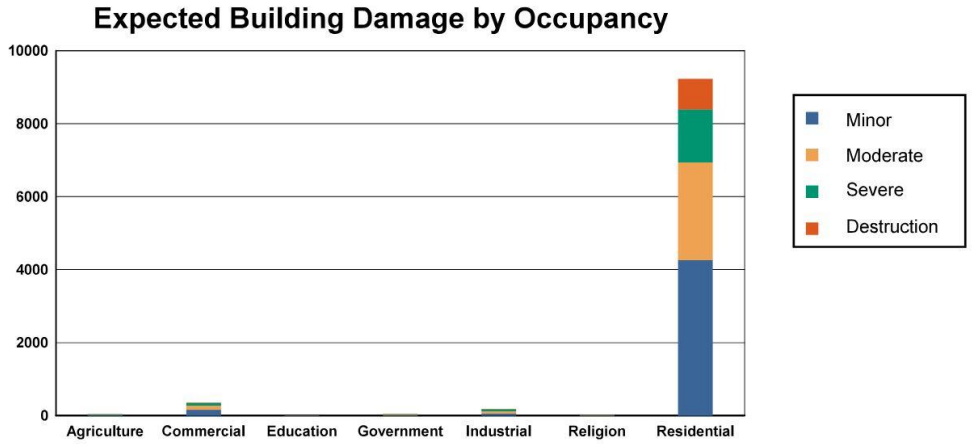


Table 2: Expected Building Damage by Occupancy : 50 - year Event

	None		Minor		Moderate		Severe		Destruction	
Occupancy	**Count**	**(%)**	**Count**	**(%)**	**Count**	**(%)**	**Count**	**(%)**	**Count**	**(%)**
Agriculture	159	79.79	11	5.38	11	5.53	13	6.58	5	2.72
Commercial	4,702	93.01	158	3.12	116	2.30	74	1.47	5	0.10
Education	66	89.84	3	4.20	3	3.93	1	2.04	0	0.00
Government	131	73.48	22	12.59	22	12.12	3	1.81	0	0.01
Industrial	1,309	88.22	58	3.89	59	3.95	55	3.70	4	0.24
Religion	239	95.03	7	2.77	4	1.52	2	0.65	0	0.03
Residential	91,441	90.83	4,261	4.23	2,678	2.66	1,449	1.44	844	0.84
Total	**98,047**		**4,519**		**2,892**		**1,598**		**858**	

Table 3: Expected Building Damage by Building Type : 50 - year Event

Building Type	None		Minor		Moderate		Severe		Destruction	
	Count	(%)	Count	(%)	Count	(%)	Count	(%)	Count	(%)
Concrete	3,444	91.61	108	2.88	90	2.41	117	3.10	0	0.00
Masonry	43,452	92.65	1,741	3.71	963	2.05	465	0.99	278	0.59
MH	8,588	87.44	379	3.86	386	3.93	105	1.07	364	3.70
Steel	6,825	87.83	229	2.94	327	4.21	339	4.37	51	0.65
Wood	35,922	90.60	1,902	4.80	1,109	2.80	491	1.24	227	0.57

Essential Facility Damage

Before the hurricane, the region had 727 hospital beds available for use. On the day of the hurricane, the model estimates that 727 hospital beds (100%) are available for use by patients already in the hospital and those injured by the hurricane. After one week, 100% of the beds will be in service. By 30 days, 100% will be operational.

Thematic Map of Essential Facilities

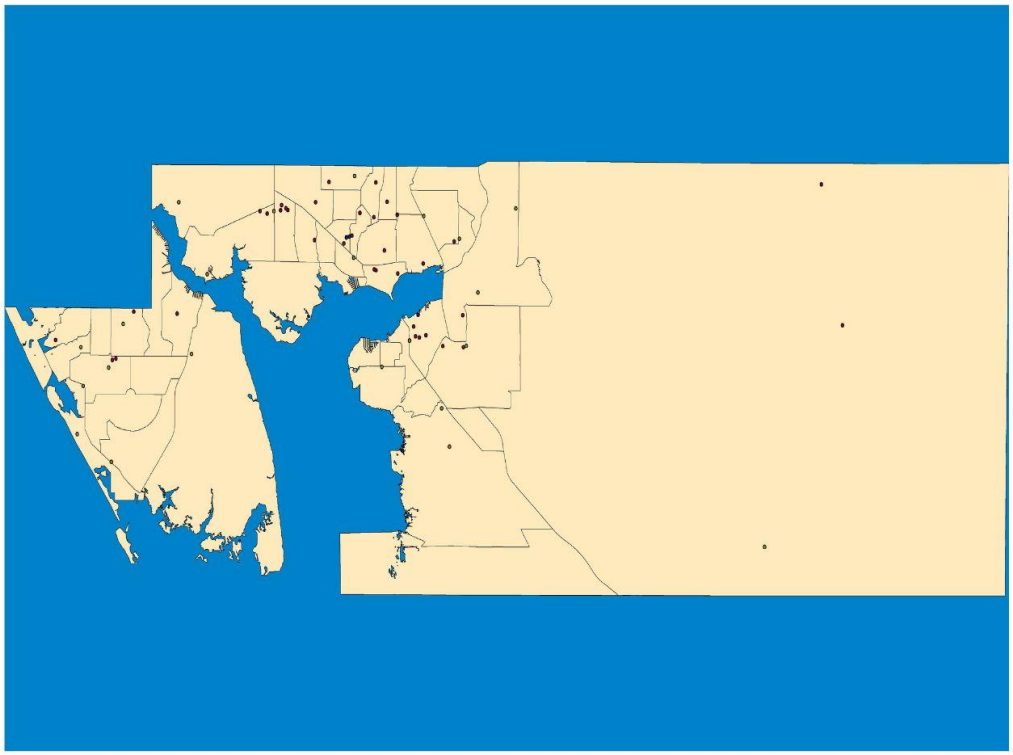
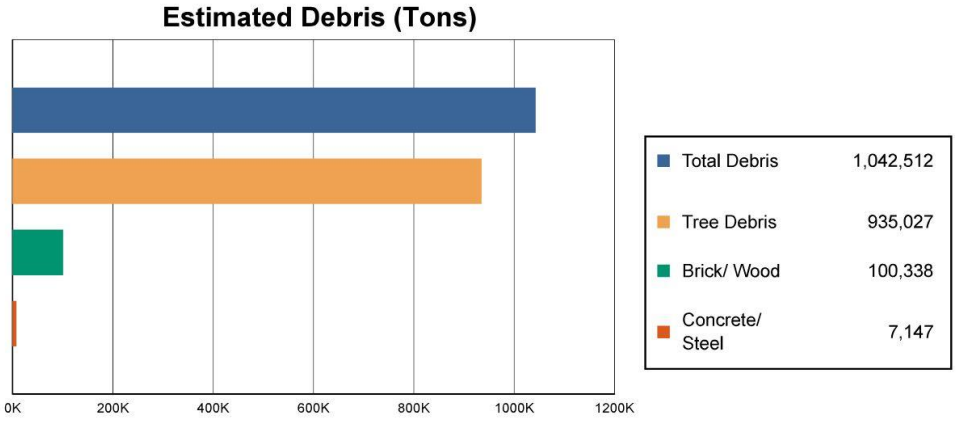


Table 4: Expected Damage to Essential Facilities

		# Facilities		
Classification	**Total**	**Probability of at Least Moderate Damage > 50%**	**Probability of Complete Damage > 50%**	**Expected Loss of Use < 1 day**
EOCs	1	0	0	1
Fire Stations	22	3	0	22
Hospitals	3	0	0	3
Police Stations	5	0	0	5
Schools	37	3	0	32

Induced Hurricane Damage

Debris Generation



Hazus estimates the amount of debris that will be generated by the hurricane. The model breaks the debris into four general categories: a) Brick/Wood, b) Reinforced Concrete/Steel, c) Eligible Tree Debris, and d) Other Tree Debris. This distinction is made because of the different types of material handling equipment required to handle the debris.

The model estimates that a total of 1,042,512 tons of debris will be generated. Of the total amount, 895,793 tons (86%) is Other Tree Debris. Of the remaining 146,719 tons, Brick/Wood comprises 68% of the total, Reinforced Concrete/Steel comprises of 5% of the total, with the remainder being Eligible Tree Debris. If the building debris tonnage is converted to an estimated number of truckloads, it will require 4299 truckloads (@25 tons/truck) to remove the building debris generated by the hurricane. The number of Eligible Tree Debris truckloads will depend on how the 39,234 tons of Eligible Tree Debris are collected and processed. The volume of tree debris generally ranges from about 4 cubic yards per ton for chipped or compacted tree debris to about 10 cubic yards per ton for bulkier, uncompacted debris.

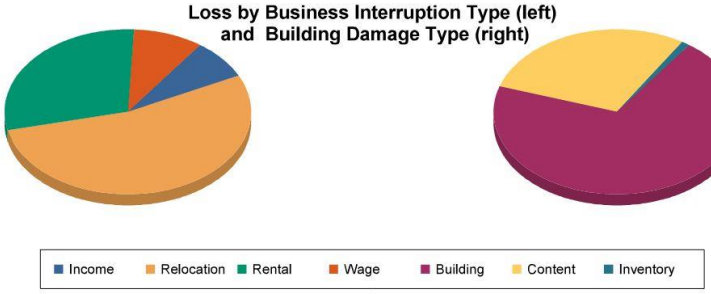
Economic Loss

The total economic loss estimated for the hurricane is 1186.9 million dollars, which represents 3.77 % of the total replacement value of the region's buildings.

Building-Related Losses

The building related losses are broken into two categories: direct property damage losses and business interruption losses. The direct property damage losses are the estimated costs to repair or replace the damage caused to the building and its contents. The business interruption losses are the losses associated with inability to operate a business because of the damage sustained during the hurricane. Business interruption losses also include the temporary living expenses for those people displaced from their homes because of the hurricane.

The total property damage losses were 1,187 million dollars. 14% of the estimated losses were related to the business interruption of the region. By far, the largest loss was sustained by the residential occupancies which made up over 82% of the total loss. Table 5 below provides a summary of the losses associated with the building damage.



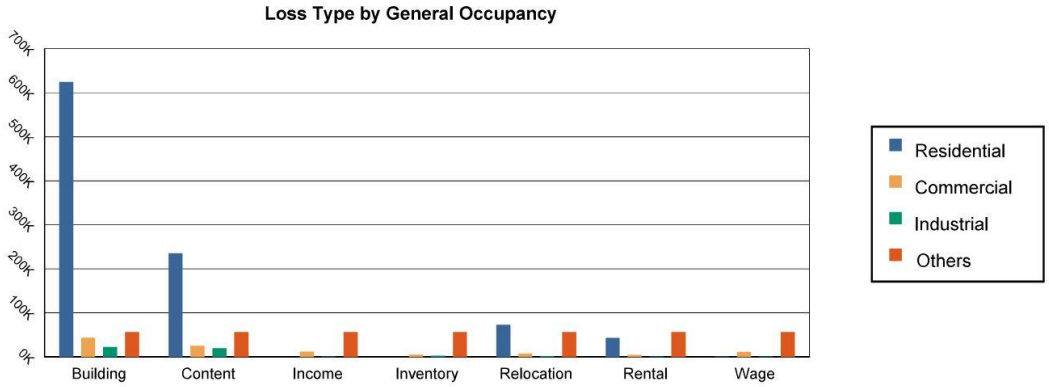


Table 5: Building-Related Economic Loss Estimates

(Thousands of dollars)

Category	Area	Residential	Commercial	Industrial	Others	Total
Property Damage						
	Building	624,711.81	43,322.27	22,007.94	26,897.94	716,939.95
	Content	235,023.02	25,146.11	19,650.08	16,245.32	296,064.52
	Inventory	0.00	5,226.39	2,823.65	4,244.65	12,294.69
	Subtotal	**859,734.83**	**73,694.77**	**44,481.66**	**47,387.90**	**1,025,299.17**
Business Interruption Loss						
	Income	181.20	11,409.83	238.39	567.14	12,396.57
	Relocation	73,067.90	7,117.80	1,542.15	5,061.11	86,788.96
	Rental	42,712.64	4,295.76	301.64	405.85	47,715.89
	Wage	426.86	11,013.39	359.15	2,889.53	14,688.92
	Subtotal	**116,388.60**	**33,836.78**	**2,441.32**	**8,923.62**	**161,590.32**

Total

Total	976,123.43	107,531.55	46,922.98	56,311.53	1,186,889.49

HAZUS™ FEMA

RiskMAP
Increasing Resilience Together

Hazus: Hurricane Global Risk Report

Region Name:	Charlotte2
Hurricane Scenario:	Probabilistic 100-year Return Period
Print Date:	Tuesday, November 12, 2024

Disclaimer:

Totals only reflect data for those census tracts/blocks included in the user's study region.

The estimates of social and economic impacts contained in this report were produced using Hazus loss estimation methodology software which is based on current scientific and engineering knowledge. There are uncertainties inherent in any loss estimation technique. Therefore, there may be significant differences between the modeled results contained in this report and the actual social and economic losses following a specific Hurricane. These results can be improved by using enhanced inventory data.

Building Damage

General Building Stock Damage

Hazus estimates that about 21,503 buildings will be at least moderately damaged. This is over 20% of the total number of buildings in the region. There are an estimated 1,370 buildings that will be completely destroyed. The definition of the 'damage states' is provided in the Hazus Hurricane technical manual. Table 2 below summarizes the expected damage by general occupancy for the buildings in the region. Table 3 summarizes the expected damage by general building type.

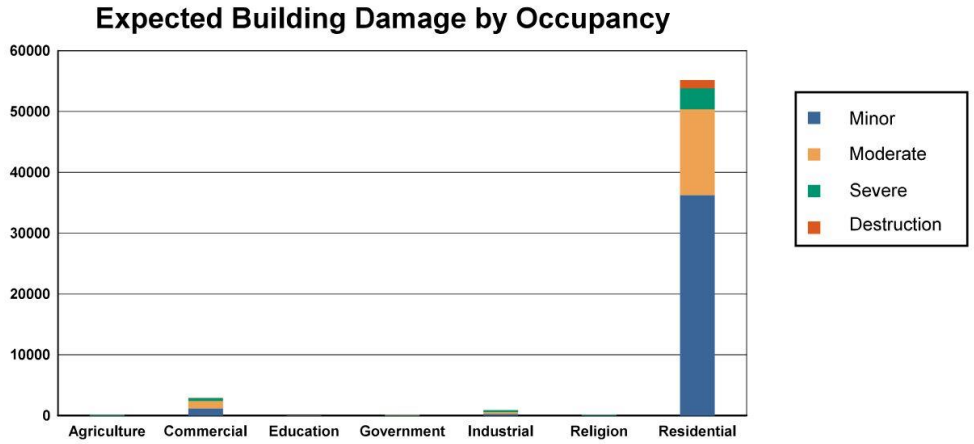


Table 2: Expected Building Damage by Occupancy : 100 - year Event

	None		Minor		Moderate		Severe		Destruction	
Occupancy	**Count**	**(%)**	**Count**	**(%)**	**Count**	**(%)**	**Count**	**(%)**	**Count**	**(%)**
Agriculture	75	37.66	50	25.17	36	18.15	32	15.85	6	3.17
Commercial	2,156	42.66	1,214	24.01	1,204	23.81	468	9.27	13	0.26
Education	27	37.32	17	23.12	22	30.80	6	8.75	0	0.01
Government	59	33.28	38	21.51	62	34.61	19	10.58	0	0.01
Industrial	588	39.63	280	18.87	334	22.48	270	18.23	12	0.79
Religion	109	43.39	72	28.39	50	20.02	21	8.19	0	0.01
Residential	45,494	45.19	36,231	35.99	14,150	14.06	3,460	3.44	1,338	1.33
Total	**48,509**		**37,902**		**15,858**		**4,276**		**1,370**	

Table 3: Expected Building Damage by Building Type : 100 - year Event

Building Type	None		Minor		Moderate		Severe		Destruction	
	Count	(%)	Count	(%)	Count	(%)	Count	(%)	Count	(%)
Concrete	1,621	43.13	800	21.29	866	23.03	472	12.55	0	0.00
Masonry	20,718	44.17	17,816	37.99	6,413	13.67	1,515	3.23	438	0.93
MH	6,478	65.95	1,337	13.61	1,153	11.74	185	1.88	670	6.82
Steel	2,994	38.53	1,213	15.60	2,268	29.19	1,217	15.67	79	1.01
Wood	17,376	43.82	16,142	40.71	5,005	12.62	847	2.14	280	0.71

Essential Facility Damage

Before the hurricane, the region had 727 hospital beds available for use. On the day of the hurricane, the model estimates that 519 hospital beds (71%) are available for use by patients already in the hospital and those injured by the hurricane. After one week, 100% of the beds will be in service. By 30 days, 100% will be operational.

Thematic Map of Essential Facilities

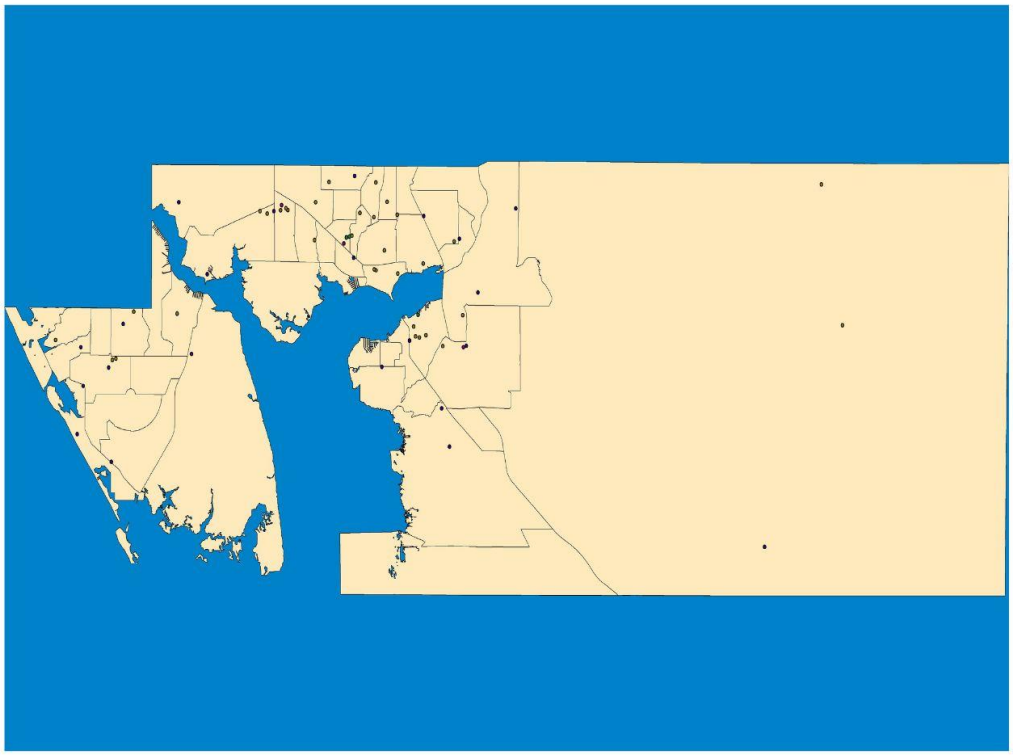
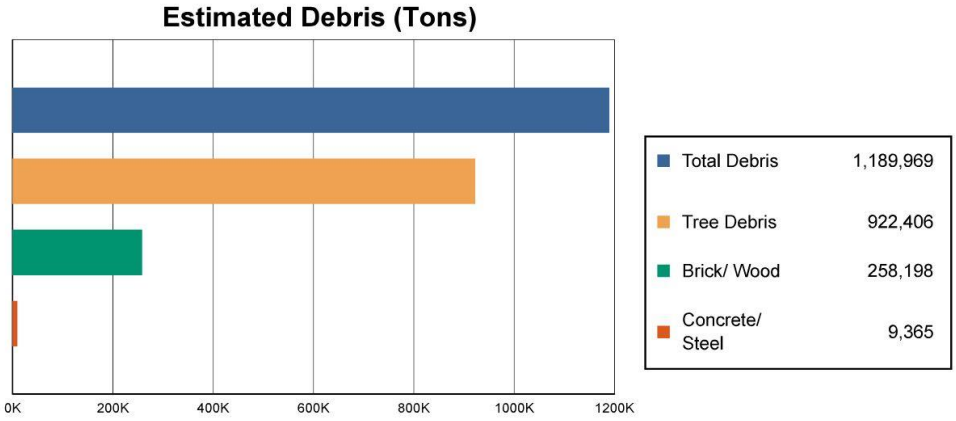


Table 4: Expected Damage to Essential Facilities

Classification	Total	# Facilities		
		Probability of at Least Moderate Damage > 50%	Probability of Complete Damage > 50%	Expected Loss of Use < 1 day
EOCs	1	0	0	1
Fire Stations	22	0	0	22
Hospitals	3	3	0	2
Police Stations	5	0	0	5
Schools	37	19	0	0

Induced Hurricane Damage

Debris Generation



Hazus estimates the amount of debris that will be generated by the hurricane. The model breaks the debris into four general categories: a) Brick/Wood, b) Reinforced Concrete/Steel, c) Eligible Tree Debris, and d) Other Tree Debris. This distinction is made because of the different types of material handling equipment required to handle the debris.

The model estimates that a total of 1,189,969 tons of debris will be generated. Of the total amount, 809,246 tons (68%) is Other Tree Debris. Of the remaining 380,723 tons, Brick/Wood comprises 68% of the total, Reinforced Concrete/Steel comprises of 2% of the total, with the remainder being Eligible Tree Debris. If the building debris tonnage is converted to an estimated number of truckloads, it will require 10703 truckloads (@25 tons/truck) to remove the building debris generated by the hurricane. The number of Eligible Tree Debris truckloads will depend on how the 113,160 tons of Eligible Tree Debris are collected and processed. The volume of tree debris generally ranges from about 4 cubic yards per ton for chipped or compacted tree debris to about 10 cubic yards per ton for bulkier, uncompacted debris.

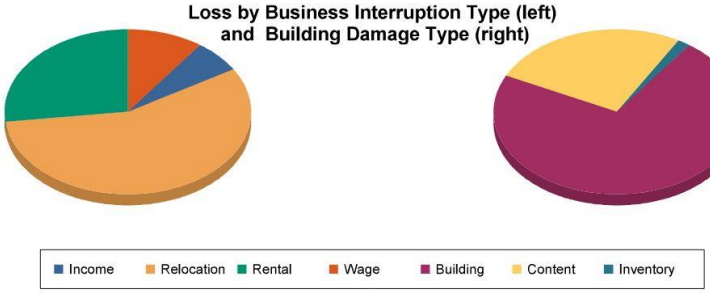
Economic Loss

The total economic loss estimated for the hurricane is 3224.1 million dollars, which represents 10.25 % of the total replacement value of the region's buildings.

Building-Related Losses

The building related losses are broken into two categories: direct property damage losses and business interruption losses. The direct property damage losses are the estimated costs to repair or replace the damage caused to the building and its contents. The business interruption losses are the losses associated with inability to operate a business because of the damage sustained during the hurricane. Business interruption losses also include the temporary living expenses for those people displaced from their homes because of the hurricane.

The total property damage losses were 3,224 million dollars. 16% of the estimated losses were related to the business interruption of the region. By far, the largest loss was sustained by the residential occupancies which made up over 72% of the total loss. Table 5 below provides a summary of the losses associated with the building damage.



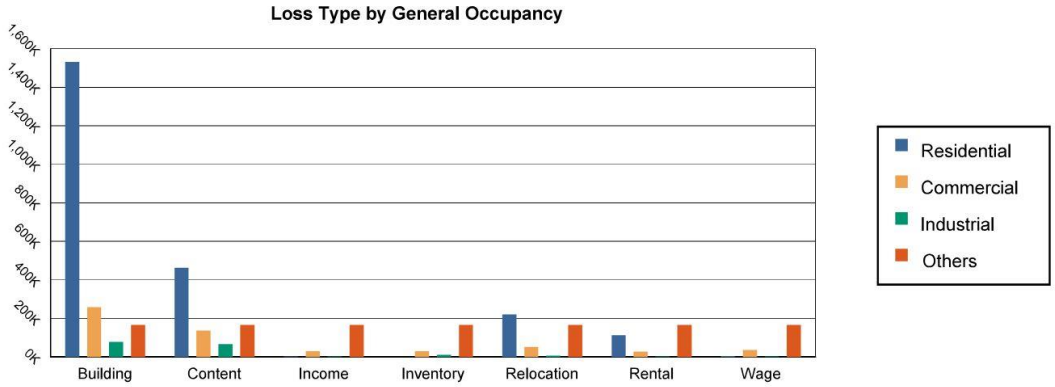


Table 5: Building-Related Economic Loss Estimates

(Thousands of dollars)

Category	Area	Residential	Commercial	Industrial	Others	Total
Property Damage						
	Building	1,531,145.88	258,105.52	77,727.54	84,952.38	1,951,931.33
	Content	462,130.27	136,593.86	65,886.90	44,464.37	709,075.40
	Inventory	0.00	28,491.84	10,011.89	3,851.72	42,355.46
	Subtotal	**1,993,276.16**	**423,191.23**	**153,626.33**	**133,268.47**	**2,703,362.18**
Business Interruption Loss						
	Income	1,596.11	29,129.60	1,049.08	1,802.83	33,577.61
	Relocation	220,134.51	50,489.90	6,268.45	18,404.13	295,296.98
	Rental	111,012.71	26,098.69	1,077.85	1,730.34	139,919.59
	Wage	3,751.14	35,567.98	1,716.85	10,950.88	51,986.86
	Subtotal	**336,494.47**	**141,286.17**	**10,112.22**	**32,888.18**	**520,781.04**

Total

Total	2,329,770.62	564,477.39	163,738.56	166,156.66	3,224,143.23

HAZUS™ FEMA

RiskMAP
Increasing Resilience Together

Hazus: Hurricane Global Risk Report

Region Name: Charlotte2

Hurricane Scenario: Probabilistic 500-year Return Period

Print Date: Tuesday, November 12, 2024

Disclaimer:

Totals only reflect data for those census tracts/blocks included in the user's study region.

The estimates of social and economic impacts contained in this report were produced using Hazus loss estimation methodology software which is based on current scientific and engineering knowledge. There are uncertainties inherent in any loss estimation technique. Therefore, there may be significant differences between the modeled results contained in this report and the actual social and economic losses following a specific Hurricane. These results can be improved by using enhanced inventory data.

Building Damage

General Building Stock Damage

Hazus estimates that about 56,991 buildings will be at least moderately damaged. This is over 53% of the total number of buildings in the region. There are an estimated 8,900 buildings that will be completely destroyed. The definition of the 'damage states' is provided in the Hazus Hurricane technical manual. Table 2 below summarizes the expected damage by general occupancy for the buildings in the region. Table 3 summarizes the expected damage by general building type.

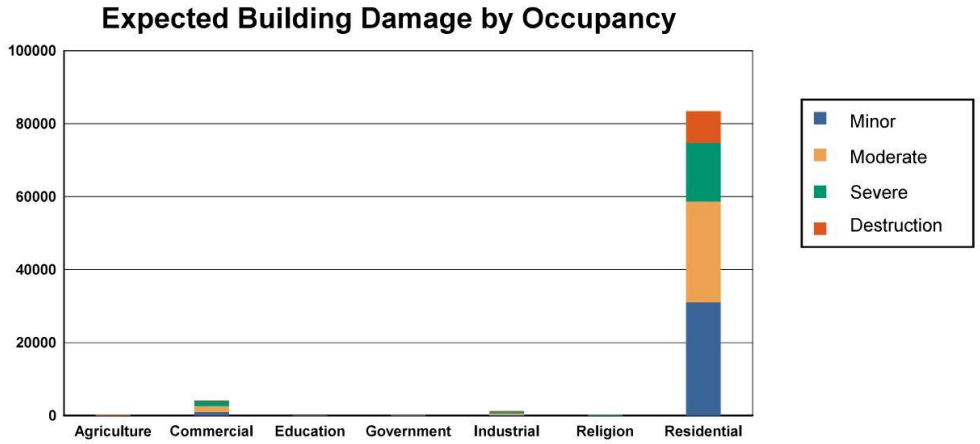


Table 2: Expected Building Damage by Occupancy : 500 - year Event

	None		Minor		Moderate		Severe		Destruction	
Occupancy	**Count**	**(%)**	**Count**	**(%)**	**Count**	**(%)**	**Count**	**(%)**	**Count**	**(%)**
Agriculture	42	21.35	45	22.69	50	25.09	45	22.42	17	8.44
Commercial	906	17.93	990	19.59	1,589	31.43	1,460	28.88	110	2.17
Education	14	18.70	13	18.21	26	36.11	20	26.76	0	0.22
Government	37	20.51	32	17.78	68	38.07	42	23.50	0	0.15
Industrial	249	16.79	216	14.58	380	25.60	561	37.83	77	5.19
Religion	43	16.87	62	24.67	78	30.96	67	26.58	2	0.91
Residential	17,247	17.13	31,027	30.82	27,660	27.47	16,046	15.94	8,694	8.64
Total	**18,537**		**32,386**		**29,851**		**18,240**		**8,900**	

Table 3: Expected Building Damage by Building Type : 500 - year Event

Building Type	None		Minor		Moderate		Severe		Destruction	
	Count	(%)	Count	(%)	Count	(%)	Count	(%)	Count	(%)
Concrete	678	18.04	538	14.32	986	26.22	1,555	41.37	2	0.05
Masonry	7,431	15.84	15,162	32.33	13,133	28.00	7,572	16.14	3,602	7.68
MH	3,406	34.67	1,532	15.60	1,889	19.23	666	6.78	2,329	23.71
Steel	1,309	16.84	754	9.70	2,241	28.84	3,056	39.32	412	5.30
Wood	6,294	15.87	14,003	35.32	11,463	28.91	5,223	13.17	2,668	6.73

Essential Facility Damage

Before the hurricane, the region had 727 hospital beds available for use. On the day of the hurricane, the model estimates that 0 hospital beds (0%) are available for use by patients already in the hospital and those injured by the hurricane. After one week, 29% of the beds will be in service. By 30 days, 100% will be operational.

Thematic Map of Essential Facilities

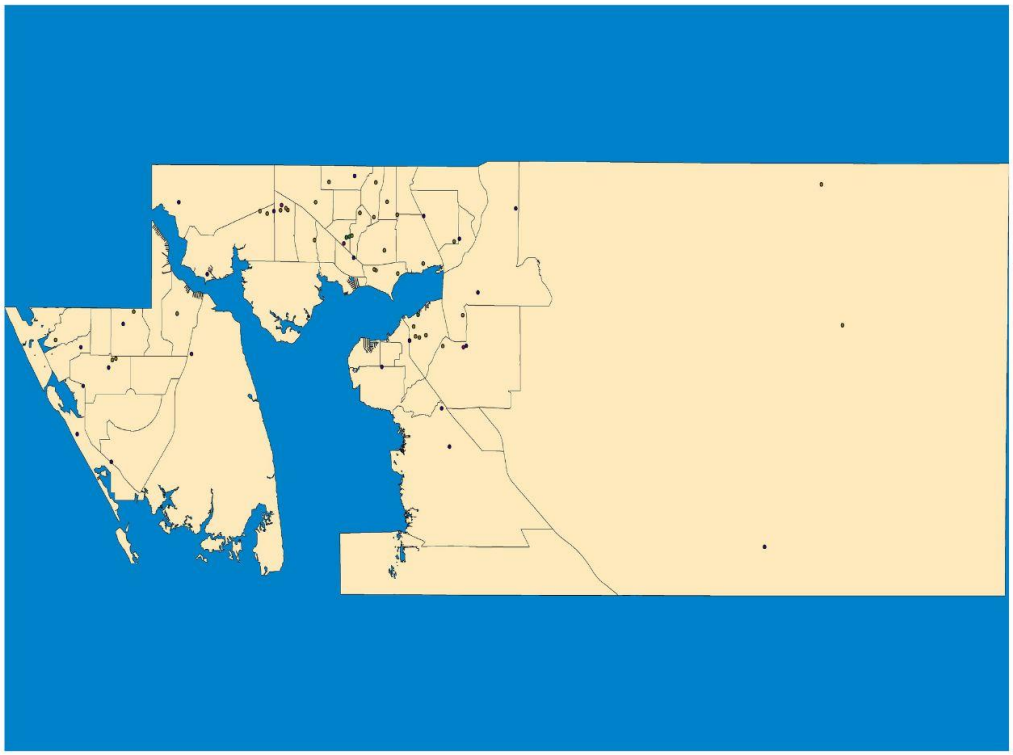
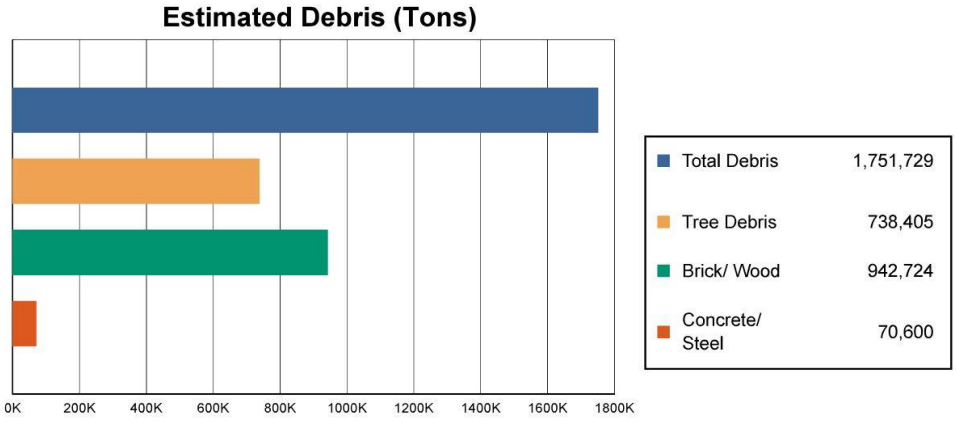


Table 4: Expected Damage to Essential Facilities

Classification	Total	# Facilities		
		Probability of at Least Moderate Damage > 50%	Probability of Complete Damage > 50%	Expected Loss of Use < 1 day
EOCs	1	1	0	1
Fire Stations	22	15	0	20
Hospitals	3	3	0	0
Police Stations	5	5	0	3
Schools	37	34	0	0

Induced Hurricane Damage

Debris Generation



Hazus estimates the amount of debris that will be generated by the hurricane. The model breaks the debris into four general categories: a) Brick/Wood, b) Reinforced Concrete/Steel, c) Eligible Tree Debris, and d) Other Tree Debris. This distinction is made because of the different types of material handling equipment required to handle the debris.

The model estimates that a total of 1,751,729 tons of debris will be generated. Of the total amount, 571,858 tons (33%) is Other Tree Debris. Of the remaining 1,179,871 tons, Brick/Wood comprises 80% of the total, Reinforced Concrete/Steel comprises of 6% of the total, with the remainder being Eligible Tree Debris. If the building debris tonnage is converted to an estimated number of truckloads, it will require 40533 truckloads (@25 tons/truck) to remove the building debris generated by the hurricane. The number of Eligible Tree Debris truckloads will depend on how the 166,547 tons of Eligible Tree Debris are collected and processed. The volume of tree debris generally ranges from about 4 cubic yards per ton for chipped or compacted tree debris to about 10 cubic yards per ton for bulkier, uncompacted debris.

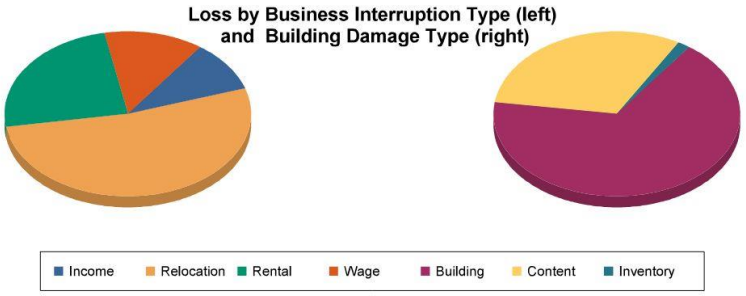
Economic Loss

The total economic loss estimated for the hurricane is 11645.8 million dollars, which represents 37.02 % of the total replacement value of the region's buildings.

Building-Related Losses

The building related losses are broken into two categories: direct property damage losses and business interruption losses. The direct property damage losses are the estimated costs to repair or replace the damage caused to the building and its contents. The business interruption losses are the losses associated with inability to operate a business because of the damage sustained during the hurricane. Business interruption losses also include the temporary living expenses for those people displaced from their homes because of the hurricane.

The total property damage losses were 11,646 million dollars. 15% of the estimated losses were related to the business interruption of the region. By far, the largest loss was sustained by the residential occupancies which made up over 73% of the total loss. Table 5 below provides a summary of the losses associated with the building damage.



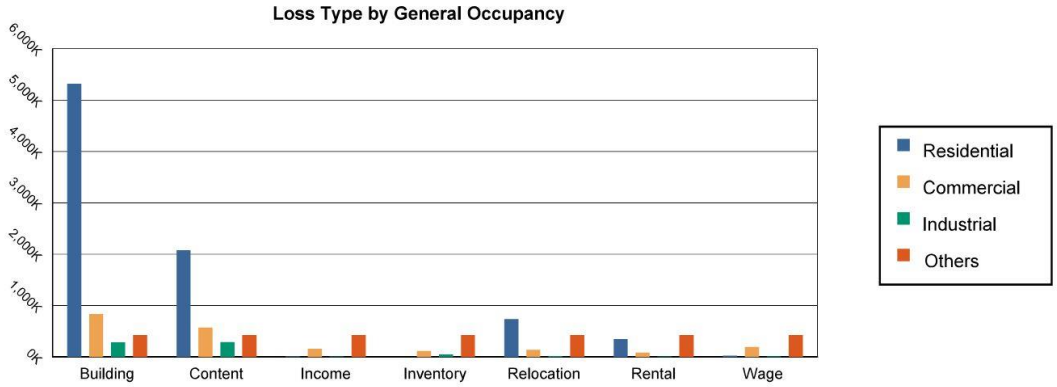


Table 5: Building-Related Economic Loss Estimates

(Thousands of dollars)

Category	Area	Residential	Commercial	Industrial	Others	Total
Property Damage						
	Building	5,314,779.54	833,489.54	282,163.01	220,516.57	6,650,948.65
	Content	2,071,583.74	568,254.93	284,493.11	140,658.73	3,064,990.51
	Inventory	0.00	115,194.09	44,897.94	4,976.92	165,068.95
	Subtotal	**7,386,363.27**	**1,516,938.56**	**611,554.06**	**366,152.23**	**9,881,008.12**
Business Interruption Loss						
	Income	10,256.62	158,541.20	4,107.32	2,148.66	175,053.80
	Relocation	734,211.26	135,723.35	13,980.80	41,671.35	925,586.75
	Rental	344,074.97	80,043.51	3,425.90	4,046.35	431,590.73
	Wage	24,105.02	190,765.70	6,741.37	10,912.95	232,525.05
	Subtotal	**1,112,647.88**	**565,073.75**	**28,255.39**	**58,779.31**	**1,764,756.33**

Total

Total	8,499,011.15	2,082,012.31	639,809.45	424,931.54	11,645,764.45

Appendix A: County Listing for the Region

Florida
- Charlotte

Appendix B: Regional Population and Building Value Data

		Building Value (thousands of dollars)		
	Population	Residential	Non-Residential	Total
Florida				
Charlotte	186,847	23,641,926	7,820,216	31,462,142
Total	**186,847**	**23,641,926**	**7,820,216**	**31,462,142**
Study Region Total	**186,847**	**23,641,926**	**7,820,216**	**31,462,142**

Appendix C - Charlotte County Flood Warning Plan

MEMORANDUM

Date: 10-28-2024

To: CHARLOTTE COUNTY BOARD OF COUNTY COMMISSIONERS

From: Bradley Geelen, Emergency Management Coordinator

Subject: Floodplain Management Plan Progress Report

The Charlotte County Local Mitigation Strategy (LMS) has been adopted by the Board of County Commissioners by resolution as the Floodplain Management Plan for Charlotte County. The LMS is maintained by a committee of government and non-government individuals who monitor and revise the plan as needed. The following is a progress report for 2023/2024. A copy of this memorandum is being made available to the public through a posting on the County's website at https://www.charlottecountyfl.gov/departments/public-safety/emergency-management/flood/index.stml

1.Background

The Charlotte County Office of Emergency Management initiated the LMS process in 1999. The original plan was revised to comply with the Federal Disaster Mitigation Act of 2000. The LMS has since been reviewed in 2020 by the Florida Division of Emergency Management and re- adopted by the Board of County Commissioners. The plan is based on a risk analysis of the most common causes of flooding that may affect Charlotte County.

The LMS identifies projects that can reduce the impact of flooding and reduce the losses that can occur. Properties identified by the National Flood Insurance Program as Repetitive Loss Properties and Severe Repetitive Loss Properties have been included as an action item in the LMS since its inception.

The LMS relies on grant funding to achieve many of its goals. The Hazard Mitigation Grant Program (HMGP), awarded after a federal declaration, is the most significant source of funding. Since the adoption of the LMS as the Floodplain Management Plan the County has been granted funding as a result of tropical systems that affected the area. The largest amount of funding was received from Hurricane Ian in 2022, which made landfall in Charlotte County. Many of the mitigation projects listed in the LMS were funded subsequent to that storm, including hardening of County facilities, schools, and shelters. The HMGP also allowed for the City of Punta Gorda to undertake a major storm water project. Charlotte County was impacted by Hurricane Charley in 2004, Hurricane Irma in 2017, Hurricane Idalia in 2023, and most recently indirect impacts from, and Hurricanes Helene and Milton in 2024. The LMS Working

Charlotte County Public Safety
Emergency Management
26571 Airport Road, Punta Gorda, FL 33982

941.833.4000
941.833.4081 fax
CharlotteCountyFL.gov

Group continues to review and revise the plan to address the current needs and seek funding from wherever possible.

2. LMS Action Item Review

The order of the following action items does not reflect prioritization which is decided separately by the LMS Working Group.

Objective 1: Reduce the vulnerability of persons and property from losses from natural disasters.

Status: Ongoing. Tropical cyclones are the most likely threat to cause significant and widespread loss of life and property damage to Charlotte County. The County addresses this objective in several ways. All new construction must comply with strict building codes that require both wind and flood protection. Per the Florida Building Code, all new construction within the Special Flood Hazard Area (SFHA) is required to have the lowest habitable floor 1' above the base flood elevation. Locally, Charlotte County passed an ordinance in 2021 that requires manufactured homes must meet this requirement, which is base flood elevation plus 1 foot to the bottom of the frame. This ensures utilities typically located beneath these structures are kept dry. Structures within the SFHA are also required to obtain base flood elevations as part of the permitting process. All new construction outside of the SFHA is required to be elevated 18 inches above the crown of the roadway to maximize the open drainage system in use in the majority of the county. Preparing for the possibility of storm surge is a major component of the Office of Emergency Management, which has instituted several programs to provide flood warnings to Charlotte County residents and visitors. A webpage, "Know Your Zone", is given prominence on the County website each year allowing for residents to easily determine their evacuation zone and the appropriate actions to take if their area is threatened. Another webpage, "Flood Hazards" includes information about the impacts of sea level rise in Charlotte County with a link to Climate.gov. This webpage link is provided by the National Oceanic and Atmospheric Administration and shows how sea level rise may affect communities. It also includes a resilience toolkit for the public to manage climate risk. The Office of Emergency Management maintains X, Instagram, and Facebook accounts to distribute and receive information from social media. The County also has the ability to send communication to its citizens through the Alert Charlotte Nixle communication system.

The County, through the Community Development Department and the Office of Emergency Management, has identified areas of repetitive loss that include repetitive loss and severe repetitive loss properties. We monitor them, offer mitigation advice to all owners within these areas, and notify them when funding can be secured to aid in eliminating the hazard.

Objective 2: Ensure cooperation between government and non-government entities to enhance mitigation activities.

Status: Ongoing. The LMS Working Group is representative of the community through its members. Invitations are extended to County and City departments, civic organizations, and the

general public. Projects and possible funding sources are discussed in the larger group and a subgroup is tasked with the prioritization of the projects to ensure readiness to apply.

Should the county experience a natural disaster, all segments of government and response organizations are represented in the Emergency Operations Center. A continual program of training and exercising is in place to address preparedness and response activities. The County also maintains an interlocal agreement with the City of Punta Gorda, the county's only incorporated jurisdiction that adopts the LMS and accepts it as the Floodplain Management Plan. Adoption of the plan and attendance at biannual meetings affirms their commitment to cooperatively address mitigation efforts. The interlocal agreement was reaffirmed and resolved by both political subdivisions with the adoption of the 2020 LMS.

Objective 3: Reduce the vulnerability of critical, public, and historic facilities.

Status: Ongoing. All projects funded through the 2004 HMGP grants have been completed. Additionally, using both public and private funds, two historic structures in the City of Punta Gorda have been retrofitted to a higher standard. All fire stations, the County administration building, and the majority of school facilities, have either been constructed to a higher than code standard or retrofitted since 2004. There are several 2017 Irma HMGP grants in process and nearing completion for wind retrofits and generator installations for critical facilities or utilities. In 2021 DR4486 COVID19 HMGP funds were made available, and the County currently has 3 awarded projects with one pending. In 2023 DR4673 Hurricane Ian HMGP funds were made available, and the County has since submitted 45 projects pending approval for funding.

Objective 4: Strengthen Plans for Post Disaster, Recovery, and Mitigation Plans.

Status: Ongoing. The Charlotte County Comprehensive Emergency Management Plan (CEMP) is updated annually and was approved by the state in 2022 as a part of the 4-year update cycle. The complete plan was adopted by the Board of County Commissioners as the all-hazards response and recovery plan for the County. The CEMP was reviewed and approved by the Florida Division of Emergency Management.

The Local Mitigation Strategy group in in the process of being updated for the 2025 review but was last adopted in 2020 by County and City governments. As a coastal community, Charlotte County is required to look at future conditions in post-disaster recovery efforts as outlined by the Peril of flood legislation passed in 2015, FS 163.71.38. This language is included in the Comprehensive Plan updated in 2023. A designated Long-term Recovery Group is working diligently on the further development and refinement of the County's Long-term Recovery Plan. The Long-term Recovery plan addresses unmet needs and resiliency to infrastructure for future disasters.

Objective 5: Public outreach and education to ensure residents are aware of changes and any options they have to mitigate or reduce their risk.
Status: Ongoing. The Office of Emergency Management has a continuing public awareness program to promote preparedness and response to hazardous weather. The office produces and distributes thousands of all-hazard guides annually, conducts numerous expos and seminars, and maintains a public website providing preparedness information: https://www.charlottecountyfl.gov/departments/public-safety/emergency-management/

The Community Development Department maintains the Community Rating System for the NFIP and has also managed the FEMA Coastal Risk flood map update. These preliminary flood maps became effective on December 15th, 2022. Community Development regularly contacts owners of repetitive loss and severe repetitive loss properties and offers flood safety and protective construction methods seminars. Citizens with flood questions are able to reach out to the floodplain coordinator for further assistance. Charlotte County developed a Program for Public Information (PPI) plan and committee in 2021. The City of Punta Gorda adopted the PPI plan and joined the committee in 2022 making it a unified plan. The committee has public stakeholders from the real estate industry, banking industry, and insurance industry. Annual committee meetings review and develop outreach projects for the community.

Objective 6: Protect and acquire unique natural habitats and wetlands as part of the flood protection system.
Status: Ongoing. In the last several years, the County has acquired 2,534+ acres of unique natural habitats and wetlands to be preserved as green space. These areas, along with more than 40,000 acres of the Charlotte Harbor Preserve State Park, protects more than 50 miles of Charlotte County's shoreline. All the preserved areas are in both AE and VE zones, with base flood elevations ranging from a low of eight feet up to a maximum of 26 feet above sea level.

3. Community Rating System

The Community Development is responsible for the maintenance of the Community Rating System. Charlotte County joined the CRS program in 1993, and currently has a CRS Class rating of 5. Charlotte County is currently undergoing the FEMA 3-year verification audit of the Community Rating System.. Charlotte County improved from a Class 6 community to a Class 5 community in 2022.This improvement gave citizens an additional 5% discount (25% total) on their flood insurance premiums. Community Development continues to review flood protection related activities outlined in the current CRS manual that can create a safer community and further improve the CRS rating.

CHARLOTTE COUNTY
FLORIDA

4. Prioritized Project Status

Repetitive loss properties are always included on the prioritized projects list in the LMS and outreach occurs annually. Previous funding was secured for Severe Repetitive Loss Grant to demolish, elevate, and rebuild a residence in Charlotte Harbor. The LMS Working Group has met and discussed funding opportunities, reviewed the prioritized project list, removed the projects that have been completed, added new projects, and reprioritized the list.

5. Recommendations

Homeowners in the SFHA are continuously being sought in an effort to submit their property for mitigation grants. Available grant options include two federal programs: The Flood Mitigation Assistance Program, the Building Resilient Infrastructure Communities Program, and one State program: The Hazard Mitigation Grant Program. The Office of Emergency Management and the Community Development Department will continue to seek projects and funding sources to mitigate the County's hazard vulnerability. The County submitted five HMGP applications in 2018. Four of those applications have been approved for mitigation project impacting the entire county and its municipality.

Bradley Geelen
EM Coordinator
LMS Chair

Charlotte County Public Safety
Emergency Management
26571 Airport Road, Punta Gorda, FL 33982

941.833.4000
941.833.4081 fax
CharlotteCountyFL.gov

Appendix D - Project List with notes

S6 (C4-b) Each plan participant must identify one or more mitigation actions the participant(s) intends to implement for each hazard addressed in the risk assessment.

S8 (C5-b) The action plan must identify who is responsible for administering each action, along with the action's potential funding sources and expected time frames for completion.

Rank	Description of Project or Initiative	Hazards Mitigated	Mitigation Goals Achieved	Potential Funding Source	Jurisdiction (Location)	Agency Responsible for Implementation	Estimated Costs	Status				Timeframe to Complete
	The projects located in this color are currently in progress for completion.				Projects in this color are completed.			New	Ongoing	Deferred	If Deferred Why?	
	Harold Ave Recreation Center Wind Retrofit	Hurricanes, Tornadoes, Tropical Storms	Yes	HMGP	All jurisdictions in Charlotte County	Charlotte County Facilities and Emergency Management	200,000		Complete			Completed January 2025
	Harold Ave Recreation Center Generator Project	All Hazards	Yes	HMGP	All jurisdictions in Charlotte County	Charlotte County Facilities and Emergency Management	336,000		Complete			Completed January 2025
	Charlotte County Lift Station Generators - Irma HMGP	All Hazards	Yes	HMGP	Charlotte County	Charlotte County Utilities	1,671,000		Complete			Completed January 2025
	Greater Port Charlotte Drainage Control Structure Replacement	Flood	Yes	Mid-County Storm-water MSBU, Grants	All jurisdictions in Charlotte County	Charlotte County Public Works	3,460,000		Complete			Completed June 2020
	Construction of Fire Station 2	Hurricanes, Tropical Storms, Tornadoes	Yes	Capital Projects Fund, 2014 Sales Tax Project	All jurisdictions in Charlotte County	Charlotte County Fire/EMS & CC Facilities	6,275,000		Complete			Completed July 2022
	Construction of Fire Station 10	Hurricanes, Tropical Storms, Tornadoes	Yes	Capital Projects Fund	All jurisdictions in Charlotte County	Charlotte County Fire/EMS & CC Facilities	4,159,000		Complete			Completed February 2022
	Construction of Fire Station 5	Hurricanes, Tropical Storms, Tornadoes	Yes	Capital Projects Fund	All jurisdictions in Charlotte County	Charlotte County Fire/EMS & CC Facilities	5,225,000		Complete			Completed July 2022
	Zemel Road Landfill Scale House	Hurricanes, Tropical Storms, Tornadoes	Yes	Solid Waste Enterprise Fund	All jurisdictions in Charlotte County	Charlotte County Solid Waste	5,518,042		Complete			Completed June 2024
	Corto Andra/ Boca Grande Area Drainage Improve-ments	Flood	Yes	Appropriation, Grants, Capital Improve-ment Fund	City of Punta Gorda	City of Punta Gorda Public Works	4,200,000		Complete			Completed 2019
	Construction of Fire Station 6	Hurricanes, Tropical Storms, Tornadoes	Yes	Capital Projects Fund	All jurisdictions in Charlotte County	Charlotte County Fire/EMS & CC Facilities	4,500,000	Charlotte County Fire & EMS is currently contracted with a professional consultant to perform a countywide evaluation of call response times.				Anticipated Completion 2026
	Construction of Fire Station 3	Hurricanes, Tropical Storms, Tornadoes	Yes	Capital Projects Fund	All jurisdictions in Charlotte County	Charlotte County Fire/EMS & CC Facilities	4,834,000	Charlotte County Fire & EMS is currently contracted with a professional consultant to perform a countywide evaluation of call response times.				Anticipated Completion 2024
	Construction of Fire Station 9	Hurricanes, Tropical Storms, Tornadoes	Yes	Capital Projects Fund	All jurisdictions in Charlotte County	Charlotte County Fire/EMS & CC Facilities	3,677,770	Charlotte County Fire & EMS is currently contracted with a professional consultant to perform a countywide evaluation of call response times.				Anticipated Completion 2025
	Construction of Fire Station 17	Hurricanes, Tropical Storms, Tornadoes	Yes	2020 Sales Tax Project	All jurisdictions in Charlotte County	Charlotte County Fire/EMS & CC Facilities	5,690,000	Charlotte County Fire & EMS is currently contracted with a professional consultant to perform a countywide evaluation of call response times.				Anticipated Completion 2026

	Charlotte County Sheriff Administration and Hardened 911 Facility	Hurricanes, Tropical Storms, Tornadoes	Yes	2020 Sales Tax Project	All jurisdictions in Charlotte County	Charlotte County Sheriff & CC Facilities	45,000,000	Design and construct a modern law enforcement administrative headquarters for Charlotte County Sheriff's Office on land owned by the County. All tilt-panels have been set and Steelwork has begun	Anticipated Completion 2026
	Family Services Center Phase I Generator Project	Hurricanes, Tropical Storms, Tornadoes	Yes	HMGP	All jurisdictions in Charlotte County	Charlotte County Human Services	441,393	Installation of a permanent generator for a critical facility that can provide post storm resources such as servinga s a shelter, cooling station, charging station, POD, Registration Site etc.	Anticipated Completion 2026
	Centennial Park Recreation Center Generator Project	Hurricanes, Tropical Storms, Tornadoes	Yes	HMGP	All jurisdictions in Charlotte County	Charlotte County Community Services	441,393	Installation of a permenant generator for a critical facility that can provide post storm resources such as servinga s a shelter, cooling station, charging station, POD, Registration Site etc.	Anticipated Completion 2026
	Eastport Wastewater Plant Hardening Project New	Hurricanes, Tropical Storms, To rnadoe s	Yes	State Revolving Fund loan, Supplemental Appropriations for Hurricane Ian, Utilities' Capital Improvement Funds	Charlotte County	Charlotte County Utiltiies	109,453,853	Expansion of the East Port Water Reclamation Plant. To increase capacity and harden the new structures.	Anticipated Completion 2026
	Day Christian Church Generator Project	Hurricanes, Tropical Storms, To rnadoe s	Yes	HMGP	All jurisdictions in Charlotte County	Charlotte County Emergency Ma na gem ent	441,393	Submitted under DR-4486. Project was awarded and is pending signed contract.	Anticipated Completion 2026
DR-4673 Hurricane Ian Rankings									
1	Construction of Bissett Park Community Center Saferoom	Hurricanes, Tropical Storms, To rnadoe s	Yes	HMGP	All jurisdictions in Charlotte County	Emergency Management, CC Faciltiies, and Community Services	21,837,371	Submitted under DR-4673.	36 months from award date
2	Charlotte County Special Need Shelter	Hurricanes, Tropical Storms, To rnadoe s	Yes	HMGP	All jurisdictions in Charlotte County	Emergency Management and CC Faciltiies	33,136,230.50	Submitted under DR-4673.	36 months from award date
3	Charlotte Behavioral Healthcare Generator Project	Hurricanes, Tropical Storms, To rnadoe s	Yes	HMGP	All jurisdictions in Charlotte County	Charlotte Behavioral Healthcare	348,285	Submitted under DR-4673.	36 months from award date
4	Charlotte County, Oyster Creek Bridge Hardening	Hurricanes, Tropical Storms, To rnadoe s	Yes	HMGP	Charlotte County	Charlotte County Public Works	688,590.53	Withdrawn due to immediate needs	36 months from award date
5	Charlotte County, Buck Creek Bridge Hardening	Hurricanes, Tropical Storms, To rnadoe s	Yes	HMGP	Charlotte County	Charlotte County Public Works	688,590.53	Withdrawn due to immediate needs	36 months from award date
6	GIWA Wellfield Resiliency Improvements	Hurricanes, Tropical Storms, To rnadoe s	Yes	HMGP	GIWA Clients	GIWA	3,755,306	Submitted under DR-4673.	36 months from award date
7	Charlotte County Department of Health Generator Project	Hurricanes, Tropical Storms, To rnadoe s	Yes	HMGP	All jurisdictions in Charlotte County	Charlotte County Faciltiies and the FDOH	196,540	Submitted under DR-4673.	36 months from award date
8	Charlotte County Event Center Seawall	Hurricanes, Tropical Storms, To rnadoe s	Yes	HMGP	Charlotte County	Charlotte County Community Services	3,209,428.17	Withdrawn	36 months from award date

9	Public Safety Saferoom Project	Hurricanes, Tropical Storms, To rnadoe s	Yes	HMGP	All jurisdictions in Charlotte County	Emergency Management and CC Faciltiies	22,340,340.12	Submitted under DR-4673.	36 months from award date
10	Hardening of Open Outfalls	Hurricanes, Tropical Storms, To rnadoe s	Yes	HMGP	Charlotte County	Charlotte County Public Works	11,316,689.69	Submitted under DR-4673.	36 months from award date
11	Utilities Saferoom Project	Hurricanes, Tropical Storms, To rnadoe s	Yes	HMGP	Charlotte County	Charlotte County Utilities	19,314,581.80	Submitted under DR-4673.	36 months from award date
12	Kingsway Elementary School Portable Generator Project	Hurricanes, Tropical Storms, To rnadoe s	Yes	HMGP	All jurisdictions in Charlotte County	Emergency Management and CC Faciltiies	632,583.17	Submitted under DR-4673.	36 months from award date
13	Traffic Light Mast Arm Hardening	Hurricanes, Tropical Storms, To rnadoe s	Yes	HMGP	Charlotte County	Charlotte County Public Works	7,453,749	Submitted under DR-4673.	36 months from award date
14	Neil Armstrong Elementary School Portable Generator Project	Hurricanes, Tropical Storms, To rnadoe s	Yes	HMGP	All jurisdictions in Charlotte County	Emergency Management and CC Faciltiies	437,491.49	Submitted under DR-4673.	36 months from award date
15	Public Works Saferoom Project	Hurricanes, Tropical Storms, To rnadoe s	Yes	HMGP	Charlotte County	Charlotte County Facilities and Public Works	19,314,581.80	Submitted under DR-4673.	36 months from award date
16	Liberty Elementary School Portable Generator Project	Hurricanes, Tropical Storms, To rnadoe s	Yes	HMGP	All jurisdictions in Charlotte County	Emergency Management and CC Faciltiies	437,491.49	Submitted under DR-4673.	36 months from award date
17	Burnt Store Drinking Water Wells Portable G enerators	Hurricanes, Tropical Storms, To rnadoe s	Yes	HMGP	Charlotte County	Charlotte County Utilities	48,814.51	Submitted under DR-4673.	36 months from award date
18	Fire Station 4 Generator Project	Hurricanes, Tropical Storms, To rnadoe s	Yes	HMGP	Charlotte County	Charlotte County Faciltiies and Charlotte County Fire and EMS	120,678.62	Submitted under DR-4673.	36 months from award date
19	Fire Station 13 Generator	Hurricanes, Tropical Storms, To rnadoe s	Yes	HMGP	Charlotte County	Charlotte County Faciltiies and Charlotte County Fire and EMS	220,968	Submitted under DR-4673.	36 months from award date
20	Port Charlotte Beach Park Floating Break Water and Pier Stabilization/Livi ng Shoreline	Hurricanes, Tropical Storms, To rnadoe s	Yes	HMGP	Charlotte County	Charlotte County Community Services	1,076,241	Submitted under DR-4673.	36 months from award date
21	Leachate Plant Generator Project	Hurricanes, Tropical Storms, To rnadoe s	Yes	HMGP	All jurisdictions in Charlotte County	Charlotte County Public Works	502,793.60	Submitted under DR-4673.	36 months from award date
22	Burnt Store Plant Saferoom and Generator	Hurricanes, Tropical Storms, To rnadoe s	Yes	HMGP	Charlotte County	Chalotte County Facilities and Utilities	2,423,781.29	Submitted under DR-4673.	36 months from award date

23	South County Recreation Center Generator Project	Hurricanes, Tropical Storms, To rnadoe s	Yes	HMGP	All jurisdictions in Charlotte County	Charlotte County Facilities and Community Services	304,770.32	Submitted under DR-4673.	36 months from award date
24	Charlotte County Lift Station Portable G enerators	Hurricanes, Tropical Storms, To rnadoe s	Yes	HMGP	Charlotte County	Charlotte County Utilities	650,681.07	Submitted under DR-4673.	36 months from award date
25	Burnt Store Plant Lift Station Permanent G enerators	Hurricanes, Tropical Storms, To rnadoe s	Yes	HMGP	Charlotte County	Charlotte County Utilities	248,930.75	Submitted under DR-4673.	36 months from award date
26	Rotonda Plant Lift Station Permanent G enerators	Hurricanes, Tropical Storms, To rnadoe s	Yes	HMGP	Charlotte County	Charlotte County Utilities	167,171.14	Submitted under DR-4673.	36 months from award date
27	East Port Plant Lift Station Permanent G enerators	Hurricanes, Tropical Storms, To rnadoe s	Yes	HMGP	Charlotte County	Charlotte County Utilities	1,175,434.20	Submitted under DR-4673.	36 months from award date
28	Tringali Campus Generator Projects	Hurricanes, Tropical Storms, To rnadoe s	Yes	HMGP	All jurisdictions in Charlotte County	Charlotte County Facilities and Community Services	328,558.08	Submitted under DR-4673.	36 months from award date
29	Ann and Chuck Dever Rec Center Portable Generator Project	Hurricanes, Tropical Storms, To rnadoe s	Yes	HMGP	All jurisdictions in Charlotte County	Charlotte County Facilities and Community Services	161,334.21	Submitted under DR-4673.	36 months from award date
30	Westport Plant Lift Station Permanent Generator	Hurricanes, Tropical Storms, To rnadoe s	Yes	HMGP	Charlotte County	Charlotte County Utilities	96,946.72	Submitted under DR-4673.	36 months from award date
31	Punta Gorda Charlotte Library Portable Generator Project	Hurricanes, Tropical Storms, To rnadoe s	Yes	HMGP	All jurisdictions in Charlotte County	Charlotte County Facilities and Community Services	144,502.92	Submitted under DR-4673.	36 months from award date
32	Family Services Center Phase 2 Generator Project	Hurricanes, Tropical Storms, To rnadoe s	Yes	HMGP	All jurisdictions in Charlotte County	Charlotte County Facilities and Human Services	144,334.27	Submitted under DR-4673.	36 months from award date
33	West County Annex Generator Project	Hurricanes, Tropical Storms, To rnadoe s	Yes	HMGP	Charlotte County	Charlotte County Faciltiies	243,915.35	Submitted under DR-4673.	36 months from award date
34	Highway Light Post Hardening	Hurricanes, Tropical Storms, To rnadoe s	Yes	HMGP	All jurisdictions in Charlotte County	Charlotte County Public Works	4,295,550.08	Submitted under DR-4673.	36 months from award date
35	Bayshore Live Oak Point Seawall/Living Shorel i ne	Hurricanes, Tropical Storms, To rnadoe s	Yes	HMGP	Charlotte County	Charlotte County Community Services	1,071,668.61	Withdrawn and pursuing 406 mitigation through Public Assistance	36 months from award date
36	Grace Street Annex Generator Project	Hurricanes, Tropical Storms, To rnadoe s	Yes	HMGP	Charlotte County	Charlotte County Faciltiies	115,376.93	Submitted under DR-4673.	36 months from award date
37	Carmalita Park Portable Generator	Hurricanes, Tropical Storms, To rnadoe s	Yes	HMGP	All jurisdictions in Charlotte County	Charlotte County Facilities and Community Services	133,542.93	Submitted under DR-4673.	36 months from award date

38	Centennial Park Portable Generators	Hurricanes, Tropical Storms, To rnadoe s	Yes	HMGP	All jurisdictions in Charlotte County	Charlotte County Facilities and Community Services	227,266.37	Submitted under DR-4673.	36 months from award date
39	Harold Ave Portable Generators	Hurricanes, Tropical Storms, To rnadoe s	Yes	HMGP	All jurisdictions in Charlotte County	Charlotte County Facilities and Community Services	227,266.37	Submitted under DR-4673.	36 months from award date
40	South County Regional Park Portable G enerators	Hurricanes, Tropical Storms, To rnadoe s	Yes	HMGP	All jurisdictions in Charlotte County	Charlotte County Facilities and Community Services	227,266.37	Submitted under DR-4673.	36 months from award date
41	Public Works Florida Street Generators (Admin and IT Switch)	Hurricanes, Tropical Storms, To rnadoe s	Yes	HMGP	Charlotte County	Charlotte County Facilities and Public Works	119,956.51	Submitted under DR-4673.	36 months from award date
42	Franz Ross Park Portable Generator Project	Hurricanes, Tropical Storms, To rnadoe s	Yes	HMGP	All jurisdictions in Charlotte County	Charlotte County Facilities and Community Services	178,708.05	Submitted under DR-4673.	36 months from award date
43	Bob Pryor Employee Health Clinic Generator Project	Hurricanes, Tropical Storms, To rnadoe s	Yes	HMGP	Charlotte County	Charlotte County Facilities	119,550.19	Submitted under DR-4673.	36 months from award date
44	Charlotte County Fleet Management and Maintenance Portable Generator Project	Hurricanes, Tropical Storms, To rnadoe s	Yes	HMGP	Charlotte County	Charlotte County Fleet	196,616.52	Submitted under DR-4673.	36 months from award date
45	Public Works Sinatra Yard Generator Project	Hurricanes, Tropical Storms, To rnadoe s	Yes	HMGP	Charlotte County	Charlotte County Facilities and Public Works	79,398	Submitted under DR-4673.	36 months from award date
46	Public Works San Casa Yard Generator Project	Hurricanes, Tropical Storms, To rnadoe s	Yes	HMGP	Charlotte County	Charlotte County Facilities and Public Works	87,378.41	Submitted under DR-4673.	36 months from award date
					DR-4734 Hurricane Idalia Rankings				
1	West Port Equalization Holding Tanks	Hurricanes, Tropical Storms, To rnadoe s	Yes	HMGP	Charlotte County	Charlotte County Utilities	8,042,889.56	Submitted under DR-4734.	36 months from award date
2	Eastport Emergency Support Lift Station Generators (4)	Hurricanes, Tropical Storms, To rnadoe s	Yes	HMGP	Charlotte County	Charlotte County Utilities	317,592.02	Submitted under DR-4734.	36 months from award date
3	Eastport Shelter Lift Station Generators (2)	Hurricanes, Tropical Storms, To rnadoe s	Yes	HMGP	Charlotte County	Charlotte County Utilities	181,076.69	Submitted under DR-4734.	36 months from award date
4	Utilities Emergency Interconnect with Punta Gorda	Hurricanes, Tropical Storms, To rnadoe s	Yes	HMGP	Charlotte County, and City of Punta Gorda	Charlotte County Utilities and Punta Gorda Utilities	3,158,654.71	Project withdrawn. Deferred.	36 months from award date
5	Utilities Lab Saferoom	Hurricanes, Tropical Storms, To rnadoe s	Yes	HMGP	Charlotte County	Charlotte County Utilities	2,937,222.41	Submitted under DR-4734.	36 months from award date
6	New Day Christian Church Wind Retrofit	Hurricanes, Tropical Storms, To rnadoe s	Yes	HMGP		Charlotte County Emergency Ma na gem ent	66,074.98	Project withdrawn. Deferred.	36 months from award date

7	Charlotte County Public Schools Wind Retrofit	Hurricanes, Tropical Storms, To rnadoe s	Yes	HMGP	Charlotte County Public Schools	Charlotte County Public Schools	4,053,500.00	Submitted under DR-4734.	36 months from award date
8	Placida Residential Parcel Acquisition	Hurricanes, Tropical Storms, F lo oding	Yes	HMGP	Charlotte County	Charlotte County and the Resident	8,197,217.31	Submitted under DR-4734.	36 months from award date
9	Residential Property Elevation - 121 Dolly Street	Hurricanes, Tropical Storms, F lo oding	Yes	HMGP	City of Punta Gorda and Charlotte County	Charlotte County and the Resident	257,468.99	Submitted under DR-4734.	36 months from award date
10	Residential Property Reconstruction - 9271 Pine Cove	Hurricanes, Tropical Storms, F lo oding	Yes	HMGP	Charlotte County	Charlotte County and the Resident	320,324.66	Submitted under DR-4734.	36 months from award date
Projects Pending Notices of Funding Opportunity (Ongoing and Deferred)									
	Elevation of Historic Home 109 Dolly St	Hurricanes, Tropical Storms, F lo oding	Yes	HMGP, BRIC, FMA, Elevate Florida	City of Punta Gorda	City of Punta Gorda	200,000	Will be submitted under BRIC FY25	36 months from award date
	Living Shoreline Expansion Shreve Park, Pittman Park, Alice Park and Trabue Park_Punta Gorda FL	Hurricanes, Tropical Storms, F lo oding	Yes	HMGP, BRIC, DEP	City of Punta Gorda	City of Punta Gorda	3,500,000	Will be submitted under BRIC FY25	36 months from award date
	Septic to Sewer Area 1 Punta Gorda Fl	Hurricanes, Tropical Storms, F lo oding	Yes	BRIC	City of Punta Gorda	City of Punta Gorda Utilities	14,300,000	Will be submitted under BRIC FY25	36 months from award date
	Shell Creek Reverse Osmosis Expansion Water Treatment Plant - Punta Gorda, FL	Hurricanes, Tropical Storms, F lo oding	Yes	HMGP, BRIC	City of Punta Gorda	City of Punta Gorda Utilities	14,300,000	Will be submitted under BRIC FY25	36 months from award date
	Charlotte Prep Wind Retrofit	Hurricanes, Tropical Storms, To rnadoe s	Yes	HMGP, BRIC, HLMP	Charlotte County	Charlotte County Emergency Management	TBD	Deferred until funding is available	36 months from award date
	Charlotte County Jail Generator Enclosures	Hurricanes, Tropical Storms, To rnadoe s	Yes	HMGP, BRIC	Charlotte County	Charlotte County Facilities	TBD	Deferred until funding is available	36 months from award date
	Stabilization of the Desoto Ditch - Harbor Heights Side Water	Hurricanes, Tropical Storms, F lo oding	Yes	HMGP, BRIC, FMA	Charlotte county	Charlotte County Public Works	TBD	Deferred until funding is available	36 months from award date
	Quality/Water Flow and Elevation Monitoring		Yes	HMGP, BRIC, FMA	Charlotte county	Charlotte County Water Quality	TBD	Deferred until funding is available	36 months from award date
	Acquisition of Green Space in NW Port Charlotte	Hurricanes, Tropical Storms, F lo oding	Yes	HMGP, BRIC, FMA	Charlotte county	Charlotte County Community Services	TBD	Deferred until funding is available	36 months from award date
	Installation of Fiber Lines for Burnt Store Pl ant Charlotte County Sports Park 3.0 Saferoom/Retro fit	Hurricanes, Tropical Storms, To rnadoe s	Yes	BRIC, CISA	Charlotte County	Charlotte County IT	TBD	Deferred until funding is available	36 months from award date
		Hurricanes, Tropical Storms, To rnadoe s	Yes	HMGP, BRIC, HLMP	Charlotte County	Charlotte County Faciltiies	TBD	Deferred until funding is available	36 months from award date

	Hurricane Evacuation Route Widening and/or Elevating	Hurricanes, Tropical Storms, F lo oding	Yes	DOT (RAISE, SS4A)	Charlotte County	Charlotte County Public Works/DOT	TBD	Deferred until funding is available	36 months from award date
	Prairie Creek Bridge Mitigation	Hurricanes, Tropical Storms, F lo oding	Yes	HMGP, BRIC	Charlotte County	Charlotte County Public Works	TBD	Deferred until funding is available	36 months from award date
	Shell Creek Bridge Mitigation	Hurricanes, Tropical Storms, F lo oding	Yes	HMGP, BRIC	Charlotte County	Charlotte County Public Works	TBD	Deferred until funding is available	36 months from award date
	Rio Villa Bridge Mitigation	Hurricanes, Tropical Storms, F lo oding	Yes	HMGP, BRIC	Charlotte County	Charlotte County Public Works	TBD	Deferred until funding is available	36 months from award date
	Dune Restorations	Hurricanes, Tropical Storms, F lo oding	Yes	HMGP, BRIC, DEP	Charlotte County	Charlotte County Public Works	TBD	Deferred until funding is available	36 months from award date
	Green Infrastructure (Surfaces)	Hurricanes, Tropical Storms, F lo oding	Yes	HMGP, BRIC, DEP	Charlotte County	Charlotte County Community Services	TBD	Deferred until funding is available	36 months from award date
	Fuel Station Expansion	Hurricanes, Tropical Storms, F lo oding	No	TBD	Charlotte County	Charlotte County Fleet	TBD	Deferred until funding is available	36 months from award date
	Rotonda West Water Treatment Operations Building	Hurricanes, Tropical Storms, To rnadoe s	Yes	HMGP, BRIC	Charlotte County	Charlotte County Utilities	TBD	Deferred until funding is available	36 months from award date
	Kingsway Elementary Wind Retrofit	Hurricanes, Tropical Storms, To rnadoe s	Yes	HMGP, BRIC	Charlotte County	Charlotte County Public S choo ls	TBD	Deferred until funding is available	36 months from award date

Appendix E - Interlocal Agreement with City of Punta Gorda

INTERLOCAL AGREEMENT BETWEEN
CHARLOTTE COUNTY, FLORIDA, AND
THE CITY OF PUNTA GORDA, FLORIDA

THIS INTERLOCAL AGREEMENT is entered into this 9 day of March, 2004, by and between Charlotte County, Florida (herein "COUNTY") and the City of Punta Gorda, Florida (herein "CITY") (collectively "PARTIES") each one constituting a public agency as defined in Part I of Chapter 163, Florida Statutes.

WHEREAS, COUNTY and CITY wish to eliminate or minimize the vulnerability of the communities they serve to the human, economic, and environmental impacts of future disasters, and

WHEREAS, COUNTY and CITY, along with private interests, are participants in the Charlotte County/City of Punta Gorda Local Mitigation Strategy Working Group whose purpose is to develop and implement a Local Mitigation Strategy Plan, and

WHEREAS, COUNTY and CITY agree that programs and projects for hazard mitigation are most effectively accomplished by mutually cooperative efforts.

NOW, THEREFORE, CITY and COUNTY agree as follows:

1. COUNTY and CITY will consult with each other regarding the need for specific mitigation initiatives to be developed and approved for incorporation into the Charlotte County/City of Punta Gorda Local Mitigation Strategy. COUNTY and CITY will participate in the Local Mitigation Strategy Working Group made up of representatives of the COUNTY, CITY and private sector interests to develop the strategy.
2. The PARTIES will propose mitigation initiatives for incorporation into the Charlotte County/City of Punta Gorda Local Mitigation Strategy.
3. Each mitigation initiative proposed pursuant to this agreement will be designated as a COUNTY or CITY initiative upon its incorporation into the Charlotte County/City of Punta Gorda Local Mitigation Strategy.
4. The PARTY recommending the initiative will be responsible for the coordination and implementation of the actions necessary to obtain the resources and/or financial support required for the implementation of the mitigation initiatives included in the strategy.
5. The PARTY which proposed the initiative will be responsible for the financial, administrative, and technical aspects regarding implementation of the initiative.
6. Upon the availability and/or receipt of the resources or financial support necessary for implementation of a mitigation initiative, the COUNTY or CITY, as designated, will assume responsibility the implementation of the initiative(s).
7. COUNTY and CITY will provide to the other such assistance and cooperation as needed to achieve implementation of the initiative.
8. This agreement may be terminated upon the written notice by the COUNTY or CITY to the other.

9. Each PARTY shall have the fiduciary and administrative responsibilities for and be solely responsible for the funds and other resources provided to them regarding mitigation initiatives.
10. The COUNTY or CITY, as designated in the Charlotte County/City of Punta Gorda Local Mitigation Strategy, shall fulfill its responsibility to implement and maintain the mitigation initiatives incorporated in the strategy.
11. Each PARTY working to secure funding and complete implementation of mitigation initiatives will periodically advise the CITY, the COUNTY, and the Local Mitigation Strategy Working Group regarding its progress.
12. The COUNTY, through the Local Mitigation Strategy Working Group, will monitor and maintain the Charlotte County/City of Punta Gorda Local Mitigation Strategy.
13. The Office of Emergency Management will be the official custodian of the Charlotte County/City of Punta Gorda Local Mitigation Strategy. All additions and revisions to this document will be made through the Office of Emergency Management.
14. EQUAL OPPORTUNITY: The CITY and the COUNTY agree that no person shall, on the grounds of race, color, sex, national origin, disability, religion, ancestry, marital status, or sexual orientation, be excluded from the benefits of, or be subjected to any form of discrimination under any activity carried out in the performance of the agreement.
15. AMENDMENT TO THIS AGREEMENT: This agreement may be amended only by written consent of both parties.
16. EXECUTION: This interlocal agreement shall be executed in duplicate. Each duplicate of this agreement shall be considered an original.
17. DISCLAIMER OF THIRD PARTY BENEFICIARIES. This agreement is intended solely for the benefit of the parities to this interlocal agreement. No right or cause of action shall accrue upon or by reason hereof inure to or for the benefit of any third party.
18. ASSIGNMENT: This agreement shall be binding on the parties, their representatives, successors and assigns. Neither party shall assign this agreement or the rights or obligations hereof to any other person or entity without the prior written consent of the other party.
19. INDEMNIFICATION: Neither party shall indemnify the other party. Each party acknowledges that its legal remedy shall be limited to filing suit against the other party to this interlocal agreement in a court of competent jurisdiction.
20. DISPUTES: Any dispute between the County and the City is subject to all provisions of Chapter 164, Florida Statutes.
21. SEVERABILITY: If any part of this agreement is found invalid or unenforceable by any court, such invalidity or unenforceability shall not affect the other parts of the agreement if the rights and obligations of the parties contained herein are not materially prejudiced and if the intentions of the parties continue to be effected.
22. APPLICABLE LAW: This agreement and the provisions contained herein shall be construed, controlled and interpreted according to the laws of the state of Florida.

23. EFFECTIVE DATE: This agreement shall take effect upon filing a fully executed copy with the Clerk of the Circuit Court of Charlotte County.

IN WITNESS WHEREOF, the parties hereto have executed this agreement for the purpose herein expressed.

CITY OF PUNTA GORDA, FLORIDA

Stephen M. Fabian, Jr., Mayor

ATTEST:

Sue Foster, City Clerk

APPROVED AS TO FORM
AND LEGAL SUFFICIENCY

Robert H. Berntsson, City Attorney

CHARLOTTE COUNTY, FLORIDA

By
Matthew D. DeBoer, Chairman

ATTEST:
Barbara T. Scott, Clerk of
Circuit Court and Ex-Officio
Clerk to the Board of County
Commissioners

By
Deputy Clerk AG 2004-017

APPROVED AS TO FORM
AND LEGAL SUFFICIENCY

Renée Francis Lee, County Attorney

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January 13, 2004

Appendix F - Charlotte 2050 Coastal Planning – Goals, Objectives and Policies

COASTAL PLANNING-GOALS, OBJECTIVES AND POLICIES

PURPOSE

As required by Florida Statutes, the Coastal Planning element (CST) sets forth goals, objectives, and policies to guide Charlotte County's decisions and to plan for and, where appropriate, restrict development where such activities would damage or destroy coastal resources, and limit public expenditures while protecting the health, safety, and welfare of the citizens of Charlotte County.

Also, the Coastal Planning element provides an inventory and analysis of natural resources and land use concerns specific to the County's coastal area, including beach and coastal systems, beach erosion, public access to the shoreline and coastal waters, development, and maintenance of infrastructure in the coastal area, existing and future land use activities in the coastal area, and hurricane evacuation times and shelter capacity.

A more detailed explanation of the State requirements which the following Goals, Objectives and Policies attempt to address can be seen in the associated Data & Analysis section.

All references to any ordinances, statutes or regulations contained herein shall, unless otherwise noted, be deemed to be those in effect as of the date of adoption of this element and thereafter as amended, renumbered, or otherwise revised.

GOALS, OBJECTIVES AND POLICIES

CST GOAL 1: COASTAL RESOURCE PROTECTION
Protect, conserve, maintain and improve remaining barrier islands, beaches, coastal wetlands, coastal surface and ground water quality, wildlife habitats and living marine resources within the Coastal Planning Area (CPA) (FLUM Series Map #13) and promote appropriate access to marine resources.

CST Objective 1.1: Coastal Resource Protection
To ensure that proposed and existing development and activities do not adversely impact the County's coastal and estuarine natural resources and to provide for the long-term protection and enhancement of coastal vegetation and wildlife communities and ecosystems.

CST Policy 1.1.1: Coastal Resources Management Program
The County shall create a Coastal Resources Management Program that will:

1. Identify the natural elements and processes that maintain the ecological and economic integrity and productivity of the County's coastal resources. Included in these resources are coastal uplands and wetland habitat systems that are most suitable for protection, enhancement, restoration, and conservation.
2. Recommend standards for approval to protect, conserve, and manage native coastal vegetation and wildlife communities, marine ecosystems, historical and archeological resources, and to develop avoidance, minimization, and mitigation standards for adverse impacts to coastal resources.

CST Policy 1.1.2: Coastal Wetland Permitting
The County shall continue to review all activity and development that impacts the County's coastal wetlands and shall apply restrictions in accordance with the Goals, Objectives and Policies of the Comprehensive Plan and County's Code of Laws and Ordinances and limit impacts of development that directly or indirectly adversely affect coastal wetland resources.

CST Policy 1.1.3: Protection of Coastal Planning Area
The County shall not approve projects that adversely impact the social, economic, or environmental productivity, integrity, or values of natural resources in the CPA.

CST Policy 1.1.4: Coastal Development Coordinated Review
The County shall coordinate review efforts with other local, State and Federal agencies in evaluating proposed development activities in the CPA that may directly, indirectly, and cumulatively impact coastal resources. The County shall not approve development activities that are inconsistent with County, State, and Federal regulations.

CST Policy 1.1.5: Coastal Resource Clearing Permit
The County shall:

1. Develop and maintain rules, regulations, codes, and policies that minimize the clearing and alteration of native coastal vegetation and habitats.
2. Where appropriate, require applications for development approval to include a specific evaluation of coastal resources including provisions to identify, assess, avoid, and minimize adverse impacts to coastal resources (i.e., coastal wetlands, vegetation, wildlife, their habitats, including protective buffers and zones, and water quality prior to project approval, during and after construction).

CST Policy 1.1.6: Mangrove Protection
The County shall uphold the implementation of the 1996 Mangrove Trimming and Preservation Act for the protection and lawful trimming of mangrove trees. When unlawful acts are documented by County staff, appropriate action shall include notification of the permitting agency, intervention in agency proceedings, or legal action by the County.

CST Policy 1.1.7: Preliminary Development Plan Analysis

The County shall require all preliminary site plans, preliminary plats, or equivalent development requests adjacent to surface waters to depict the location of submerged aquatic vegetation, coastal wetlands, oyster beds, and other natural resources, habitats or features within the proposed development site or within 200 feet of the development boundary.

CST Policy 1.1.8: Coastal Resources Protection Program
The County shall develop strategies with public and private stakeholders to protect, maintain, and, where feasible, restore native submerged aquatic vegetation, benthic communities, and water quality in the County, particularly Lemon Bay, the Peace and Myakka Rivers, and Charlotte Harbor.

CST Policy 1.1.9: Protection of Coastal Habitats and Species
The County shall protect coastal wetlands and uplands that provide habitat for listed flora and fauna from all existing and proposed activities.

CST Policy 1.1.10: Offshore Petroleum Development Activities
The County shall oppose offshore gas and oil exploration and excavation activities that may be reasonably expected to threaten the quality of coastal beaches and estuarine ecosystems, or that may result in the placement of oil or gas related facilities on coastal beaches, islands, or wetlands, or require the placement of oil or gas storage facilities on barrier islands.

CST Policy 1.1.11: Developmental Impacts on Environment
The County shall annually analyze the environmental impact of development and re-development proposed in the Future Land Use element (with required infrastructure to support this development or re-development) on the natural and historical resources of the coast as required under Chapter 163.3178(2)(b) Florida Statutes (F.S.).

CST Policy 1.1.12: Protection of Natural Estuarine and Freshwater Shorelines
The County shall protect and preserve the function and value of marine and freshwater natural shoreline ecosystems on newly-acquired public lands by removing exotic and nuisance vegetation from the shoreline to protect the function of the estuary, enhance water quality, and preserve shoreline wetlands. These systems serve a variety of functions including, but not limited to, wildlife habitat, flood control and erosion control.

CST Objective 1.2: Shoreline and Water Dependent Uses
To establish criteria or standards which identify allowable shoreline uses, giving priority to water-dependent uses while minimizing negative impacts to coastal habitats, species, and surrounding land uses.

CST Policy 1.2.1: Coastal Shoreline Structures
The County shall prohibit gulf beach renourishment and dredge projects, jetties, piers, and armoring unless jointly approved by County, State, and Federal agencies.

CST Policy 1.2.2: Permitting In-Water Facilities
The County shall require that all future navigation channels, spoil disposal sites, harbor berths, and other related in-water facilities (mooring fields) comply with all applicable State and Federal requirements.

CST Policy 1.2.3: Barrier Island Protection
The County shall require that all construction activities on or off the shore of the barrier islands shall not detrimentally impact the barrier island system and shall support local and State regulations pertaining to construction seaward of the Coastal Construction Control Line (CCCL).

CST Policy 1.2.4: Acquisition of Waterfront Property
With the assistance of the Marine Advisory Committee (MAC), Parks and Recreation Advisory Committee, Beaches and Shores Advisory Committee (BSAC), and other private and public entities, the County will identify waterfront properties suitable for acquisition and development to provide improved public access to the Gulf of Mexico. The County will seek funding from West Coast Inland Navigation District (WCIND), Florida Recreation Development Assistance Program (FRDAP), and Florida Boating Improvement Program (FBIP) as well as other sources, including local revenues, for development of water dependent facilities.

CST Policy 1.2.5: Water-dependent Uses
The County shall minimize adverse impacts to coastal resources associated with water-dependent uses and shall require mitigation in accordance with County, State, and Federal permitting requirements. Where these requirements conflict, the more stringent requirements shall be followed.

CST Policy 1.2.6: Development of Coastal, Water-dependent Uses
The County shall develop strategies to preserve recreational and commercial working waterfronts; continue to identify reasonable and appropriate public access to beach and shoreline areas; and shall address the need for water-dependent uses and related facilities including marinas and shoreline facilities. Siting of access shall be in compliance with a Charlotte County public boating access study, Charlotte County Manatee Protection Plan and Florida Fish and Wildlife Conservation Commission (FFWCC) and US Fish and Wildlife Service (FWS) regulations and guidelines.

The County will study the feasibility of providing economic and other incentives to encourage the provision of public access at privately-owned beach front properties. Such incentives may include tax relief, density bonuses, or other benefits to the property owner intended to offset financial or other burdens associated with providing public access. Any bonus density shall be adopted into the policies of this or the Future Land Use element.

CST Policy 1.2.7: Location of New Boat Ramps
The County shall prohibit the location of new boat ramps, docks or slips for motorized vessels in areas:

1. Where there is less than four feet of depth at mean low water between the proposed ramp and the nearest maintained navigable channel.
2. Characterized by sensitive estuarine habitats, sensitive bottom or shoreline habitats, including but not limited to areas with submerged aquatic vegetation, or mangroves.
3. Requiring dredging to achieve at least 4.0 feet of depth at mean low water.
4. Where development or maintenance of the facility may adversely impact valuable natural resources.

CST Policy 1.2.8: Permitting of New and Expanded Boating Access Facilities The County shall require new or expanded marinas, boat ramps, multi-docking or port facilities to be in compliance with all applicable local, State and Federal requirements and possess all applicable local, State and Federal permit approvals.

CST Policy 1.2.9: New Boating Facility Preferences
The County hereby establishes the following priority preference for approval of new boating facilities:

1. Preference shall be given to the expansion of suitable existing boating access facilities rather than construction of newly-developed sites.
2. Preference shall be given to areas where there is adequate flushing of the basin to prevent stagnation and water quality deterioration.
3. Preference shall be given to sites that require no dredging or filling to provide access by canal, channel, or road.
4. Preference shall be given to sites that would have the least impact on natural resources including but not limited to sensitive estuarine habitats, sensitive bottom or shoreline habitats, submerged aquatic vegetation, manatee or other imperiled species habitat or mangroves.

CST Policy 1.2.10: Avoid Adverse Coastal Resource Impacts
The County shall ensure that all new boating access facilities will not adversely impact archeological and historical sites and environmentally sensitive coastal resources and shall be evaluated based upon the following:

1. The proposed location must minimize, and where possible, avoid areas approved by the Florida Department of Environmental Protection **(FDEP)** for shellfish harvesting, and other highly productive or unique habitats as determined by **FDEP,** the FFWCC, and other appropriate State and Federal agencies.
2. Any new facilities shall be required to be compatible with approved manatee protection and preservation plans and procedures, and away from sites of high manatee concentrations and critical habitat identified by State and Federal agencies.

3. All channels crossing through seagrass beds shall be clearly marked with signage directing boaters to stay within marked channels and out of the seagrass beds.
4. Sufficient upland areas are present to accommodate all needed accessory facilities, such as parking spaces, rest rooms, and dry storage. Facilities shall avoid and minimize negative impacts to sensitive or rare upland habitats.
5. Adequate parking for vehicles and boat trailers is provided.
6. Facilities that provide overnight moorage of habitable vessels shall be required to have sewage pump-out facilities sufficient to handle 100 percent of anticipated occupancy and shall document usage.
7. Through sloping and use of curbs and other structural improvements, fuel facilities shall be designed to contain spills on the landside of the facility and prevent runoff into the surface water.
8. The design and construction of facilities shall include catchment systems for filtering pollutants from stormwater originating in boat repair and painting areas, and bilge water from boats removed from the water at ramps or lifts.
9. Except for ramps and other water-dependent facilities which, due to their function, must slope towards the water, all impervious surfaces in new boating facilities must be designed and constructed such that run-off water flows away from surface waters and wetlands.
10. Prior to final plan approval, proposed boating facilities must demonstrate that the facility will be able to contain any spills that may occur within surface waters.

CST Policy 1.2.11: Marina Monitoring Plan
The County shall develop an appropriate monitoring plan to be implemented during and after marina development for the purpose of monitoring adverse impacts upon water quality, natural vegetation, wildlife and wildlife habitat, soils and shoreline.

CST Policy 1.2.12: Marina Use Limits
The County shall limit and may prohibit marina uses that pose an adverse impact to conservation areas, preservation areas, listed species and their habitats, environmentally sensitive areas, critical habitat, or may create a nuisance to residential areas.

CST Policy 1.2.13: Wastewater Treatment Requirements
The County shall require pump out facilities for new marinas and existing marinas whenever slips are added. Marinas that sell petroleum and other such products shall provide adequate fuel spill containment devices in accordance with State and Federal regulations. All new marinas and, where feasible, existing marinas proposing expansion shall obtain a Florida Clean Marina designation from the FDEP.

CST Policy 1.2.14: Providing Adequate Channel Depth
The County shall minimize adverse impacts (notably propeller scarring and silting) to tidal benthic resources caused by boaters' attempting to reach deep or open water from existing maintained canal systems (listed below) by maintaining previously dredged and existing

navigation channels, canals and drainage features. The County shall partner with the affected owners, stakeholders, and appropriate local, State, and Federal agencies to develop a site specific boater access plan.

Existing Maintained Canal Systems		
Ackerman Waterway	Alligator Creek	Bass Inlet
Seeney Waterway	Charlotte Harbor Yacht Club	Countryman Waterway
Cross Isles Channel	Elkam Waterway	Fisherman's Village
Gardner-Olman Waterway	Harbour Heights	Hayward Canal
Laishley Park	Pirate Harbor	Pompano Inlet
Ponce De Leon Inlet	South Gulf Cove	Springlake Waterway
Suncoast Waterway	Sunrise Waterway	

All new navigation channels shall require approval by the Board of County Commissioners and must be determined to be in the public interest.

Due to the overriding environmental importance of Aquatic Preserves, the County shall not support or approve any dredging projects in an Aquatic Preserve unless the FDEP agrees that the environmental benefits outweigh the adverse environmental impacts.

CST Policy 1.2.15: Funding of Navigation Channels
The County shall fund the maintenance and, where necessary, creation of navigation channels through the establishment of Municipal Services Benefit Units (MSBUs), Municipal Services Taxing Units (MSTUs), and other special districts as appropriate. The County will also apply for funding from grant sources including, but not limited to, WCIND, the FBIP, the FRDAP, and others as appropriate and available.

CST Objective 1.3: Maintenance of Public Access to Gulf of Mexico and Bay Waters To maintain public access to the Gulf of Mexico and bay waters, through expansion or refurbishing existing facilities or acquisition of new property which shall be consistent with the public's needs and the natural resource capacity of the selected area for a variety of water dependent activities.

CST Policy 1.3.1: Management of All Public Access Facilities
The County shall manage all public access facilities in a manner consistent with Federal, State, and regional regulations, and local programs.

CST Policy 1.3.2: Acquisition of Public Access Easements
The County shall acquire needed lands or public access easements adjacent to the coastal shoreline through Federal, State, regional, and locally-funded land acquisition programs or as part of the development review process, whenever feasible.

CST Policy 1.3.3: Assess Existing Parking Facilities

The County shall assess existing parking facilities to determine adequate public access. Every effort to increase the number of public beach access points and parking spaces shall be extended based on public need.

CST Policy 1.3.4: Require Public Access
The County shall require public access in all County-sponsored and, where practical, private coastal development projects. Access to public shorelines shall be required in all publicly-funded coastal renourishment projects.

CST Objective 1.4: Protection of Listed Species
To recognize the environmental and economic necessity of protecting listed vegetation, fish and wildlife species that depend on healthy coastal habitat conditions, and to maintain or enhance existing population numbers and distributions of listed species.

CST Policy 1.4.1: Interagency Coordination for Listed Species Protection The County shall continue to develop regulations to implement the policies supporting FFWCC designations of endangered, threatened, or species of special concern, in accordance with Rules 68A-27.003, 68A-27.004, and 68A-27.005, Florida Administrative Code (F.A.C.) and those species designated by various Federal agencies as Endangered and Threatened species published in US Fish and Wildlife Service 50 C.F.R, 17. Staff shall consult, participate in workshops, and collaborate with local, State, and Federal agencies and organizations to remain informed on newly listed species and develop protection measures in accordance with the needs of identified species consistent with scientific literature and studies.

CST Policy 1.4.2: Sea Turtle Protection
The County shall continue to improve and enforce sea turtle regulations to promote successful sea turtle nesting in accordance with Charlotte County's Sea Turtle Protection Ordinance 98-41 and The Sea Turtle Management Plan (2005, amended 2007). Activities shall comply with applicable State and Federal regulations as outlined under the Federal Endangered Species Act and be consistent with the most recent scientific literature.

CST Policy 1.4.3: Reduction of Artificial Lighting and other Impacts
The County shall continue to promote light management measures, public outreach, enforcement and additional activities to balance safe nesting beaches and public safety. The purpose is to educate the public on sea turtle nesting requirements, how to reduce lighting levels, and minimize other activities caused by people, pets, and vehicles which impact sea turtle nesting.

CST Policy 1.4.4: Construction during Sea Turtle and Shorebird Nesting Season
Except for emergencies, the County shall require that all coastal construction projects, including beach restoration and renourishment projects, shall protect nesting areas by limiting construction in dune and beach areas to non-nesting periods. In historic shore-bird nesting areas, construction must begin prior to shorebird nesting. Establishment of marked protection

zones around sea turtle and shorebird nest areas is required to ensure that impacts associated with construction activities landward of the dune and beach system are limited to the actual construction site.

CST Policy 1.4.5: Coastal Avian Protection Ordinance
The County shall develop an Avian Protection Ordinance and Management Plan. The ordinance and plan shall be designed to protect breeding, nesting, resting, roosting, and foraging habitats of avian species and minimize impacts to migratory, seasonal, and resident populations.

CST Policy 1.4.6: Coastal Avian Public Education
The County shall continue to conduct programs to educate the public on local, State, and Federal regulations that protect nesting, migratory, seasonal, and resident avian populations. Public outreach shall be provided to reduce adverse activities caused by people, pets, and vehicles to avian populations.

CST Policy 1.4.7: Manatee Protection Plan (MPP)
The County has implemented the Manatee Protection Plan (MPP) which was developed in coordination with and approved by the Florida Fish and Wildlife Conservation Commission and the U.S. Fish and Wildlife Service. The MPP has been determined to balance the need for manatee protection and the need for recreational and commercial uses and was accepted by the Board of County Commissioners on February 14, 2017.

CST Policy 1.4.8: Manatee Protection Zones
The County shall continue to work with State and Federal agencies to evaluate the appropriateness of vessel regulations and ensure adequate signage is installed for reducing manatee injuries and mortality. The County shall also continue to identify, map and designate areas of optimal manatee habitat and high manatee usage as "Slow-Speed, Manatee Protection Zones" (including but not limited to the vicinity of Bull Bay, Turtle Bay, Hog Island, Lemon Bay, the Myakka River, the Burnt Store area, the Peace River, Shell Creek, Deep Creek, and Harbor Heights).

CST Policy 1.4.9: Manatee Monitoring and Impact Analysis
The County shall continue to identify and evaluate potential threats to manatees and important manatee habitats and consider management alternatives to reduce threats and protect such habitats.

CST Policy 1.4.10: Manatee Protection Public Education
The County shall partner with appropriate public and private organizations to develop and distribute educational materials regarding manatees to boaters and other water resources users and support the placement of signs where both humans and manatees may congregate. Boater education programs shall be targeted at both adults (current water users) and school-age children (future users).

CST Policy 1.4.11: Tidal Beach Habitat and Wildlife Protection Ordinance The County shall develop a Tidal Beach Habitat and Wildlife Protection Ordinance and Management Plan. The ordinance and plan shall be designed to be consistent with existing State and Federal laws and regulations. The Ordinance will prohibit, and where unavoidable, minimize adverse impacts to all native animals or their habitats associated with tidal beach habitats up to three feet above mean high water. Specifically, the Ordinance will prohibit any activity, including collecting or possessing, that may adversely impact species including, but not limited, to live shells, starfish, sand dollars, ghost crabs, fiddler crabs, marine worms, etc., or their habitat (except as allowed by State and Federal laws and regulations).

CST Objective 1.5: Beach and Dune Protection

To adopt specific standards that encourage the protection of coastal vegetation and wildlife communities, minimize the impacts of man-made structures, prohibit activities that adversely impact beach or dune systems, and restore altered beaches or dunes.

CST Policy 1.5.1: Coastal Construction

All construction activity is prohibited seaward of the CCCL except as permitted by the FDEP under Beach and Shore Preservation, Chapter 161, F.S. The County shall review proposed CCCL construction permit applications for compliance with applicable County regulation and the Goals, Objectives and Policies (GOPs) of the Comprehensive Plan. The County shall submit a letter of no objection and compliance with the County code for acceptable development proposals within the CCCL as required by state Permit Application Requirement Procedures.

CST Policy 1.5.2: Permitting Development on Beach and Dune Systems

The County shall not grant approval for development or redevelopment activities that may cause direct or indirect impacts to the ecological integrity or natural functions of the beach or dune systems. The County's BSAC will review and provide recommendations to the Board of County Commissioners for projects that may impact the coastal zone. Determination of impacts shall be based on the most recent scientific literature, and research information acquired from local, State, and Federal regulatory agencies.

CST Policy 1.5.3: Permitting Shoreline Structures

The County shall not support shoreline hardening along the Gulf and bay beaches or dunes except when necessary to protect existing structures in imminent danger of destruction. Approval shall not be given where such projects jeopardize the integrity of the total beach system and adjacent properties. Non-structural methods shall be encouraged for stabilizing beaches and dunes. Where practical, shoreline planning and enhancement projects shall be required during development orders proposing shoreline hardening.

CST Policy 1.5.4: Vehicle Access - Travel across Dunes and Beach

The County shall protect dunes and beaches by limiting vehicular traffic to emergency personnel, permitted beach maintenance and renourishment projects, and vehicles associated

with environmental monitoring or conservation purposes. Beach access shall be limited to marked driveways through the dunes.

CST Policy 1.5.5: Beach and Dune Protection from Foot Traffic
The County shall require dune walkovers that meet State construction standards for all new Gulf beach developments and public access areas to protect coastal beach and dune erosion caused by pedestrian traffic. Pedestrian traffic shall be directed to marked paths or dune walkovers in order to protect the dune system.

CST Policy 1.5.6: Beach, Dune and Habitat Protection
The County shall ensure that all coastal development shall first avoid and then minimize adverse effects to shorebird nesting areas, beach, and dune system habitats. Except for the minimal disturbance necessary to accomplish County and State approved beach restoration or renourishment activities, the excavation or destructive alteration of beach and dune systems is prohibited. The County shall require the use of indigenous plant species for public and private dune restoration or renourishment projects.

CST Policy 1.5.7: Shoreline Erosion Control Taxing Units
The County shall continue to promote the formation of special erosion control taxing units, and will research grants and other funding mechanisms, to provide funds for beach renourishment, restoration, and management projects.

CST Policy 1.5.8: Marine Life Protection from Coastal Restoration Projects The County shall require all beach renourishment, dredge projects, and coastal development to be designed, constructed, and maintained with minimal impacts to sea grasses and near shore hard-bottom habitats and to be consistent with existing local, State, and Federal requirements.

CST Policy 1.5.9: Beach and Shoreline Monitoring
The County shall partner with its BSAC, FDEP and other public and private organizations to monitor erosion throughout the County's beaches and determine enhancement projects based on the results of the monitoring program consistent with current scientific and coastal engineering literature and studies, and local, State, and Federal regulations.

CST Policy 1.5.10: Interagency Coordination of Beach Maintenance
The County shall participate in programs such as those offered by the Florida Shore and Beaches Preservation Association whose goals are to restore altered beach and dune systems, and shall continue discussions with the Southwest Florida Regional Planning Council (SWFRPC), the FDEP, the U.S. Army Corps of Engineers (USACoE), the WCIND and coastal governmental bodies to determine, as needed, the feasibility of undertaking cooperative, mutually beneficial, regional sand source studies and beach management programs. The County will promote the evaluation of alternative methods and technologies to traditional beach renourishment and stabilization practices.

CST Policy 1.5.11: Shoreline Erosion Control
The County shall require all new construction adjacent to watercourses, wetlands, and bays to have stabilized vegetated buffer zones sufficiently wide to prevent sediments from washing into the adjacent water body or wetland, or provide other measures to provide such protection. The use of native vegetation is required.

CST Policy 1.5.12: Dune Buffer Zones
Beachfront lots and parcels created subsequent to October 7, 1997 shall be of sufficient size and dimension to ensure a 50 foot buffer between any structures or improvements (except dune crossovers) and the landward edge of the primary dune. This buffer will remain in its natural state except for the minimum disturbance necessary to accommodate dune crossover structures.

CST Objective 1.6: Identify and Monitor Coastal Resources
To continue to conduct, support, encourage and participate in local, State and Federal programs to identify and monitor strategic coastal resources, including but not limited to, submerged aquatic vegetation, sensitive marine habitats (hard and soft bottom), water quality, shoreline erosion, coastal wetlands, coastal uplands, and associated protected vegetation and wildlife species.

CST Policy 1.6.1: Water Quality Monitoring
The County shall continue to participate with the Southwest Florida Water Management Surface Water Quality Improvement (SWIM) Program, the Coastal Charlotte Harbor Monitoring Network (CCHNN), the Coastal and Heartland National Estuary Program (CHNEP), and other local governments in the collection and analysis of water samples from Charlotte Harbor and Lemon Bay.

CST Policy 1.6.2: Coastal Resource Coordination
The County shall coordinate with State, Federal, regional agencies and local partners to exchange updated coastal resource information about water quality, protected vegetation, wildlife and habitats in Charlotte County's CPA.

CST Policy 1.6.3: Inventory Natural and Exotic Plant Communities
The County shall maintain and routinely update an inventory of natural and exotic plant communities, submerged aquatic vegetation, coastal wetlands, and oyster beds, etc. and sensitive estuarine habitats throughout the CPA.

CST Policy 1.6.4: Coastal Resources Public Education Programs
The County shall encourage the protection of ecologically important and high quality natural resources within the County's CPA by partnering with appropriate public and private organizations in developing and conducting public education programs designed to increase public awareness about the value of, and ways to protect important coastal resources (i.e. submerged aquatic vegetation, coastal wetlands, coastal uplands, wildlife and water quality).

CST Objective 1.7: Archeological Resources
To protect, preserve or sensitively reuse historic and archaeological resources within the coastal planning area of Charlotte County.

CST Policy 1.7.1: Resource Survey
The County shall maintain and update a comprehensive County-wide Survey of Historical Resources along with the Archaeological Predictive Model for use in analyzing future development to ensure the preservation or sensitive reuse of identified historical and archaeological sites.

CST Policy 1.7.2: Historic Preservation Ordinance
The County shall evaluate potential development in the CPA and encourage sensitive reuse of historic and archaeological resources using the standards identified in the Historic Preservation Ordinance and the U.S. Secretary of the Interior's Standards for Rehabilitation.

CST GOAL 2: ESTUARINE QUALITY PROTECTION
Protect, maintain, and improve coastal surface and ground water quality and provide criteria or standards for prioritizing shoreline uses, giving priority to water-dependent uses.

CST Objective 2.1: Charlotte Harbor Watershed Protection
To ensure that the County's surface waters are protected.

CST Policy 2.1.1: Water Quality Standards
Charlotte County shall protect its surface waters through implementation of the following standards and guidelines:

1. On-site sewage disposal systems, including their associated drain fields, will be located as far landward as feasible on waterfront properties so as to reduce or prevent unnecessary nutrient and pathogen loading into surface waters.
2. The most current best management practices identified in the Handbook, Urban Runoff Pollution Prevention and Control Planning, EPA/625/R- 93/004, which control erosion and limit the amount of sediment reaching surface waters, shall be used during all development activities.
3. Withdrawals from, or discharges to, surface waters which alter hydroperiods shall require the appropriate permits through FDEP, the appropriate Water Management District, or the USACoE, and shall not reduce the quality or productive capability of water-dependent ecosystems (estuaries, etc).
4. Development proposals must demonstrate that post-development discharges into surface waters, or diversion of freshwater inflow into (fresh or saltwater) surface waters, will not lower the quality or productive capability of the receiving water body (fresh or saltwater). Such discharge must not exceed the legal limit for established surface water quality parameters to include, but not limited to,

biological oxygen demand, dissolved oxygen, nutrients, bacteriological quality and turbidity, for the appropriate class water, as outlined in Chapter 62, F.A.C.

5. The design and construction of (fresh or saltwater) artificial waterbodies will provide sufficient water quality, fish and wildlife habitat values and functions consistent with the requirements of State and Federal agency permits and the intended use of the water body.
6. Boat speeds shall be limited as necessary to avoid shoreline erosion, siltation and damage to benthic vegetation and wildlife; and to protect natural functions by establishing and enforcing speed zones and other prohibited activities in vulnerable areas.

CST Policy 2.1.2: Charlotte Harbor Management Committee
The County shall confer with public and private stakeholders in Lee, Charlotte and Sarasota Counties to discuss the benefits of establishing a Charlotte Harbor Management Committee, which would meet regularly to review major activities that might affect the social, economic and environmental values of Charlotte Harbor.

CST Policy 2.1.3: Lemon Bay Aquatic Preserve Management Plan
The County shall support the implementation of the FDEP Lemon Bay Aquatic Preserve Management Plan.

CST Policy 2.1.4: Peace River Basin and Myakka River Management Plans The County shall continue to participate in local, State, and Federal watershed initiatives such as the Peace River Basin, Lemon Bay, and Myakka River Management Plans.

CST Policy 2.1.5: Gulf of Mexico Alliance
The County shall participate in the Gulf of Mexico Alliance discussions on the health and restoration of the Gulf. The County shall cooperate in advancing the understanding of system dynamics and the Board of County Commissioners shall consider relevant initiatives for support.

CST POLICY 2.1.6: Charlotte Harbor Management Plan
The County shall continue to support FDEP's Charlotte Harbor Aquatic Preserves Management Plan, which includes the waterbodies of Cape Haze, Gasparilla Sound-Charlotte Harbor as well as Pine Island Sound and Matlacha Pass in Lee County.

CST Policy 2.1.7: Charlotte Harbor Watershed Flows
The County shall continue to work with and support programs of public and private stakeholder organizations to protect, maintain and restore the optimum quality, quantity, distribution and timing of freshwater flows needed to protect, maintain and restore the ecological productivity and integrity of the Charlotte Harbor estuarine ecosystem.

CST Policy 2.1.8: Intergovernmental Coordination

The County shall continue to participate in and support the development and implementation of local, State and Federal programs and initiatives whose goals, objectives, and policies are to maintain, restore, and improve water quality in the Charlotte Harbor watershed, including all contiguous coastal wetlands and streams, the Peace and Myakka rivers and their tributaries.

CST Policy 2.1.9: Watershed Surface Water Quality Protection
The County shall confer with public and private stakeholders to discuss the benefits of establishing regional surface water protection overlay districts in the Charlotte Harbor Watershed, including, but not limited to, the basins of the Peace and Myakka rivers and their tributaries, wherever protection of the quality and quantity of those surface waters is deemed critical to the health, safety and welfare of current and future citizens or the environment.

CST Policy 2.1.10: Coastal Water Quality Studies
The County shall continue to support and participate in local, State, or Federal scientific water quality studies of Charlotte Harbor, Lower Peace and Myakka Rivers, and Lemon Bay.

CST Policy 2.1.11: Examine Nonpoint Source Coastal Water Pollution
The County shall periodically study the effects of existing drainage systems and the impacts of point source and nonpoint source pollution on estuarine water quality per Chapter 163.3178(2), F.S., and shall continue to encourage best management practices to minimize these sources.

CST Policy 2.1.12: Coordination of Coastal Water Quality Monitoring
The County shall maintain a liaison with other local, State, and Federal agencies engaged in water quality monitoring, and reviewing their data, conclusions, and recommendations.

CST Policy 2.1.13: Interagency Cooperation for Water Quality Protection The County shall cooperate with the Florida Marine Patrol, U.S. Coast Guard, USACoE, and the FDEP in the enforcement of point and nonpoint source pollution control standards for septic systems, marinas, marine dumping, and illegal discharges from water craft.

CST GOAL 3: DEVELOPMENT IN HIGH HAZARD AREAS
Direct population concentrations away from the Coastal High Hazard Area (CHHA) and limit public expenditures that subsidize development and redevelopment in the CHHA except for restoration or enhancement of coastal resources. The CHHA includes all areas located within a landfalling Tropical Storm or Category 1 Hurricane Storm Surge zone as illustrated on FLUM Series Map #14, which are based on the Sea, Lake, and Overland Surge from Hurricanes (SLOSH) model prepared by the Southwest Florida Regional Planning Council under contract to the State of Florida Department of Community Affairs, Division of Emergency Management.

CST Objective 3.1: Restriction of Public Expenditures in the CHHA
To restrict public expenditures in areas particularly subject to repeated destruction by natural disasters and storm activity, except to maintain required levels of service, to protect existing residents, and provide for recreation and open space uses.

CST Policy 3.1.1: Public Expenditure Limitation
The County shall not expend public funds within the CHHA except for the following purposes:

1. The restoration or enhancement of natural resources;
2. The restoration or enhancement of public access;
3. The construction and maintenance of structures such as restrooms, boat ramps, boat docks, picnic shelters, bridge tender's building, landscape or facility maintenance sheds, boat lock, and food or rental concession stands in conjunction with County parks;
4. Water, sewer and road infrastructure that are appropriate and necessary for the public use and cannot be located elsewhere
5. To address a deficiency identified in this Plan;
6. For the improvement of public roads or bridges;
7. For an overriding public interest to ensure public health, safety, and welfare such as essential life safety services.

This policy shall not apply to buildings and structures proposed within developments of regional impact for which master development orders have been adopted pursuant to Chapter 380, F.S., prior to the date of adoption of this policy.

CST Policy 3.1.2: Relocation or Replacement of Infrastructure

1. The County shall prohibit the reconstruction of County-funded facilities or infrastructure in the CHHA except for recreation facilities and those necessary to ensure public health and safety.
2. The County may use the power of eminent domain and regulatory authority to relocate threatened or damaged public structures and infrastructure landward of the CHHA when appropriate.
3. When public infrastructure within the CHHA is destroyed or receives damage that equals or exceeds 50 percent of the cost of replacing the facility at its current location, the County shall analyze the feasibility of relocating this infrastructure landward of the CHHA.

CST Policy 3.1.3: State-Funded Infrastructure
When State funding is required for the relocation or replacement of infrastructure currently seaward of the CCCL, the capacity of the replacement structure shall be limited to maintaining required levels of service, protecting existing residents, and providing for recreation and open space needs.

CST Policy 3.1.4: Bridges and Causeways to Barrier Islands
The County shall not support construction of bridges or causeways to barrier islands not currently serviced by such infrastructure.

CST Policy 3.1.5: Post Disaster Redevelopment Plan
The County shall develop, with the assistance of the SWFRPC and the Department of Economic Opportunity, a model Post-Disaster Redevelopment Plan that shall consider the following:

1. Land uses and public facilities in the CHHA;
2. Areas of known high hazard;
3. The effects of hurricanes on the dynamics of coastal areas; and
4. The direct and indirect costs of a major storm disaster.

The Post-Disaster Redevelopment Plan shall contain an estimate of potential damages to property and what debris removal might cost in order to determine eligibility for State and Federal assistance. The plan shall also contain provisions for a thorough determination of damage assessment in dollar value, and of the economic and social effects of that damage upon the County immediately after the occurrence of a disaster. In regards to the assessment of damages, the plan shall also contain provisions for Charlotte County to coordinate with public and private agencies, and to establish County Damage Assessment Teams as outlined in the Charlotte County Recovery and Mitigation Plan.

The Post-Disaster Redevelopment Plan shall outline how emergency work (which includes efforts to save lives, protect property and maintain operation of essential facilities until permanent restoration can be made) will be conducted. The emergency work provisions shall include plans to repair and restore damaged water and sewer treatment facilities immediately after the storm event in order to function consistently within health and environmental plans and shall also evaluate emergency sewer disposal procedures.

The Post Disaster Redevelopment Plan shall outline how permanent work (which involves actions necessary to repair, restore, reconstruct, or replace public and certain private non-profit facilities damaged or destroyed by the disaster) will be conducted, and will include provisions for the following:

1. Determination of whether critically damaged key infrastructure and facilities should remain in place or be relocated.
2. Consideration of acquisition and relocation ordinances for damaged buildings in high hazard areas, and when appropriate, relocation of damaged public structures and infrastructure outside of the CHHA with the power of eminent domain and regulatory authority.
3. Evaluation of the costs of acquisition of privately-owned developed properties, for which the County provides infrastructure, that have been severely or repetitively damaged by tropical storms, hurricanes, floods, or other natural disasters against the costs associated with rebuilding in order to determine the most cost-effective options for addressing loss, mitigation, or prevention.

4. Compliance with current code and ordinance requirements during the repair process of substantially damaged, but repairable buildings.

Upon adoption, the Post Disaster Redevelopment Plan shall be incorporated into and be made part of the Comprehensive Plan.

CST Policy 3.1.6: Development, Redevelopment, and Mitigation Action Plan The County shall work cooperatively with the Local Mitigation Strategy Work Group, Emergency Management Team, relevant County departments, and State and Federal agencies to develop a Coastal High Hazard Development, Redevelopment, and Mitigation Action Plan.

CST Objective 3.2: Development and Redevelopment in the CHHA
To limit density and intensity within the CHHA.

CST Policy 3.2.1: Mobile Home Zoning in CHHA
The County shall prohibit any new mobile home zoning on the Barrier Islands or within the CHHA.

CST Policy 3.2.2: CHHA Density Transfer Requirement
The County shall prohibit any rezonings that increase density beyond the base density within the CHHA unless density is simultaneously transferred or pledged to be transferred from a similar CHHA category No density may be transferred from other high hazard areas of the County into the area west of the Myakka River and Charlotte Harbor.

CST Policy 3.2.3: Density of Development within CHHA

1. The platted density of new development shall not exceed 3.5 units per acre.
2. In accordance with the provisions of Ordinance 90-58, population density on the bridgeless barrier islands is limited to one unit per gross acre; areas on the bridgeless barrier islands platted prior to the date of adoption of Ordinance 90-58 shall have an allowable density of one unit per platted lot.
3. The County shall actively facilitate the removal of density from the CHHA by plat vacation and other means.

CST Policy 3.2.4: Applications for Development within the CHHA
The County shall require development within the CHHA proposing greater than one single dwelling unit to plan for and mitigate the effects and impacts of evacuation issues for the project site. In addition, the development may also be required to comply with the County's current Shelter-in-Place Development Policy.

CST Policy 3.2.5: Development Requiring Special Needs Assistance
The County shall strongly discourage the development of any institutional uses, such as assisted living facilities, group homes for handicapped persons, hospitals and such similar uses, from

developing in the CHHA. This will help limit public expenditures for pre- and post-disaster assistance. Charlotte County shall continue to amend and implement its Code of Laws and Ordinances to require all newly-constructed nursing homes, adult congregate living facilities, and hospitals to include shuttering or the use of shatterproof glass, as well as independent emergency power supplies located above base flood elevation or otherwise protected from flooding, as part of such facilities' design and construction, as required by the Agency for Healthcare Administration.

CST Policy 3.2.6: Restriction of Development and Redevelopment in CHHAs The County shall continue to develop policies that prohibit redevelopment of structures in the CHHA with a history of repeated damage from coastal storms and development of structures on sites known to be the subject of continual flooding. This includes shore protection structures. Measures that could be used to reduce exposure to hazards shall be analyzed, including relocation, structural modification, and public acquisition.

CST Policy 3.2.7: Infrastructure and Services to other than the Bridgeless Barrier Islands
The County shall not provide nor allow infrastructure and services to be provided to offshore islands, coastal swamps, marshlands and beaches. Infrastructure and services to the Bridgeless Barrier Islands, depicted in FLUM Series Map #9, are addressed in the Barrier Island Overlay in the FLU Appendix I.

CST GOAL 4: COASTAL PLANNING AREA
Address development and post-disaster redevelopment and outline principles for mitigating the effects of natural disaster and reducing or eliminating the exposure of human life and public and private property to coastal hazards.

CST Objective 4.1: Evacuation in the CPA
To maintain or reduce hurricane evacuation times and provide evacuation and shelter capabilities adequate to safeguard the public against the effects of hurricanes and tropical storms.

CST Policy 4.1.1: Assessment of All New Residential Development
The County shall assess the impact of all new residential development upon the projected hurricane evacuation network and upon projected hurricane evacuation times, and shall require mitigation either through structural provisions (on-site or off-site shelter) or through nonstructural methods or techniques.

CST Policy 4.1.2: Update of the Hurricane Evacuation
The County shall update the hurricane evacuation portion of the Comprehensive Emergency Management Plan as new data becomes available for critical roadway links to be consistent with the most recent report issued by the SWFRPC.

CST Policy 4.1.3: Improvements to Evacuation Routes
The County shall improve evacuation routes based on the following criteria:

1. Critical roadway links causing congestion on evacuation routes for Category 1 through 3 hurricanes shall receive high priority for capital improvement expenditures. The County's hurricane evacuation system shall be improved to ensure that evacuation times will be maintained, at a minimum, and reduced if possible.
2. Improvements to the County's primary hurricane evacuation routes shall be consistent with this function, and shall be maintained at elevations above the Category 3 or Category 4 Storm Surge, as feasible and applicable.
3. Hurricane evacuation corridor improvements shall be based on the following criteria:
    a. The roadway heads inland and away from the coast.
    b. The roadway rises out of areas affected by storm surge.
    c. Water crossings are minimized.
    d. The roadway provides a direct route to high ground and shelter.
    e. The roadway is not subject to roadway flooding.
4. Through its Emergency Management Office, Metropolitan Planning Organization, Growth Management Department, and Public Works Department, the County shall continue to work with Sarasota County to establish effective evacuation routes out of the Cape Haze Peninsula.

CST Policy 4.1.4: Evacuation Provisions for all Plan Amendments
The County shall not approve Future Land Use Map amendments that will, upon development, cause out-of-county evacuation times to increase above 16 hours or evacuation time to shelter to increase above 12 hours for a Category 5 storm event as measured on the Saffir-Simpson scale unless appropriate mitigation is provided per Section 163.3178 (9)(a)3., State Statutes.

CST Policy 4.1.5: Cape Haze Peninsula Hurricane Evacuation Requirement The County's Emergency Management Department may declare a complete evacuation of the area of the County located west of the Myakka River and Charlotte Harbor (Cape Haze Peninsula) when the National Hurricane Center has issued a forecast indicating life threatening storm surge.

CST Policy 4.1.6: Development Impact on Evacuation Times
The County shall utilize the help of the Florida Department of Emergency Management to determine the cumulative impact of new development on hurricane evacuation times on an annual basis and shall include appropriate funding within the five-year schedule of capital improvements to ensure that those improvements most needed to reduce evacuation times are provided.

CST Policy 4.1.7: Education of General Public on Emergency Evacuation Routes
Charlotte County Emergency Management shall educate the general public on emergency evacuation routes established by the Emergency Management Team.

CST Objective 4.2: Redevelopment in the CPA

To reduce the loss of property in the CPA through the establishment of development requirements.

CST Policy 4.2.1: Fifty Percent Rule for Redevelopment

The County shall require any structure that does not meet current flood mitigation standards and building code to be rebuilt to the current standards and code should they sustain substantial damage after a natural or man-made disaster. An existing structure is considered to be substantially damaged if damage from any origin is sustained and the cost of restoring the structure to its pre-damaged condition is equal to or exceeds 50 percent of the market value of the structure before it was damaged.

CST Policy 4.2.2: Repetitively Damaged Properties

The County shall evaluate the costs of acquisition of privately-owned, developed properties, for which the County provides infrastructure, that have been severely or repetitively damaged by tropical storms, hurricanes, floods, or other natural disasters. The acquisition cost shall be compared against the costs associated with rebuilding the required infrastructure for that property or the rebuilding of the property itself. This will be done in order to determine the most cost-effective options for addressing loss, mitigation, or prevention.

CST Policy 4.2.3: Protection of Property

To protect the public health, safety, and welfare and to mitigate property loss in the built environment, the County shall enforce:

1. The most recent State-adopted Standard Building Code which provides for wind-resistant building constructions, and
2. The Federal Emergency Management Agency's Managing Floodplain Development through the most recent National Flood Insurance Program, which address floodplain and coastal construction management.
3. Increased protection of property and encourage the purchase of flood insurance by property owners. The County shall also continue to participate in the National flood Insurance Program (NFIP) and the NFIP's Community rating System.

CST Objective 4.3: Storm Shelters

To develop an adequate shelter space plan for population at risk under a Category 3 hurricane.

CST Policy 4.3.1: Public Shelter Needs

The County shall develop a program designed to meet public shelter needs under a Category 3 hurricane. Components of this program may include:

1. Funding of the All-Hazards MSTU;
2. An impact fee or fee-in-lieu for new residential developments, with appropriate credits for the construction of on-site shelters outside of a Category 1 hurricane storm surge;

3. Mandatory on-site shelters for new residential developments (including mobile home and recreational vehicle parks) over a specified size threshold and outside the CHHA; and
4. Any available State funds.

CST Policy 4.3.2: On-Site Shelter Requirements
The County shall require on-site shelters to meet the standards established by the County, including provision of adequate shelter space, elevation above Category 3 hurricane storm surge flooding levels, adequate wind proofing, glass protection, emergency power where needed, water supplies, and other basic needs.

CST Policy 4.3.3: On-Site Shelter Restriction
The County shall prohibit on-site shelters for the general public on barrier or coastal islands.

CST Policy 4.3.4: Feasibility of Evacuating Residents
The County shall determine the feasibility of evacuating residents from the CHHA to vertical shelters within residential, commercial, and industrial sites in the Category 2, 3, 4, and 5 hurricane storm surge areas for situations where clearance times do not allow for full evacuation of areas forecasted to receive life threatening inundation.

CST Objective 4.4: Establish Level of Service Standards
To establish LOS standards for roads, stormwater systems, parks, potable water, sanitary sewer, schools, and solid waste that take into account the special needs that result from the unique circumstances and dynamics associated with the natural and manmade dynamics of the CPA; including but not limited to, tidal fluctuations, coastal erosion, tropical storms, high water tables, flooding, rising sea levels, etc.

CST Policy 4.4.1: Evaluation of Existing Infrastructure Elements
The County shall regularly evaluate existing infrastructure elements to ensure that they satisfy the unique demands associated with the natural and manmade dynamics of the CPA (i.e., tropical storms, high winds, flooding, transportation, structural demands, etc.) and revise County regulations and requirements as needed to ensure the health, safety and welfare of the current and future citizens are protected.

CST Policy 4.4.2: Level of Service Standards
The County has established County-wide LOS standards for roads, stormwater, parks, potable water, sanitary sewer, schools, and solid waste. The LOS that the County has established for these infrastructure items in the CPA are described in the respective elements of this Plan.

CST GOAL 5: RESILIENCY INITIATIVE
To increase the County's comprehensive adaptability and resiliency capacities to the impacts of climate change and sea level rise.

CST Objective 5.1: Protection of Vulnerable Areas

To develop and implement adaptation strategies for areas vulnerable to coastal flooding, flash floods, saltwater intrusion, storm surge, stormwater runoff, tidal events, and other impacts related to climate change and sea level rise.

CST Policy 5.1.1: Adaptation Action Areas

The County shall consider identifying and designating Adaptation Action Areas, defined by Section 163.3164(1), F.S. These areas may include, but are not to be limited to:

1. Areas which experience tidal flooding or flooding due to extensive rainfall
2. Areas which have a hydrological connection to coastal waters
3. Areas which are within areas designated as evacuation zones for storm surge
4. Areas which are impacted by stormwater/flood control issues

CST Policy 5.1.2: Adaptation Strategies

The County shall develop specific adaptation strategies including, but not limited to, accommodation, protection, and relocation, for properties located within Adaptation Action Areas.

CST Policy 5.1.3: Assessment of Public Infrastructure

The County shall create an inventory to include public investments and infrastructure at risk to sea level rise and other climate change related impacts.

CST Policy 5.1.4: Development and Redevelopment Principles

The County shall encourage the following principles to eliminate inappropriate and unsafe development in the coastal area when opportunities arise:

1. To reduce the flood risk in coastal areas, which results from high-tide events, storm surge, flash floods, stormwater runoff and the related impacts of sea level rise among other requirements.
2. To use the practices, principles, strategies, and engineering solutions for development and redevelopment that will most effectively result in the removal of coastal real property from flood zone designations established by the Federal Emergency Management Agency.
3. To identify site development techniques that may reduce losses due to flooding and claims made under flood insurance policies.
4. To be consistent with, or more stringent than, the flood-resistant construction requirements in the Florida Building Code and applicable flood plain management regulations set forth in 44 C.F.R. part 60.

To require that any construction activities seaward of the coastal construction control lines established pursuant to section 161.053, Florida Statutes, be consistent with chapter 161, Florida Statutes.

Appendix G – Charlotte County SI/SD SOP, Floodplain Related Construction Certificates Review and Maintenance Procedures

Substantial Improvement/Substantial Damage (SI/SD) Standard Operating Procedure (SOP)

As a participant in the National Flood Insurance Program (NFIP), unincorporated Charlotte County, FL is responsible for ensuring compliance with the Federal Emergency Management Agency (FEMA) requirements. The purpose of this document is to provide guidance on how to determine Substantial Improvement and Substantial Damage (SI/SD). All development proposals located within a FEMA high-risk Flood Zones are to be reviewed for Substantial Improvement and Substantial Damage. This includes all development proposals in or affected by Special Flood Hazard Areas (SFHAs) or to expand the footprint of a structure or to remodel or repair a structure (requiring a building permit). If any portion of the existing structure or proposed addition is within a SFHA these requirements apply. The review procedure is as follows:

- Construction documents as required by the Florida Building Code, and/or ASCE 24 as applicable are submitted for review as part of the application process.
- The construction documents are routed to the Community Development Floodplain Coordinator or other floodplain trained personnel to determine whether improvements or repairs in SFHAs constitute substantial improvement or repair of substantial damage.
- Proposed work submitted by applicants is reviewed to determine that all NFIP/CRS requirements are met.
- The cost of the project is reviewed against the adjusted building values as set by the Charlotte County Property Appraiser's office.
- An owner has the option to submit a private appraisal in lieu of the Property Appraiser's valuation.A structure may be exempted from the 50% rule if it has been removed from the SFHA by a Letter of Map Change, or an elevation certificate is on file or has been submitted showing the finished floor elevation and the machinery are at least one foot (1') above the current Base Flood Elevation in an A-zone or showing the lowest horozontail structural member are at least one foot(1') above the current Base Flood Elevation in a V-zone.
- Any construction that expands the footprint of a structure that has been removed from the SFHA by a FEMA Letter of Map Change (structure only) and where portions of the lot remain in the SFHA, will be subject to the 50% rule.
- If the cost of the project is between 40% and 49.9% of the value of the structure, a completed Substantial Improvement/Substantial Damage Worksheet must be provided to track construction and ensure the cost does not meet or exceed 50% of the value of the structure. A signed and notarized affidavit from the contractor of record, and a signed and notarized affidavit from the homeowner approving the work must also be provided.

Charlotte County Community Development
Building Construction Services, Comprehensive Planning & Zoning
18400 Murdock Circle, Port Charlotte, FL 33948

BCS 941.743.1201, fax 941.764.4907
Zoning 941.743.1964, fax 941.743.1598
CharlotteCountyFL.gov

- If the cost of improvement or cost of repair of all damamges incurred equals or exceeds 50% of the market value of the existing building it is determined to be a substantial improvement or substantial damage and the permit will be rejected. The owner has the option to revise the scope and cost to qualify the permit application. Phasing of projects is not allowed by FEMA.
- Community Development Plans Examiners will verify compliance with the Charlotte County's floodplain management regulations.
- All qualifying permits that are open will be counted together against the 50% threshold. All qualifying permits that are single-event related (hurricane, flood, fire, etc.) will be counted together against the 50% threshold whether still open or closed.
- Appropriate building permits are issued upon plan and FEMA regulations approval.
- Inspections during construction are conducted to determine that work complies with issued permits.
- Code Enforcement staff and the Building Department staff will work with builders and property owners to correct deficiencies and violations. Code Enforcement staff follow-up on reports of violations and/or unpermitted work.

Effective date _____

1. It should be noted that the Substantial Improvement/Substantial Damage worksheet is a screening tool to establish which project equals or exceeds 50% of the structure's existing market value before the improvements or repairs. Projects within the SFHA that cost 50% or more will not be permitted.
2. If the applicant disagrees with the SI/SD determination, a signed construction proposal from a licensed contractor and a private appraisal of the market value of the existing structure before improvements or repairs must be provided. The appraisal must be from a state certified appraiser and must follow the FEMA 50% valuation guidelines.
3. Costs include materials and labor,and overhead and profit. Also included is the estimated value of donated or discounted materials and owner or volunteer labor at current local rates.
4. If the cost of SI/SD meets or exceeds 50% of the value of the structure, NFIP regulations require the structure be brought into full compliance with current flood regulations through either elevation or mitigation reconstruction.

Charlotte County Floodplain-related Construction Certificates

Review and Maintenance Procedures

August 2024

Charlotte County participates in the National Flood Insurance Program (NFIP) and the NFIP's voluntary Community Rating System (CRS). Charlotte County Community Development collects and maintains certain required floodplain-related construction certificates for new construction and substantially-improved buildings within the Special Flood Hazard Area (SFHA).

These certificate types with their processes are listed as follows:

Elevation Certificate – FEMA Form FF-206-FY-22-152 (formerly 086-0-33) in its current form (expiration date 06/30/2026) and any future FEMA approved versions. This standard FEMA form for flood insurance rating purposes, is also used to determine compliance with applicable NFIP, Florida Building Code and local ordinances for floodplain construction. Elevation certificates are required during the building process for all construction within the SFHA. The final elevation certificate is required before a Certificate of Occupation (CO) is issued. The two elevation certificates required are:

- The 'Under Construction' elevation certificate, used at the beginning of construction to confirm the slab will be elevated to the required height. The inspection process is halted until this elevation certificate is received and reviewed for accuracy/completeness; and
- The 'Finished Construction' elevation certificate used at the end of construction to show the elevation of the finished floor and machinery meet the required elevations. Any flood vents used in non-living spaces are noted and pictures of the finished construction are included. This final elevation certificate is loaded online into our flood mapping application and made available to the public right away.

Engineered Opening Certification – When engineered flood openings are installed in foundation walls or doors, a certification must be provided and attached to the Elevation Certificate. Most commonly, these come from the International Code Council Evaluation Service (ICC-ES), although sometimes the products have a specification page with sign-off from a Professional Engineer. This certification is included after the pictures in the finished construction elevation certificate and is part of the review.

Floodproofing Certificate – FEMA form FF-206-FY-22-153 (formerly 86-0-34) is used for non-residential structures in zone A or AE that employ dry floodproofing techniques, rather than elevating to/above BFE + 1'. This certificate is required before CO is issued and is kept in the permit file.

Charlotte County Community Development
Building Construction Services, Comprehensive Planning & Zoning
18400 Murdock Circle, Port Charlotte, FL 33948

BCS 941.743.1201, fax 941.764.4907
Zoning 941.743.1964, fax 941.743.1598
CharlotteCountyFL.gov

Non-Conversion Agreement – A recorded "Declaration of Covenants, Conditions and Restrictions" shall be recorded in the Public Records of Charlotte County, Florida, and must be signed and notarized. It includes terms and conditions that allow the enclosed areas below the Design Flood Elevation to be used solely for the parking of vehicles, limited storage and access to the building. All interior walls, ceilings and floors below Design Flood Elevation (DFE) shall be unfinished or constructed of flood resistant materials. Mechanical, electrical and plumbing devices shall not be installed below Design Flood Elevation. The walls of the enclosed areas below DFE shall be equipped and remain equipped with openings shown on the permit documents. Charlotte County may take legal action to enforce the recorded non-conversion agreement. This non-conversion agreement is required before the CO is issued.

V-zone Certificate – An unofficial NFIP form, this needs to be completed by the Registered Design Professional (PE or Architect) for all new construction in a VE zone. The form covers Flood Insurance Rate Map information, Lowest Horizontal Structural Member, Base Flood Elevation, Elevation of Lowest Adjacent Grade (LAG), Approximate Depth of Anticipated Scour/Erosion used for Foundation Design, Embedment Depth of Pilings or Foundation Below LAG. It also includes a V-zone Certification Statement, a Breakaway Wall Certification Statement, and the signature & seal of the licensed design professional. V-zone certificates are collected during the permit process and are stored in the permit file.

No-rise Certificate – An unofficial NFIP form, this needs to be completed by a Professional Engineer (PE) for all construction in a floodway. Charlotte County follows the guidance from the NFIP and 44 CFR, NFIP 60.3 (d)(3) – Floodway Requirement: "Any project in a floodway must be reviewed to determine if the project will increase flood heights. An engineering analysis must be conduction before a permit can be issued. The community's permit file must have a record of the results of this analysis, which can be in the form of a No-rise Certification. No-rise Certification must be supported by technical data and signed by a registered professional engineer. The supporting technical data should be based on the standard step-backwater computer model used to develop the 100-year floodway shown on the Flood Insurance Rate Map (FIRM) or Flood Boundary and Floodway Map (FBFM). This form is required during the permit review process and must be received and reviewed before the permit can be issued.

Procedures:

The Charlotte County Building Department shall collect the applicable floodplain-related construction certificates for all new construction and Substantial Improvements or Substantial Damage in the Special Flood Hazard Areas of Charlotte County, as established by the effective Flood Insurance Rate Map. Customer service representatives will intake the paper original construction certificates, mark the embossed seal, and scan the documents for review. Digitally-signed and sealed documents are emailed to FloodInfo@CharlotteCountyFL.gov, which is a shared inbox that is accessible by all Certified Floodplain Managers on staff. All the above Certificates are scanned and saved to the permit files and to the Elevation Certificates folder on the P: drive. When uploaded to the file, the attachment should include the elevation certificate and all related documents

Elevation Certificates

The Floodplain Administrator and/or their designee shall review Elevation Certificates during construction and at the Finished Construction stage before a Certificate of Occupancy is issued. Community Development staff shall include multiple Certified Floodplain Managers, and whenever possible, a CFM will conduct the Construction Certificate reviews. On the Elevation Certificate, staff will review for correctness:

- Full address on all pages
- Property description
- Building use (Section A4)
- Horizontal Datum used (Section A5)
- Building diagram number (Section A7)
- Details for openings in crawl spaces and/or garages (Section A8/A9)
- FIRM information (Section B)
- Source of BFE data (Section B10)
- Datum used (Section B11)
- CBRS or OPA impacted
- LiMWA impacted
- C1 noting elevations based on under-construction or finished-construction
- C2 noting Benchmark Utilized and the Vertical Datum of the Benchmark
- Elevations of relevant components of the building (Section C2); and
- Surveyor's signature, seal and notes (Section D), as well as attachments noted if appropriate
- Section E if construction is in an unnumbered A flood zone
- Section G8 noting new construction or substantial improvement
- Section G11 noting whether or not a variance has been issued
- Section G: Local Official's Name; Title; NFIP Community Name; Official's Signature; and Date.

Approved Finished Construction elevation certificates will be scanned and saved into a shared folder on the County's network and uploaded into the digital file for the relevant permit. This makes the PDF copy available to the public on the Charlotte County Property Appraiser's GIS site: ~~Charlotte County GIS (charlottecountyfl.gov)~~

Corrections to Elevation Certificates:

Whenever possible, Community Development staff will reach out to the original surveyor to make corrections. This is most easily accomplished before a Certificate of Occupancy is issued, but the surveyor should also be contacted if the error is discovered later, in conjunction with an in-house audit for CRS purposes.

If the surveyor is no longer in business or has moved out of the area, a staff CFM can fill out the Comments area in Section G with the correction information.

If the error is found in Section C, a new Elevation Certificate must be prepared by a licensed Florida surveyor.

Public availability of Elevation Certificates:

Charlotte County Community Development staff will also make Finished Construction elevation certificates available to inquirers when requests are made in-person, over the telephone, or online via email or a request through PublicStuff on the Charlotte County website. Most requests are forwarded to a CFM and responded to within 24 hours, although "business services" staff will often look for elevation certificates and respond with PDF copies, when available. The public can download a copy from the Charlotte County GIS site: Charlotte County GIS (charlottecountyfl.gov)
Users simply need to turn on the layer for "Certificate of Elevation" and then use the "identify" tool to click on the parcel in question. A link will pop up that allows the user to view and/or download a PDF copy of the elevation certificate on file for that address.

Engineered Opening Certificates

If a crawlspace or attached garage is below BFE an Engineered Opening Certificate must be collected. Section A8 or A9 must be completed on the Elevation Certificate indicating that engineered flood openings are used, a copy of the ICC-ES or other Engineered Opening Certification should be attached to the Elevation Certificate before a CO is issued.

At the time of this writing, Adobe software does not allow the Engineered Opening Certification to be added to the signed PDF version of the form, when signed and sealed digitally by the surveyor. All paper copies that are scanned by County staff should include the Engineered Opening Certification documentation attached to the PDF. If the elevation certificate is a paper original, use the china marker lightly over the surveyor's seal, then scan the document, making sure to get all pages, since pages 1 & 2 are often printed front and back. Then enter all the relevant information into "Custom Fields" in Accela and upload the file to both Accela and the Elevation Certificates folder on the P: drive. For the Engineered Opening Certification, staff will use the number of openings shown in Section A8 or A9 of the elevation certificate, along with the product performance specifications from ICC-ES or otherwise approved by an Engineer, multiply those numbers and determine whether sufficient openings are provided.
The Floodplain Administrator and/or their designee shall review Engineered Opening Certificates during construction and at the Finished Construction stage before a Certificate of Occupancy is issued.
If the form has an error, the Community Development Department will contact the applicant and request a correction.

Community Development staff shall include multiple Certified Floodplain Managers, and whenever possible, a CFM will conduct the Construction Certificate reviews.

Floodproofing Certificates

Non-residential structures in zone A or AE that employ dry floodproofing techniques, rather than elevating to/above BFE + 1', a Floodproofing Certificate must be collected prior to the issuance of a CO.
For Floodproofing Certificates, staff will enter the information Floodproofing Design Elevation information along with the Height of Floodproofing on the building above the lowest adjacent grade.
The Floodplain Administrator and/or their designee shall review Floodproofing Certificates at the Finished Construction stage before a Certificate of Occupancy is issued.
If the form has an error, the Community Development Department will contact the applicant and request a correction.

Non-Conversion Agreements

If a building has enclosed areas below the Design Flood Elevation, a Non- Conversion Agreement form must be collected prior to the issuance of a CO.
For Non-Conversion Agreements, staff will record the OR Book and Page number, or Instrument number, from the recorded Non-Conversion Agreement that the property owner has signed and recorded with the Charlotte County Clerk's Office.
The Floodplain Administrator and/or their designee shall review Non-Conversion Agreements at the Finished Construction stage before a Certificate of Occupancy is issued.
If the form has an error, the Community Development Department will contact the applicant and request a correction.

V Zone Certificate

A V Zone certificate must be collected for all new construction and substantial improvement or substantial damage in the V Flood Zone. For V-zone certificates, staff will note the information from the top section of the form and include the engineer's information, license number, and date.
The Floodplain Administrator and/or their designee shall review V Zone Certificates at the Finished Construction stage before a Certificate of Occupancy is issued.
If the form has an error, the Community Development Department will contact the applicant and request a correction.

No-rise Certificate

A No-rise certificate must be collected for all new construction and substantial improvement or substantial damage in the floodway during permit review. For No-rise certificates, staff will confirm the Engineer's information, license number, and date.
"An Applicants Guide to No-Impact Certification (aka No-rise Certification)" provides guidance and is included in the permit application by the Planning Department. The No-rise certificate submitted by the Engineer will be reviewed by The Floodplain Administrator and/or their designee for completeness before the permit is approved.
If there is an error in the form, the Community Development Department will contact the Engineer of record and request a correction.

Maintenance

The construction certificates are with each permit in their permit file. Older paper permits that are scanned will have the scanned documents with them. Plans and documents are scanned by county staff and preserved as a digital file, before destroying the paper documents. In the past, some were managed by the clerk of the court and then stored online at the clerk of the court website Clerk of Court - Portal (charlotteclerk.com). More recently, documents have been scanned by Building Department staff and have been uploaded to the permitting software program Accela. Newer paper permits that have not been scanned yet maintain the paper copy in the respective folder.

For permits submitted online, the documents will be uploaded with permit. The applicant is typically the one uploading the document for online permits.

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Shawn McNulty, Building Official and Floodplain Administrator Signature

9 Record of Changes

Record of Changes		
Section Changed	**Change Made By**	**Date Changed**
Promulgation Statement	Bradley Geelen	12/2019
Plan Update	Bradley Geelen/LMSWG	12/2019
Added Cyber Incidents	Bradley Geelen	2/2020
Plan Review and Update	Bradley Geelen/Christine Fankhauser	1/2025

**Any changes or updates to the plan will be distributed electronically to stakeholders*.