Application No.
PA-15-10-15-LS
(Large Scale Plan Amendment)

Applicant
Board of County Commissioners / Revisions to Comp Plan, Pt. II, Shelter Requirements

Legislative

Countywide

MEMORANDUM

DATE: December 21, 2015

TO: Honorable Board of County Commissioners
Planning and Zoning Board

FROM: Claire Jubb
Community Development Department Director

RE: **A Large Scale Plan Amendment Petition Number PA-15-10-15-LS: Revisions to Future Land Use (FLU) Appendix 1: land Use Guide by revising "Shelter Requirement" under the "Special Provisions" subsection of the Compact Growth Mixed Use (CGMU) Future Land Use Map (FLUM) category (Part II.3)**

Staff Recommendation

Approve transmittal of Petition No. PA-15-10-15-LS to the Department of Economic Opportunity (DEO) for review and comment, based on the findings and analysis in the Comprehensive Planning Division staff memorandum dated December 21, 2015 and any evidence presented at the public hearing.

The Planning and Zoning Board Proposed Recommendation

Motion to forward application No. PA-15-10-15-LS to the Board of County Commissioners with a recommendation of Approval/Denial of transmittal of PA-15-10-15-LS to the Department of Economic Opportunity (DEO) for review and comment, based on the findings and analysis in the Comprehensive Plan staff memorandum dated December 21, 2015, and any evidence presented at the public hearing.

Staff's Analysis

The "Shelter Requirement" under the "Special Provisions" subsection of the Compact Growth Mixed Use (CGMU) Future Land Use Map (FLUM) category, which states that *where the project is located within the Coastal High Hazard Area or Category II Storm Surge Zone, all residents shall be required to evacuate and the developer is required to provide monetary contributions to the County's*

shelter system. If outside these areas, sufficient shelter shall be created in each development to support the residential population of the development in the event of a natural disaster. Staff is proposing to revise this requirement as follows:

9. *Shelter Requirement:* Any CGMU project shall be in compliance with the County's Comprehensive Emergency Management Plan and Local Mitigation Strategy. ~~Where the project is located within the Coastal High Hazard Area or Category II Storm Surge Zone, all residents shall be required to evacuate and the developer is required to provide monetary contributions to the County's shelter system. If outside these areas, sufficient shelter shall be created in each development to support the residential population of the development in the event of a natural disaster.~~

Staff reviewed the standards for Hurricane Evacuation Shelter Selection (see Attachment 1: Standards for Hurricane Evacuation Shelter Selection – American Red Cross) which has been adopted by the State of Florida as the required standard for all hurricane evacuation standards, the Charlotte County Comprehensive Emergency Management Plan (CEMP) (see Attachment 2: Charlotte County Comprehensive Emergency Management Plan 2014-2018) and the Charlotte County Local Mitigation Strategy (LMS) (see Attachment 3: Local Mitigation Strategy). Staff also discussed this proposed revision with staff from Charlotte County Emergency Management. Both departments agreed on this revision based on the following reasons:

1. After review of the standards for Hurricane Evacuation Shelter Selection, with particular reference to the Sea, Lake and Overland Surges from Hurricanes (SLOSH) maps and surge inundation in comparison to Charlotte County's low elevation, it is staff's professional opinion that this policy is unattainable and therefore should be amended to reflect the plans and standards that are in place in Charlotte County.

2. Chapter 252, Florida Statutes, mandates the development of the Charlotte County CEMP. The CEMP establishes a framework with uniform policy and procedures, through which Charlotte County may prepare for, respond to, recover from, and mitigate large scale emergencies and disasters, either natural, manmade, or technological, which can adversely affect the health, safety, and general well-being of the citizens of Charlotte County and its municipality, the City of Punta Gorda. The CEMP describes the strategies that Charlotte County will use to mobilize its resources and conduct activities to mitigate, prepare for, respond to, and recover from large scale emergency and disaster situations. The CEMP provides flexibility of direction and guidance to Charlotte County, City of Punta Gorda, and volunteer personnel on procedures, organization, and responsibilities which will help prevent, minimize, and/or relieve personal hardship and property damage associated with large scale emergencies, disasters, or the eminent threat associated with these events, including warning and notification. The CEMP also provides for an integrated response from all levels of government, the private sector, and volunteer agencies. As the County has a CEMP that is the statutorily required framework, it is staff's professional opinion that this policy should be reworded to eliminate inconsistencies between documents.

3. The Local Mitigation Strategy Working Group has jointly identified local hazards, has assessed county 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. It is staff's professional opinion that any hazard mitigation activities should be directed by the locally adopted and statutorily required Local Mitigation Strategy and other related documents.

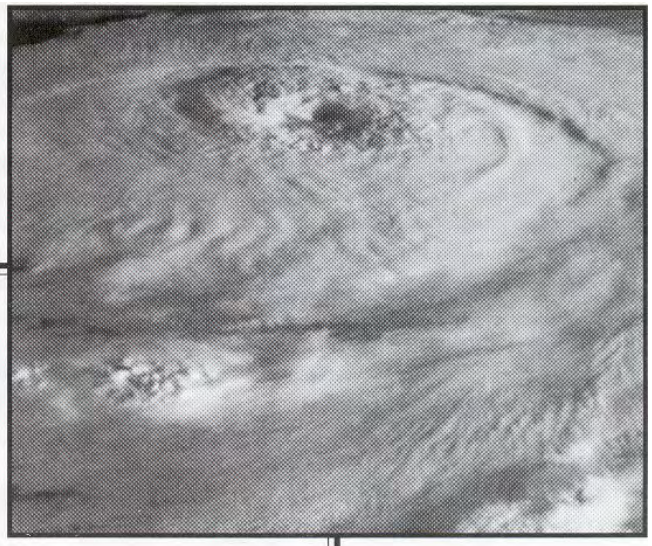
4. There are goals, objectives and policies set forth in the Coastal Element of the County's Comprehensive Plan, which address residential developments within the Coastal High Hazard Areas and the evacuation time and make the specific CGMU requirement less necessary. (See Attachment 4: Policies Address Residential Developments Within the Coastal High Hazard Areas and Evacuation Times)

COMMUNITY DEVELOPMENT DEPARTMENT
18500 Murdock Circle
Port Charlotte, FL 33948
Phone: 941.764.4909 | Fax: 941.764-4108

Attachment 1: Standards for Hurricane Evacuation Shelter Selection – American Red Cross

COMMUNITY DEVELOPMENT DEPARTMENT
18500 Murdock Circle
Port Charlotte, FL 33948
Phone: 941.764.4909 | Fax: 941.764-4108

Appendix C:
ARC 4496 - Standards for Hurricane
Evacuation Shelter Selection



Standards for Hurricane Evacuation Shelter Selection

American Red Cross

Together, we can save a life

An interagency group comprised of the Federal Emergency Management Agency, the U.S. Army Corps of Engineers, the Environmental Protection Agency and Clemson University, has developed hurricane evacuation shelter selection standards. These standards reflect the application of technical data compiled in hurricane evacuation studies, other hazard information, and research findings related to wind loads and structural problems. These standards are supplemental to information contained in ARC 3041, *Mass Care: Preparedness and Operations* concerning shelter selection.

Planning considerations for hurricane evacuation shelters involve a number of factors and require close coordination with local officials responsible for public safety. Technical information contained in Hurricane Evacuation Studies, storm surge and flood mapping, and other data can now be used to make informed decisions about the suitability of shelters.

In the experience of the American Red Cross, the majority of people evacuating because of a hurricane threat generally provide for themselves or stay with friends and relatives. However, for those who do seek public shelter, safety from the hazards associated with hurricanes must be assured. These hazards include—

- Surge inundation.
- Rainfall flooding.
- High winds.
- Hazardous materials.

The following standards address the risks associated with each of these hurricane-associated hazards.

Surge Inundation

In general, hurricane evacuation shelters should not be located in areas vulnerable to hurricane surge inundation. The National Weather Service has developed mathematical models, such as Sea, Lake, and Overland Surges from Hurricanes (SLOSH) and Special Program to List Amplitudes of Surges from Hurricanes (SPLASH), that are critical in determining the potential level of surge inundation in a given area.

- Carefully review inundation maps in order to locate all hurricane evacuation shelters outside of Category 4 storm surge inundation zones.
- Avoid buildings subject to isolation by surge inundation in favor of equally suitable buildings not subject to isolation. Confirm that ground elevations for all potential shelter facilities and access routes obtained from topographic maps are accurate.
- Do not locate hurricane evacuation shelters on barrier islands.

Rainfall Flooding

Rainfall flooding must be considered in the hurricane evacuation shelter selection process. Riverine inundation areas shown on Flood Insurance Rate Maps (FIRMs), as prepared by the National Flood Insurance Program, should be reviewed. FIRMs should also be reviewed in locating shelters in inland counties.

- Locate hurricane evacuation shelters outside the 100-year floodplain.
- Avoid selecting hurricane evacuation shelters located within the 500-year floodplain.
- Avoid selecting hurricane evacuation shelters in areas likely to be isolated due to riverine inundation of roadways.
- Make sure a hurricane evacuation shelter's first floor elevation is on an equal or higher elevation than that of the base flood elevation level for the FIRM area.
- Consider the proximity of shelters to any dams and reservoirs to assess flow upon failure of containment following hurricane-related flooding.

High Winds

Consideration of any facility for use as a hurricane evacuation shelter must take into account wind hazards. Both design and construction problems may preclude a facility from being used as a shelter. Local building codes are frequently inadequate for higher wind speeds.

- If possible, select buildings that a structural engineer has certified as being capable of withstanding wind loads according to **ASCE (American Society of Engineers) 7-98** or **ANSI (American National Standards Institute) A58 (1982)** structural design criteria. Buildings must be in compliance with all local building and fire codes.
- Failing a certification (see above), request a structural engineer to rank the proposed hurricane evacuation shelters based on his or her knowledge and the criteria contained in these guidelines.
- Avoid uncertified buildings of the following types:
  —Buildings with long or open roof spans longer than 40 feet.
  —Unreinforced masonry buildings.
  —Pre-engineered (steel pre-fabricated) buildings built before the mid-1980s.
  —Buildings that will be exposed to the full force of hurricane winds.
  —Buildings with flat roofs or built with lightweight materials.
- Give preference to the following:
  —Buildings with 10°-30° pitched, hipped roofs; or with heavy concrete roofs.
  —Buildings no more than 60 feet high.
  —Buildings in sheltered areas (protected from strong winds).
  —Buildings whose access routes are not tree-lined.

Hazardous Materials

The possible impact from a spill or release of hazardous materials should be taken into account when considering any potential hurricane evacuation shelter.

All facilities manufacturing, using, or storing hazardous materials (in reportable quantities) are required to submit *Material Safety Data Sheets* (emergency and hazardous chemical inventory forms) to the Local Emergency Planning Committee (LEPC) and the local fire department. These sources can help you determine the suitability of a potential hurricane evacuation shelter or determine precautionary zones (safe distances) for facilities near potential shelters that manufacture, use or store hazardous materials.

- Facilities that store certain reportable types or quantities of hazardous materials may be inappropriate for use as hurricane evacuation shelters.
- Hurricane evacuation shelters should not be located within the ten-mile emergency planning zone (EPZ) of a nuclear power plant.
- Chapters must work with local emergency management officials to determine if hazardous materials present a concern for potential hurricane evacuation shelters.

Interior Building Safety Criteria During Hurricane Conditions

Based on storm data (e.g., arrival of gale-force winds), determine a notification procedure with local emergency managers regarding when to move the shelter population to pre-determined safer areas within the facility. Consider the following:

- Do not use rooms attached to, or immediately adjacent to, unreinforced masonry walls or buildings.
- Do not use gymnasiums, auditoriums, or other large open areas with long roof spans (longer than 40 feet) during hurricane conditions.
- Avoid areas near glass unless an adequate shutter protects the glass surface. Assume that windows and the roof will be damaged and plan accordingly.
- Use interior corridors or rooms.
- In multi-story buildings, use only the lower floors (no higher than 60 feet) and avoid corner rooms.
- Avoid any wall section that has portable or modular classrooms in close proximity, if these are used in your community.
- Avoid basements if there is any chance of flooding.

Least-Risk Decision Making

Safety is the primary consideration for the American Red Cross in selecting hurricane evacuation shelters. When anticipated demands for hurricane evacuation shelter spaces exceed existing capacity as defined by the preceding standards, there may be a need to utilize less preferred facilities. It is critical that shelter selection decisions be made carefully and in consultation with local emergency management and public safety officials. This process should include the following considerations:

- No hurricane evacuation shelter should be located in an evacuation zone for obvious safety reasons. All hurricane evacuation shelters should be located outside of Category 4 storm surge inundation zones. Certain exceptions may be necessary, but only if there is a high degree of confidence that the level of wind, rain, and surge activities will not surpass established shelter safety margins.
- When a potential hurricane evacuation shelter is located in a flood zone, it is important to consider its viability. By comparing elevations of sites with FIRMs, one can determine if the shelter and a major means of egress are in any danger of flooding. Zone AH (within the 100-year flood plain and puddling of 1-3 feet expected) necessitates a closer look at the use of a particular facility as a sheltering location. Zones B, C, and D may allow some flexibility. It is essential that elevations be carefully checked to avoid unnecessary problems.
- In the absence of certification or review by a structural engineer, any building selected for use as a hurricane evacuation shelter must be in compliance with all local building and fire codes. Certain exceptions may be necessary, but only after evaluation of each facility, using the aforementioned building safety criteria.
- The Red Cross uses the planning guideline of 40-square feet of space per shelter resident. During hurricane conditions, on a short-term basis, shelter space requirements may be reduced. Ideally, this requirement should be determined using no less than 15 square feet per person. Adequate space must be set aside for registration, health services, and safety and fire considerations. Disaster Health Services areas should still be planned using a 40-square feet per person calculation. On a long-term recovery basis, shelter space requirements should follow guidelines established in ARC 3041, *Mass Care: Preparedness and Operations*.

Hurricane Evacuation Shelter Selection Process

General procedures for investigating the suitability of a building or facility for use as a hurricane evacuation shelter are as follows:

- Identify viable sites. Evacuation and transportation route models must be considered.
- Complete a risk assessment on each viable site. Gather all pertinent data from SLOSH and/or SPLASH (storm surge), FIRM (flood hazard) models; determine the facility base elevation; and obtain hazardous materials information and previous studies concerning each building's suitability.
- Have a structural engineer evaluate the facility and rate its ability to withstand wind loads according to ASCE 7-98 or ANSI A58 (1982) structural design criteria.
- Inspect the facility and complete a *Red Cross Facility Survey* (ARC Form 6564) and a *Self-Inspection Work Sheet/Off Premises Liability Checklist*, in accordance with ARC 3041. Note all potential liabilities and the type of construction. Consider the facility as a whole. One weak section may seriously jeopardize the integrity of the building.

Increasing Shelter Inventory

An annual review of all approved hurricane evacuation shelters is required. Facility improvements, additions, or deterioration may change the suitability of a selected facility as a hurricane evacuation shelter. Facility enhancements may also enable previously unacceptable facilities to be used as hurricane evacuation shelters.

Work with officials, facility managers, and school districts on mitigation opportunities. Continue to advocate that the building program for new public buildings, such as schools, should include provisions to make them more resilient to possible wind damage. Suggest minor modifications of municipal, community, or school buildings, such as the addition of hurricane shutters, while buildings are being planned. Such modifications will make them useful as hurricane evacuation shelters.

Finally, add any new shelters to chapter shelter system and disaster response plans. Share shelter information with local emergency planning partners and the state lead chapter for Disaster Services for inclusion in state disaster response plans.

Attachment 2: Charlotte County Comprehensive Emergency Management Plan 2014-2018

COMMUNITY DEVELOPMENT DEPARTMENT
18500 Murdock Circle
Port Charlotte, FL 33948
Phone: 941.764.4909 | Fax: 941.764-4108

Charlotte County Comprehensive Emergency Management Plan 2014 – 2018

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

TABLE OF CONTENTS

ACRONYMS

This listing is a general reference and is not designed to be an authoritative or all-inclusive information source. Certain listed organizations are obsolete, but are included for the use of persons who may be referring to this page for definitions from older plans and documents.

AHCA	Agency for Health Care Administration
ALF	Assisted Living Facility
ARC	American Red Cross
ARES	Amateur Radio Emergency Services
ARL	Advanced Recovery Liaison
BCC	Board of County Commissioners
CAP	Civil Air Patrol
CCAC	Charlotte County Animal Control
CCCO	Charlotte County Community Outreach
CCEH	Charlotte County Environmental Health
CCEOC	Charlotte County Emergency Operations Center
CCFM	Charlotte County Facilities Construction / Maintenance
CCHP	Charlotte County Housing Plan
CCMIS	Charlotte County Management Information Services
CCOEM	Charlotte County Office of Emergency Management
CCPA	Charlotte County Property Appraiser
CCPH	Charlotte County Public Health
CCPW	Charlotte County Public Works
CCSB	Charlotte County School Board
CCSO	Charlotte County Sheriff's Office
CCSS	Charlotte County Social Services
CCTP	Charlotte County Terrorism Plan
CCU	Charlotte County Utilities
CEMP	Comprehensive Emergency Management Plan
CEO	Chief Executive Officer
CERT	Community Emergency Response Team
CISD	Critical Incident Stress Debriefing
DACS	Department of Agriculture and Consumer Services (Florida)
DBPR	Department of Business and Professional Regulations
DCA	Department of Community Affairs (Florida)
DCF	Department of Children and Families (Florida)

DEM	Division of Emergency Management (Florida)
DEP	Department of Environmental Protection (Florida)
DFO	Disaster Field Office
DMA	Department of Military Affairs (Florida)
DMAT	Disaster Medical Assistance Team
DOEA	Department of Elder Affairs (Florida)
DOH	Department of Health (Florida)
DOI	Department of Insurance (Florida)
DOT	Department of Transportation (Florida)
DRC	Disaster Recovery Center
DSR	Disaster Survey Report
EAS	Emergency Alert System
EMPA	Emergency Management Preparedness and Assistance Fund
EMS	Charlotte County Fire/Emergency Medical Services
ESATCOM	Emergency Satellite Communications System
ESF	Emergency Support Function
FAC	Florida Administrative Code
FBI	Federal Bureau of Investigation
FDLE	Florida Department of Law Enforcement
FEMA	Federal Emergency Management Agency
FEPA	Florida Emergency Preparedness Association
FFCA	Florida Fire Chiefs Association
FF&WCC	Florida Fish and Wildlife Conservation Commission
FHP	Florida Highway Patrol
FLNG	Florida National Guard
FMAP	Flood Mitigation Assistance Program
FP&L	Florida Power and Light
GIS	Geographic Information Systems
HMGP	Hazard and Mitigation Grants Program
ICS	Incident Command System
IFG	Individual and Family Grant Program
JIC	Joint Information Center
LSA	Logistical Staging Area
NHC	National Hurricane Center
NIMS	National Incident Management System
NOAA	National Oceanic and Atmospheric Administration

NRF	National Response Framework
PDA	Preliminary Damage Assessment
PIO	Public Information Officer
PGFD	Punta Gorda Fire Department
PGPD	Punta Gorda Police Department
PGPW	Punta Gorda Public Works
RACES	Radio Amateurs in Civil Emergency Services
RDSTF	Regional Domestic Security Task Force
RIAT	Rapid Impact Assessment Team
RRT	Rapid Response Team
SAR	Search and Rescue
SBA	Small Business Administration
SEOC	State Emergency Operations Center
SERT	State Emergency Response Team
SOG	Standard Operating Guideline
SOP	Standard Operating Procedure
SNP	Special Needs Program
SWP	State Warning Point
THP	Charlotte County Temporary Housing Plan
THO	Temporary Housing Office
USAR	Urban Search and Rescue
USCG	United States Coast Guard
VOAD	Voluntary Organizations Active in Disasters
VRC	Volunteer Reception Center
WebEOC	Intermedix computer emergency management software program

EXECUTIVE SUMMARY

Charlotte County is vulnerable to a variety of natural, man-made and technological hazards that can potentially threaten the citizens, businesses, and environment. The *Charlotte County Comprehensive Emergency Management Plan* (CEMP) establishes the framework to ensure that Charlotte County and the City of Punta Gorda will be adequately prepared to deal with these hazards.

The CEMP outlines the general roles and responsibilities of County agencies when preparing for, responding to, or recovering from a large-scale emergency or disaster. The CEMP also coordinates emergency and disaster activities with volunteer organizations and businesses that serve Charlotte County.

The CEMP addresses all four phases of emergency management - mitigation, preparedness, response, and recovery. These phases' parallel activities set forth in two key documents: the State CEMP and the National Response Framework (NRF). The CEMP also describes how resources from national, state, and other sources will be coordinated to supplement County resources for disaster response.

The CEMP is divided into three (3) sections: The Basic Plan (including Recovery & Mitigation), Emergency Operations Center (EOC) Groupings/Positions appendices, and Hazard Specific annexes. The following is a brief description of the CEMP.

1. The Basic Plan **-**The Basic Plan describes, in general terms, how Charlotte County will mitigate, prepare for, respond to, and recover from the impacts of a large-scale emergency or disaster. The Basic Plan contains sections that address specific operations and planning areas such as: the responsibilities of the county and city government, method of operations, financial policies that will be adhered to during times of emergency or disaster, and continuity of government.

   The Basic Plan also contains a section that addresses recovery issues in order to ensure a rapid and orderly implementation of rehabilitation and restoration programs for persons and property affected by an emergency or disaster.

2. The EOC Groupings/Positions Appendices **-**Theses Appendices organizes the County emergency management activities (during activation) into Groupings & Positions. This includes Public Safety Group, Human Needs Group, Infrastructure Group, Administration & Support Group, and Stand Alone Positions. Each appendices have an overview graph showing their ESF equivalent as well as detail guidelines showing the lead agency and supporting agencies for each position within the group and their responsibilities.

   To be concurrent with the "State of Florida CEMP" and the "National Response Framework (NRF)," 18 ESF's", charts have been included in Section VII (Roles & Responsibilities) to show how the positions correspond.

3. The Hazard Specific Annexes **-** The CEMP contains annexes that are specific to particular hazards that require special action.

   a. Charlotte County Terrorism Incident Response Plan
   b. Pandemic Plan

I. INTRODUCTION

Chapter 252, Florida Statutes, mandates the development of the Charlotte County CEMP. The CEMP establishes a framework with uniform policy and procedures, through which Charlotte County may prepare for, respond to, recover from, and mitigate large scale emergencies and disasters, either natural, manmade, or technological, which can adversely affect the health, safety, and general well-being of the citizens of Charlotte County and its municipality, The City of Punta Gorda.

The CEMP describes the strategies that Charlotte County will use to mobilize its resources and conduct activities to mitigate, prepare for, respond to, and recover from large scale emergency and disaster situations. The CEMP provides flexibility of direction and guidance to Charlotte County, City of Punta Gorda, and volunteer personnel on procedures, organization, and responsibilities which will help prevent, minimize, and/or relieve personal hardship and property damage associated with large scale emergencies, disasters, or the eminent threat associated with these events, including warning and notification. The plan also provides for an integrated response from all levels of government, the private sector, and volunteer agencies.

The CEMP is operations and planning oriented. The CEMP addresses many issues including mitigation, preparedness, response, and recovery. The CEMP clearly defines the roles of County, City, and volunteer agencies, including elected officials, through the use of EOC Groupings & Positions that correlate to the Incident Command System's (ICS) 18 ESF's. This is done in concert with the State of Florida and the Federal government in order to establish a level of operational continuity.

The CEMP strategies will be achieved using a unified approach by activating specific Groups and Positions in accordance with National Incident Management System (NIMS) and Incident Command System (ICS). Each position will be supported by various county department heads/staff as well as municipal, military, local utilities, and volunteers. Each has been selected based on their authorities, resources, and capabilities in the specific Position area. These Groups will be supported by a number of agencies in varied positions who can aid in supplementing resources (personnel, equipment, and supplies). Each Group will use the ICS within their area.

The CEMP is constantly operational; before, during, and after an emergency, disaster, or catastrophe.

A. Purpose

The concepts and procedures specified by this CEMP are adaptable to all hazards that might impact the County and the City of Punta Gorda and are directed at attaining the following goals:

1. Reduce the vulnerability of people and communities of Charlotte County and the City of Punta Gorda to loss of life, injury, or damage and loss of property resulting from natural, man-made and technological emergencies, disasters, catastrophes, or hostile military or paramilitary action;

2. Prepare for prompt, effective and efficient response and recovery activities to protect affected lives and property;

3. Respond to emergencies, disasters, and catastrophes using all available management systems and resources, including: the NIMS; the ICS; local emergency plans; and local, state, and federal resources, as necessary, to preserve and protect the health, safety, and well-being of persons affected by the event;

4. Recover from emergencies by providing for the rapid and orderly implementation of restoration and rehabilitation programs for persons and property affected by

emergencies;

a. Outlines recovery assistance available to individuals, businesses and governments, and the local government actions involved in obtaining such assistance.

5. Provide a comprehensive emergency management system, consistent with NIMS and the NRF. This includes all aspects of pre-emergency preparedness, such as training and exercises, and post-emergency response, recovery, and mitigation.

6. Minimize damage to property, material shortages and service system disruptions that would have an adverse impact on the residents, businesses and economy, and the overall well-being of the County.

7. Manage emergency operations within the County by coordinating and managing the use of resources available from municipal governments, private industry, civic and volunteer organizations, and state and federal agencies.

8. Assist in the anticipation, recognition, prevention, and mitigation of emergencies that may be caused or aggravated by inadequate planning for, and inadequate regulation of, public and private facilities and land use.

B. Scope

1. The CEMP establishes fundamental policies, program strategies, and assumptions.

2. The CEMP provides procedures for disseminating warnings and coordinating response actions, including; ordering evacuations, opening shelters, and for determining, assessing and reporting the severity and magnitude of such emergencies.

3. The CEMP establishes the concept under which the county and municipal government(s) will operate in response to natural, technological, and/or man-made disasters. These include tropical storms, hurricanes, tornadoes, floods, wildfires, hazardous material incidents, terrorism, freezes, droughts, civil disturbances, sinkholes, and mass immigration.

4. The CEMP establishes the ICS concept of operations. The direction and control of an emergency or disaster spans from initial situation monitoring through post-disaster response, recovery, and mitigation.

5. The CEMP defines the responsibilities of elected and appointed local officials and provisions for sharing information.

6. The CEMP defines the emergency roles and functions of County and municipal departments and agencies, private industries and civic and volunteer organizations.

7. The CEMP creates a framework using a unified approach in the EOC via WebEOC® Groupings/Positions, and resource management plan, for the effective and coordinated use of County and municipal government resources.

8. The CEMP defines intra- and inter-governmental coordination mechanisms to help facilitate delivery of immediate assistance including the direction and control of intra-county, inter-county, state, and federal response and recovery assistance.

9. The CEMP identifies actions that county and city response and recovery organizations will take, in coordination with private, volunteer, state, and federal counterparts, regardless of the magnitude of the disaster.

10. The CEMP identifies emergency support facilities, including critical facilities, staging areas, Disaster Recovery Centers (DRCs), and Helispots.

11. The CEMP establishes a consolidated series of Standard Operating Procedures (SOPs). In most cases the SOPs are situation based, although some are specific emergency management functions.

C. Assumptions

1. Charlotte County, as a community, has developed the capability to execute this Plan to save lives, mitigate suffering, minimize the loss of property and recover from the effects of an emergency or disaster.

2. The necessary Mutual Aid Agreements (MAA) and Memoranda of Understanding (MOU) have been negotiated with other political jurisdictions and private organizations by the County and by organizations that have functional responsibilities in this CEMP.

3. Elements of State government have certain expertise and resources available that may be utilized in relieving emergency or disaster-related problems that are beyond the capability of Charlotte County. State support capabilities and access arrangements for both State and State-coordinated Federal assistance are described in the current State CEMP.

4. When an emergency threatens Charlotte County, applicable provisions of this Plan will be applied, the Charlotte County Emergency Operations Center (CCEOC) will be activated and a State of Local Emergency (SLE) declared as appropriate to the severity of the situation.

5. When County resources are inadequate to cope with a disaster, State and Federal assistance will be coordinated and made available through the Florida Division of Emergency Management (Florida DEM) in Tallahassee in accordance with the State-Wide MAA.

6. When the Special Needs Population (SNP) cannot be safely sheltered in facilities within the County or arranged by the County elsewhere, the State will be asked to arrange the requisite shelter and SNP support service elsewhere through the State-Wide MAA.

D. CEMP Development Methodology

1. Plan development and maintenance is a primary functional responsibility of the CCOEM Director. Active and on-going participation in the emergency planning process and in Plan production and evaluation is required of all who have responsibilities in Plan execution. This process involves a team of participants from all sectors of the community, and at all levels of authority in those sectors, and includes a set of interrelated and reiterative, activities as described in the following:

    a. The CCOEM Director maintains an emergency management team consisting of designated and empowered representatives of government agencies having operations in the County, critical businesses and industries, and volunteer and other concerned private groups. The organizations providing key members of this long-standing, broadly-based multi-purpose team are more formally identified in the

Charlotte County EOC Groupings/Positions charts located in the Section VII (Roles and Responsibility). Those identified within the Group/Positions comprise the core emergency management team. Those on the core team also have key roles in CEMP training and evaluation activities. In consultation with the core team, the CCOEM drafts the Basic Plan and revisions. This planning activity includes defining the Plan Purpose and Scope, outlining the Concept of Operations, Assignment of Responsibilities associated with the execution of the Concept, providing analysis of potential hazards and financial and resource management issues, among other elements.

b. Based upon contents of the Draft Basic Plan, each Position drafts an Annex outlining more specific information in coordination with the agencies that have support roles in that Group. Each Draft Group Annex is reviewed by all Position's to advance overall coordination and understanding. During the Position drafting and review process, the Basic Plan, too, undergoes scrutiny for adequacy of policy, content, coverage and concepts. The result of this iterative draft-and-review activity is the production of a final Draft Basic Plan with Annexes.

c. The final Draft Basic Plan with Annexes is then reviewed by the County Attorney, the County Administrator, elected officials, and department and agency principals. Official written concurrence is obtained prior to presentation to the Board of County Commissioners (BCC) for adoption by Ordinance. Recognizing that the planning process is unending, Plan adoption may be undertaken even though some elements may be incomplete.

d. SOPs will be developed by participants, as necessary, to support the Plan.

e. Appendices/Tabs and other Plan Addenda are developed to support elements of the Basic Plan an Annex or SOP, generally concurrent with development of each element.

f. The final Plan is submitted into the County by resolution addressed by the Emergency Management Director.

   Upon adoption, the Chairman of the BCC promulgates the CEMP by signature, and copies are distributed for the record, for users, and for public access. Obsolete Plans and Plan elements are recovered in exchange for new editions. Receipt of replacement Plan elements is indicated by signature of the Department or Organization head.

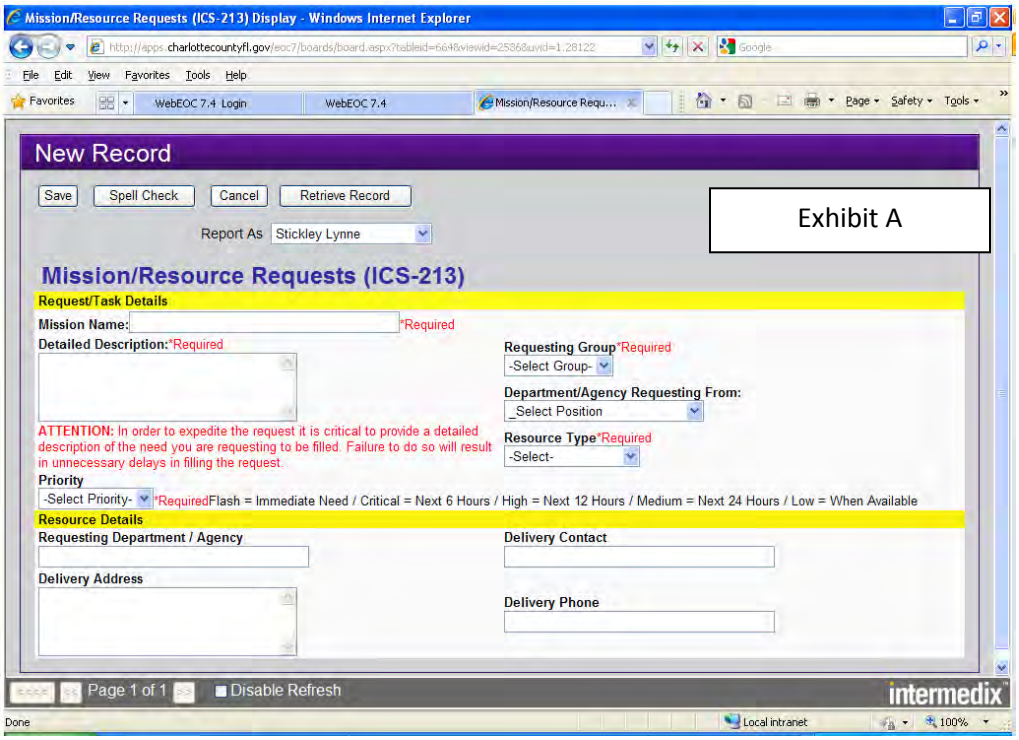
g. Complete rewriting and reprinting of the Plan and submission to the BCC for formal adoption is done by exception, usually every 4 years. Interim adjustments to the Plan are accomplished by the CCOEM Director as necessary to keep the Plan current following draft, coordination, and review processes outlined in the preceding.

h. Copies of the Plan or Plan elements are available for public viewing upon written request to the CCOEM office, in accordance with FS 119.07 (for a reasonable cost of reproduction). Copies may also be requested from the Clerk of the Courts for the cost of reproduction set by the Clerk in accordance with FS 119.07. Each EOC Position receives a copy of the approved plan on CD as well as any interim adjustments made.

i. Charlotte County has adopted the NIMS methodology of developing "preparedness organizations" within the local jurisdictions as well as across jurisdictions and with private organizations. These are ongoing forums for coordinating preparedness

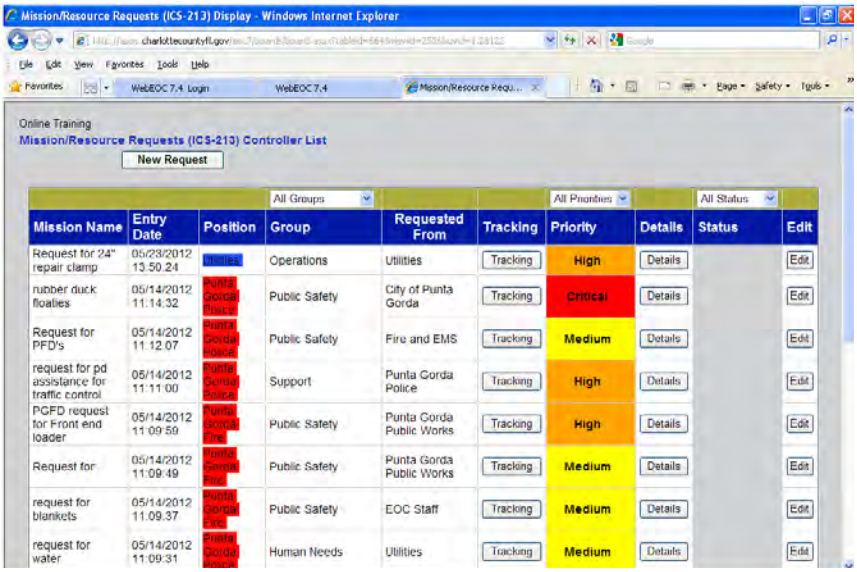
activities in advance of an incident. These "preparedness organizations" will represent a wide variety of committees, planning groups, and other organizations that meet regularly and coordinate with each other to ensure an appropriate focus on planning, training, equipping, and other preparedness requirements within and across jurisdictions.

2. The Resource Management process during an activation of the EOC is accomplished through the use of WebEOC®. We utilize several boards that allow groups/positions to request resources (See Exhibit A). Once requested Operations reviews, approves, and forwards to the appropriate department or agency to obtain. This can be a local resource, one needing to be sent to the State, or a Mutual Aid Partner for procurement.



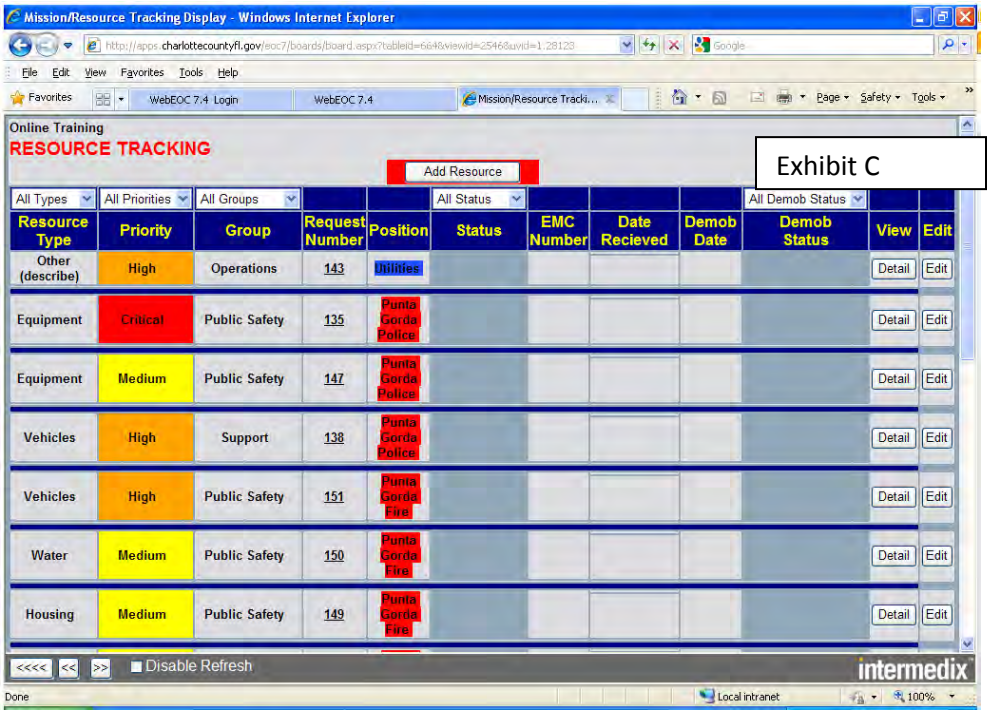
An additional WebEOC board is used by departments/agencies to track their resource requests (See Exhibit B) throughout the incident.

Exhibit B



Planning is responsible for requesting resources from the state as well as demobilization (see Exhibit C).

Exhibit C



3. It is important that each agency understand their duties and responsibilities and be familiar with each Group/Position within the EOC. After reviews are made, each agency will be requested to write a letter in support of their assignments, roles, and responsibilities included in this plan.

   Changes and updates will be made annually by February 1st each year and distributed

to each agency in receipt of the CEMP.

Promulgation of this document will be completed upon a satisfactory review by the Florida DEM. This will follow approval by all named Positions. An SOP will be used to ensure an inventory of the document among all appropriate parties and that updates are received and placed in the Plan.

The following is a listing of those departments and agencies that participated in the overall development and approval of the CEMP:

Charlotte County

- Administration
- Attorney's Office
- Board of County Commissioners
- Community Development
- Economic Development
- Department of Health
- Human Services
- Public Information Office
- Purchasing
- Social/Senior Services
- Utilities
- Fiscal Services
- School Board
- Clerk of Courts
- Parks & Natural Resources
- Animal Control
- Building Construction Services
- Budget & Administrative Services
- Emergency Management
- Fire/EMS
- Human Resources
- Libraries & History
- Public Works
- Radio Communication
- Transit
- Sheriff's Office
- Property Appraiser
- CC Development Authority
- Geographic Info. Systems

Punta Gorda

- Planning and Zoning
- Police Department
- Public Works
- Fire Department
- Utilities
- City Manager's Office

Private Industry

- Banking
- Insurance
- Charlotte County Chamber of Commerce
- Hospitals
- Assisted Living Facilities
- Punta Gorda Business
- Nursing Homes
- Englewood Chbr/Commerce
- Charlotte County Building and Contractors Association

Volunteer Agencies

- Salvation Army
- American Red Cross (ARC)
- Charlotte County Radio Amateurs in Civil Emergency Services (RACES)
- Charlotte County Volunteer Reception Center (VRC)
- Charlotte County Community Emergency Response Teams (CERT)

State Agencies

- Department of Health (DOH)
- DEM

Other

- Southwest Florida Regional Planning Council
- South Florida Water Management District

II. SITUATION

This section provides a summary of Charlotte County's potential hazard considerations, geographic characteristics, support facilities, land use patterns, economic profile, and demographics of Charlotte County and the City of Punta Gorda. Storm surge and flood zone information can be found for specific addresses in Charlotte County at www.ccgis.com.

A. Vulnerability Analysis

According to the US Census Bureau, Charlotte County's estimated population is approximately 162,981 as of 2012. By the year 2020, Charlotte County's population is projected to rise above 183,300. As one of the most vulnerable counties in the United States to hurricanes, having one of the oldest average populations in Florida, and construction in vulnerable areas, Charlotte County can expect to experience a loss of life and/or property of catastrophic proportions to an array of hazards. The following statistics illustrate the Charlotte County population's vulnerability:

1. 98% of Charlotte County's population lives in coastal areas;
2. There are approximately 49 mobile home parks with nearly 10,500 mobile homes;
3. The median age of Charlotte County residents is 56.93 years old. Thirty-six percent (36%) are over the age of 65;
4. Charlotte County currently has 600 people registered on its Special Needs Registry and this is expected to increase;
5. Charlotte County has no shelter space in Category III storms or higher;
6. Charlotte County does not have any shelters that are ARC4496 compliant due to elevation;
7. There are three hospitals with a total of 700 beds, nine nursing homes with a total of 1,363 beds, and 16 assisted living facilities with a total of 925 beds. This capacity is expected to increase with the added construction of medical facilities in the area.

B. Hazards Analysis Methodology

1. Identification of the hazards; natural, man-made (including criminal, attack and terrorist) and technological, expected to impact Charlotte County, directly or indirectly, is the first step in the emergency planning process. The second major step is analysis of the social and economic effects that such impact would have on the County. This analysis of effects leads to identification of resources needed to deal with each hazard and the cascade effect of hazard combinations.

2. Potential hazards are identified by study of Federal and State sources, and by review of local history and personalities, as well as projections available from the same sources. Political, social, and economic circumstances at local, State, Federal and international levels as well as weather and other physical conditions all combine to create specific hazards and hazard combinations. Personnel from the several disciplines and specialties, public, private and volunteer, represented on the County Emergency Management Team, apply their specialized expertise to hazard identification and analysis.

3. Hazards seldom occur in isolation from one other. A focus of the hazard analysis is to identify the hazards and hazard combinations that are most likely to occur and may cause serious harm when they do occur. Severe weather, for example, can potentially produce flooding, hazardous

materials releases, and disruptions to the provision of utility services.

4. Hazards analysis is an ongoing activity and requires continual updating. The hazard analysis leads to development of resource requirements which include; availability of personnel with specific skills, facilities and equipment, time (labor), funding and public relations. Certain resources are critical to emergency management operations. A listing and map of critical facilities, including staging areas and helispots (landing zones), is maintained by the CCOEM and is produced by the Charlotte County GIS Unit. Copies of the critical facilities maps and listings can be produced to meet operators' needs in specific circumstances. A listing of maps routinely maintained in the Charlotte County EOC is available in the Charlotte County OEM library.

C. Hazard Analysis

The primary goal of emergency management in Charlotte County is to ensure that the County and the City are prepared for responding to and recovering from the many consequences that are generated by the hazards that could potentially impact the county.

This section of the CEMP presents listings of the hazards which could impact Charlotte County and some of the consequences associated with each hazard. These consequences can potentially have an adverse effect on Charlotte County's citizens, infrastructure, and environment.

1. Hurricanes and Tropical Storms

a. Hazard

Hurricanes and tropical storms are the biggest threat to Charlotte County's population. Charlotte County is one of the most vulnerable counties in the State of Florida to the impacts of these storms. Charlotte County has a coastline that fronts the Gulf of Mexico, along with two large saline rivers that run through Charlotte County and into the Gulf of Mexico. Charlotte County is also embedded with many canals and waterways. The large number of waterways and the general low elevation of Charlotte County exacerbate the vulnerability of Charlotte County's 162,981 residents to the dangers of tropical storms and hurricanes.

Construction in coastal areas and a growing population moving to these coastal areas has increased Charlotte County's vulnerability. The insurable and uninsurable losses to Charlotte County from a Category V hurricane would be catastrophic.

The Sea, Lake, and Overland Surges from Hurricanes (SLOSH) computerized flood/wind model for Charlotte Harbor indicates that up to 28 feet of storm surge could occur at Peace River Shores in a worst case scenario.

Many older model houses in Charlotte County, which were built in the 1950-1970 timeframe, can also expect immense wind damage from hurricanes and tropical storms. These houses were built during a time when building codes were lax and builders did not know the vulnerabilities of their houses to tropical storms and hurricanes. Mobile homes can be expected to suffer immense damage in tropical storm and hurricane conditions as well, due to the fact that they are not anchored, nor designed for such wind events.

Hurricanes and tropical activity could affect the entire county. Surge could affect the westerly 1/3 of Charlotte County where approximately 98% of

Charlotte County residents live. Other elements of hurricanes, including torrential rainfalls and high winds, could also devastate the other 2/3 of the County, and could severely damage or destroy the agricultural interests in Charlotte County.

b. Consequences

- Large scale evacuations
- Road congestion
- Sheltering (pre and post-event)
- Animal issues associated with evacuation, sheltering, and disposal of deceased
- Infrastructure damage/loss (sewer, water, electric, roads, bridges, debris, communications, etc.)
- Damage/loss of financial institutions
- Damage/loss to service industry
- Crop loss
- Property loss
- Long-term economic impacts
- Overwhelmed public services (fire, EMS, law enforcement)
- Economic and social disruption
- Widespread psychological impacts (counseling needs)

2. Flooding

a. Hazard

Charlotte County is highly vulnerable to flooding.

Currently, under a worst-case scenario, about 98% of the county's population (approximately the westerly 1/3 of the county), is vulnerable to flooding from a hurricane.

The County's overall general low elevation invites both localized flooding and general flooding. Surface elevation averages anywhere from 0 ft above mean sea level to 74 feet above mean sea level in NE Charlotte County. The average elevation in Charlotte County is 10 feet above mean sea level.

The primary sources of flooding for Charlotte County are hurricanes, tropical storms, or thunderstorms that generally occur from June to October, which is the rainy season for Florida. Charlotte County has a network of different types of waterways, including canals, rivers, creeks, and streams, which run throughout the county.

Flooding can cause injuries and fatalities and produce widespread property damage. With the increase in population and the increased development in Charlotte County, we can only expect flood vulnerability and risks to increase.

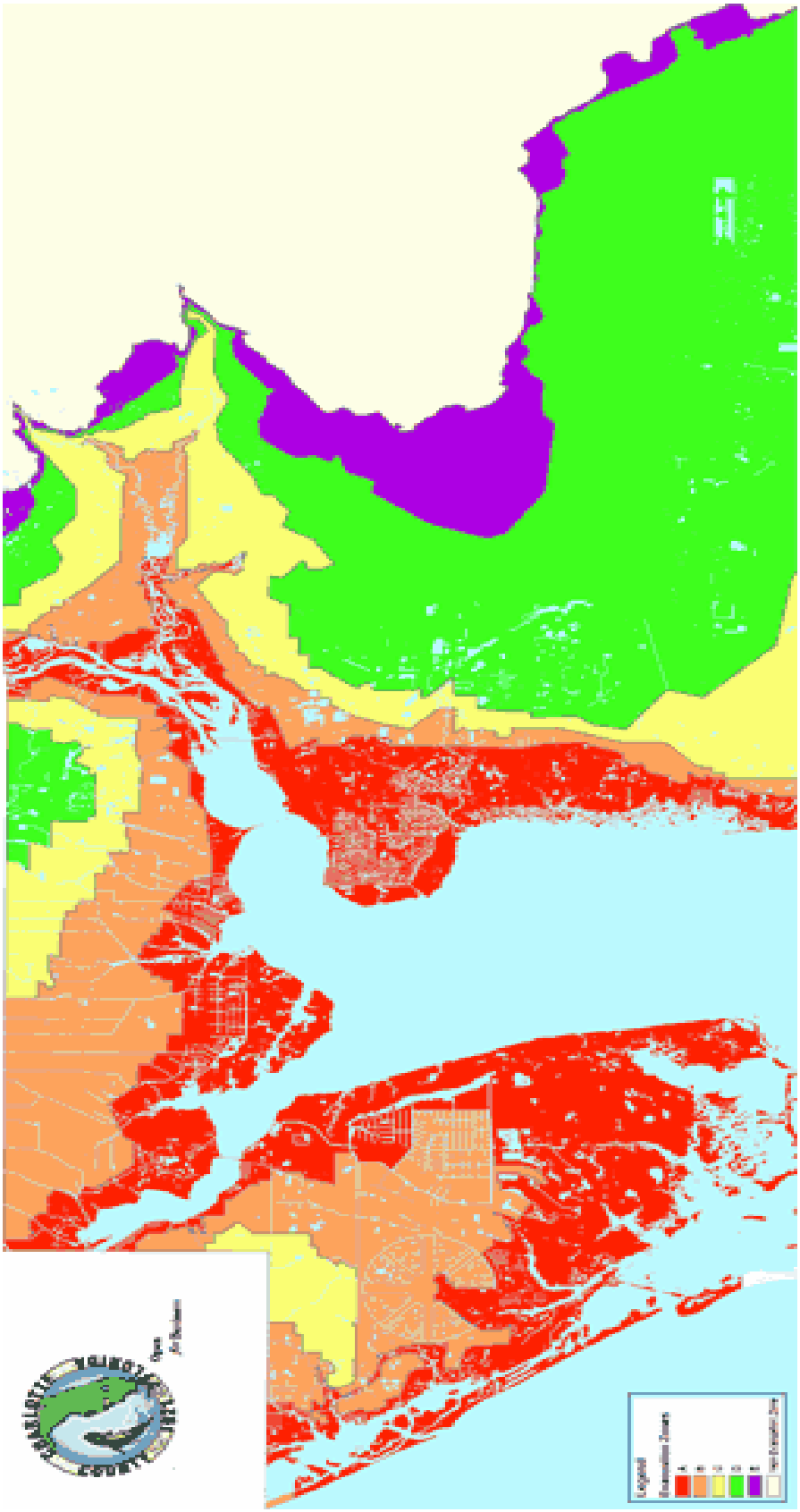
This is especially so since the Peace and Myakka River run through Charlotte County into the Gulf of Mexico.

Please refer the Charlotte County storm surge map and the Charlotte County 100- year floodplain map shown below in this section.

b. Consequences

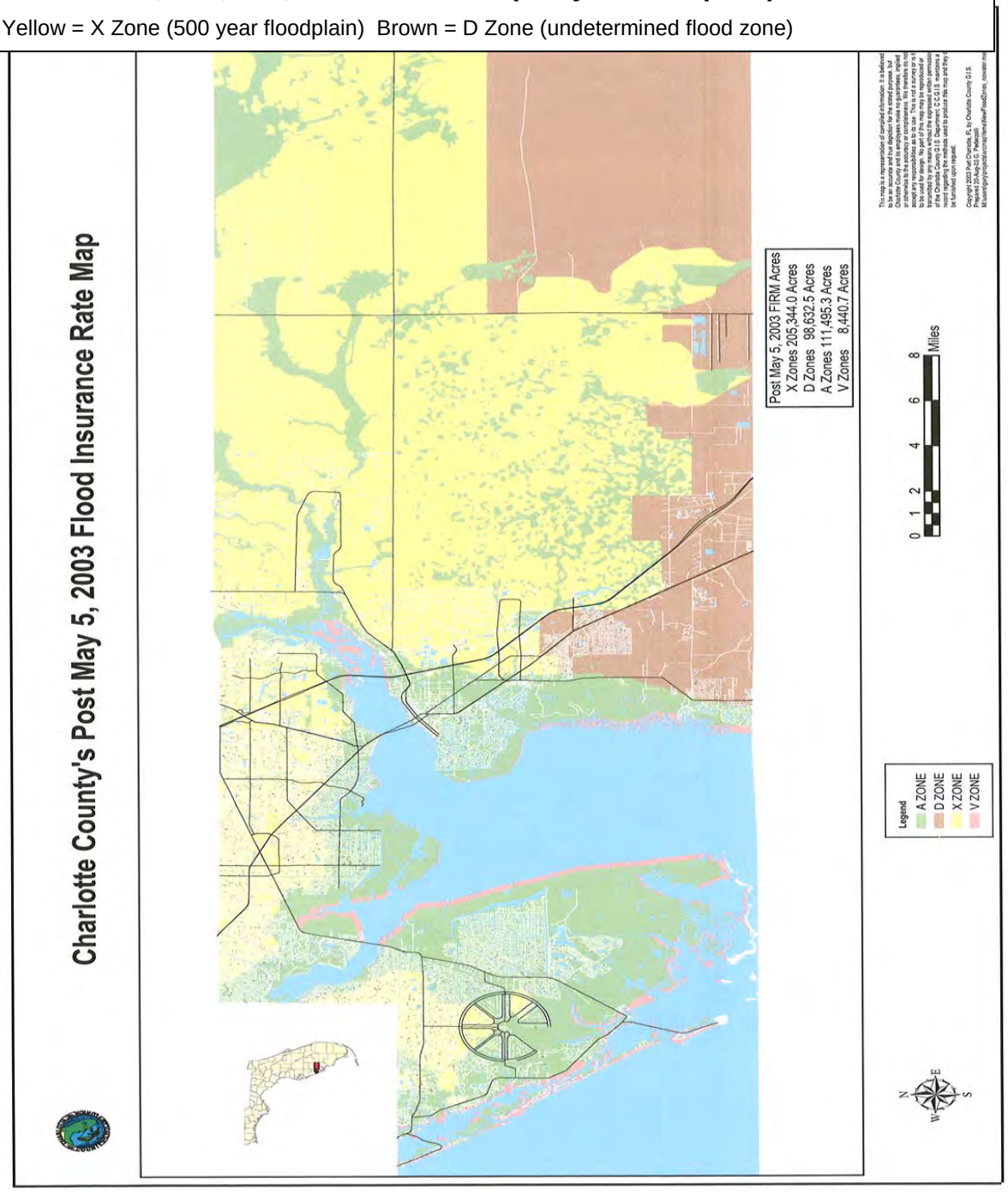
- Power outages
- Infrastructure damage (road/culvert washout, sewer infiltration, etc.)
- Erosion
- Residential fires
- Animal evacuation, sheltering, disposal of deceased
- Evacuation of residents and businesses
- Crop Damage
- Contamination of water supply
- Property Damage
- Economic Loss
- Debris
- Road congestion (sightseers, evacuees)

Charlotte County Storm Surge Map



Pink = VZone (velocity zone) **Green = A Zone (100 year floodplain)**

Yellow = X Zone (500 year floodplain) Brown = D Zone (undetermined flood zone)



3. Hazardous Materials Spills

a. Hazard

The threat of hazardous materials spills in Charlotte County is considered to be moderate.

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 18 facilities that are registered as carrying extremely hazardous substances (EHS).

b. Consequences

- Evacuation
- Sheltering
- Mass feeding
- Mass casualty
- Mass fatality (human and animal)
- Contamination of water supply
- Large scale contamination
- Decontamination

4. Nuclear Power Plant Incidents

a. Hazard

Charlotte County's exposure to nuclear power plant incidents is minimal.

Charlotte County is not located in any of the Emergency Planning Zones (EPZ) for nuclear power plants in Florida. The only exposure might occur if there was a total meltdown of a facility, which would release radioactive material into the atmosphere, thus affecting the entire State of Florida.

b. Consequences

- Decontamination
- Utility failure (Communications, power, etc.)
- Mass casualty (human and animal
- Contamination of water supply
- Mass contamination (human, animal, crops, facilities, ground)

5. Civil Disturbance

a. Hazard

Charlotte County's exposure to the civil disturbance threat is currently low.

Circumstances can, however, change rapidly, thereby elevating Charlotte County's exposure to high. In Charlotte County, there have been no signs of racial conflict, political conflict, or ethnic conflict that may spurn a civil disturbance. However, the potential threat is always present.

b. Consequences

- Property damage
- Infrastructure Damage
- Economic disruption/loss
- Mass casualty

6. Mass Immigration

a. Hazard

Charlotte County's exposure to mass immigration is minimal.

Charlotte County is not close to Cuba, where a lot of mass immigration has occurred. However, the possibility of mass immigration still exists from Mexico. If situations were to arise in Mexico, such as political upheaval, mass immigration into Charlotte County and other counties in the Gulf Coast would be possible.

b. Consequences

- Civil disturbance
- Financial impact on community resources
- Mass care
- Impact on social services
- Impact on jail and detention facilities

7. Coastal Oil Spill

a. Hazard

Charlotte County's exposure to coastal oil spills is minimal to moderate.

Charlotte County does encompass Charlotte Harbor, but this harbor is not navigable, in most places, by tanker or barge. However, the vulnerability exists from spills that may occur offshore with the spilled material(s) washing into the coastal areas, rivers, and canals of Charlotte County.

b. Consequences

- Environmental clean-up
- Animal issues (marine decontamination, disposal of deceased, etc.)
- Decontamination of coastal property
- Negative economic impact (tourism, fishing, marine businesses, etc.)

8. Freezes

a. Hazard

A freeze is weather marked by low temperatures, especially if below the point of freezing (32 degrees F, or 0 degrees C). Freezes normally occur at night.

Charlotte County's agricultural production (primarily citrus) is seriously affected when temperatures drop below the freezing point. The damage is not limited to

crop loss, but a freeze can also damage trees and plants as well.

Charlotte County can expect a moderate freeze at least once every two years. It is estimated that a severe freeze that can destroy all crops can be expected once every 15-20 years.

b. Consequences

- Agricultural loss
- Infrastructure damage (burst pipes)

9. Brush and forest fires

a. Hazard

Charlotte County experiences brush fires and wildland fires annually.

The peak time for forest fires is usually during the annual dry season for Charlotte County, January through May. During these months grass, leaves, pine needles, and underbrush are in an optimal burning condition. Wildfires can be caused by lightning, campfires, uncontrolled burns, smoking, vehicles, trains, arsonists, and equipment use.

Wildfires can cause extensive damage to personal property, residences, and acres of grasslands, forests, and agricultural interests. Wildfires also threaten the health and lives of citizens in and around the fires.

b. Consequences

- Property loss/damage
- Evacuation
- Mass feeding of evacuees
- Mass sheltering of evacuees
- Agricultural loss
- Infrastructure damage or loss

10. Tornadoes

a. Hazard

Florida is ranked as the 4th state in the nation in terms of tornado frequency.

Many tornadoes and waterspouts (a funnel-shaped cloud, resembling a tornado, over a body of water) have been sighted in Charlotte County with only a few causing significant damage.

The tornadoes in Florida have a tendency to be somewhat smaller than those that occur in Texas and throughout the Midwest. The high and spiraling winds from a tornado or a waterspout can lead to high amounts of property damage, injuries, and fatalities. Exposure to these events may be frequent.

b. Consequences

- Property damage/loss

- Mass casualty
- Mass fatality
- Sheltering
- Feeding
- Agricultural loss
- Infrastructure damage/loss
- Debris
- Animal Issues (sheltering, disposal of deceased)
- Search and rescue

11. Drought

a. Hazard

Charlotte County is susceptible to drought, although it is not a common occurrence.

Charlotte County is susceptible to all types of droughts. This is especially the case during the dry season in January through May.

There are three types of droughts:

- Meteorological drought - a period of time, generally ranging from months to years, during which time the actual moisture supply at a given location consistently falls short of the climatological moisture supply
- Hydrological drought - stream flows and reservoirs are low due to a lack of prolonged rainfall
- Agricultural drought - occurs when the amount of water needed for crops is more than that available in the soil.

Factors to keep in mind when looking at drought frequency are as follows:

- Approximately 65-70% of the rain in Florida occurs during the period of June through September
- Rainfall is not uniformly distributed, even during high rainfall months
- Large quantities of rain runoff into the Gulf of Mexico
- Charlotte County's sandy soil has a very low water holding capacity

Droughts can lead to agricultural damage, shortage of drinking water, environmental damage, and shortage of water needed for utilities and firefighting.

b. Consequences

- Agricultural Loss
- Economic loss (businesses relying on water, i.e., restaurants)
- Loss of water pressure on fire hydrants and in residences

12. Sinkholes and subsidence

a. Hazard

Charlotte County is only slightly vulnerable to sinkholes and subsidence. Very few occurrences of sinkholes and subsidence have occurred in Charlotte County. Sinkholes and subsidence have the potential to cause damage or destroy

houses, and injury or cause death to people.

b. Consequences

- Property damage/loss
- Infrastructure damage/loss

13. Terrorism

a. Hazard

Terrorism vulnerabilities are low in Charlotte County.

Terrorism can originate from a number of 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.

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.

b. Consequences

- Mass panic
- Mass casualty
- Mass fatality
- Decontamination
- Mass contamination of water supply, etc.
- Evacuation
- Economic and social disruption
- Feeding and sheltering of evacuees
- Overwhelming of hospitals
- Overwhelming of public safety personnel

14. Epidemic

a. Hazard

Charlotte County vulnerability to epidemic is low.

Although the threat is minimal, an epidemic is still possible. With tourists coming in from all over the world during the months of October through April, there is an increased vulnerability during this time.

The environment is regularly monitored for diseases and pathogens by local and state agencies.

b. Consequences

- Mass casualty
- Mass fatality

- Infectious disease control
- Quarantine for livestock or people
- Need for a large number of treatment agents
- Sheltering
- Disposal of deceased humans and animals
- Handling of ill persons/deceased persons

15. Transportation Accidents

a. Hazard

Vulnerabilities to transportation accidents are a constant concern. Due to the high amount of transportation through and over Charlotte County, including Charlotte County's extensive highway and road system, a railroad passing through the area, a local airport, and being located along the flight path for the Southwest International Airport in Fort Myers, there is always the possibility of a transportation accident that may involve mass casualties.

b. Consequences

- Mass casualty
- Mass fatality
- Property damage
- Infrastructure damage
- Widespread traffic congestion

16. Exotic Pests and Diseases

a. Hazard

Exotic threats and diseases are a pervasive threat to the agricultural interests in Charlotte County.

This biological hazard is associated with any insect, animal, or pathogen that could pose an economic or health threat. The Mediterranean fruit fly and citrus canker are two examples of this threat.

There is also a possibility for the importation of pathogens that could have a negative effect on the livestock industry.

Charlotte County has not had any known reports of such diseases or pests, but the threat exists on a consistent basis.

b. Consequences

- Infectious disease control
- Quarantine for livestock or people
- Need for a large number of treatment agents
- Disposal of deceased animals

17. Critical Infrastructure Disruption

a. Hazard

This technological hazard is a threat in Charlotte County.

This hazard may become present through an accident, sabotage, or terrorism. This hazard includes, but is not limited to, utility disruptions, cyber-attack, computer threat, and communications system failures.

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.

b. Consequences

- Evacuation
- Sheltering
- Mass feeding
- Mass casualty
- Large scale contamination
- Contamination of water supply
- Decontamination
- Economic loss
- Agricultural loss
- Inability of public safety officials to communicate
- Civil unrest
- Inability to provide critical support functions at medical facilities

18. Special Events – Mass /Gatherings

a. Hazards

This threat is moderate in Charlotte County.

With Special Events, the need for additional logistics and manpower to handle the possibility of large crowds increases significantly. The possibility for acts of terrorism or civil disobedience in these events also increases.

Charlotte County has a few events through the year that draw large crowds. These include the Florida International Air Show, the Punta Block Party, and Offshore Grand Prix Boat Races. Also included in these special events are political visits from the President, the Governor, and other prominent politicians.

SOPs are in place to handle medical and security issues that may accompany or arise from these events.

b. Consequences

- Public safety resources overwhelmed
- Potential for terrorism, mass casualty, civil unrest

NOTE: Maps of these hazards and what areas of the county can be affected by these hazards are kept on file in the Charlotte County EOC Planning Office. Also, flood zones and storm surge zones can be referred to at www.ccgis.com**.**

D. Geographic Information

Charlotte County is located in the SW Florida coast, bounded on the west coast by the Gulf of Mexico; north by Sarasota and DeSoto Counties; east by Glades County; and the south by Lee County. Charlotte County encompasses 687.15 square miles with 133.19 square miles of water areas (including Charlotte Harbor, Myakka River, and Peace River). Surface elevation average anywhere from 0 ft above mean sea level to 74 feet above mean sea level in NE Charlotte County. The average elevation in Charlotte County is 10 feet above mean sea level.

Charlotte County has a vast area which is environmentally sensitive. The western boundary of the county borders on the Gulf of Mexico and embraces an extensive estuarine system including a barrier island chain, estuarine bays, tidal creeks, and Charlotte Harbor. Charlotte Harbor estuary includes its two main tributaries, the Peace River and the Myakka River. Most of the County's estuarine, open water area is contained within three State aquatic preserves. The eastern half of the county is dominated by Shell and Prairie Creeks, the Babcock-Webb Wildlife Management Area, Telegraph Swamp, and Long Island Marsh.

Due to Charlotte County's low elevations the entire county is susceptible to flooding. Ninety-eight percent (98%) of Charlotte County resident developments and homes along the coastal areas are susceptible to flooding from storm surge.

Charlotte County's land use pattern is as follows:

Existing Land Use Category	Acreage
Residential use	30,036
Commercial use	2,650
Industrial use	818
Agricultural use	130,082
Recreational use	2,875
Conservation use	177,927
Educational use	558
Medical use	26
Institutional	821
Public buildings and grounds	7,854
Mining sites	6,842
Burial grounds	100
Marinas	66
Miscellaneous	2,814
Vacant lands	60,451
Source: Growth Management Department, Land Information Division, May 13, 2010	

Description	Acreage
Retirement Homes	79.09
Single Family Residential	24,982.83
Vacant Commercial	6,203.54
Vacant Industrial	644.53
Vacant MH-Resident Owned Park	11.16

Vacant Residential	41,873.30
Boat Slip Condominium	1.75
Retail Condominium	6.59
Professional Condominium	6.58
Residential Condominium	2,263.47
Single Residential on Land	20.86
Split Duplex	10.18
Timesharing	1.78
Unlivable Commercial Condominium	0.84
Unlivable Residential Condominium	21.03
Vacant Common Element	226.16
Vacant Condominium phases	21.87
Vacant Cooperative	486.50
Vacant Cooperative with land	188.06
Vacant Multi-family Residential	3,348.81
Zero Lot Lines	26.85
	504,345.78
Source: GIS/Information Technology Department, Budget & Administrative Services Division, September 2013	

Generalized Existing Land Uses in the City of Punta Gorda

Land Use	Acres	Percentage of Total Land Uses
Residential	2,175.18	21.2782%
Commercial	327.34	3.2021%
Industrial	56.26	0.5504%
Agricultural	0.00	0.0000%
Recreational	434.74	4.2527%
Conservation	5,027.92	49.1845%
Educational	121.86	1.1921%
Public Buildings & Grounds	78.05	0.7635%
Institutional	91.50	0.8951%
Vacant Land	1,005.18	9.8330%
Right of Ways Land	904.54	8.8485%

Generalized Existing Land Uses in the City of Punta Gorda		
Land Use	**Acres**	**Percentage of Total Land Uses**
Right of Ways Water	10,265.6	
Historic Resources	99.21	
Total Land Uses	**9,122.79**	**100%**
City Limits Area: 31.75 Square Miles City Limits Land Area*: 15.62 Square Miles **includes lakes, storm water ponds and other water bodies not connected to the Harbor, Harbor and all canal/basin and tidal creek water features are excluded (Source: City of Punta Gorda Urban Planner)*		

Much of Charlotte County's developed areas have had their historic drainage patterns altered as areas have been filled an improved. The alterations are in the form of channelization. Runoff is conveyed to our surface water bodies, such as Charlotte Harbor, Lemon Bay, Shell Creek, Prairie Creek, and Alligator Creek by way of canals, streams, and creeks. The undeveloped areas handle sheet flow by using a form of shallow concentrated flow ways. Charlotte County has 73 drainage basins with 19 in West County, 19 in mid-county, 22 in South County, and 13 in East county Charlotte County also has over 370 miles of manmade canals.

E. Demographics

Charlotte County's total population is approximately 162,981 (Source: 2012 U.S. Census Bureau Updated Statistical information). In Charlotte County, approximately 134,000 people live in the unincorporated areas of Englewood, El Jobean, Murdock, Port Charlotte, Deep Creek, and Harbor Heights. Approximately 16,869 live in the City of Punta Gorda. There are approximately 235 people per square mile on average. During the winter months (January through April), Charlotte County's population increases by about 30%. This increase includes retirees, seasonal residents, and tourists, and is not focused in one particular area of the county.

The age breakdown of Charlotte County's population is as follows (Source: 2013 Charlotte County Economic Development Demographic Profile data through Woods and Poole Economics, Inc. 2013):

Age Range	2012	% of Population	2020 Projection	Percent Change
0 - 19	24,924	15%	26,636	6.87%
20 - 34	17,980	11%	21,553	19.87%
35 - 54	33,885	21%	32,061	-5.38%
55 - 64	27,575	17%	29,537	7.12%
65+	58,617	36%	73,579	25.53%
Total	162,981		183,366	12.51%

In a worst case scenario, a Category V Hurricane striking the area, 98% percent of Charlotte County's residents would be vulnerable to the effects of wind and storm surge. This is due to the fact that 95% of the Charlotte County population lives on or near the coast and streams, rivers, and canals that run into the Gulf of Mexico.

Charlotte County's migrant population is approximately 1,869. Non-English speaking populations make up approximate 8% of Charlotte County's population, with Hispanics making up 5.7%, Asians making up 1.7%, and other languages such as German and Arabic making up 1.2% (Source US Census Bureau Fact Finder 2007-2011 ACS Demographic and Housing Estimates).

Each year, the Charlotte County Office of Emergency Management (CCOEM) registers those people who would need transportation for evacuation during an impending hurricane. This registry fluctuates between an average of 500 to 600 people.

Charlotte County has a total of 49 mobile home parks (including RV) with 10,500 spaces.

Charlotte County's inmate population fluctuates. Charlotte County has two correctional facilities: Charlotte Correctional Institution has a maximum capacity of 1,291. The Charlotte County jail has a 960 bed capacity.

F. Economic Profile

Charlotte County's labor force makes up approximately 25% of its overall population. The following is an approximation of Charlotte County's employment breakdown based on U.S. Census 2011 County Business Patterns:

Description	Employees
Utilities	71
Mining/Logging/Construction	2,500
Manufacturing	600
Wholesale Trade	498
Retail Trade	7,993
Transportation & Warehousing	411
Information	470
Finance and Insurance	1,183
Real estate and rental/leasing	649
Professional/scientific/technical services	1,268
Management of companies/enterprises	79
Administrative/support/waste management/remediation services	1,941
Educational Services	397
Healthcare/social assistance	8,492
Arts/entertainment/recreation	762
Accommodation/food services	4,829
Other services (except public administration)	1,599
Government (approx.)	6,000

Overall average employment, including those listed above, is 39,946 employees.

The annual unemployment rate for Charlotte County for 2012 was 8.0% (Source: Agency for Workforce Innovation, December 2012 through Charlotte County Economic Development Office Demographics Profile).

Average property value in Charlotte County is approximately $166,700 (source Quickfacts.census.gov 9/5/13).

The per capita income in Charlotte County averages out to about $35,923. Source: Woods and Poole Economics, Inc. 2013 through Charlotte County Economic

Development Office Demographics Profile).

Tourism impact for 2012 was approximately 301,728 visitors with $1.387 million in tourist tax revenues and $321.8 million direct and induced tourism impact (Source: 2013 Charlotte County Tourism Department).

G. Emergency Management Support Facilities

Emergency Management Support facilities include helispots (landing zones), staging areas, and a series of critical facilities. All of these are identified on maps, which are kept in the Charlotte County EOC at 26571 Airport Road, Punta Gorda, FL 33982. The listing of these facilities has been forwarded to the State of Florida DEM so that it may be put in their files.

H. Disaster History in Charlotte County

The following table depicts disasters that have affected Charlotte County and their estimated costs.

DATE	DISASTER TYPE	NAME	ESTIMATED COST/DAMAGES
8/22/12 – 8/27/12	Tropical Storm	Tropical Storm Isaac Local SOE Issued Ex. Order #12-199	Protective measures taken, EOC activated to level 2, shelter operations, voluntary evacuation orders of low lying areas and barrier islands. No damaged occurred.
8/16/08 – 8/20/08	Hurricane	Hurricane Faye HQ-08-167	Protective measures taken, EOC activated to level 1, shelter operations, evacuation orders of low lying areas and barrier islands. No damaged occurred due to storm turning away from our area.
6/21/06	Tornado	None	Minor damage to 42 mobile homes, 1 assisted living facility, and 12 single family homes. Estimated $500,000 in damages.
8/13/04	Hurricane	Hurricane Charley FEMA 1539-DR-FL	Estimated $15 billion in damage to private and public resources caused by this powerful category 4 hurricane hitting Charlotte County and proceeding up the harbor to Desoto County.
6/21/03 – 06/22/03	Flood	No Name FEMA 1481-DR	Estimated $4.4 million in damage to seawalls and canal systems due to heavy rains.
09/13/01 – 09/15/01	Tropical Storm	Tropical Storm Gabrielle FEMA 1393-DR	An Estimated $4-6 million in damage to public infrastructure, businesses, and residences.
09/16/00 – 09/17/00	Hurricane	Hurricane Gordon UNDECLARED	$200,000 in private and public infrastructure damages, No landfall in area, but some flooding did occur. Protective measures taken and standby executed for evacuations. EOC activated.
06/23/00 – 07/14/00	Drought	2000 Drought SBA 9H62/S1432	No damage to public infrastructure, but drought forced water restrictions and threatened water supply to all residents of Charlotte County. Many wells dried up.

DATE	DISASTER TYPE	NAME	ESTIMATED COST/DAMAGES
10/14/99 – 10/14/99	Hurricane	Hurricane Irene FEMA 3150-FL	Approximately $49,000 in damages. Protective measures taken and standby executed for evacuations. EOC activated
09/1999	Tropical Storm	Tropical Storm Harvey UNDECLARED	Passing tropical storm caused some flooding. Flood insurance claims totaled over $21,592.
04/15/99 – 04/29/99	Drought	Drought of 1999 FEMA 3139-EM	No damage to public infrastructure, but drought forced water restrictions and threatened water supply to all residents of Charlotte County. Many wells dried up.
09/25/98 – 10/02/98	Hurricane	Hurricane Georges FEMA 3131 –EM	$120,000 No landfall in area. Protective measures, including evacuations took place.
05/25/98 – 07/10/98	Wildfires	Firestorm '98 FEMA 1223-DR	$60,000 Countless fires totaling over 2,000 acres burned during this summer.
10/08/1996	Tropical Storm	Tropical Storm Josephine UNDECLARED	Some street flooding occurred. One home destroyed. Many flooded. Approx. $300,000 in public and private damages.
06/23/95	Flood	No Name UNDECLARED	$3,430,278.43 in damages due to 15" of rain in 9 hours. Extensive bridge and road damage. Several homes flooded.
03/12/93 –03/13/93	Winter Rain Storm	No Name UNDECLARED	Flooding caused by high tides. Flood insurance claims of $383,008 submitted.
06/23/92 – 06/28/92	Excessive Rainfall	No Name UNDECLARED	23.5" of rain fell in Murdock, 18" fell in Punta Gorda, and 28" in Englewood. Flood insurance claims of $1.6 million submitted.
11/1988	Tropical Storm	Tropical Storm Keith	Flooding occurred due to abnormally high tides and minimal storm surge. Flood insurance claims of $224,384 submitted.
08/31/1985	Hurricane	Hurricane Elena	Storm surge caused flooding of up to 5' in some areas. Flood insurance claims of $1,651,356 submitted.
06/17/82 – 06/18/82	Non-Tropical Low	No-Named Storm	Minimal storm surge and excessive rainfall cause approximately $1 million in damage.
06/18/72	Hurricane	Hurricane Agnes	5-7 inches of rain fell in Charlotte County causing flooding in Charlotte County. Flood claims of approximately $62,000 were made.

III. RESPONSE ORGANIZATION WITHOUT A DEFINED INCIDENT SCENE

The major elements of this section include levels of emergencies or disasters, structure of the response organization, notification and warning, direction and control, initial and continuing actions necessary for response, recovery, and mitigation efforts.

County and municipal assets will be used first to provide emergency response capabilities.

The CCEOC will be activated as needed and will coordinate all logistical resource requests for outside support with the State of Florida.

A local State of Emergency will be sought from the BCC, if needed.

Charlotte County will use a Unified Command approach for all-hazards incidents per the NRF and NIMS compliance guidelines.

The response organization will follow the NIMS standard for Unified Command structure. The first responding units from different organizations will initiate the structure and coordinate all on-scene activities using a Unified Command organization. Guidelines for a Unified Command may be found in the State of Florida, Field Operations Guide (FOG). Figure 2.1 illustrates the local response Unified Command Structure.

On-scene units will initiate required notification, scene security, and response operations in accordance with established protocols.

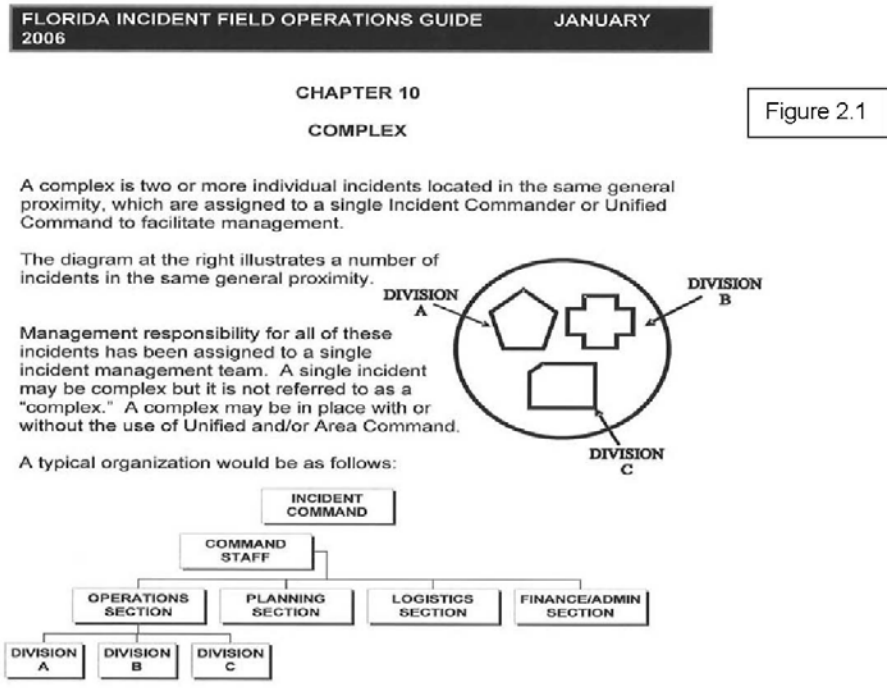


Figure 2.1

A. State and Regional Response

Local response capabilities may not be adequate to conduct crisis and consequence

management operations to large incidents. State and Regional resources may be mobilized after a resource request is made from the CCEOC. Such a mobilization would require an Executive Order by the Governor of the State of Florida.

The characteristics or magnitude of a terrorist event may necessitate the activation of the SEOC and the State of Florida CEMP. State resources mobilized through these actions would then be available to the County unified command. In addition, the State of Florida has established seven Regional Domestic Security Task Forces (RDSTFs) to address the unique emergency preparedness needs for terrorist incidents. State and Regional response organizations are illustrated in the following figures.

Pursuant to F.S. 943, the Florida Department of Law Enforcement (FDLE) is the lead state agency for Crisis Management. The Florida DEM is the lead state agency for Consequence Management.

1. Regional Domestic Security Task Force (RDSTF)

   Pursuant to F.S. 943, the FDLE established a RDSTF in each of the seven operational regions of the department. The RDSTFs address the unique preparedness and response needs for terrorism and WMD incidents. The FDEM will support and assist the required RDSTF with the response of specialized personnel, equipment, and material to support local emergency agencies and organizations responding to an actual or threatened terrorist incident.

   Each region has local agency resources (personnel and equipment) that make up a highly trained cadre of personnel that are equipped for response to a known or suspected terrorist attack involving a weapon of mass destruction.

   The availability of these designated resources within each of the areas will minimize the time needed for their deployment to support the unified command at the scene of a known or suspected terrorist incident. The resources will be coordinated through the RDSTFs by the Charlotte County EOC.

   The EOC will utilize the WebEOC® software system to track actions taken and resources requested and used. The EOC will conduct resource requests from The State of Florida. These actions will occur through Resources and Law Enforcement positions. Charlotte County is located within Region 6. The resources within each region will be structured, trained and equipped to address the unique needs and capabilities of the communities within that region.

   Regional assets available will include resources capable for response to incidents involving biological, nuclear, incendiary, chemical, and explosive (BNICS) agents, as follows:

   a. Evidence/investigative response team; (Note: Could be comprised of SO, PD, FDLE, WCHD, Federal Agencies).
   b. Special weapons and tactics team;
   c. Bomb squad;
   d. Hazardous materials response team;
   e. Emergency Medical Services (EMS); Hospitals; Laboratories;
   f. Public works, and;

g. Firefighting.

2. Florida National Guard (FLNG) WMD Civil Support Team

The FLNG WMD Civil Support Team is a 22-member team comprised of specialized National Guard personnel available for activation to any location in the State when authorized by an Executive Order of the Governor. The team will provide support to the on-scene Incident Commander (IC) with highly specialized technical services that may be needed for response to a known or suspected terrorist incident involving a weapon of mass destruction (WMD). The team is available in the State on a seven day, 24 hour basis and is equipped with specialized technical skills and equipment.

3. FLNG Computer Emergency Response Team

The FLNG Computer Emergency Response Team is a team of specialized National Guard personnel available for activation to any location in the State when authorized by an Executive Order of the Governor. The team provides support to the Incident Commander at the scene with highly specialized technical services that may be needed for the response to a known or suspected terrorist incident involving a cyber-terrorism event.

4. Department of Environmental Protection (DEP) Environmental Terrorism Response Team (ERT)

The DEP-ERT is a special team consisting of DEP environmental investigators, emergency responders and uniformed officers along with representation from DOH, Florida Department of Transportation (DOT), DACS, and the U.S. EPA Investigative Division. The team is available to support incident commanders with hazardous material issues but is not limited to hazardous material and industrial chemicals. ERT personnel can be on scene within three hours and the full team deployed within twelve hours of notification.

IV. FEDERAL RESPONSE

All Federal Crisis Management Resources will operate as defined under the United States Government Interagency Domestic Terrorism Concept of Operations Plan (CONOPS). The Federal Bureau of Investigation (FBI) is the lead federal agency for terrorist Crisis Management. All federal Consequence Management Resources will operate as defined under the National Response Framework. Under the Department of Homeland Security (DHS), the Federal Emergency Management Agency (FEMA) is the lead federal agency for Consequence Management.

V. OTHER PARTICIPANTS IN THE REPONSE ORGANIZATION

It is possible that the nature of a terrorist event could necessitate other non-government participants in the emergency response organization. Examples that may need to be considered include the following:

A. Owners or operators of the facility in which the event is occurring;

B. Owners or operators of a transportation center, or modes of transportation (for example, airplane, boat, railroad), in which the event is occurring;

C. Non-government expert advisors or consultants, such as university scientists, physicians, or private contractors.

D. Non-government laboratories for threat agent identification;

E. The manufacturer of the threat agent;

F. Rental agents or contractors providing vehicles, equipment, or supplies involved in the event;

G. Health and medical care facilities and mortuaries managing the victims of the incident, and;

H. The owners, operators, clients, or support organizations for computer networks, telecommunication systems, and internet services threatened by a cyber-terrorist attack.

These organizations or officials may become participants in the Unified Command and/or have liaison personnel deployed to the appropriate state or local EOC.

VI. CONCEPTS OF OPERATIONS

GENERAL

This Section describes the operational concepts (using a terrorist event as an example) to be used by the response organization described in Section III (Response Organization).

TERRORIST EVENT RESPONSE PROCESS

Three actions unique to emergency operations for both crisis and consequence management are:

1. Identifying the event as a known, suspected, or threatened terrorist or cyber terrorist incident/attack;
2. Assuring notifications to agencies are made; and
3. Disseminate public information as time and need permits.

This section describes these initial steps.

A. Detection

Detection of an actual, suspected, or threatened terrorist or cyber terrorist incident/attack may occur through the following types of mechanisms:

1. Communications centers/911 calls;
2. Bio-surveillance software;
3. Law enforcement intelligence efforts;
4. Warnings or announcements by the perpetrators;
5. Characteristics of the event, such as explosion or chemical recognition;
6. Witness accounts;
7. The medical or physical symptoms and/or clustering of victims/cases;
8. Routine surveillance monitoring of County morbidity and mortality, and;
9. Unexplained disruption or failure of a computer network, telecommunications system, or internet service.

Local response organizations may initiate operations for routine law enforcement, epidemiological, hazardous materials, or mass casualty incidents without recognizing the situation as one caused by a terrorist or cyber terrorist attack. Specific roles and responsibilities will be discussed in Section VII (Roles and Responsibilities).

B. Notification

1. Intelligence

Any intelligence received from other agencies or from local resources should first be evaluated for reliability and credibility. If deemed reliable and credible a decision will be made on what elements of the report(s) may be released to non-law enforcement agencies. Whenever possible, advance notification to emergency response agencies will be provided to assure the proper staff and equipment is prepared for the incident.

2. Interagency communications

a. Each response agency will maintain a key personnel notification roster or phone tree that goes to at least three levels and allows for assumption of authority in the event primary personnel are incapacitated. The phone tree

will contain 24-hour notification means for the first three levels of command and operational sections. This phone tree should be posted in the central communications section for each agency, the agencies Continuity of Operations Plan, and each key member of the notification tree should also have a copy.

b. Each agency should establish how notifications will be made within the agency, and what methods should be used to provide information security during the notification process. For example, depending on the agency, it may be desirable to establish a code term for use over open radio systems and cellular phones when landline phone or secure radio is not available.

3. Public Notification

a. Initial public information releases will be conducted by the Charlotte County Sheriff's Office (CCSO) Public Information Officer (PIO). This will continue until such time as the Unified Command is established.

b. The Unified Command will establish a Joint Information Center (JIC) to disseminate public information. Information released by the JIC must be pre-approved by the Unified Command members.

The JIC will be composed of PIO elements from each responding agency to include but not limited to local, state, and federal. The JIC will be responsible for coordinating and disseminating all public information releases. The JIC will establish a schedule for press briefings and release other information as needed.

RESPONSE AND RECOVERY

A. Initial Response

1. Incident Command On-scene. The local law enforcement agency in coordination with the responding fire personnel on-scene will initiate Incident Command.

2. The on-scene Incident Commander may initiate the following actions.

a. Seal the facility or area; prohibiting ingress or egress.
b. Evacuate the facility or area; allowing all persons to leave the area or structure, provide a symptom list to people who may have been exposed, to monitor for effects.
c. Establish Hot, Warm and Cold Zones, Decontamination area, EMS pickup and Media/Press Area. Establish an entry control point (up-wind or cross wind but not within more than a 90-degree arc of the incident area). To evacuate people, move them up wind or cross wind to a decontamination area, as required by local protocol or other emergency information sources. The Incident Commander must establish a means to positively account for each individual leaving or entering the area.

3. Establish separate decontamination facilities for men and women.

4. Coordinate the release of public information through a JIC. Media releases will be closely coordinated with the Health Department.

NO EMERGENCY RESPONDER OR AGENCY WILL ISSUE MEDIA RELEASES WITHOUT THE APPROVAL OF THE INCIDENT COMMANDER AND/OR UNIFIED COMMAND.

5. Upon the arrival of the FBI a Unified Command will be formed if not previously accomplished.

6. The CCSO and the Charlotte County Health Department will conduct a joint criminal/EPI investigation per the established Memorandum of Agreement.

B. Reimbursement/Finance

1. Purchasing Guidelines

   a. Emergency Management will request a State of Local Emergency from the BCC. The declaration will allow for the full activation of the EOC and will activate disaster response and recovery guidelines. Purchases will be expedited through the Resources position.
   b. Local purchases can be made on BCC credit cards and with purchase orders provided through Resources.
   c. All local response agencies shall maintain detailed documentation of items and services purchased and how they were used. This information will be used to request reimbursements at a later date.
   d. All equipment requests and use shall be documented as well as the number of hours used and/or miles driven to facilitate the payment reimbursement function.
   e. Pay and workman compensation issues shall be governed by pre-existing federal, state, and agency policies.
   f. Contracting services shall follow all local, state and federal guidelines.

C. Economic/infrastructure Recovery

1. Economic and infrastructure recovery shall follow the guidelines established in the Charlotte County CEMP and the Local Mitigation Strategy Plan.

STATE EMERGENCY RESPONSE OPERATIONS

A. Activation of the State Emergency Operations Center (SEOC)

The SEOC may be activated for any terrorist threat or incident involving a weapon of mass destruction. Upon receipt of an Executive Order, the FDLE Commissioner will assume the role of State Incident Commander and the Director of DEM will assume the role of State Coordinating Officer for the event.

B. Deployment of State Liaison Personnel

Several emergency operations facilities may be established for management of the incident. The Florida DEM, through the SEOC, may deploy liaison personnel to any or all of the following:

1. The local unified command;
2. A local EOC;
3. The Federal Joint Operations Center;

4. The JIC;
5. Forward Coordinating Team;
6. The Federal Regional Operations Center and, or;
7. The State Regional Operations Center.

C. Mobilization of Other State Resources

Other state resources requested by the Unified Command through the local EOCs of the involved jurisdictions and RDSTFs will be mobilized through the SEOC and/or the appropriate State ESF in accordance with the provisions of the State CEMP.

D. Deactivation of the State Response

Deactivation of the state's response and demobilization of deployed state personnel will be at the direction of the SEOC after coordination with the local jurisdictions. Deactivation of specific assets, operations, or facilities may be staged as conditions warrant.

FEDERAL EMERGENCY RESPONSE OPERATIONS

A. United States Government Interagency Domestic Terrorism Concept of Operations Plan (CONPLAN)

The Office of Homeland Security Advisory System, as adopted and modified by the State of Florida, provides a range of threat conditions and recommended *protective* measures. It's important to note that these conditions are all *pre-attack*. The United States Government Interagency Domestic Terrorism Concept of Operations Plan (CONPLAN) establishes a range of threat levels determined by the FBI that serves to frame the nature and scope of the Federal *response*. While the first three of these levels represent pre-attack conditions the last one applies to an actual WMD event. The State of Florida has adopted this concept and applied it as the conditions under which the RDSTFs will operate.

Each threat level provides for an escalating range of actions that will be implemented concurrently for crisis and consequence management. Specific actions will take place, which are synchronized to each threat level, ensuring that all agencies are operating jointly with consistent executed plans. Federal and State government will notify and coordinate with State and local governments, as necessary. These threat levels are described below:

1. Minimal Threat (Level 4) – Received threats do not warrant actions beyond normal liaison notifications or placing assets or resources on a heightened alert (the task forces are operating under normal day-to-day conditions).

2. Potential Threat (Level 3) - Intelligence or an articulated threat indicates a potential for a terrorist incident. However, this threat has not yet been assessed as credible.

3. Credible Threat (Level 2) - A threat assessment indicates that the potential threat is credible, and confirms the involvement of a weapon of mass destruction in the developing terrorist incident. Intelligence will vary with each threat, and will impact the level of the response. At this threat level, the situation requires the tailoring of response actions to use resources needed to anticipate, prevent, and/or resolve the crisis. The crisis management response will focus on law enforcement actions taken in the interest of public

safety and welfare and is predominantly concerned with preventing and resolving the threat. The consequence management response will focus on contingency planning and pre-positioning of tailored resources, as required.

The threat increases in significance when the presence of an explosive device or weapon of mass destruction capable of causing a significant destructive event, prior to actual injury or loss, is confirmed or when intelligence and circumstances indicate a high probability that a device exists. In this case, the threat has developed into a weapon of mass destruction terrorist situation requiring an immediate process to identify, acquire, and plan the use of State and federal resources to augment state and local authorities in lessening or averting the potential consequence of a terrorist use or employment of a weapon of mass destruction.

4. Weapons of Mass Destruction Incident (Level 1) - A weapon of mass destruction terrorism incident has occurred which requires an immediate process to identify, acquire, and plan the use of state and federal resources to augment state and local authorities in response to limited or major consequences of a terrorist use or employment of a weapon of mass destruction. This incident may have resulted in mass casualties. The response is primarily directed toward public safety and welfare and the preservation of human life.

The classification may be upgraded at any time, when warranted by conditions.

B. Threat Classifications

The National Terrorism Advisory System replaces the color-coded Homeland Security Advisory System (HSAS). This new system will more effectively communicate information about terrorist threats by providing timely, detailed information to the public, government agencies, first responders, airports and other transportation hubs, and the private sector.

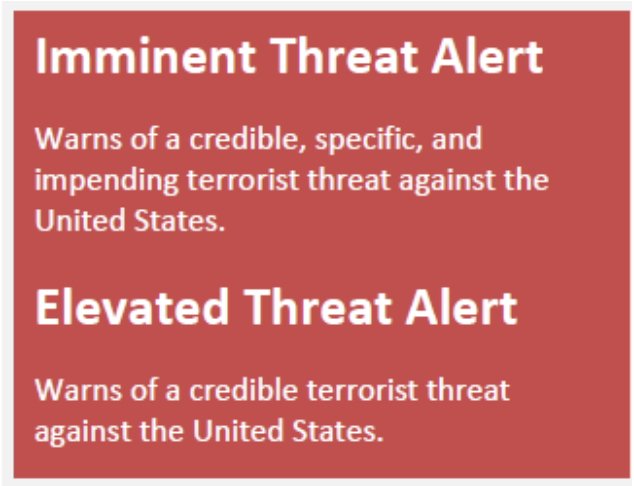
It recognizes that Americans all share responsibility for the nation's security, and should always be aware of the heightened risk of terrorist attack in the United States and what they should do.

NTAS Alerts

After reviewing the available information, the Secretary of Homeland Security will decide, in coordination with other Federal entities, whether an NTAS Alert should be issued.

NTAS Alerts will only be issued when credible information is available.

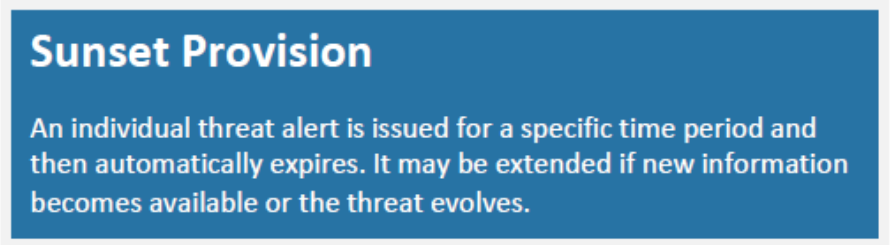
These alerts will include a clear statement that there is an imminent threat or elevated threat. Using available information, the alerts will provide a concise summary of the potential



threat, information about actions being taken to ensure public safety, and recommended steps that individuals, communities, businesses and governments can take to help prevent, mitigate or respond to the threat.

The NTAS Alerts will be based on the nature of the threat: in some cases, alerts will be sent directly to law enforcement or affected areas of the private sector, while in others, alerts will be issued more broadly to the American people through both official and media channels.

NTAS Alerts contain a **sunset** provision indicating a specific date when the alert expires - there will not be a constant NTAS Alert or blanket warning that there is an overarching threat. If threat information changes for an alert, the Secretary of Homeland Security may announce an updated NTAS Alert. All changes, including the announcement that cancels an NTAS Alert, will be distributed the same way as the original alert.



Alert Announcements
NTAS Alerts will be issued through state, local and tribal partners, the news media and directly to the public via the following channels:

- Via the official DHS NTAS webpage – http://www.dhs.gov/alerts
- Via email signup at – http://www.dhs.gov/alerts
- Via social media o Facebook – http://facebook.com/NTASAlerts
- Twitter – http://www.twitter.com/NTASAlerts
- Via data feeds, web widgets and graphics o http://www.dhs.gov/alerts

The public can also expect to see alerts in places, both public and private, such as transit hubs, airports and government buildings.

VII. ROLES AND RESPONSIBILITIES

This section of the plan describes the methods for the management of emergency activities, roles and responsibilities, definitions and actions during the response, recovery, and mitigation phases of an emergency or disaster.

A. Levels of Emergencies and Disasters

1. Charlotte County follows the definitions of "emergency" and the various levels of "disasters" provided in FS 252. Those definitions and their relationship to EOC activation levels are as follows:

a. LEVEL III EMERGENCY

Defined: Any unexpected occurrence that can be met with a single department's normally available resources. "Normally available resources" may include the response of other county departments in a routine capacity.

Responsibility: The department that would normally handle the situation is responsible for the decision making to properly resolve the incident.

Notifications: None

Action: The responsible department may set up an on-site command post if it so desires. No county-wide action is required.

Press relations will be handled by the responsible department. Needed logistical support, additional personnel, or other resources will be the additional responsibility of the responsible department.

b. LEVEL II - EMERGENCY (Mutual aid possibility)

Defined: Any unexpected occurrence that requires response by two (2) or more county departments above a routine capacity, or where outside agencies have responded to render such assistance. Such emergencies require a cooperative effort and a commitment of personnel, equipment, or resources of personnel, and equipment from many departments.

Responsibility: The primary decision-making responsibility rests with the department that would normally handle the situation, but a cooperative effort with departments that are responding in support *is required*. The cooperative efforts should be designed to properly resolve the incident.

Notifications: The County Administrator and the Emergency

Manager should be notified to the situation by the originating department.

Action: An on-site command post should be set up by the responsible department and all responding departments should be notified of its location.

The responsible department may also set up an administrative command post (usually at its main facility or possibly the EOC). The County Administrator and the Emergency Manager should be notified of its location.

Press relations will be handled by the responsible department or if needed, PIO team activation of the JIC. Needed logistical support, additional support, or other resources will be the added responsibility of the responsible department. Emergency purchases should be referred to the County Administrator, who may expedite those requests with the assistance of the Purchasing Department.

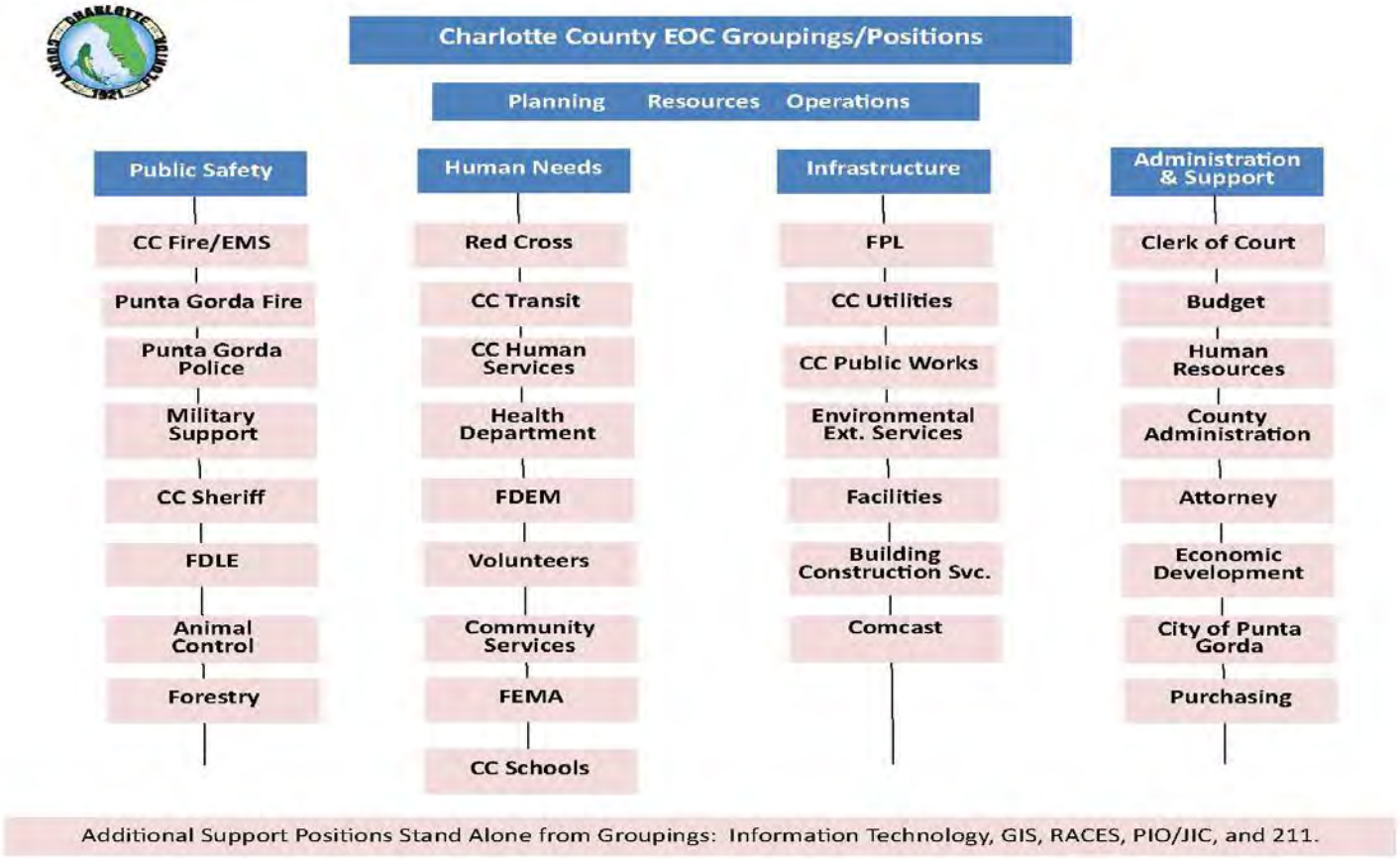
c. LEVEL I EMERGENCY (Full Scale Operation)

Defined: Any extraordinary occurrence of such magnitude that all county and city departments and resources must be utilized or where a combination of county and city departments and outside agencies has been mobilized to handle the situation.

Responsibility: The primary responsibility for decision making rests with the Emergency Operations Staff (which is defined as a committee of department heads or appointed representatives usually stationed in the EOC). The members of the Staff will be divided into groups and position that correspond to a unified command structure. The on-site commanders may make those decisions necessary to protect life and property and to stabilize the situation. Decisions designed to properly resolve the entire emergency shall be the responsibility of the Emergency Management Office and Unified Commanders.

This level of emergency usually results in a "Declaration of Emergency" by the Charlotte County BCC, who invokes the emergency powers of the office.

Notifications: Upon activation of the EOC, Emergency Operations Staff will immediately notified all EOC groups and positions utilizing our emergency call down list (primary &/or alternate contact in their absence). Personnel from the following Groups/positions will report to the EOC for duty:



Action: The senior representative of the initiating department shall establish an on-site command post and notify all departments of the location.

The EOC shall be activated. All members of the Emergency Operations Staff will report to the EOC.

Press Relations will be assumed by the EOC and activation of the PIO Position and the JIC. The further acquisition of personnel, equipment, or other resources will become the duty of the Emergency Operations Staff.

All other department heads and those with designated responsibilities elsewhere in this plan should report to their regular areas (other instructions may be given at time of mobilization).

2. Full activation of the EOC does not occur in every emergency event. Even situations with multi-discipline and mutual aid involvements are often managed effectively in the field using the Incident Command principles practiced by responders in the County.

a. The EOC may be activated simply to provide support to the Incident

Commander(s) in the field.

b. Any incident may escalate from a field command emergency to one managed from the EOC.

c. Any activation of the EOC may be accompanied by activation of a recovery-mitigation team. The timing and level of recovery-mitigation team activation will depend upon the severity of the event.

B. General

This Plan is based on the principle that, while emergencies and disasters have no regard for political boundaries, they always occur at local government level. Therefore, Charlotte County (and the included City governmental authorities) has primary responsibility for local emergency preparedness, response, recovery, and mitigation.

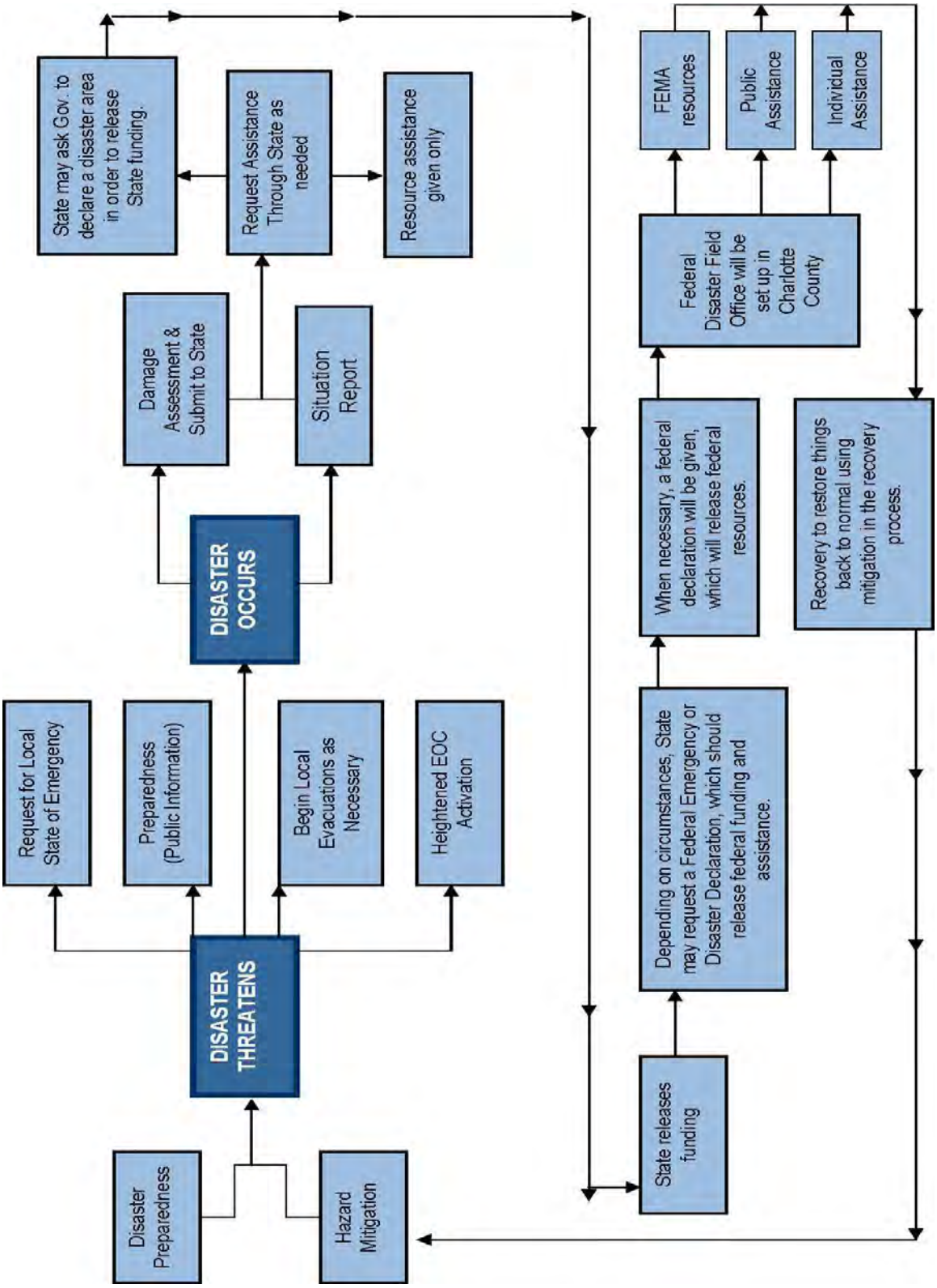
This Plan works under the assumption that each Office and Department of local government has developed the internal preparedness, response and recovery procedures it needs to implement this Plan and to ensure internal capability to perform the Office/Department's functions. It is necessary for all departments to have their plans developed and in place in order to present an effective response and recovery to an emergency or disaster.

1. Local response capabilities may not be adequate to conduct crisis and consequence management operations to large incidents. State and Regional resources may be mobilized after a resource request from the county EOC. Such a mobilization would require an Executive Order by the Governor of the State of Florida

.

The characteristics or magnitude of a terrorist incident may necessitate the activation of the SEOC and the State of Florida CEMP. State resources mobilized through these actions would then be available to the County Unified Command. In addition, the State of Florida has established seven RDSTFs to address the unique emergency preparedness needs for terrorist incidents. ICS chart shown on next page.

DISASTER EVENT CYCLE



2. County and City preparedness, response and recovery operations will be combined and coordinated when the emergency event exceeds City capabilities or is anticipated to do so. Damage assessment documentation and financial records will however, be maintained separately to facilitate claims for Federal and State reimbursement assistance.

County government accomplishes the functions for which it is responsible, and requests relief from the next higher level of government only when resources at County level are, or will be, inadequate to cope with a specific event.

Charlotte County works and coordinates with the City of Punta Gorda (its only municipality), other counties, state organizations, and state organizations on a regular basis in dealing with response, recovery, and mitigation issues.

3. Routine emergencies may be underway concurrently with County or City preparations for, response to, and recovery from a major event that is of such proportions that full activation of the EOC is affected. All pre-existing routine emergencies must be integrated into management of the overall event by establishing priorities, allocating resources, analyzing the impact of the emergencies, and informing the public.

Charlotte County will use the unified command structure to manage its emergencies and disasters. County agencies and organizations have been trained and will continue to be trained in the implementation of ICS. Many organizations have a different type of organizational management system. These systems can be used. However, they are urged to implement their management system into the overall Charlotte County ICS system to prevent fragmentation and duplicating uses of resources during and emergency or disaster.

4. EOC Functions

a. Operational Functions of EOC

The CCEOC serves as the official warning point during activation and provides 24 hour communication capabilities. The CCEOC serves as the central focus point for the coordination and direction of emergency preparedness, response, recovery, and mitigation activities. The functions to be performed by the CCEOC during activation include, but are not limited to the following:

- Receipt and dissemination of emergency information and instructions;
- Direction and control of emergency preparedness, response, recovery, and mitigation activities in Charlotte County;
- Coordination with appropriate public safety agencies or emergency-related officials, agencies, and organizations;
- Collection and analysis of pertinent data;
- Management of emergency resources (i.e., personnel, facilities, equipment, and supplies);
- Issuance of emergency public information, instructions, and directives for protection of lives and property.

b. Location of Primary EOC

The CCEOC is located in the Public Safety Building at 26571 Airport Road in Punta Gorda, Florida. The building was opened in 2007 and was constructed to a 170 mph wind rating. The exterior windows and doors are 200 mph tornadic rated. The facility is 72 hour self-sustainable backup generator, uninterruptible power supply (UPS), redundant heating and air conditioning systems, and water/sewer system. It also houses the 911 and Sheriff's Office redundant locations.

Directions from I-75 are to take Exit 164, then go east on US 17 North. Take US 17 to Golf Course Blvd. Take right on Golf Course Blvd. Go 2.0 miles, turn right at Henry Street. Proceed to a four way stop sign, turn left onto Piper Road, to your first right onto Airport Road. The building is located on the left just past the county jail facility. The signage out front denotes Charlotte County Public Safety Building.

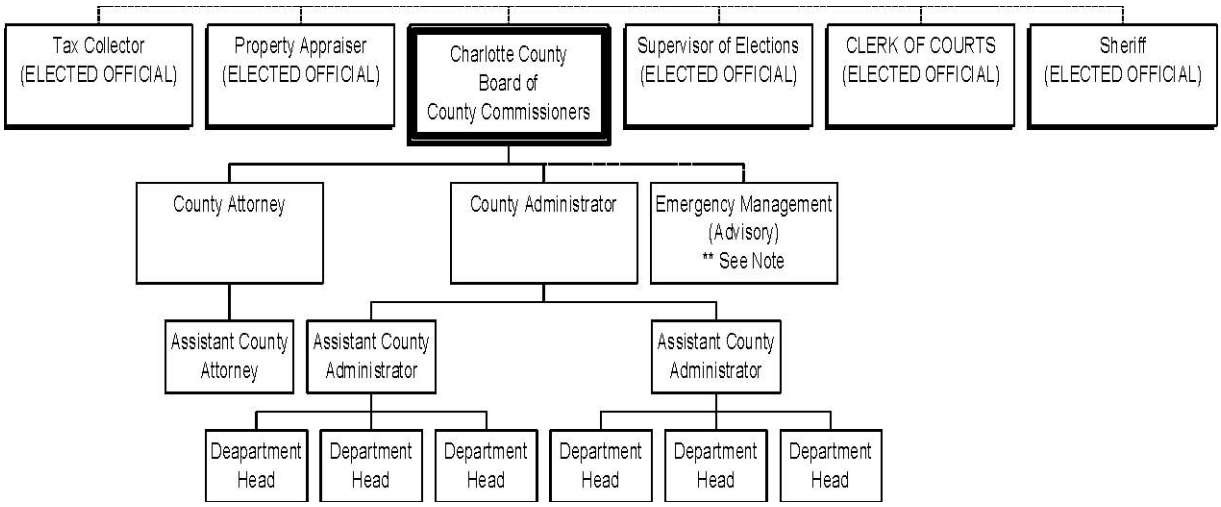
c. Location of Alternate EOC

The Alternate CCEOC is located at Florida Health Department in Charlotte County facility (Charlotte County owned). The physical address is at 1100 Loveland Boulevard, Port Charlotte, located approximately .5 miles east of I-75 (exit 170 Kings Highway). This facility will be utilized if the primary EOC in Punta Gorda is unusable for any reason. This facility is located in a category green storm surge zone and was built in 2011 using the latest construction regulations for hurricane and tornado wind loads.

C. Organization

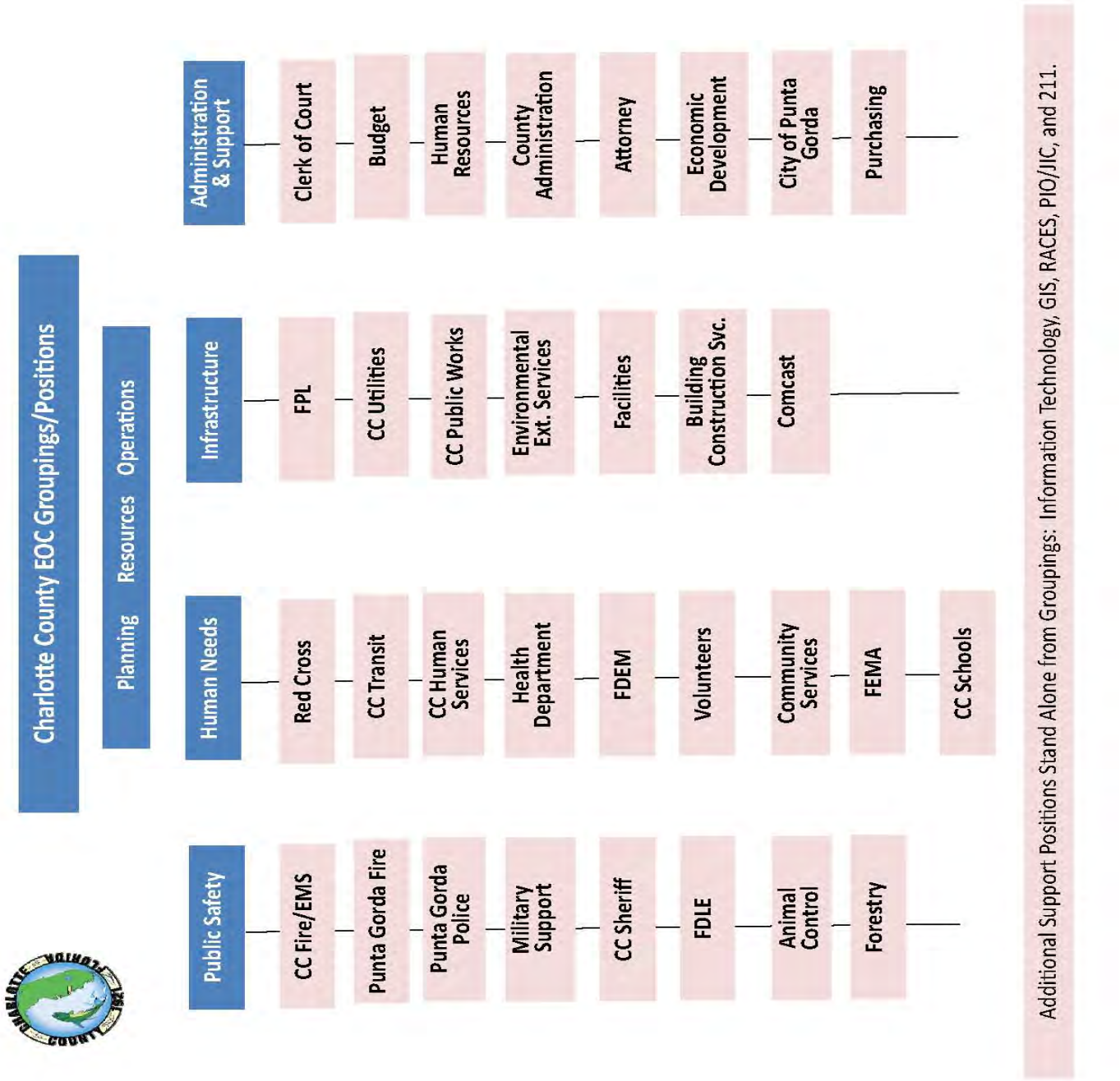
1. The following is an organizational chart identifying government officials, by title, which will ensure continuous leadership authority and responsibility during emergency situations. This is almost identical to everyday operations in Charlotte County. These are the same people that will be responsible for activating the plan and directing preparedness, response, recovery, and mitigation operations.

CHARLOTTE COUNTY ORGANIZATIONAL CHART

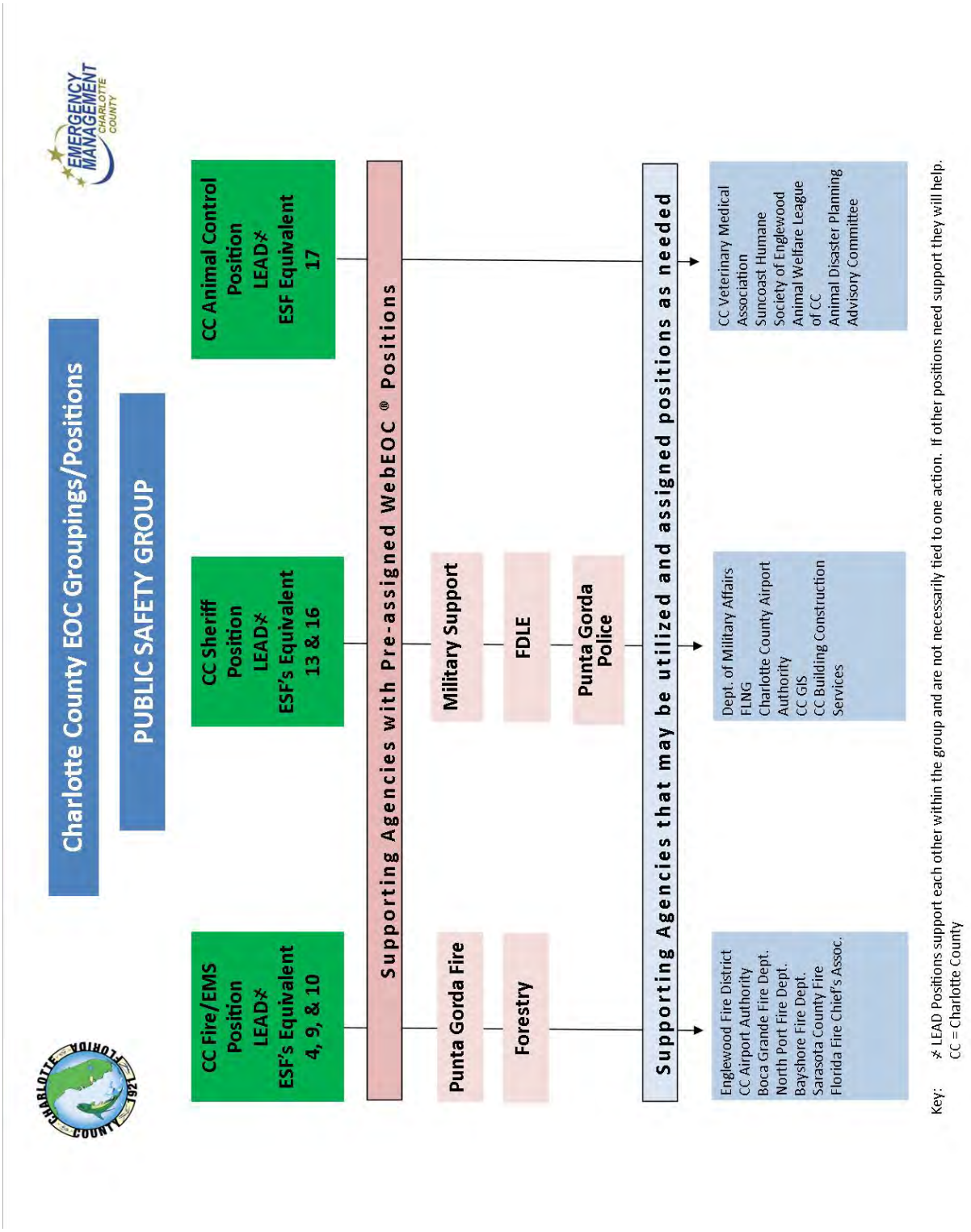


..... Elected Officials ------ Advisory Position Note: Emergency Management acts in an advisory role to the BCC during emergency activations. During daily operations, Emergency Management falls under the Public Safety Director / Fire Chief, who answers to the Assistant County Administrator

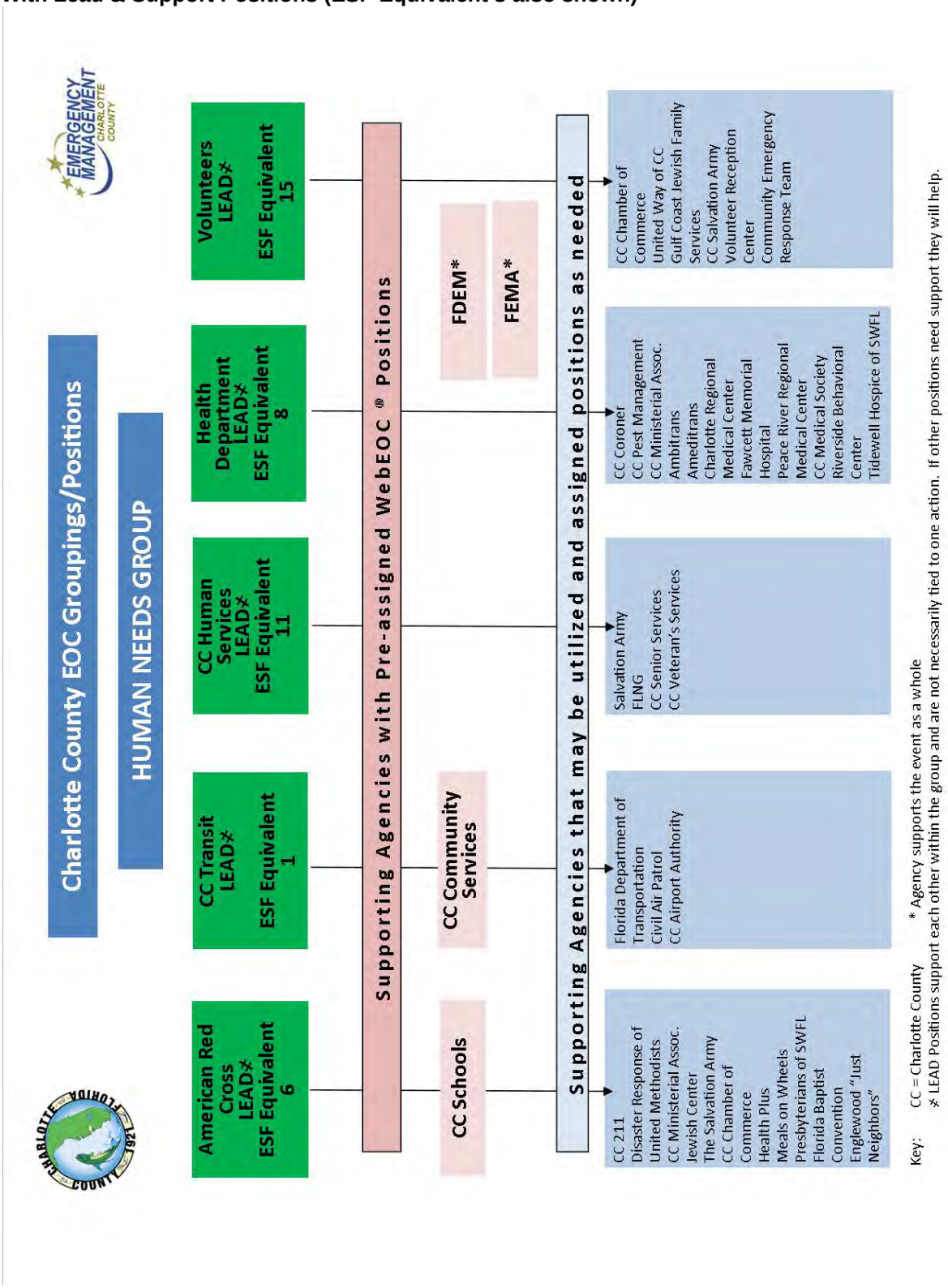
2. The following diagrams show the Charlotte County EOC Groups/Positions utilized in the Unified Command Structure Lead Agencies and their Support Agencies: ***OVERVIEW***



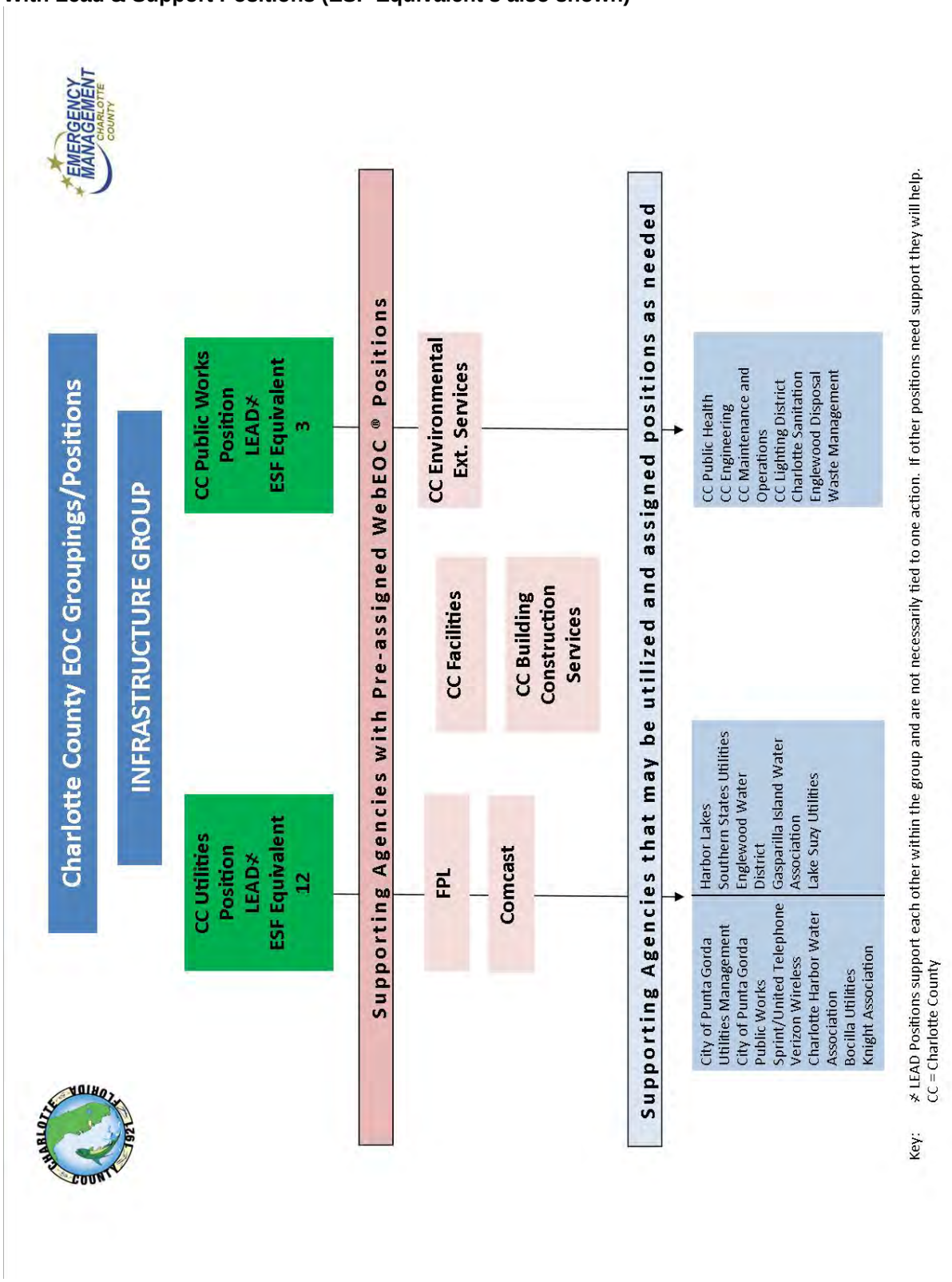
PUBLIC SAFETY GROUP
With Lead & Support Positions (ESF Equivalent's also shown)



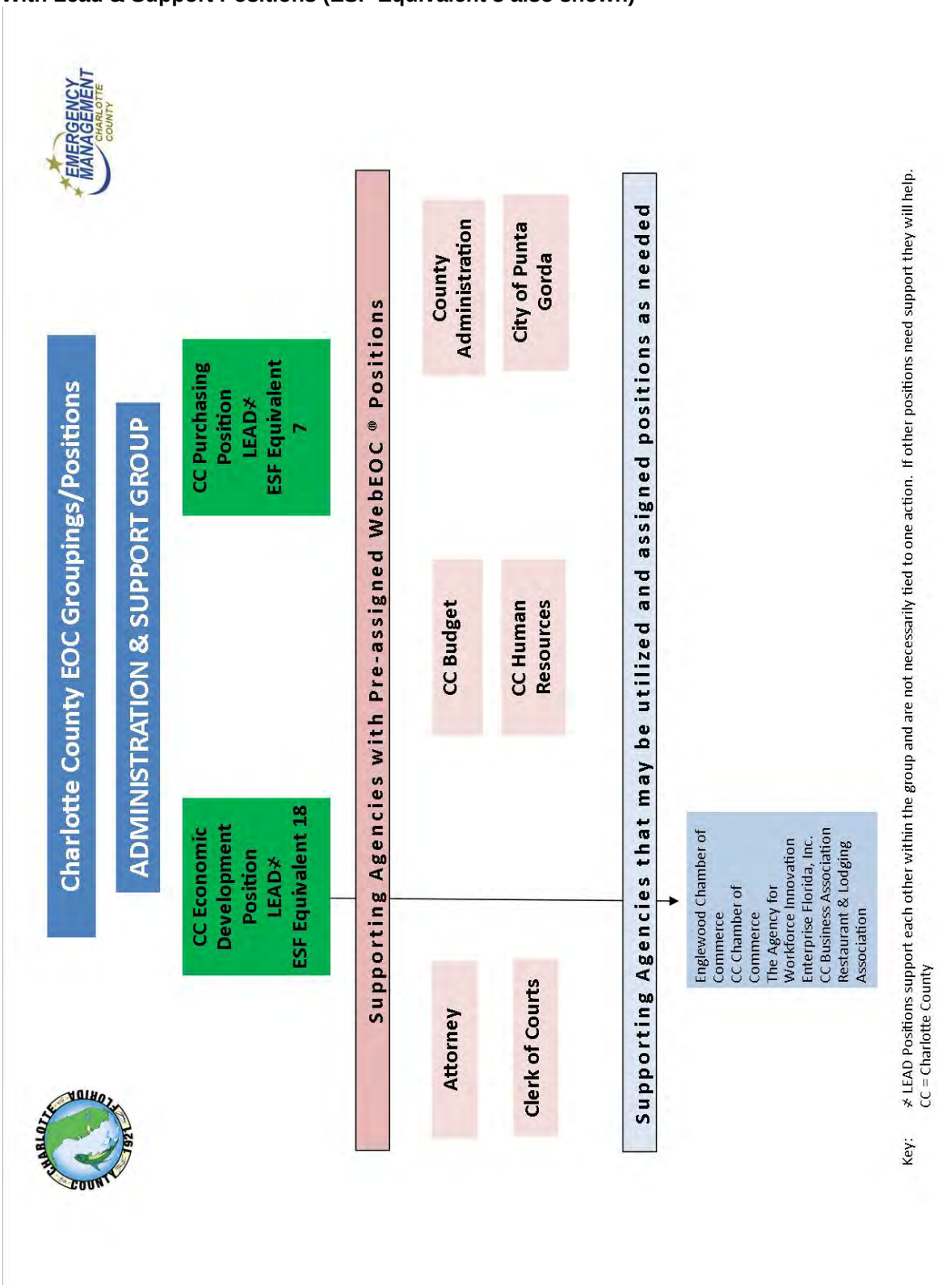
HUMAN NEEDS GROUP
With Lead & Support Positions (ESF Equivalent's also shown)



INFRASTRUCTURE GROUP
With Lead & Support Positions (ESF Equivalent's also shown)



ADMINISTRATION & SUPPORT GROUP
With Lead & Support Positions (ESF Equivalent's also shown)



STAND ALONE POSITIONS
ESF Equivalent's also shown

3. Charlotte County will use a Unified Command Structure with EOC Groupings/Positions as shown below. The chart will also show how the EOC Groupings/Positions correspond to the NIMS/FEMA ESF's and how they fit into the overall Charlotte County unified command structure.

The Charlotte County BCC is the lead authority in all emergency situations per Florida Statute 252. However, there may be a variation in who will act as lead advisory or lead response agency. The following table illustrates the lead response agencies and their legal authorities for each of the hazards to which Charlotte County is vulnerable.

CHARLOTTE COUNTY HAZARD RESPONSE FREQUENCY & MATRIX

Hazard/Special Planning Consideration	Frequency	Population Affected	Lead Agency	Applicable Statute	Comments
Civil Disorder	Infrequent	Varied	Sheriff	F.S. 870.041-8	PGPD, FDLE, FHP, FMP, FLNG
Drought	Semi-frequent	Population & Agriculture	Extension		
Flood	Semi-frequent	All	Emergency Management	F.S. 252	FDEM
Freeze - Winter Storm	December - April	Population & Agriculture	Extension		
Hurricane	June-November	All	Emergency. Management	F.S. 252	FDEM
Tornado	Year Round	All	Emergency Management	F.S. 252	FDEM
HAZMAT	Infrequent	All	Fire	F.S. 252 & 29 CFR 1910.120	DEP
Power Failure	Semi-frequent	All	Utilities/FPL		FDCA
Radiological	Infrequent	All	Public Health	F.S. 252	DEP
Subsidence	Infrequent	All	Public Works	F.S. 252	PGPW, FLICE, USACE
Transportation – Air	Infrequent	All	Fire/Rescue	F.S. 252	CCSO, PGPD, FDLE, FHP, FBI, FAA, NTSB
Urban Fire	Frequent	Varied	Fire/Rescue	F.S. 252	Local Mutual Aid, FLFCA
Wildland Fire	Frequent	Varied	Fire/Rescue	F.S. 252	Local Mutual Aid, FLFCA, FDOF
Mass Casualty	Infrequent	Varied	Fire/Rescue	F.S. 252	Local Mutual Aid, FLFCA
Terrorist	Infrequent	Varied	Sheriff	F.S. 252	PGPD, FDLE, PDD 29(FBI)
Mass Migration	Infrequent	Varied	Sheriff	F.S. 252 & 870	FMP, USCG, INS
Distinguished Visitor	Infrequent	Varied	Sheriff		FBI, USSS
Public Health Emergency	Semi-frequent	Varied	Public Health	F.S. 388.45	DOH. CDCA
Chemical Spill – Waterway	Semi-frequent	Varied	Fire/Rescue		FMP, DEP, USCG

D. Direction and Control

1. EOC Activation Criteria

   a. The EOC may be activated at the direction of the BCC, The County Administrator, an Assistant County Administrator, or the Director of the CCOEM.

   b. The Mayor or City Manager or any Incident Commander may request that the EOC be activated.

   c. The EOC may be activated before, during, or after an incident is underway, depending upon the nature of the incident. The EOC will normally be activated under the following circumstances:

      - Two or more incidents are under field incident commanders and have the potential for stressing normal resources.
      - An impending or actual incident threatens to affect a major portion of the County.
      - The County Administrator or the Director, CCOEM, identifies the need to activate the EOC in order to: collect and disseminate information, plan for response and recovery, coordinate between involved officials and jurisdictions, arrange for facilities and equipment and exercise command and control.
      - To effect coordination with County and City officials and with officials of adjacent counties or with State and Federal agencies.
      - Upon request from City officials in an emergency situation that has overwhelmed, or is predicted to overwhelm, City resources and coordination with multiple County agencies is necessary.

2. EOC Activation Staffing

   a. Activation of the EOC means that it is staffed to the appropriate level by the CCOEM and by representatives of the EOC Groups/Positions Lead and Support agencies and others from public, private and volunteer sectors that are, or are expected to be, involved in a specific incident.

   b. The entity activating the EOC will direct the staffing, that is desired, as recommended by the CCOEM Director.

   c. Off-Duty emergency telephone numbers for organizational heads are on file in the EOC and furnished to the Central Dispatch Office. Private phone numbers are not listed in this Plan as many are unlisted numbers.

   d. Staffing may change as the incident progresses. Persons directed to staff the EOC are to arrive with knowledge of their organization's capabilities, resources and mutual aid agreements. They are to remain in the EOC until released and must be authorized to act with full authority for the organization they represent.

e. Departments and agencies not directed to the EOC will be expected to conduct business from their normal or designated alternate headquarters in coordination with the CCOEM.

f. Basic EOC staffing is depicted in Section VII (Roles and Responsibilities).

3. EOC Activation Levels

a. When the EOC is activated beyond Level 3, the State Warning Point (SWP) will be advised and provided with an explanation. Adjacent and other jurisdictions will also be advised if the incident may in any way impact them. The same notification will apply for all changes in activation Level.

b. In any EOC activation beyond Level 3, other organizations and departments will be alerted as needed to support EOC operations.

c. Upon activation of the EOC beyond Level 3:

- The Director of CCOEM may recommend that the County Administrator request the Board of County Commissioners go into continuous session in its conference room to facilitate policy support for operations in the EOC.
- A specified EOC activation Level will persist until a change in activation Level is recommended by the Director of CCOEM.
- Organizations involved are expected to activate corresponding levels of their own internal implementing plans and SOP.

4. Emergency Workers operational, logistical, and administrative support needs will be coordinated from the EOC and, if necessary, field offices.

5. EOC Operations

All information on EOC Functional Operations can be found in the EOC SOP, located in the Charlotte County OEM library. The following is a summary of what can be found in this document.

a. Staffing patterns of the EOC to ensure 24 hour operations;

b. Internal information flow in the EOC

c. Activation/Deactivation measures

d. Security/EOC Access

e. EOC Setup

f. Emergency Power capabilities

g. Procedures for disseminating warnings to necessary officials and organizations

h. Procedures for the activation of the public notification system, and who has the authority to activate it.

6. Key Roles

a. Response, Recovery and Mitigation Activities

The CCOEM Director or designee will coordinate the post-disaster recovery and mitigation activities of all elements of local government and serve as the Charlotte County and City of Punta Gorda single point of contact on recovery activities as they relate to local, State, and Federal officials. The CCOEM Director or designee will be supported from the unified command in the EOC via groups/positions.

Emergency Management will facilitate the transition between response and recovery, understanding that there will be a period of time when both response and recovery are occurring simultaneously. Emergency Management will also facilitate the coordination between local field offices and state and federal disaster field office (DFO). Location names will be relayed to the necessary state and federal liaisons.

b. Evacuation

The Charlotte County BCC, by authority of Chapter 252, F.S., has the power and authority to direct and encourage the evacuation of all or part of the population from any threatened area within Charlotte County. This is to be done in a quorum, or by the Chairman himself/herself in absence of a quorum, if it is deemed that this action is necessary for the preservation of life or other disaster response and recovery efforts.

c. Acquisition, Review and Filing of Emergency and Disaster SOPs and Checklists

The CCOEM is responsible for acquiring and reviewing all of Charlotte County's emergency SOPs and checklists. CCOEM keeps other agency SOPs and checklists on file in its internal library. These SOPs and checklists are updated by each agency as needed.

d. Maintaining the operational readiness of the CCEOC

The maintenance of operational readiness of the CCEOC is the responsibility of the CCOEM.

e. Overseeing the Overall Mutual Aid Process

Officials who have signed the mutual aid agreements in question are responsible for keeping the mutual aid agreements current and on file with the CCOEM and with their own individual agency.

In an emergency or disaster situation, the Operations Position, along with the Resource Position and Purchasing Position, will make and

keep track of all emergency mutual aid contacts and resources that are to be used.

7. Mutual Aid Agreements

   a. Mutual aid agreements and memoranda of understanding will be entered into by duly authorized officials and will be formalized in writing.

   b. Unless otherwise provided, agreements remain in effect until rescinded or modified. A recorded review and update is required when circumstances of the agreement change, and at least annually on the anniversary date of each mutual aid agreement.

E. Notification and Warning

1. The CCSO Dispatch and the CCEOC will serve as the Charlotte County 24 hour warning point. The Sheriff's Office Dispatch is located on Gulf Course Road just down the street from the EOC. The CCSO have access to the SATCOM phone, which is linked to the State of Florida DEM SWP.

2. Primary warning systems for the EOC is the National Weather Service through telephones, cellular telephones, and internet. Backup warning systems include regular telephones, cellular telephones, facsimile machines, RACES, and a satellite telephone.

3. The Charlotte County primary EOC is hooked up to a single backup emergency generator (500 kw), which is tested on a weekly basis to ensure that it is operable. The amount of available fuel totals 4,000 gallons - 72 to 96 hours of operation.

4. Specific areas in Charlotte County are broken into zones according to the Charlotte County SLOSH model, located in the Charlotte County OEM library. These zones will be used in the dissemination of warnings.

5. The Florida Telecommunications Relay Services (TDD) will be used to disseminate warnings to the hearing impaired. Visually impaired people will be notified of warnings via weather radio, broadcast radio, and television.

6. Seasonal visitors will be notified of impending emergencies or disasters through the use of broadcast radio, television, and Wireless Emergency Alert (WEA) system when applicable. Also, the use of the cable emergency override system can be used to disseminate warnings as needed.

7. The SEOC will be notified of any of the following conditions:

   a. Hazardous Material Spills:

   - Petroleum Based spills
     - Spills involving waterways
     - Spills greater than 5 gallons
     - Spills requiring any State or Federal notification or assistance

- Chemical Spills
  - All SARA/EHS/CERCLA (Section 304) releases
  - All spills threatening the population or the environment
  - All spills requiring evacuation

b. Weather

- Any incident associated with weather phenomena involving possible/actual damage to property or persons

c. Transportation

- Incidents involving major thoroughfare closures
- All aircraft incidents
- All railroad incidents
- Incidents involving mass casualties
- All major accidents involving commercial vehicles/vessels

d. Fire

- Major forest fires
- Fires involving chemicals
- Large or multiple structure fires

e. Radiological

- All radiological incidents

f. General

- Sinkhole
- Public Water Source Contamination
- National Security
- Medical Waste
- Immigration Issues
- Potential/Actual Dam Failures
- Other

- Incidents with potential effects to adjacent counties
- Incidents requiring assistance from state or federal agencies
- Incidents with a prolonged effect on public utilities
- Incidents involving potential or actual evacuations

F. Response Actions

1. General

a. Steps for Declaring a State of Local Emergency

The OEM Director of the Charlotte County will, when deemed necessary, begin the process of requesting a State of Local Emergency using the following measures:

- Solicit draft State of Local Emergency (document) input from County and City departments, including recommendations to modify, suspend, or cancel enforcement of ordinances and other rules in which they have an interest or responsibility;
- Draft the State of Local Emergency document;
- Request for a State of Local Emergency before the Charlotte County BCC;
- Disseminate the original, and all subsequent declarations to law enforcement, other affected entities, and the media. A sample State of Local Emergency Document can be found in the Charlotte County OEM library.

b. Closing of Schools and Businesses

- Closing of schools will be made by the Charlotte County School District with advice of the CCOEM. The Charlotte County School Board (CCSB) is on the notification list of the CCOEM for all impending and actual threats.
- Businesses will close using the decision of their owners/managers. This can be done by consulting with the CCOEM. CCOEM will maintain a list of essential services available through the CC Economic Development Position.

c. Requesting State Assistance

- All requests for State assistance from County agencies will follow this protocol:
  - The requesting agency will forward its request to the Charlotte County Operations Position in the Charlotte County EOC.

– The message will then be analyzed and forwarded to the State of Florida Liaison Officer as seen necessary once all local resources have been exhausted.

** No requests will be made directly to the State. All requests for State Assistance must be made through the Charlotte County Operations Position.

d. State Rapid Impact Assessment Teams (RIATs) and Rapid Response Teams (RRTs), the Charlotte County first responders, in conjunction with the CCOEM, or a designee, will escort and facilitate the needs of State RIATs and RRTs.

2. Evacuation

a. Evacuation Clearance Times

A synopsis and listing of Charlotte County evacuation clearance times can be found in the Hurricane Evacuation Study for Southwest Florida, written by the Southwest Florida Regional Planning Council. A copy of this document can be found in the Charlotte County EOC library.

b. Evacuation Routes

A listing of Charlotte County's evacuation routes can be found in the Hurricane Evacuation Study for Southwest Florida, written by the Southwest Florida Regional Planning Council.

A listing of evacuation routes for public viewing can be found in the local telephone books, OEM Webpage on county site, and Disaster Planning Guides that are distributed throughout the county annually.

Although all routes can be considered primary, citizens are urged to use I-75 and US 41 as a last resort. The reason for this is that most people are familiar with I-75 and US 41, and therefore use of these roads during an evacuation will be high. However, due to the fact that these routes run along the coast, and, historically, these roads are normally crowded in an evacuation, people are urged to use Highway 17, CR 74, and Kings Highway to evacuate Charlotte County. These roads will take people inland, away from the storm surge threat.

c. Special Needs Program (SNP)

Charlotte County is mandated under Chapter 252, F.S. to register all persons who have special transportation or medical needs during an evacuation situation. The process for registration is as follows:

- The presence of the Special Needs Registration is

advertised in many different formats throughout the year.

- People are urged not to register unless it is needed. If people have friends or family that can transport them and/or take care of them, then they need to use those options. The reason for this is that Charlotte County, as of August 2013, has approximately 600 people signed up on this program, and the enrollment is expected to increase. Charlotte County resources to transport and handle the medical needs of these people is extremely limited, therefore, registration must be done with caution.

- Once interest is shown in the program, a form is sent to this person, or their guardian, to fill out. The form requests information such as name, address, special needs, and how many people they are to bring with them.

- Once the OEM is in receipt of this returned form, the name is then entered into a database, which is maintained daily by the CCOEM. The Florida Health Department in Charlotte County has access to the database for review and approval of applicants.

- This list is given to the Charlotte County Transit Department, who develops routes to pick up these people via school bus, hydraulic lift vehicle, and ambulance.

- Once a storm threatens, and evacuation orders are imminent, the persons on the list which are residing in the potentially threatened area are called by a Special Calling Team (created and maintained by the Human Services Position), which has been trained by the CCOEM. The people are notified that they are about to be picked up, and that they need to get their things together (key things are listed for them).

- These people will then be picked up and brought to a designated facility in county, if the situation allows for it, or out of county, for larger incidents.

- Once a disaster threatens, emergency SNP needs are coordinated through the Health Department Position.

d. Facilities Needing Attention During Evacuation

Lists of facilities needing special attention during the evacuation process include, but not limited to:

- Mobile Home Parks

- Marinas

- Bridges (including draw and swing bridges)

- Utility Sites (Lift Stations, treatment plants)

- Disaster Centers
- Health Care Facilities

e. Re-entry to evacuated areas is a controlled activity for residents, people who work in the area and for contractors, and others seeking work in the evacuated area. Re-entry will be undertaken only during daylight hours.

- The Sheriff's Office will manage appropriate Traffic Control Points (TCP), as identified by number and intersection on the TCP maps maintained in the EOC.
- Proof of residency in the area or area employment must be presented at the TCP in order to gain re-entry. For residents, a driver license listing an address in the evacuated area is acceptable for re-entry. Lacking that specific documentation of residency in the evacuated area can be established by photo ID along with a utility bill addressed to the bearer at the area address, or a lease or proof of building ownership. Employees of businesses in the evacuated area must present a photo ID issued by that business for the address in the evacuated area, or a photo ID along with other proof of employment at the business address in the evacuated area such as a paycheck stub.
- Re-entry to evacuated areas will begin and will be only during daylight hours, and as damage assessment, debris removal and the status of utilities permits. When the evacuated area is large or involves multiple sectors, re-entry is likely to take place in phases. Local radio broadcasts will be used to announce which areas are open for re-entry and when re-entry will commence.
- Persons evacuated under the SNP will be returned to their homes after their homes are determined to be habitable.

3. Sheltering

Charlotte County has no ARC approved shelters. We do however have one refuge site which is located in a Category 3 zone with a base flood elevation of 25 feet. All others are located in a Category 2 zone and lower.

Due to this, Charlotte County has developed a refuge site program. This program was started using funds derived from a one cent sales tax extension. The funding is used to retrofit buildings such as social halls, community centers, schools, and club houses in mobile home parks. These buildings must meet a set of criteria put forth by the CCOEM. The idea is for these buildings to be able to house the residents that they serve on a daily basis. This reduces the number of people on the road and reduces the demand on other shelters when an evacuation is called for. Currently, Charlotte County has retrofitted 15 such facilities.

Further information on Charlotte County shelters/refuge sites can be found in the Hurricane Evacuation Study, written by the Southwest Florida Regional Planning Council..

Charlotte County has encouraged the use of refuges of last resort. In Charlotte County, the presence of buildings in which vertical evacuation can take place is virtually none. However, effort has been made to locate churches, businesses, clubhouses, which can house people that use the structures regularly (i.e., congregations, club members, and employees). Some buildings have been located, and, with some retrofitting, can be used as refuges of last resort.

VIII. RESPONSIBILITIES

This Plan is based on the principle that, while emergencies and disasters have no regard for political boundaries, they always occur at the local government level. Therefore, Charlotte County (and the included City governmental authorities) has primary responsibility for local emergency preparedness, response, recovery, and mitigation.

Each Office and Department of local government must develop internal preparedness, response, and recovery procedures it needs to implement this Plan and to ensure internal capabilities to perform the Office or Department functions.

A. Coordination with State and Federal Support of Local Operations

Charlotte County will remain in constant contact with the State of Florida DEM during the threat, onset, response, and recovery of any large emergency or disaster.

Charlotte County will request State assistance through the Charlotte County Operations Position. The Operations Position will then analyze the request, and forward it to the State **only when** all other County resources are depleted.

Charlotte County will also coordinate with State and Federal agencies for the following situations:

1. Establishing DRCs and DFOs **(Lead: Emergency Management)**
2. Escorting Damage Assessment Teams (RRTs and RIATs) **(Lead: Emergency Management/Building Construction Services)**
3. Coordinating Community Relations Teams **(Lead: Human Services Social and Senior Services)**
4. Locating and setting up Emergency Housing **(Lead: Emergency Management and Public Works)**
5. Requesting and locating additional resources as needed by Charlotte County, surrounding counties, or for the State of Florida **(Lead: Emergency Management)**
6. Determining need for Public and Individual Assistance **(Lead: Emergency Management)**
7. Determining Unmet Needs **(Lead: Emergency Management)**
8. Coordinating with mitigation assessment teams **(Lead: Emergency Management/Hazard Mitigation and Recovery Team [Local Mitigation Strategy Team])**

Participating agencies will be determined at time of incident. Depending on the type of incident, it may be necessary to have other agencies act as lead for these activities. Further coordination for additional response, recovery, and mitigation efforts will be determined by the OEM.

B. Plan Development and Maintenance

Plan development and maintenance is a primary responsibility of the Charlotte County Director of Emergency Management. Active and on-going participation in the emergency planning process and in Plan production an evaluation is required of all who have responsibilities in Plan execution. The process involves a team of participants from all sectors of the community, and at all levels of authority in those sectors.

C. Record Keeping for Government Functions and Post- Disaster Operations

All levels of government must ensure protection of the records vital to disaster preparation and response and so that normal operations may resume after a disaster. Additional records may be essential to recovery from the effects of a disaster. Vital records are maintained by two entities within the county. The Sr. Division Manager of Information Technology is responsible to maintain the county server (electronic information) while the Charlotte County Clerk of Courts maintains the rest.

D. Mutual Aid/Memoranda of Understanding

1. Mutual Aid Agreements and Memoranda of Understanding will be entered into by duly authorized officials and will be formalized in writing.

2. Unless otherwise provided, agreements remain in effect until rescinded or modified. A recorded review and updating is required when circumstances of the agreement change or during the anniversary date of the mutual aid agreement.

3. Officials who have signed Mutual Aid Agreements are responsible for ensuring that a current copy is on file in the OEM.

4. Any agencies responding to mutual aid requests must notify Charlotte County Emergency Management so resources are tracked in case of in-county incident.

5. All mutual aid requests will be processed through Resource Position or the Operations Position in the EOC. This is done to ensure continuity in response and to avoid duplication in resources sent.

E. Agency/Department Responsibilities

1. General

   a. Elected officials and other governmental authorities of both County and City operate essentially the same during normal and emergency times. Non-emergency activities may be suspended and resultant uncommitted personnel reallocated to the OEM Groups and/or Positions.

   b. The scene of decision making may shift from the normal BCC and City Council conference rooms and Department offices to the EOC and/or other special facilities.

   c. Charlotte County's organization for disaster management commits all units of local government to provide the service and assistance for

which they are best trained and most experienced. Those organizations that have no inherent emergency management roles will make their personnel available to support disaster operations as may be directed.

2. The Chairman of the BCC will:

   a. Provide the Director of OEM with a listing of the Commissioners specifying their succession in authority to exercise the emergency powers of the Chairman in his absence or inability to function.

   b. Staff the EOC, to include BCC clerical support.

   c. Analyze the County-wide social and economic impact of the situation and provide policy and guidance as requested.

   d. Prepare to participate in public information presentations and media briefings.

   e. Review and authenticate SLE declarations and requests for State assistance.

   f. Convene the BCC to continuous emergency session as soon as is practicable. Exercise all essential emergency functions of the BCC unilaterally until the full BCC can be convened.

3. City Council and City Manager will:

   a. Provide the Director of OEM with a listing of the Council members and procedures for Council operation in the absence of a quorum.

   b. Provide the EOC with an empowered representative to assist in coordination of County-City emergency operations.

   c. Provide participation throughout the event on the part of City police, fire, public works and other City government offices in coordination with the overall County operations.

   d. Ensure the establishment of SOP in all elements of City government as needed to implement this Plan. Establish readiness procedures that insure the availability of trained personnel and requisite equipment and facilities in time of emergency.

   e. Throughout the emergency preparedness and response phases, keep the EOC advised of the status of City resources, anticipating shortfalls to the degree feasible so that external support can be sought as early as possible.

   f. Provide for initial damage estimates and subsequent damage assessment in coordination with County-wide damage assessment.

   g. The City liaison will assist the County Administrator in the EOC as the focal point of coordination with the City.

4. The County Administrator will:

a. Provide the Director of OEM a Succession of Authority List, naming the two officials in sequence authorized to act with authority in their absence.

b. Serve as lead for Administration & Support function at EOC.

c. Function as the coordination point between the Chairman, BCC and the County department and office heads and private and volunteer sector representatives.

5. The Deputy County Administrator will:

a. Assist the Administrator and serve as lead for Administration & Support function at EOC in the absence of the Administrator.

b. Provide oversight of County damage estimation and assessment and debris removal in the aftermath of a disaster.

6. The County Attorney will:

a. Provide a two person successor list to the Director of OEM.

b. Provide legal counsel as required throughout the emergency with particular emphasis on SLE/disaster declarations and re-entry issues.

c. Staff the EOC upon request.

7. The Superintendent of Schools will:

a. Provide a two person successor list to the Director of OEM.

b. Staff the EOC.

c. Make school resources available for sheltering, radio-equipped school buses for use in evacuations and trained operating crews in both cases.

8. The County Sheriff will:

a. Provide a two person successor list to the Director of OEM.

b. Staff the EOC upon request.

c. Provide professional advice and expertise as well as resources to the BCC, County Administrator and other elements of County government operations particularly in support of evacuations, public warnings and notifications, physical security activities, damage assessment and movement control.

d. Request, coordinate and control all other law enforcement resources brought in to assist the County, including those occasions when the County is supporting the Punta Gorda Police Department (PGPD) in an emergency or disaster wholly within that city.

e. Draft and coordinate requests for military support of civil authority in coordination with the EOC for forwarding to the State DEM.

f. Operate a central dispatch system and center throughout the emergency.

g. Provide field incident commanders upon request.

h. Maintain mutual aid agreements with State-wide and adjacent law enforcement agencies.

9. The County Chief of Fire and EMS will:

a. Provide a two person successor list to Director of OEM.

b. Staff the EOC upon request.

c. Coordinate the activities of all fire-rescue organizations used in the County throughout the emergency with overall County operations.

d. Submit requests for mutual aid and other forms of external aid through the EOC to the State DEM.

e. Assist in the evacuation of persons with special needs (medically - dependent), arranging with commercial, CCSB and Charlotte County Social Services (CCSS) for wheelchair lift-equipped transport.

10. Building Construction Services Department will:

a. Provide a two person successor list to Director of OEM.

b. Be prepared to perform normal functions at routine locations, situation permitting, or at alternate locations, as necessary.

c. Identify operations that can be postponed or suspended in an emergency.

d. Provide and operate departmental mobile radio capability, including vehicles with drivers, when requested in support of damage estimation/assessment and other recovery phase operations.

e. Prepare professional staff to assist in damage estimation and assessment and in recovery operations.

f. Effect contractor pre-registration and other preparations for expedited issue of building permits and contractor licensing as may be necessary to rebuilding of the community in the aftermath of a disaster.

g. Provide input to the OEM regarding the need to suspend or modify ordinances or other County rules due to an emergency or disaster.

11. Purchasing Department will:

a. Provide a two person successor list to Director of OEM.

b. Staff the EOC upon request.

c. Provide emergency procurement support for supplies and equipment needed by County agencies such as for meals, fuels, tires and repair parts, construction materials, sanitary supplies and rental equipment such as pumps, generators, chain saws, portable lighting and cellular telephones and other communications equipment.

d. Develop and promulgate emergency procurement procedures to be used by Departments and Offices funded by County government that are compatible with State and Federal financial reporting requirements.

12. Public Works Department will:

a. Staff the EOC as focal point for County and City public works and public utilities concerns. Conduct damage assessment of public infrastructure in coordination with the Building Construction Services Department.

b. Provide engineering and maintenance services as needed to keep evacuation routes open, flooded or otherwise blocked road areas barricaded and traffic rerouting coordinated with law enforcement agencies.

c. Activate the State-wide inter-county Mutual Aid Agreement through the EOC when appropriate as an emergency measure.

d. Manage post-disaster debris removal in coordination with law enforcement and with damage estimation/assessment teams.

e. Provide trained personnel to conduct public infrastructure damage estimation and assessment tasks by both land vehicle and aircraft in coordination with Property Appraiser damage assessment operations.

f. Provide input to the OEM regarding the need to suspend, cancel or modify ordinances or other County rules due to an emergency or disaster.

13. Emergency PIO will:

a. Establish and operate a Joint Public Information and Rumor Management Center in the vicinity of the EOC, collecting information in the EOC and from field unit PIO.

b. Organize, schedule and manage media briefings regarding actual emergency preparedness, response and recovery operations.

c. Prepare and disseminate emergency public information materials incidental to an emergency operation.

d. During and following an emergency, serve as the single official point of contact between all Departments and Offices of County government and all media representatives.

e. Coordinate public information releases and rumor items with spokespersons for the local Red Cross Chapter and with such representatives of State and Federal governmental agencies as may be on scene in any official capacity.

f. Assist Public Health, Animal Control, utilities and other essential services in developing and disseminating post-disaster health and safety instructions for the reoccupation of evacuated areas and storm damaged homes.

14. Human Resources Department:

a. Develop and maintain a roster of government employees who have foreign language or sign language capability.

B Staff the EOC upon request.

15. Municipal Solid Waste Management will:

a. Make advance determinations and plans for acceptable disposal of the volume of waste that could result from a major hurricane and all other possible events. Some of the waste will be hazardous materials requiring special handling.

b. Identify contract sources for waste disposal services including forced-air burners and chipper machines that will be needed post-disaster.

c. Participate in post-disaster debris removal planning to ensure proper disposal of materials.

d. Advise the OEM in advance and on a continuing basis of ordinances and other County rules that should be suspended, canceled or modified in the public interest because of an emergency or disaster. This could include:

- landfill fees
- hours of landfill operation
- separation of wastes
- burn regulations
- the requirement that all franchise haulers dispose of all waste only at the Zemel Road facility

16. Charlotte County Chapter, ARC will:

a) Coordinate the activities of all volunteers and volunteer agencies.

b) In coordination with the OEM, determine when and where shelters shall be opened. Staff and operate County shelters in coordination with the

School Board and with owners of other facilities that are to be used as shelters.

c) In coordination with the EOC and organizations providing shelter facilities, set operating hours and capacities for shelters, arrange for food and other shelter services.

d) Assist in conduct of coordinated damage estimation and assessment.

e) Provide public services in accordance with the Chapter Disaster Plan.

f) Maintain liaison with the EOC throughout the emergency period.

g) Open and operate shelters and service centers in accordance with national ARC programs and policies.

17. Charlotte County Property Appraiser (CCPA) will:

a) Provide a two person successor list to Director of OEM.

b) Staff the EOC upon request.

c) Assist in damage estimation and assessment operations by determining values of damaged properties in on-site visits or in office reviews, as requested by the OEM.

d) Coordinate Appraiser Office damage assessment activities with State and Federal counterparts through the EOC.

18. The Clerk of the Circuit Court will:

a. Provide technical advice and assistance to the activated EOC regarding records and financial management for each specific disaster or emergency.

19. Charlotte County Airport Authority will:

a. Be prepared to make Airport Buildings, excluding the Operations Office, available to serve as an alternate to the County EOC, before, during or after an emergency, as needed.

b. Provide open space within Airport property to park emergency equipment that has to be relocated from flood-prone areas in advance of a hurricane. Provide access to sanitary facilities in Buildings 109 and 103 for Sheriff's deputies and others assigned to airport area duties.

c. Provide professional advice concerning aviation operations to the OEM. Serve as the single point of contact for EOC dealings with aviation authorities when it is necessary to close airspace over parts of the County, post-disaster, for damage assessment flights by specified government officials.

d. Be prepared to have the airport used as a medical evacuation or post-disaster recovery operations logistics management center.

20. Charlotte County Budget & Administrative Services Division will:

a. Oversee departmental tracking of disaster-related costs.

b. Collect actual and estimated costs from county agencies and compile them for reimbursement processes.

c. Act as primary point of contact for financial matters with State and Federal agents during disaster recovery and reimbursement processes.

d. Staff the EOC upon request.

21. Charlotte County Animal Control (CCAC) will:

a. Oversee all matters as related to animal issues of this plan.

b. Staff the EOC as required for operational needs of EOC.

22. Charlotte County Facilities Construction/Maintenance (CCFM) will:

a. Provide for janitorial duties in county buildings during disaster operations.

b. Ensure that all county buildings are prepared/protected during emergency and disaster events.

c. Provide servicing and repair of governmental buildings to ensure operational ability and prevention of damage if needed.

d. Work with OEM to identify projects that could reduce damage to government buildings.

23. Charlotte County GIS will:

a. Provide mapping and plotting capabilities during pre and post-storm scenarios.

b. Provide staffing in the EOC following an event for mapping and plotting of damage, areas of concern, and other items as required.

24. Charlotte County Human Services will:

a. Oversee all issues for the Human Services Position (Food and Water)

b. Provide transportation for the SNP evacuation as required (through the Transit Department)

c. Assist with County Community Relations, DRC, and other Recovery activities as required by the event.

25. Charlotte County Information Technologies will:

    a. Provide on call technicians to resolve problems related to computers, printers, telephones, networking, or otherwise in the County EOC. This will be required before and after emergencies and/or disasters.

    b. Provide technical support for all county departments to ensure continuity of operations after an emergency or disaster affects Charlotte County.

26. Charlotte County Community Services will:

    a. Provide the availability of transportation resources and heavy equipment for disaster operations.

    b. Coordinate park and facility closings with OEM.

    c. Provide the availability of park facilities (structures and land) for disaster preparedness, response, and recovery operations as needed by Charlotte County.

    d. Staff the EOC upon request.

27. Charlotte County Utilities (CCU) will:

    a. Oversee all Utilities and Energy needs as required.

    b. Work with Health Department Position to issue any precautionary notices as required.

    c. Provide support to other emergency response agencies as needed.

28. Salvation Army will:

    a. Assist with food and water Issues as required.

    b. Assist with family service needs in coordination through Human Services Position, as they become identified.

    c. Identify locations for comfort stations and set up as necessary.

    d. Provide available resources to assist with County recovery operations.

29. Telecommunications Providers/Companies (i.e. Verizon/Century Link) will:

    a. Assist with communication functions as deemed necessary by the OEM.

    b. Communicate outages and estimated times of repair to the EOC.

30. Englewood Chamber of Commerce/Charlotte County Chamber of Commerce/Punta Gorda Business Alliance will:

    a. Serve as point of contact for business/industry related issues in pre

and post-disaster scenarios (through CC Economic Development Position).

b. Assist in identification of and collection of information from businesses that have been affected by a disaster event.

c. Report collected information to the OEM through the CC Economic Development Position.

IX. FINANCIAL MANAGEMENT

A. It is the practice of Charlotte County employees to use the same process to fill out and file financial reports in daily activities as it is during emergency situations. These procedures are compatible to State and Federal financial procedures. Municipal and County Fiscal Services Division agents work together to ensure continuity of financial procedures during emergency and disaster events.

B. The Charlotte County Purchasing Department, the Charlotte County Budget & Administrative Services Division, and the Charlotte County Fiscal Services Department will work as a team to support preparedness, response, recovery, and mitigation activities on an everyday basis. This includes any training and guidance as needed. All disaster costs will be captured and handled through a Disaster/Emergency Account set up through the County Fiscal Services Department.

C. The Charlotte County Purchasing Department will provide procurement support for supplies, facilities, equipment, and supplies needed by County agencies. The Sr. Division Manager of Purchasing is authorized to execute the funding agreements with other legal entities on behalf of the county.

D. County emergency operations are funded by the budgeted allocations of each agency having functional responsibilities in emergency operations.

E. The County and City may allocate and expend funds as appropriate for local emergency operations in accordance with Chapter 252 F.S. As a general rule, funding availability may be assumed for all emergency response efforts.

F. Close expenditure controls must be exercised during any emergency operation. The County Administrator, operating from the EOC, is the screen point for expense authorization. The County Purchasing Sr. Division Manager and the Clerk of Courts will provide technical overview of this area. No emergency staff shall make funding commitments without the coordination of the Purchasing Sr. Division Manager or County Administrator.

G. Complete and accurate accounts of emergency expenditures and obligations, including personnel and equipment costs, must be maintained. Accounting is required on a daily (sometimes more regular) basis to identify and document personnel costs, supplies and materials used and equipment hours committed to each specific preparation, response and recovery task. Equipment use charges must be associated with an equipment operator. All personnel hours must be identified with a specific and definable task.

When responding to another jurisdiction for mutual aid, the responding party must obtain a mission number. This will be used to identify costs. Once costs are figured at the end of the event, the department head shall forward all costs to Fiscal Services, who shall then forward any costs to the hosting jurisdiction. In cases of mutual aid requests from the State, County Fiscal Services Division shall forward costs, along with the appropriate paperwork to the Florida DEM. Paperwork can be obtained from the CCOEM.

H. Following an event, the Charlotte County Budget & Administrative Services Division, along with the Charlotte County Purchasing Department will coordinate with all county agencies to compile costs and proper documentation needed for reimbursement under public assistance procedures. Charlotte County Emergency Management will pull together costs and documentation from volunteer and non-for-profit organizations. A member of the Charlotte County Budget & Administrative Services Division, the OEM, and pertinent agency officials will be present during the reimbursement application process with FEMA and/or the FDEM

(as necessary).

I. When Federal public assistance is provided under the Disaster Relief Act, local projects approved by the FEMA are subject to both State and Federal audit (except small projects approved under Section 419 of Public Law 92-288 which require only Federal audit).

J. There are several funding agreements that are made available to counties and other local jurisdictions during peacetime, as well as disasters. Most of these agreements come in the form of grants. The following is a list of examples of funding agreements that can and/or will assist Charlotte County in emergency and disaster mitigation, preparedness, response, and recovery:

1. Emergency Management Preparedness and Assistance Fund (EMPA) Base Grant: These are funds that are distributed to counties by the State each year in order to enhance emergency and disaster mitigation, preparedness, response, and recovery. These funds can be used by local emergency management agencies to implement eligible projects, upgrade equipment, and provide additional services as seen appropriate by the local emergency manager and the State.

2. EMPA Competitive Grant: This is a competitive grant for which counties and municipalities may opt to apply for each year. This competitive grant, sponsored by the State of Florida Department of Community Affairs (DCA), awards monies to communities who submit projects that will enhance emergency management capabilities on local, regional, and state levels. Submitted projects can consist of mitigation activities, preparedness activities, response capability upgrades, and recovery needs. Once projects are submitted, they are reviewed for consistency with State and local plans and awarded points in order to establish a priority lost of projects.

   Each year, Charlotte County reviews its list of projects and decides on sufficiency and rationality of submitting a project to this grant process.

3. Program/Technical Funding: On occasion, funding becomes available from the State to implement programs on the local level. Such recent programs include funding for the development of Terrorism components to County plans and the addition of Local Mitigation Strategies to local plans.

   Charlotte County uses monies from these projects as necessary in order to enhance its program capabilities.

4. Mitigation Program Funding: This category includes programs such as the Flood Mitigation Assistance Program (FMAP) and the Hazard Mitigation Grant Program. Charlotte County reviews its situation at least twice a year to determine if there are any outstanding projects which might qualify for these types of programs.

   Once identified, Charlotte County works with the property owners to fill out an application for these programs and submits the application on behalf of the property owner. If the application is approved, Charlotte County enters into an agreement with the State of Florida to oversee and manage the project and reimbursement process.

   Charlotte County works with the State of Florida DCA, DEM to identify funding sources that can be used to implement programs and enhance already-existing programs. Any programs that are made available are reviewed by the County OEM and used as needed in order to enhance emergency mitigation, preparedness, response, and recovery capabilities in Charlotte County.

X. TRAINING, EXERCISES, AND EVALUATIONS

A. General

This element of the CEMP addresses general and specific training of CEMP participants and public outreach program activities. The CCOEM, in conjunction with the Charlotte County Human Resources Division will be responsible for developing and notifying others of training opportunities as they arise.

1. Training to develop disciplinary preparedness for mission operations is the individual responsibility of the Department and Office Directors and/or Sr. Division Managers. The OEM will conduct annual and other requested "in-service" training to assist in integration of discipline-specific training with specifics of emergency management. Training includes emergency exercises and post-event reviews. Needed corrective actions are followed up by Administration and the OEM. Once actions are taken, a follow-up report is written and filed with the OEM.

2. CCOEM exercises and training events include an invitation to both government and private agencies. A complete list of these agencies can be found on pages 15 & 16.

3. The County (as many departments and agencies as possible) participates in the annual state-wide hurricane exercise as an opportunity to test and evaluate the ability to manage events that are not experienced on a day-to-day basis.

4. The County will participate in an annual tabletop exercise that will include Continuity of Operation Plan (COOP) dealing with relocation of EOC to alternate location, the Florida Department of Health Charlotte (County facility) on Loveland Road in Port Charlotte.

    a. Intra-organizational training is advanced in multi-agency participation in periodic exercises and training events at health care facilities and the airport.

    b. A post-operations review is conducted of actual emergency operations and exercises to identify improvements needed in training, planning and operations and resource management.

5. The OEM conducts an extensive public outreach program that reaches the full variety of "publics" as well as CEMP participants.

    a. The OEM conducts more than 100 seminars annually for special interest groups and "in service" training sessions for public and private sector employees each year. In addition, the OEM conducts an annual "Expo" at the Town Center Mall in conjunction with a local newspaper and television station; Businesses that provide disaster preparedness, response and recovery goods and services also participate in the "Expo".

    The OEM also conducts an annual Hurricane Preparedness Event at the Charlotte County Habor Event Center in Punta Gorda. This event is attended by over 2,000 citizens and is held in conjunction with television station as well as local businesses.

b. The OEM Director conducts a monthly one-hour radio program that includes specialists in insurance, home protection, family preparedness and business issues, among other topics.

c. Information regarding individual and family preparedness, radio stations used for public information and emergency public information purposes as well as evacuation routes and shelter information is provided in the County "Planning Disaster Guide " which is widely distributed.

d. Public Service Announcements are reviewed and updated each year. These announcements are used throughout the year to promote disaster mitigation and preparedness.

6. The OEM Division publicizes training available to CEMP participants that is offered by the State, EMI among other providers. This is done in conjunction with the NIMS training matrix through FEMA/FDEM.

B. Public Awareness and Education

1. Representatives of the mass media will have access to the JIC for information. The JIC will be located in the media room at the Charlotte County Public Safety Building Emergency Operations Center.

   Further information on the JIC can be found in the Stand Alone Positions Annex – Public Information Position. This center will release general public preparedness, response, recovery, and mitigation information, as well as certain information on the disaster or emergency at hand such as shelter information, danger zones, and open or closed businesses.

2. A listing of local media outlets that will be using the JIC, and are outlets for public information is located in Stand Alone Positions Annex – Public Information Position and in the Charlotte County Disaster Planning Guide publication.

3. Charlotte County has a series of pre-staged press releases which will be used in the case of a pending, or actual, emergency or disaster situation. These press releases are located in our WebEOC software program shared file cabinet as well as on a USB thumb drive held by the EM PIO.

4. Informational materials are provided to tourist lodging operators, area real estate and insurance sales organizations for distribution to their constituents.

5. A listing of vulnerable areas can be found by looking at the Charlotte County SLOSH Map.

6. The listing of the CCOEM main phone number, (941) 833-4000, can be found in the local phone books, in the Charlotte County Disaster Planning Guide publication, online at www.charlottecountyfl.gov/emergency, and on our social media sites (Facebook and Twitter). This number can be used to obtain emergency preparedness information, register for the Charlotte County SNP, to report an emergency, to get general information on disasters, to obtain information on retrofitting structures in flood prone, and storm surge evacuation zones.

7. Listings of shelters can be found in the Charlotte County Disaster Planning Guide, and on the county webpage (www.CharlotteCountyFL.gov).

8. Listings of evacuation routes and storm surge zones can be found in the local phone books, our annual Disaster Guides, in the Hurricane Evacuation Study, written by the Southwest Florida Regional Planning Council, and online at www.CharlotteCountyFL.gov.

9. Citizens, insurance agents, mortgage lenders, and real estate agents can find information on specific properties in their relation to critical facilities, flood zones, and storm surge/evacuation zones at the Charlotte County GIS Web site at www.ccgis.com. This web site is tied into the CCPA's web site as well.

XI. REFERENCES AND AUTHORITIES

A. Ordinances, Statutes, and Regulations

1. City and County Ordinances and Resolutions

   a. Resolution 68-32, Establishment of Charlotte County Civil Defense Department (1968)

   b. Resolution 71-34, Resources in Disasters (1971)

   c. Resolution 2006-195, Charlotte County CEMP (2006)

   d. Resolution 2010-049, Charlotte County CEMP (2010)

   e. Resolution 2010-073, Charlotte County Local Mitigation Strategy Plan (2010)

   f. Resolution 2894-20, City of Punta Gorda's adoption of the Charlotte County Local Mitigation Strategy Plan (2010)

   g. Resolution 89-46, Peacetime Emergency Planning (1989)

   h. Ordinance 97-106, Emergency Management Issues (1997)

   i. Ordinance 93-27, Review of Medical Facility Emergency Plans

   j. Charlotte County Code Chapter 2-1, Emergencies

2. State Statutes, Orders, Laws, and Rules

   a. Chapter 23, Florida Mutual Aid Act (1998)

   b. Chapter 119, Public Records (as amended)

   c. Chapter 125, County Government (as amended)

   d. Chapter 252, Emergency Management (as amended) The BCC, by authority of Chapter 252 F.S., has the power and authority:

      - To make a formal declaration of a state of local emergency (SLE) as emergency conditions dictate. In accordance with Chapter 252.38, FS, the BCC may declare a state of local emergency (SLE) for up to 7 days, and extend it in 7 day increments.

      - To utilize all available resources of the County or City government as reasonably necessary to cope with a disaster or emergency within or outside the County.

      - To assign or transfer the personnel or change the functions of County Departments and Offices or units thereof, for the purpose of performing or facilitating emergency services.

      - To direct and compel the evacuation of all or part of the population from any threatened or stricken area within the County if a quorum, or the

Chairman, acting alone in the absence of a quorum, deems necessary for the preservation of life or other disaster response or recovery.

- To take action and give such direction to County law enforcement officers and agencies as may be reasonable and necessary for the purpose of securing compliance with the provisions of this act and with the orders, rules and regulations made pursuant hereto.

- To utilize personnel and other resources of existing agencies of the County and its political subdivision as the primary emergency management forces of the County. All such officers and agencies shall cooperate with and extend their services and resources as required.

- To waive procedures and formalities required by law pertaining to the:

  – Performance of public work

  – Entering into of contracts

  – Incurring of obligations

  – Employment of permanent and temporary workers

  – Utilization of volunteer workers

  – Rental of equipment

  – Purchase and distribution, with or without compensation, of supplies, materials and facilities

e. Rule 9G-6, Review of Local Emergency Plans (1995)

f. Rule 9G-19, Competitive Grant Program Rule (1994)

g. House Bill 911, Laws of Florida (1993)

j. Executive Order 12656, Assignment of Emergency Management Responsibilities (1988)

k. State of Florida CEMP

3. Federal

a. Homeland Security Presidential Directive 3: Homeland Security Advisory System

b. Presidential Directive # 5 (mandating the use of NIMS and ICS)

c. Homeland Security Presidential Directive 7: Critical Infrastructure Identification, Prioritization, and Protection

d. Presidential Policy Directive 8: National Preparedness

e. National Response Framework (an All-hazards perspective)

f. NIMS (with NIMCAST tool)

g. Incident Management System including Unified Command

h. Public Law 93-234, Flood Disaster Protection Act of 1973

i. Public Law 106-390, Disaster Mitigation Act of 2000

j. Public Law 99-499, Community Right to Know Act of 1986

k. Public Law 95-510, CERCLA of 1980

l. Public Law 84-99, Flood Emergencies (1976)

m. Public Law 89-665, National Historic Preservation Act (1966)

n. Public Law 104-321, Emergency Management Assistance Compact

o. The Americans with Disabilities Act (ADA) of 1990

p. National Flood Insurance Act of 1968

q. 44 CFR (Parts 59-76), NFIP (revised 2000)

r. 44 CFR (Part 201), Mitigation Planning

s. 44 CFR (Part 206), Federal Disaster Assistance (1988)

t. 44 CFR Part 360 – State Assistance Programs for Training and Education in Comprehensive Emergency Management

Federal Response Plan (as amended)

4. Memoranda of Understanding and Mutual Aid Agreements

a. Mutual Aid Agreement for fire and emergency operations between Charlotte County and Boca Grande Fire Control District (1997)

b. Mutual Aid and Automatic Response Agreement for fire and emergency operations between City of Punta Gorda and Charlotte County (1997)

c. Mutual Aid Agreement for fire and emergency operations between the City of Cape Coral and Charlotte County (1997)

d. Inter-local agreement between Bayshore Fire Protection and Rescue Service District and Charlotte County (1997)

e. Inter-local agreement with Sarasota County and Municipal Uniform Mutual Assistance Agreement for Fire Protection and EMS (City of Sarasota, Sarasota County, City of North Port, City of Venice, Nokomis Volunteer Fire Department, Inc., Town of Longboat Key, Englewood Area Fire Control District, South Venice Area Volunteer Fire Department, Inc., Sarasota County School Board, and Charlotte County) (1997)

f. Mutual Aid agreement between Charlotte County Fire/EMS and Tampa

General Health Care

g. Statewide Catastrophic Mutual Aid Agreement (2000)

h. Public Works Mutual Aid Agreement (2000)

i. Memorandum of Understanding by and between the Civil Air Patrol (CAP) and Charlotte County (2001)

j. Memorandum of Understanding between Charlotte County and FL2 DMAT (unk.)

k. Inter-local Agreement - Disaster Preparedness (Charlotte County and School Board (2000)

B. General

1. County Personnel Rules Article 6-7 provides that In the event of civil emergency conditions as determined by the County Administrator, an employee may be assigned to any duties to fulfill the mission of the BCC. Civil emergency conditions shall include, but are not limited to, riots, civil disorders, floods, hurricane conditions, tornadoes, or similar catastrophes.

2. County Personnel Rules Article 7-3 provides that the basic work week and regular work shifts/schedules may be suspended without advance notice during any civil emergency declared by the BCC. When Management determines that any such civil emergency is over, employees shall return to their basic work week and regular work shifts/schedules without advance notice.

3. County Personnel Rules Article 10-18 provides that the County Administrator may authorize shift differentials, call-back pay, stand-by pay, or any other such special compensation as deemed to be in the best interest of the County's operations or in times of emergency.

4. EOC staff work a 12-hour shift (unless designated otherwise by OEM Director).

5. Volunteers registered in service to the OEM receive no pay but are covered for death or injury the same as paid full-time County employees.

C. County SOPs, Plans, and Annexes

1. Charlotte County Terrorism Annex

2. Charlotte County Pandemic Plan

3. Charlotte County Housing Plan

4. Charlotte County Debris Management Plan

5. Charlotte County Airport Authority Emergency Response Plan

THIS PAGE LEFT BLANK INTENTIONALLY

ANNEX I: CHARLOTTE COUNTY DISASTER RECOVERY AND REDEVELOPMENT

Primary Agency:

Charlotte County Board of County Commissioners and Charlotte County Office of Emergency Management

Support Agencies:

All Charlotte County Agencies and Departments, Charlotte County Development Authority, Charlotte County American Red Cross, Charlotte County Salvation Army, Charlotte County Chamber of Commerce, Englewood Chamber of Commerce, Punta Gorda Business Alliance, Charlotte County Independent Insurance Agents Association, Port Charlotte Punta Gorda Realtor Association, Englewood Realtor Association, Charlotte County Contractor and Builders Association, Private Utility Agencies

I. GENERAL

The Charlotte County Disaster Recovery and Redevelopment Annex address many important issues. Addressing of these issues will require a coordinated local, state, and federal effort. This Annex of the Charlotte County Comprehensive Emergency Management Plan outlines how Charlotte County and the City of Punta Gorda plan to address pre- and port-disaster recovery and redevelopment issues in a post-disaster scenario. Recovery issues will take place during or soon after response efforts begins. Therefore, the chain of command / organizational structure will remain the same in order to ensure continuity in operations. Any transitional issues from the response to the recovery phase will be addressed by Charlotte County Administration and / or the Charlotte County Office of Emergency Management. It must be noted that some disasters are not declared until well after it has occurred, and jurisdictions cannot wait until the event is over or partially over to start capturing costs. Therefore, the practice will be to follow the same procedures for declared and non-declared disasters and, when necessary, large emergencies.

Disaster recovery and redevelopment matters will be the responsibility of the Charlotte County Office of Emergency Management and the Charlotte County Board of County Commissioners. The Chairman of the Board of County Commissioners, along with the Director or the Charlotte County Office of Emergency Management, or their designees, will serve as the primary points of contact for these matters. Most issues will not be handled solely by these entities due to the potential complexity of the matters, which may arise. All support agencies will be included in working group meetings and training as necessary in order to ensure continuity in mitigation, recovery, and post-disaster redevelopment operations. All coordination efforts with State and federal Joint Field Offices (JFO's) will be the responsibility of the County Administrator and the Office of Emergency Management. Local duties and roles pertaining to JFO's will be delegated to the appropriate agencies.

Emergency Operations Center (EOC) activities will be tailored to the event as needed. The Emergency Coordinator, or designee, will coordinate activities in the EOC in order to ensure efficient recovery and redevelopment activities.

Joint Field Office (JFO) and Disaster Recovery Center (DRC) activities will be under the direction of the Office of Emergency Management through Charlotte County Human Services. The Department Director of Charlotte County Human Services, or designee, will serve as the point of contact for these activities.

All recovery and redevelopment activities in the City of Punta Gorda will be handled through the

Punta Gorda Building Division. The Building Official (Certified Floodplain Manager & CRS Coordinator), or designee, will serve as point of contact for these activities. As with the County, it may be necessary for the City to designate other departments within the City government to handle particular activities. This is consistent with County procedures.

Assumptions:

Charlotte County will have limited resources to handle recovery activities following a large disaster or catastrophic event.

Charlotte County may need mutual aid assistance from outside resources (state and federal) to handle a large influx of potential projects and applicants following a large-scale event.

Summary of Goals, Plans, and Objectives

The following goals, objectives, and policies contained in this plan will guide mitigation, redevelopment, and recovery activities within the unincorporated areas of Charlotte County and in the City of Punta Gorda following a major or catastrophic disaster. They have been written to comply with Section 163.3177 (9) and (10), Florida Statutes; and Rule 9J-5.012, Florida Administrative Code. This plan will be reviewed and updated annually in conjunction with the Charlotte County Comprehensive Emergency Management Plan.

II. LEVELS OF RECOVERY

Activities to implement during recovery have been grouped into three phases: Immediate Emergency Period, Short Term Period, and Long Term Period. Major activities carried out during each phase are presented below:

A. Immediate Emergency Period (Humanitarian Relief)
* Some of these may already be occurring through response activities

1. Search and Rescue
2. Emergency Medical Care
3. Safety, Security, and Traffic Control
4. Initial Impact Assessment
5. Implement Legal and Financial Procedures (State of Local Emergency, Disaster Declaration, Emergency Purchasing)
6. Emergency Debris Removal (Roads, Essential Routes)
7. Emergency Transportation
8. Sheltering and Mass Feeding
9. Public Information and Education
10. Mutual Aid Response Coordination
11. Volunteer Resource Response (goods and services)
12. Resource Management and Distribution
13. Emergency Communications
14. Temporary Buildings
15. Enactment of Special Ordinances

B. Short Term Recovery Period

1. Re-Entry
2. Detailed Community Damage Assessment
3. Debris Clearance and Removal
4. Federal Assistance Programs (Individual and Public)
   - Individual Assistance (FDEM State Pocket Guide) http://floridadisaster.org/Recovery/IndividualAssistance/IAPDamageAssessment/documents/Emergency%20Damage%20layout%206x4.75.indd.pdf
   - Public Assistance (FEMA Public Assistance Guide) http://www.fema.gov/public-assistance-policy-and-guidance/public-assistance-guide
5. Resource Distribution
6. Restoration of Essential Services (electricity, water telephones, roadways, bridges, other infrastructure)

7. Relief Services
8. Temporary Repairs to Damaged Facilities
9. Restoration of Public Health Services

C. Long Term Recovery Period (Reconstruction / Redevelopment)

1. Environmental Management (Animal Control, Natural Resource Restoration)
2. Evaluation of Development Regulations
3. Evaluation of Construction Designs and Standards
4. Evaluation of Infrastructure Designs and Standards
5. Permanent Repair and Reconstruction of Damaged Facilities
6. Complete Restoration of Services
7. Debris Disposal
8. Emergency Permitting - Will be done at the approval of the Charlotte County Board of County Commissioners in conjunction with the Charlotte County Building Department.
9. Economic Redevelopment
10. Community Redevelopment
11. Hazard Mitigation
12. Risk Assessment and Review
13. Acquisition / Relocation of Damaged Property

The number of activities implemented will depend upon the level of the disaster. Other activities may be added as conditions dictate.

III. EMERGENCY ORGANIZATION STRUCTURE

Overall direction of recovery and redevelopment efforts will come from Charlotte County's Executive Policy Makers. This group is made up of the Board of County Commissioners, the Clerk of the Court, the County Administrator and Assistant Administrators, the Charlotte County Emergency Management Director, the Charlotte County Sheriff, and the City Manager of Punta Gorda. These people will make executive assessments of community conditions, develop overall policies and goals to guide short and long-term recovery efforts, and execute any legal ordinances or resolutions necessary to support recovery efforts. This group will coordinate recovery and redevelopment activities with the State as needed.

In certain major and in all catastrophic disaster settings, the Legal Department will be activated to assist the Executive Policy Makers in carrying out their tasks. This department will be staffed by the County Attorney and will advise on the legality of ordinances, resolutions, or declarations that are made; review authority levels in disaster situations; and monitor any state or federal declarations for applicability to Charlotte County.

In addition, the Charlotte County Local Mitigation Strategy Team will be activated in certain major and during all catastrophic disasters to provide policy guidance and recommendations both to elected policy makers and the incident command governing post-disaster redevelopment and hazard mitigation activities. This team will meet at least annually to review mitigation goals, objectives, and recommendations, as well as review pending projects. This team will also seek training to better identify mitigation opportunities in Charlotte County. This will be coordinated by the Charlotte County Office of Emergency Management. The Charlotte County Board of County Commissioners, the Charlotte County Administrator, and the Charlotte County Office of Emergency Management will coordinate all inventory and the missions for this Team.

County Government	**City Government**
Charlotte County Administration	City of Punta Gorda City Council
Charlotte County Board of County Commissioners	City of Punta Gorda Management
Charlotte County Emergency Management	City of Punta Gorda Police Dept.
Charlotte County Building Construction Services	City of Punta Gorda Community Dev.
Charlotte County Utilities	City of Punta Gorda Public Works
Charlotte County Public Works	City of Punta Gorda Utilities
Florida Department of Health Charlotte County	
Charlotte County Tourism Dev. Bureau	
Charlotte County Property Appraiser	

Private Sector	**State Agencies**
Charlotte County Chamber of Commerce	Florida Division of Emergency Mgmt.
Englewood Chamber of Commerce	Florida Dept of Community Affairs
Punta Gorda Business Alliance	Florida Department of Env. Protection
Charlotte County Independent Insurance Assoc.	Florida Department of Health
Charlotte County Builders/Contractors Assoc.	
Private Utility Companies	**General Public**
American Red Cross	Volunteer Reception Center
	Community Emergency Response
Salvation Army	Leadership Team Representatives

Operations - Manages operations; oriented mitigation, recovery, and redevelopment activities. Makes sure things run smoothly, efficiently, safely. They implement plans, and procedures.

Planning - Manages information collection, analysis, forecasting, and dissemination. Develops strategy to be implemented during an incident. (What has happened? What is happening? What will it take to resolve an issue?)

Following a large-scale emergency or disaster, Charlotte County will follow the National Incident Management System utilizing "Unified Command" to manage recovery activities and will include the following sections:

The Incident Command System (ICS) core structure may be used depending on the incident size or agencies involved. It can be tailored to meet the response requirements The core structure can be expanded as seen necessary into the following groups:

Task Forces: Resources used to carry out tasks of a temporary nature in the Operations Section may be grouped together with other resources into Task Forces. An example of this is resources temporarily placed together to conduct search and rescue activities using police, fire, public works, and utility resources.

Strike Teams: Resources of the same kind can be grouped together to carry out a temporary assignment are called Strike Teams. An example of this would be a Public Works detail using vehicles and equipment staffed with Public Works personnel. .

Divisions: Depending on the size of the disaster, the area affected will be broken down into manageable geographical divisions called Divisions. These units will help ensure that recovery efforts are focused on identified problems within a specific area, and reduce the possibility of the disaster overwhelming management and its resources.

Groups: Activities implemented within the Operations Section may be assigned to organizational levels called Groups. This will be done when resources and agency coordination are needed or established to carry out a specific task or function.

Branches: A level of organization called a Branch may be established to assist Incident Command maintain an effective management structure over many activities. A Branch helps coordinate activities among Divisions and Groups within a section by maintaining a level of control needed for effective response.

The following matrix illustrates which CCEOC Group or Position that takes the lead roles in the different Recovery and Redevelopment activities in Charlotte County.

CHARLOTTE COUNTY RECOVERY AND REDEVELOPMENT MATRIX

Special Planning Cond.	Lead Group(s) or Position(s)
Disaster Recovery Centers	Human Services
Impact Assessment Damage Assessment	Emergency Management / Community Development
Community Relations Teams	Human Services
Temporary Emergency Housing	Emergency Management / Public Works

Recovery / Mitigation Resource ID	Emergency Management / Purchasing
Public and Individual Assistance Mgmt.	Emergency Management / Fiscal Services
Unmet Needs	Emergency Management / VOAD / Volunteers
Mitigation Assessment	Emergency Management
Pre-Disaster Mitigation Activities	Emergency Management
Post-Disaster Mitigation Activities	Emergency Management

IV. RESPONSIBILITIES

EOC Staff (Operations/Resources/Planning)

- Liaison with city, county, state, and federal authorities
- Mutual Aid Response
- Damage Assessment (initial, detailed, permitting)
- Training (briefings, public education)
- Resource Acquisition & Tracking
- Response Planning (data collection, incident action planning)
- Recovery Planning (economic/community redevelopment, hazard mitigation)
- Special Task Forces (research, analysis, reports)
- Resource Management/Distribution (facilities)

Public Safety Group

- Safety
- Search and Rescue
- Security (reentry, traffic control, curfew)
- Fire Rescue
- Hazardous Materials
- Air Operations

Human Needs Group

- Volunteer Coordination (Goods and Services)
- Medical Care (Care for injured, elderly, and infirm)
- Public Health (water, waste water, animal control, etc.)
- Sheltering and mass feeding
- Transportation
- Federal Disaster Relief Assistance (individual, public)
- Relief Services (housing, rental assistance, outreach)

Infrastructure Group

- Debris Clearance, Removal, and Disposal
- Essential Service Restoration (electricity, water, etc.)
- Repair and Restoration (temporary, permanent repairs)

Administration & Support Group

- Federal Disaster Relief Assistance (individual, public)

- Documents (time and material costs, injury claims)
- Legal (advise, development of ordinances, etc.)
- Finance (procurement, contract management)
- Establish/rescind temporary moratoriums
- Policy recommendations on development regulations
- Policy recommendations on construction standards
- Policy recommendations on infrastructure redevelopment
- Policy recommendations on hazard mitigation activities

Stand Alone Positions

Radio Communications

- Communications

PIO/JIC

- Public Information
- Media Coordination

V. DAMAGE ASSESSMENT

A. Introduction

The damage assessment will be County-wide and shall include assessment of damage volume and impact to all public and private properties in the City as well as in the unincorporated County area.

B. Situation

1. A natural or man-made hazard could cause deaths, injuries and a wide range of damage to public or private property. Early and thorough determination of the dollar value of the damages and of their economic and social effects upon the community is fundamental to community recovery operations. It is also a prerequisite to obtaining loans, grants and other assistance from State and Federal governments.

   There are two basic elements to damages; one is the direct dollar cost of the damage and the other is the dollar value of the impact of the damage on the community. The first is always present, regardless of the magnitude of the disaster, while the impact element is a reflection of the disaster magnitude.

2. Direct dollar damage costs are incurred before, during, and after a specific disaster event.

   a. In advance of a predicted hazard event, such as a hurricane, other tropical storm or weather event such as a cold front, protective and precautionary actions are appropriate. Financial costs incurred in the preparation stage can include but is not limited to:

      - Personnel and equipment hours
      - Materials, fuels and other supplies may be devoted to these preparatory or precautionary actions
      - Emergency supplies and equipment rentals
      - Barricades
      - Moving of equipment and records moved to safer locations
      - Opening of shelters
      - Transportation requirements
      - Logistical supplies needed for evacuations
      - Business closings and government operations suspension

   The costs of everything done in preparation for a specific anticipated event must be recorded and described. It is especially important to record the costs along with explanation of what was done.

   b. During a disaster event and in response to it, fuels, materials and supplies are consumed. Equipment and personnel hours are devoted to the specific event, including overtime.

   c. In the recovery phase, temporary repairs may be needed to avoid further damage and debris removal is usually required. It may be necessary to contract for a wide range of equipment and services, essential to recovery from the disaster event. Each cost item must be directly identified with a specific activity. Initially, all that can be expected is an estimate of the damage done to property and what debris removal might cost. Actual costs are developed as the work is done. The early estimate is needed however, to

determine eligibility for State or Federal assistance.

3. The impact of these losses on the social and economic welfare of the community can greatly exceed the direct dollar value of damage done to buildings and structures. Judging the overall economic and social impact of the direct costs is a major task for elected officials and government staff. Input from the private business sector will also be needed.

4. Public Assistance PDA - State assistance will be provided when damages initially appear to approach the threshold for eligibility for a State or Federal disaster declaration (see FEMA Public Assistance Handbook). When a Presidential declaration has been obtained, that assistance will include FEMA representatives. The State will conduct briefings for applicants to a Presidential declaration. Joint preliminary damage assessment is conducted with FEMA & State teams to determine public and infrastructure unmet needs.

5. Individual Assistance – A Joint Individual Assistance Preliminary Damage Assessment is also conducted on homes and businesses. Unlike public assistance, there is no threshold of damage to receive a Presidential Declaration for individual assistance but the governor will make the request to FEMA on the basis of the concentration and level of damage trauma to the community, special populations, voluntary agency assistance, and uninsured survivors (44 CFR, 206.48b).

C. Concepts of Operations

1. General

Damages may be sustained by publicly-owned buildings, roads, bridges, equipment and facilities and by a wide variety of properties owned by private, non-profit entities, businesses, and individuals. Assessment of damages will require coordination with and between the following and others, depending on circumstances:

a. Charlotte County Public Works Division
b. Charlotte County Utilities
c. Charlotte County Building Construction Services Department
d. Property Appraiser's Office
e. County Cooperative Extension Service
f. American Red Cross
g. Public utilities providers (FPL, UT, etc.)
h. Business Owner’s
i. Property and casualty insurers
j. Sheriff’s Office and other security and response agencies of city and county government
k. Volunteer aviation group
l. Charlotte County Economic Development Office

2. Initial Damage Estimate

The first estimate of damage will come from responders to the scene, to the extent that they can cover the entire scene. This will be followed as quickly as allowed by weather, daylight and the presence of debris with ground and aerial explorations. Video cameras will be used whenever possible to record the damage being observed. This may be done by using ground transportation, aerial transportation in concert with Amateur Television, walk through, water transport, or other means

necessary in order to get an initial damage assessment.

This estimating will be performed by personnel from the ARC, Building and Public Works Departments and the volunteer aviation group. Others such as the Sheriff's Office and Fire/EMS may be included primarily for access control and search and rescue purposes.

a. Charlotte County Damage Assessment shall be the operation responsibility of the Charlotte County Building Construction Services Department with primary assistance from the Building Department and Director of Public Works, and the Property Appraiser's Office.

b. The County Building Construction Services Department Director or his designee shall be the private property team leader and coordinate the management of the residential and commercial building damage assessment team. The building department will be responsible for post-disaster habitability inspections.

c. The Charlotte County Director of Public Works shall be the public property team leader.

d. The Building Construction Services Department team shall be comprised of Building staff and officials.

Normal

Under normal, day to day work conditions, the Damage Assessment Teams have no assessment responsibilities.

Emergency

Anytime a disaster occurs, the damage assessment teams shall be mobilized to the extent required by the type and magnitude of the disaster. They shall be fully mobilized upon threat of an impending hurricane and as coordinated by the Director of the Office of Emergency Management. Teams shall assemble and be dispatched as directed by the team leaders through the Charlotte County EOC.

a. Damage assessment teams shall make an initial assessment of damages immediately following a natural disaster.

b. The Director of the Charlotte County Building Construction Services Department shall investigate all areas of private residential and commercial property damage in all incorporated and unincorporated areas of the county. He shall coordinate with his City of Punta Gorda counterpart for the conduct of damage assessment in the City.

c. Team members will collect data regarding types and severity of damage.

d. The City of Punta Gorda will establish a municipal damage assessment team for the specific purpose of assessing all public damage within their municipal limits. The head of that team shall submit reports of injury and loss of life directly to the Director of the Office of Emergency Management and submit public damage reports directly to the Director of the Charlotte County Building Construction Services Department. The municipality will use the same forms as the county.

e. The Director over the Building Construction Services Department shall consolidate the reports from the heads of the City of Punta Gorda damage assessment teams, Charlotte County Public Works and their own staff. The consolidated reports shall be

submitted to the Florida Division of Emergency Management and the local chapter of the American Red Cross through the established reporting network by the Director of the Office of Emergency Management.

f. The Director of the Florida Health Department in Charlotte County shall investigate and report on all injuries and loss of life sustained during the disaster, directly to the Director of the OEM.

g. Initial damage estimates shall be submitted immediately following the disaster. These estimates are a basis for requesting a federal and state preliminary damage assessment, upon which, the Governor may declare a state of disaster emergency and request a Presidential emergency or major disaster declaration. They shall be completed and submitted as soon as possible to the Division of Emergency Management utilizing EM Constellation, or if unavailable any other type of communication. A mission request will also be submitted into EM Constellation for a Joint Preliminary Damage Assessment team.

h. Situation reports providing new developments and additional, more complete information shall be made daily and forwarded in the most expeditious manner possible through established channels.

i. Damage Assessment reports shall provide detailed comprehensive data on all damages, injuries and loss of life sustained during the disaster as soon as it is reasonably certain that damage assessment has been completed.

D. Execution

1. Municipal (City of Punta Gorda)

a. The manager or mayor of the City of Punta Gorda shall appoint a head for the municipal damage assessment team, which shall compile data on all damage to public properties within the municipalities and on injuries and loss of life sustained therein. All reports shall be made on the same forms utilized by the county, and shall be submitted directly to the Director over the Charlotte County Building Construction Services Department in the most expeditious manner.

b. The manager or mayor shall provide the Director of the Charlotte County Building Construction Services Department with the names of the damage assessment team members and its head as well as their addresses and telephone numbers. This list shall be reviewed, updated, and submitted prior to June 1 of each year.

2. County

a. The Director of the Charlotte County Building Construction Services Department and the Public Works Director shall appoint their respective team members. They shall provide the Director of the Office of Emergency Management with the names and telephone numbers of each team member. This list shall be reviewed, updated, and submitted prior to June 1 of each year. In a post-disaster scenario, these Directors will notify their respective team members to a central briefing point. This will be done either by phone or in person.

b. The team leaders shall establish and maintain a training program for their respective municipal and County Damage Assessment Team members. The training program shall include available training courses offered by State and Federal governments. Simulated disaster drills should be held to exercise the procedures contained herein and completion of reporting forms.

c. Charlotte County will coordinate for and establish Landing Zones (LZS) for the State of Florida's Rapid Impact Assessment Teams (RIATs). Coordination will take place between Charlotte County Public Works, Charlotte County Sheriff's Office, and Charlotte County Fire Department to ensure the safe and secure establishment of these sites. The following is a list of possible sites for Landing Zones for the RIATs and other efforts using air support:

Fixed Wing
Charlotte County Airport (Lat 269494 Long 815989) *

Helicopter
Deep Creek Elementary (Lat 265910 Long 820065)
East Elementary (Lat 265643 Long 820024)
LA Anger Middle School (Lat 265483 Long 821732)**
Peace River Elem (Lat 265812 Long 820470)
Punta Gorda Middle (Lat 265586 Long 820209)
Sallie Jones Elementary (Lat 265570 Long 820258)
Town Center Mall (Lat 270030 Long 820830)
Charlotte County Stadium/Tampa Bay Rays Spring Training Facility (Lat 269987 Long 821807)*

* = Primary site for RIAT ** = Secondary site for RIAT

3. **State**

When state assistance is required:

a. The Directors of the Charlotte County Building Construction Services Department will cooperate/coordinate with the Joint Preliminary Damage Assessment Team in their completion of the Damage Assessment Report, as soon as possible without compromising life or property. Specifically, they shall furnish the Team through the Director of Emergency Management with the most recent and accurate assessment of damage available. They shall further provide a guide(s) who is knowledgeable of the disaster area and local damage assessment activities.

b. The Director of the Office of Emergency Management will coordinate recovery activities between municipalities and unincorporated areas. Consolidated reports will be submitted to the Florida Division of Emergency Management (FDEM). When the original is transmitted electronically (EM Constellation, or if unavailable any other type of communication), the written report should be forwarded through normal channels as soon as possible.

c. Reports will be updated as necessary to report additional and more accurate data as it becomes available. Major updates will use the format of the original report. Situation summaries and minor report updates will be submitted at least daily using the Situation Report format until notification from (DEM) that daily reports are no longer necessary.

VI. INDIVIDUAL ASSISTANCE

A. Disaster Recovery Centers

1. General

The Director (or designee) of the Office of Emergency Management maintains a list of government-owned facilities and coordinates them for establishment of Disaster Recovery Centers (DRCs). These centers are established jointly by the Federal Emergency Management Agency (FEMA) State, and County following a Presidential Declaration of a major disaster. Each center will provide a single location where disaster victims may apply for various types of assistance available to individuals and private businesses. The Disaster Recovery Centers will be located at any of the following locations:

- The Port Charlotte Cultural Center
- Tringali Community Center
- South County Regional Park

Particular populations which are more likely to use the DRC's are those abandoned by home health care agencies, those currently enrolled in social service programs, mobile home park residents, residents of manufactured housing, coastal residents, and those residents in identified flood hazard and storm surge hazard areas. This includes most of the geographic region covered by Charlotte County. The Charlotte County Chapter of the American Red Cross and the Salvation Army will be able to assist DRC personnel in referral and informational needs as needed.

2. Concept of Operations

In the event of a major disaster proclaimed by the President, FEMA will establish Disaster Recovery Centers as needed to administer aid and assistance to the disaster victims. This will be done by the initiation of a resource request from CCOEM into FDEM's EM Constellation. The FEMA Administrator will appoint a Federal Coordinating Officer (FCO) as his/her representative in the disaster area. In this capacity, the FCO is responsible for the coordination of all federal disaster assistance efforts in the affected area. He/she will normally appoint an Individual Assistance Officer (IAO), a Public Assistance Officer (PAO), an Equal Right Compliance Officer, a Reports Officer, and a Center Managers. The FCO will work in coordination with the State Coordinating Officer (SCO) and his staff.

During operations, the IAO is directly responsible to the FCO for all matters relating to individual assistance, including the establishment, location, and operation of Disaster Recovery Centers and mobile teams. The State Coordinating Officer will appoint a State Disaster Recovery Center Manager for each center. Each of these DRC Managers will work in conjunction with their federal counterparts to ensure proper state staffing of Disaster Recovery Centers.

3. Tasks

A. Local Government

- Charlotte County Director of Emergency Management has the lead responsibility for coordination with state and to insure the DRC is supported in whatever it needs.
- Provide recommendations and assistance for the selection of a Disaster Recovery Center site.

- Assist federal and state personnel in obtaining logistics support for DRC's.
- As requested, furnish space, facilities, and supplies when available.
- Ensure adequate parking facilities in the vicinity of the DRC.
- Provide a liaison for the Joint Field Office (JFO) during its operation.
- The Charlotte County Department of Human Service is the lead County agency for coordinating the basic needs to be offered at the Disaster Recovery Center. This food stamp and crisis counseling assistance will be coordinated through the Florida Department of Children and Families.
- The Charlotte County Sheriff's Office, as the senior law enforcement agency during emergency operations, will provide security at the DRC. The necessity for long lines to serve many people with disaster-related problems will require firm control for good order and discipline. Direct liaison between the Sheriff and the DRC Manager is necessary early in the setting up of the DRC.
- Provide liaison with State recovery staff.
- If it is deemed that state participation is necessary in the DRC, a request for DRC assistance will be processed through the Charlotte County Emergency Operations Position in the EOC and forwarded to the State using EM Constellation, or if unavailable any other type of communication.

B. State Government

a. State Coordinating Officer

- Assist the FCO as needed
- Provide operating personnel and supporting staff to augment those of the federal government
- Assist the FCO in obtaining logistic support and supplies when required
- Appoint Assistant DRC Managers, a State Individual Assistance Officer, and a State Public Information Officer

b. State Individual Assistance Officer

- Assist State Federal Individual Assistance Officer as needed
- Assure the representation of state agencies in the DRC
- Assist in locating disaster victims who have not visited the DRC and encourage them to do so
- State and Federal IA Officer operations are a joint effort

c. State Disaster Recovery Center Coordinator

The Disaster Recovery Center Coordinator is directly responsible to the Individual Assistance Branch Director for the staffing, training, operations, logistics and demobilization of Disaster Recovery Centers to include the following:

- Coordinate with County Emergency Management Directors on location for Disaster Recovery Centers within the declared counties.
- Coordinate Disaster Recovery Center staffing, logistics and training.
- Ensure that all Disaster Recovery Center resources are tracked and returned or released at the time of Disaster Recovery Center closure.

- Establish a contingency plan for mass evacuation and the quick rebuild of each Disaster Recovery Center in the event of inclement weather or an unusual occurrence.
- Assist the Individual Assistance Branch Director with applicant inquiries after the Disaster Recovery Centers are closed.

d. Assistant Disaster Recovery Center Managers

- Assure adequate staffing by State agencies in the DRC at all times
- Assist DRC Manager in the daily operation of the DRC
- Act on behalf of the DRC Manager in his/her absence

e. Departments of Health, Commerce, Insurance, Agriculture and Consumer Services, and Community Affairs (Division of Technical Assistance)

- Provide personnel to staff the DRCs and accept applications for services offered at the DRC

C. Federal Government

Federal agencies coordinate through the FEMA DRC Group Supervisor for staging and included agencies such as Crisis Counseling, Small Business Administration (SBA), Mitigation, and possibly other federal agencies.

a. Federal Coordinating Officer

- Determine which federal agencies should be represented in the DRC.
- Coordinate the administration of disaster assistance for individuals
- Coordinate with private and volunteer agencies

b. Federal Individual Assistance Officer

- Responsible for the coordination of all individual assistance
- Responsible for location of DRCs to include adequacy of space, utilities, furniture and supplies, parking, telephone, and access to transportation
- Determine the hours of operation and days of service for DRCs
- Responsible for staffing of the centers by federal, state, and local government agencies and non-governmental relief organizations
- Ensure, with the assistance of the Federal Public Information Officer, that adequate information on assistance is distributed to disaster victims.

c. Disaster Recovery Center Managers

- Set up and arrange the center, including signs and registration forms
- Brief the staff on their duties, hours of operation, and rules for the center
- Responsible for day-to-day operation of the center such as reporting, appearance of the center, activities within the center, and adequate staffing to prevent undue delays
- Ensure proper registration and routing for each victim visiting the DRC
- Provide for exit interview to ensure that each disaster victim has

been advised by the proper agencies and understands the various programs and procedures for filing assistance.
- Close the center nightly and make provisions for security measures if required
- Responsible for final closing when the Individual Assistance Officer determines the date

d. Other Federal and State Agency Personnel
- Provide information and assistance to disaster victims
- Conform to center rules, including hours of operation
- Provide necessary application forms and Office equipment
- Assist in preparation of application forms, and enter data and initials on registration form

e. United States Post Office

Informal local liaison with the Postmaster as a part of the planning effort provides their support. It is anticipated that many homes may be damaged or destroyed after a major disaster, making mail delivery to homes impossible. The delivery of mail such as retirement or social security checks is essential to an orderly recovery from a disaster.

f. Receptionist
- Greet people as they enter and direct them to the registrars' table on a first come, first-serve basis.
- Complete “DRC Routing Slip” – referring them to the appropriate agencies within the DRC.

g. Registrars
- Will be trained social workers provided by the Florida Department of Health
- Determine victims' needs and check appropriate programs
- Complete upper part of registration form
- Refer victims to appropriate agencies

h. Exit Interviewer
- Check the victim's registration form to ensure that he has visited all the agency representatives to who referred.
- Redirect the victim to the responsible agency should he/she have further questions.
- Verify that the victim understands his responsibilities, i.e., time deadlines for filling out applications, documentation needed to support requests for assistance, etc.
- Collects “DRC Routing Slip” (this can also be done by the receptionist if needed).

i. If the victim returns to the center, he may proceed directly to the appropriate agency by showing the registration form his previous visit.

DISASTER RECOVER CENTER CONSIDERATIONS

SITE CRITERIA
Central Location
Sanitation Facilities

OPERATIONAL SUPPLIES
Registration Forms
Map of disaster area showing effected

Parking Facilities
Ease of accessibility
Access to Public Transportation
Security
Tables & Chairs
Telephones (20 min)
Lighting
Auxiliary Child Care Facilities
Waiting Areas
Floor Space
Ground floor w/ventilation (air & heat)
Ease of Accessibility (ADA Compliant)

areas
State Road Map
Telephone Directories
Name Tags
Ball Point Pens
Masking Tape
File Folders
Rulers
Sign Kit
Marking Pens
Scissors
Stapler and Staples
Pencils and Sharpener
Paper Clips
Waste Baskets

DISASTER RECOVER CENTER SELECTION CRITERIA

The Disaster Recovery Center selection is one of the key elements in a successful Disaster Response and Recovery Operation. Primary and secondary DRC locations should be selected based on the following criteria:

1. Flood Area

The amount of floor space required for a DRC is based normally on the size of the disaster and the number of people requiring individual assistance.

In selecting a location prior to a disaster, a review of past disaster history for the community and surrounding areas may be helpful. Floor space of approximately 4000-7000 square feet of open space is usually an adequate amount.

2. Parking

Parking is one of the criteria in selecting a DRC location. The number of agencies' Representatives and disaster victims must be considered. In areas requiring parking fees, special arrangements may have to made for people going to the centers. In areas having heavy traffic flow, special arrangements for traffic control may have to be made.

3. Restrooms

Restrooms for men and women should be located in the same building as the DRC.

4. Lighting, Ventilation, Heating and Air Conditioning

Adequate overhead lighting and proper ventilation is essential in DRC selection. If location does not have air conditioning, arrangements may have to be made for fans to be brought to the center.

5. Janitorial Service

The availability of janitorial services should be checked. If no services are available, center managers should be advised when the center is activated. Make sure that adequate trash receptacles are available.

6. Public Telephones

If location does not have a public telephone, check to see if phones can be easily installed.

7. Ground Floor Location

Traffic flow in centers with ground floor location is easier to direct and control. If other floors have to be used, accessibility, waiting areas and overall traffic flow must be considered before designating the location as a center.

8. Public Transportation

If the community has a public transportation system, the accessibility to the system should be considered when selecting center location.

If no public system is available, alternate plans for transportation may have to be made.

9. Furniture

Furniture needs will vary depending on disaster size. Minimal furniture requirements are approximately 25 tables and 150 chairs.

10. Floor Plan

Single line drawings should be made of centers giving the measurements and descriptions of the facilities.

11. Power Outlet

Power outlets should be shown on the building's single line drawing.

12. Building Manager

The building manager or person responsible for the facilities, name, address, and phone number should be in the SOP or Plan and/or on the single line drawing.

13. Centers Activation

When it is determined that locations are needed, contacts should be made to ensure that the facilities are not being used.

B. Temporary Housing Assistance

1. General

In the event of a Presidentially-declared disaster in the State of Florida, a temporary housing mission may be authorized in order to provide housing assistance to disaster victims. Should a temporary housing program be authorized, one or more of several forms of assistance may be made available including:

a. Mortgage subsidies to, or on behalf of, individuals or families who have received written notice of eviction or foreclosure due to financial hardship caused by the disaster;
b. Rental assistance to persons who are suffering financial hardship or loss of housing due to the disaster;
c. Available private or public rental units or homes;
d. Emergency repair programs; and,

e. Mobile homes or other readily fabricated dwellings.

Normally, local governments (city or county) and non-governmental relief agencies provide the initial effort to fill the housing needs of disaster victims within the limits of their capabilities.

The primary agency with responsibility for the administration of the Temporary Housing Program for the State of Florida is the Federal Emergency Management Agency (FEMA). Should damage caused by a disaster warrant additional resources beyond the capacity of the local governments, assistance may be requested from FEMA through the Division of Emergency Management (DEM).

2. Concept of Operations

Following a disaster, the local government, in conjunction with the DEM, will initially identify the need for temporary housing and, in conjunction with non-governmental relief agencies, assist the victims to the limits of its capabilities.

If, following this initial identification of need, it is determined by the local government or DEM that a temporary housing program may be needed; DEM will request assistance from FEMA. All matters concerning temporary housing at this point will be executed by FEMA. In the event that a disaster occurs, the following information will be needed to determine the types of assistance required:

- The number of victims needing temporary housing;
- The estimated number of homes which could be made habitable with minimal repairs;
- Available government-owned or government-subsidized housing units;
- Privately-owned rental properties which could be used for temporary housing; and,
- Available mobile homes or other readily fabricated dwellings which could be used for temporary housing.

The primary role of the local and state governments is to provide support to FEMA in its implementation of the program as needed, within the limits of their resources. The local government should assist FEMA by obtaining structural or construction permits, licenses, and clearances necessary to establish and implement a full-scale temporary housing program.

3. Tasks

PRIOR TO A DISASTER

a. Local Government

Develop and maintain the Charlotte County Disaster Housing Plan for providing temporary housing assistance to disaster victims within the resources of the local government. This would involve an initial assessment and periodic reassessments of available resources, including funds, available housing units and mobile homes, personnel who could be called upon to assist in the temporary housing effort and non-governmental relief agencies and organizations.

b. Division of Emergency Management

1. Maintain the State Temporary Housing Annex, updating when necessary.

2. Establish procedures for coordinating with local governments and federal agencies on matters dealing with temporary housing assistance.

3. Prepare instructions and forms for housing damage assessment and local government assistance.

4. Upon request, provide local governments and regional planning councils with instructions and training in the area of housing damage assessment.

5. Upon request, provide local governments, regional planning councils, and non-governmental relief agencies with training in the administration of management of local or area temporary housing assistance programs (including personnel training, applicant and occupant services and record-keeping).

6. Maintain a current listing of local and regional personnel in charge of emergency management.

FOLLOWING A DISASTER (Prior to a Presidential Declaration)

a. Local Government

1. The Charlotte County Office of Emergency Management, acting as the residential damage assessment coordinator, will identify the need for temporary housing following a disaster and will assist the victims to the limits of their capabilities by directing them to non-governmental relief agencies. Should additional assistance beyond the resource capabilities of the local jurisdiction be required, the Charlotte County Office of Emergency Management will notify the State Division of Emergency Management (DEM).

2. Request assistance from the Division of Emergency Management, if state assistance is required, to carry out the housing damage assessment.

3. Identify and develop sites for mobile homes, within the capabilities of the local government, if needed.

b. Division of Emergency Management

1. Provide housing damage assessment assistance to local governments upon request.

2. Establish liaison with local and federal agencies related to temporary housing assistance.

FOLLOWING A DISASTER (Subsequent to a Presidential Declaration of a Disaster)

a. Local Government

1. Provide data and assistance to FEMA as requested, within limits of local resources, to include:

- Providing personnel to assist in the application-taking and verification process; and
- Assisting in an inventory of available housing resources, such as private rental units, motels and hotels; and
- When mobile or other readily fabricated housing is to be provided, prepare sites, complete with utility connections, using sites provided by the applicants or by the local governments; and

2. Continue to coordinate with non-governmental relief agencies to provide support services to FEMA, within the capabilities of the agencies and local government.

3. The emergency shelters are generally for a short two or three day stay. Long-term shelter will be required for those whose homes have been demolished or who are denied entrance into their home areas. The National Red Cross and FEMA will, providing a disaster has been declared, provide mobile homes for long-term shelter. All mobile home parks will be canvassed for availability and all available RV's will be pressed into service to satisfy the sheltering needs. Twelve-percent (12%) of the county population live in mobile homes. Funding associated with this effort must be carefully coordinated through the County Administrator. Use of vacant mobile homes at existing sites will facilitate utility connections and home set-up problems.

4. Many non-government relief-type agencies are available to assist in this effort.

5. A good source of personnel for applicant interviews will be through the American Red Cross shelter volunteer list.

b. Division of Emergency Management

Provide data and assistance to FEMA, as requested, to aid in the establishment of an effective Temporary Housing program.

C. Feeding and Distribution Sites

All feeding and distribution sites will be established under the CCEOC Human Needs Group in conjunction with the American Red Cross Position (ESF 6 equivalent) and Charlotte County Human Services Position (ESF 11 equivalent).

VII. PUBLIC DISASTER ASSISTANCE

1. General

The Emergency Management Director is responsible to coordinate state and federal disaster assistance claims. All County agencies and municipalities are responsible for participating in Public Assistance activities as needed. Federal public assistance is that part of emergency or major disaster relief through which the federal government supplements the efforts of state and local governments to return the disaster area to normal conditions, including repair and restoration of public facilities or services which have been damaged or destroyed. Two types of assistance are authorized, emergency and permanent. Emergency work includes efforts to save lives, protect property and maintain operation of essential facilities until permanent restoration can be made. Permanent work involves actions necessary to repair, restore, reconstruct or replace public and certain private non-profit facilities damaged or destroyed by the disaster.

Project applications for federal public assistance may be approved to fund a variety of projects, including the following:

Category A: Debris Removal
Clearance of trees and woody debris; certain building wreckage; damaged/ destroyed building contents; sand, mud, silt, and gravel; vehicles; and other disaster-related material deposited on public and, in very limited cases, private property.

Category B: Emergency Protective Measures
Measures taken before, during, and after a disaster to eliminate/reduce an immediate threat to life, public health, or safety, or to eliminate/reduce an immediate threat of significant damage to improved public and private property through cost-effective measures.

Permanent Work

Category C: Roads and Bridges
Repair of roads, bridges, and associated features, such as shoulders, ditches, culverts, lighting, and signs.

Category D: Water Control Facilities
Repair of drainage channels, pumping facilities, and some irrigation facilities. Repair of levees, dams, and flood control channels fall under Category D, but the eligibility of these facilities is restricted.

Category E: Buildings and Equipment
Repair or replacement of buildings, including their contents and systems; heavy equipment; and vehicles.

Category F: Utilities
Repair of water treatment and delivery systems; power generation facilities and distribution facilities; sewage collection and treatment facilities; and communications.

Category G: Parks, Recreational Facilities, and Other Facilities
Repair and restoration of parks, playgrounds, pools, cemeteries, mass transit facilities, and beaches. This category also is used for any work or facility that cannot be characterized adequately by Categories A-F.

Eligible Facilities

An eligible facility is any building, works, system, or equipment that is built or manufactured, or any improved and maintained natural feature that is owned by an eligible public or private nonprofit (PNP) applicant with certain exceptions.

To be eligible a facility must:

- Be the responsibility of an eligible applicant.
- Be located in a designated disaster area.
- Not be under the specific authority of another Federal agency.
- Be in active use at the time of the disaster.

Examples of eligible public facilities include:

- Roads (non-Federal aid)
- Sewage Treatment Plants
- Airports
- Irrigation Channels
- Schools
- Buildings
- Bridges and Culverts
- Utilities

Eligible private non-profit facilities include:

- Educational facilities (classrooms, supplies, and equipment)
- Gas, Water, and Power systems
- Emergency facilities (fire stations and rescue squads)
- Medical facilities (hospitals and outpatient centers)
- Custodial care facilities
- Other Essential government services (to be eligible these PNP facilities must be open to the general public)

Restrictions

1. *Alternative use facilities*
   If a facility was being used for purposes other than those for which it was designed, restoration will only be eligible to the extent necessary to restore the immediate pre-disaster alternative purpose.

2. *Inactive facilities*
   Facilities that were not in active use at the time of the disaster are not eligible except in those instances where the facilities were only temporarily inoperative for repairs or remodeling, or where active use by the applicant was firmly established in an approved budget, or where the owner can demonstrate to FEMA's satisfaction an intent to begin use within a reasonable time.

All restoration must meet current health and safety codes and standards; or, if no such codes are in existence or are inadequate to insure a safe and usable facility, the Federal Emergency Management Administration (FEMA) Administrator may set minimum standards.

If current codes require improvements over the pre-disaster design or condition of the

facility, a written copy of existing codes should be included with the project application. Documentation to show compliance with flood insurance requirements and insurance requirements under Public Law 93-288, Section 314 are also required.

Other special requirements for public assistance projects include environmental and historical preservation considerations. In general, actions to save lives and property, remove debris, and restore facilities substantially as they existed prior to the disaster are not considered major federal actions significantly affecting the quality of the human environment within the meaning of the National Environmental Policy Act of 1969. Thus, no environmental clearance or environmental impact statement is required for such actions. Other actions which do not essentially return the disaster area to its pre-disaster condition may require special clearances or impact statements. In addition, any action which affects properties included in or eligible for a National Register of Historic Places requires at least a special environmental clearance before the project can be approved.

Another aspect of applying for public assistance is choosing the method of funding most appropriate to the applicant's needs. Categorical grants, based on the estimated cost of restoring facilities to their pre-disaster conditions (subject to current health and safety standards) are used: (1) to restore public facilities on a project-by-project basis, (2) for debris clearance and emergency work, (3}for all facilities damaged while under construction, and (4) for all private non-profit facilities .

Available funding options are can be located at the following website: http://www.grants.gov/web/grants/applicants.html.

If any problems arise during reconstruction, the local authorities should immediately notify the Division of Emergency Management (DEM) Area Coordinator that an interim inspection is needed. A supplementary DSR may be filed if the cost or scope of work has significantly changed. State or federal authorities may also request interim inspections to determine progress made on a project and to check the completeness and validity of the original DSR.

Final inspections will be carried out for all projects to verify the completion of work as approved by FEMA. Final payments will be made only after all final inspections are complete. In addition, a Summary of Documentation must be submitted listing all expenses by date and by category and line item (which refers back to the DSR identifying the exact damage site referenced). The completeness and accuracy of this data is essential for the state audit which will be completed before the final claim is submitted to FEMA. A Blanket Statement certifying the accuracy of the Summary of Documentation and the availability for audit of all records referenced in the Summary must also be submitted. In addition to the State audit, all projects are subject to federal audit.

Appeal procedures for requesting reconsideration of any decision by the FEMA Regional Director on any action related to federal assistance are outlined on the FEMA Website at https://www.fema.gov/public-assistance-appeals-and-closeout. The appeal is made in writing by the state (or if the state refuses, by the applicant) to the FEMA Regional Director. If the Regional Director denies the appeal, the state may then appeal to the FEMA Administrator, whose decision is final.

2. Concept of Operations

As soon as possible after the President's declaration of an emergency or major disaster, the State Coordinating Officer (SCO) and the State Public Assistance Officer will coordinate with the Federal Coordinating Officer (FCO) and the Federal Public Assistance Officer to arrange a public official's briefing. At this briefing the types of public assistance will be explained. "Notice of Interest" forms will be provided at the briefing; applicants will use them to indicate types of

damages caused by the disaster and the programs for which they wish to apply. A Damage Survey Report defining project scope and cost estimates will be completed for each damaged facility/site. These reports form a basis of the Project Application. Each applicant prepares a Project Application, which includes all requests for assistance (including requests on behalf of private non-profit organizations within their jurisdiction) and the funding alternative preferred.

Completed Project Applications are submitted to the Governor's authorized representative, who forwards them to FEMA with recommendations of the Department of Insurance for insurance coverage under Section 314 of Public Law 93-288 and his own analysis and recommendations for project approval or disapproval. FEMA then reviews and analyzes each application and returns it approved, approved subject to specific revisions, or disapproved. The appeal procedure is described on the FEMA Website at https://www.fema.gov/public-assistance-appeals-and-closeout for cases in which the state or local government feels that the decision is not justified.

Interim and final inspections of projects will be conducted. After projects are completed, the applicant will submit to DEM a Summary of Documentation and a Blanket Statement, after which the Office of the Auditor General will audit all expenditures claimed for reimbursement. When all documentation is in order, the Governor's authorized representative will forward to FEMA the request for final payment.

A. Loans

The federal government may make a Community Disaster Loan under Section 414 of Public Law 93288 to any local government which may suffer a substantial loss of property tax base or other revenues as a result of a major disaster, providing such government demonstrates a need for this assistance in order to perform its governmental functions.

1. Only one such loan per local government may be approved.

2. The loan may be approved in either the fiscal year in which the disaster occurred or the fiscal year immediately following that year.

3. Loans will be based on the actual and projected losses of revenue and disaster related expenses for the fiscal year in which the disaster occurred and for the three succeeding fiscal years.

4. Interest rates and other charges will be set by the US Secretary of the Treasury and the Administrator of the Federal Emergency Management Administration (FEMA).

5. Loans are approved for no more than three years unless otherwise stipulated by the FEMA Administrator. When requested by the applicant and warranted by the applicant's financial condition, the FEMA Administrator may extend the term of the loan; however, the total term will not exceed ten years.

6. In cases where local revenues during three full fiscal years following the disaster are insufficient to meet the operating budget, repayment of all or part of the loan may be canceled by the FEMA Administrator.

7. Any community disaster loans, including cancellations, made under provision of Section 414 shall not reduce or affect any grants or other assistance under other provisions of Public Law 93-288.

B. Procedures

1. Application for a Community Disaster Loan may be made only following a

Presidential declaration of a major disaster. To obtain such a loan, the local government will submit a loan request to the Division of Emergency Management. The DEM will forward the request to the Department of Revenue which will validate the loan request and return it to DEM. Once validated, the request will then be sent to the Governor or his authorized representative. Upon approval, the loan request will then be forwarded to FEMA for final determination.

2. If financial assistance is warranted, prepare a disaster loan request based upon actual and projected losses of revenues and disaster related expenses for the current fiscal year and for three succeeding fiscal years. Compare this total with 25 percent of the current fiscal year's operating budget. The monetary amount of the loan request cannot exceed the lesser of the two totals previously mentioned.

3. Submit the request to the Division of Emergency Management.

4. Submit any request for loan repayment cancellation with complete documentation to the Division of Emergency Management

3. Tasks

A. State Government

1. Division of Emergency Management

a. Appoint a State Public Assistance Officer to coordinate all state public assistance activities and to act as liaison with the Federal Public Assistance Officer.

b. Coordinate all joint activities among FEMA, state agencies and local governments.

c. With FEMA, set up separate briefings for applicants and for damage survey team members. Notify all affected parties of the times and locations of these briefings.

d. Assist local governments, other state agencies and private nonprofit organizations in identifying potential projects.

e. Organize and coordinate damage surveys.

f. Notify the State Historic Preservation Officer to identify at the earliest possible date all properties within the disaster area which are included or eligible for the National Register of Historic Places and to see that appropriate measures are taken to insure their maximum protection.

g. Notify the Department of Environmental Regulation when special environmental studies are needed.

h. Advise and assist local governments and state agencies in completing project applications, including scheduling and conducting briefings on project application drafts.

i. Review all project applications, assure that all requirements for federal assistance have been satisfied and recommend approval or disapproval to forward to FEMA .

j. Notify appropriate agencies when interim and final inspections are needed.

k. Review Final Inspection Reports for completeness and provide copies to FEMA.

l. Review and analyze Summaries of Documentation against approved Project Applications and Final Inspection reports and submit them with recommendations to the Auditor General. After the audit, review all records and audit reports and forward them to FEMA with state vouchers and voucher analysis.

2. Other State Agencies

a. Train personnel in appropriate techniques for damage surveys and record keeping prior to any disaster

b. Provide trained inspectors far damage surveys and project inspections.

c. When state property under the agency's jurisdiction is damaged by disaster:

1. Report damages of state property to DEM and have a representative attend the applicant’s briefing and complete a Notice of Interest form.
2. Participate in damage surveys and project inspections.
3. Prepare Project Applications, including designation of funding option desired, for damage to state property under the Agency's jurisdiction.
4. Request advance funding or partial payment through DEM, if needed.
5. Ensure that all projects are carried out in a manner consistent with acceptable health and safety codes and environmental standards, including special requirements regarding effects an historical properties.
6. Notify DEM when all work in one category is complete so final inspections can be scheduled.
7. Complete the Summary of Documentation and Blanket Statement to request final payment.
8. Maintain a system of complete documentation for all activities and expenditures in order that each can be identified by date and by exact facility/site restored. Provide all documentation for state and federal audits when requested.

3. Department of State

a. Appoint a State Historic Preservation Officer.

b. When notified by DEM, identify as quickly as possible all properties within the disaster area which are listed in or eligible for the National Register of Historic Places.

c. Coordinate with federal officials to assure that historic properties in the disaster area are considered with regard to requirements in order to protect these properties from undesirable impacts from restoration projects.

4. Department of Environmental Regulation

a. Coordinate with appropriate federal agencies for the conduct .of environmental impact studies.

b. Ensure that projects are carried out in a manner which does not cause additional damage to the environment.

5. Office of the Auditor General

Conduct an audit of each project before request for final payment is made to FEMA (except for small projects approved for 100 percent in lieu contributions under Public Law 92-288, Section 419).

C. Local Government

1. Train personnel in appropriate techniques for damage surveys and record maintenance, including DSR information prior to any disturbance.

2. Designate local inspector(s) who have knowledge helpful for estimating damage to participate on damage survey teams to determine habitability certification and substantial damage determinations.

3. Personnel from the City and County Budget and Administrative Services Department shall complete project applications, including designation of funding method desired, in accordance with guidelines set forth by FEMA. This agency shall also be responsible for project, grant, and financial management of the Public assistance process. This may be done in conjunction with the Office of Emergency Management. The Management Budget Analyst within Charlotte County Budget and Administration Services Department has the overall responsibility for coordinating the activities of the Public Assistance Program in accordance with Charlotte County Budget, Purchasing and Finance Guidelines.

4. The County Administrator, City Manager or their designees, shall be the local public officials who attend the applicant and kick-off briefing and complete "Notice of Interest" forms.

5. Request advance funding or partial payment through the Division of Emergency Management, if needed.

6. Ensure that all projects are carried out in a manner consistent with acceptable health and safety codes and environmental standards, including special requirements regarding effects on historical properties. Normal permits and licensing through Building Construction Services Department will help here.

7. Notify the Division of Emergency Management when all work in one category is completed so that final inspections can be scheduled.

8. Complete the Summary of Documentation and Blanket Certification to request final payment.

9. Maintain a system of complete documentation for all activities and expenditures so that each can be identified by date and by exact facility/site being restored. Provide all documentation for state and federal audits when requested. Have the Purchasing Division and Clerk of Courts active in this phase of post-disaster operations.

10. Provide inspectors to collect information to prepare for Damage Survey Reports (DSRs).

11. Charlotte County Budget & Administrative Services personnel will prepare and send correspondence (phone and letter) to all departments (city and county), private entities, and non-for profit agencies about their eligibility for Public Assistance. This list is monitored continually by staff for any changes throughout the year and updated as needed. The correspondence sent will also request records of expenses incurred during disaster declaration period. The following agencies will be contacted:

    - Charlotte County Office of Emergency Management
    - Charlotte County Budget & Administrative Services
    - Charlotte County Purchasing
    - Charlotte County Public Works
    - Charlotte County Utilities
    - Charlotte County Community Services
    - Charlotte County Facilities Construction/Maintenance
    - Charlotte County Human Services (Transit included)
    - Charlotte County Building Construction Services
    - Charlotte County Animal Control
    - Charlotte County Human Resources (Training, Personnel, etc.)
    - Charlotte County Finance
    - Charlotte County Administration
    - Charlotte County Board of County Commissioners
    - Charlotte County Clerk of Courts
    - Charlotte County Property Appraiser
    - Charlotte County Public Schools
    - Charlotte County Fire/EMS
    - Charlotte County Sheriff's Office
    - Charlotte County Information Technologies
    - Charlotte County Tourist Development
    - Charlotte County American Red Cross
    - Charlotte County Salvation Army
    - Fawcett Memorial Hospital
    - Bayfront Punta Gorda (Formerly Charlotte Regional Medical Center)
    - Bayfront Port Charlotte (Formerly Peace River Regional Medical Center)
    - Others as deemed necessary

    The City of Punta Gorda will notify its own agencies to include:

    - City of Punta Gorda Police Dept.
    - City of Punta Gorda Fire Dept.
    - City of Punta Gorda Utilities
    - City of Punta Gorda Public Works
    - City of Punta Gorda Community Development
    - City of Punta Gorda City Manager
    - City of Punta Gorda City Council
    - Others as deemed necessary

12. During an event, Charlotte County Budget & Administrative Services may opt to request updated expenditures from involved entities. Costs will be kept in a database that will remain open until the close of the event and all expenditures have been accounted for and all project sheets are filled out. This data will be stored in paper format and in electronic format for three years after the event (or longer depending on reimbursement time-frame).

DAMAGE SURVEYS AND PROJECT APPLICATIONS

I. General

Each application for Federal Public Assistance requires a damage survey to identify the nature of the problem, the repairs needed and the estimated cost of each aspect of the project. For projects involving state property, the damage survey team will be composed of a federal and a state inspector; for local projects, the team will have one member each from federal, state and local governments. In addition, repair and restoration projects may involve interim inspections to determine both progress made on the project and the completeness and validity of the original damage surveyor report. The final inspection verifies the completion of work as approved by the Federal Emergency Management Administration (FEMA), and is required for all projects.

II. Concept of Operations

Following the applicant's briefing, damage surveys will be made by the survey team. The team will record their findings on the· Damage Survey Reports (DSR's) which become part of the appropriate project application. These reports then become the basis for FEMA's approval of the project submitted by the applicant. Separate reports will be completed for each item of work within each FEMA category. When each DSR has been completed, state and local representatives sign it, indicating concurrence or non-concurrence with the report. In those instances where the team recommends that the proposed work be considered ineligible, they will still complete a Damage Survey Report to indicate the location, extent of damages, proposed scope of work, estimated costs and reason for the determination of ineligibility.

While reconstruction projects are in progress, interim inspections may be carried out at the request of the local government, the state agency making the original survey, the Division of Emergency Management (DEM) or FEMA. The state agency making the initial survey will check the project and report to DEM any problems or major changes in scope or cost. A supplemental DSR may be needed if major changes have occurred.

When all projects of one type or category are completed, local officials will notify the DEM Area Coordinator that final inspections are needed. The Area Coordinator will notify the state agency which made the original survey and will supply to that agency the necessary forms and other pertinent information for the final inspections. The state agency which made the initial surveys will then contact the appropriate federal agency and schedule the final inspections. The completed final inspection forms will be returned to the DEM Area Coordinator.

III. Tasks

A. State Government

1. Division of Emergency Management

Based on Notice of Interest forms assemble damage survey teams and assign appropriate state inspectors from the following agencies:

Agriculture	Agricultural & timber damages, debris clearance
Business Regulation	Buildings and structures

Education	Educational facilities
Environmental Regulation	Water supply and waste water facilities-coastal areas/other than beaches
Game and Fresh Water Fish Commission	Wildlife and fresh water fishery resources, and debris clearance in waterways
General Services Health & Rehab Services	Building and structures Health facilities
Natural Resources	State
Public Service Commission	Historic properties

Beaches and beach related structures, marine resources and debris clearance

Utilities (electric, telephone and gas facilities)

Transportation	Roads, culverts, streets, bridges, airport facilities, aircraft, railroads, and debris clearance
Water Management District	Dams, levees, dikes, drainage facilities, irrigation facilities.

a. Coordinate with FEMA for scheduling a briefing for all damage survey team members, and notify all participants of the time and location of the briefing

b. Schedule and coordinate all damage survey team activities.

c. Notify the State Historic Preservation Officer immediately so that historic properties in the disaster area may be identified as quickly as possible.

d. Ensure state inspector's signature and indication of concurrence or non-concurrence on each DSR. In cases of non-concurrence, be sure that explanatory information· or comments are included.

e. Notify the state agency which conducted the original damage survey to make interim inspections on long-term projects or projects which may be causing difficulties, and help to file supplemental DSR's as needed.

f. Immediately notify the state agency which conducted the original damage survey when the final project inspection is needed.

2. Other State Agencies

a. Identify and train inspectors for damage survey teams in accordance with the responsibilities listed above.

b. Have participating inspectors attend the briefing for damage survey teams.

c. Have inspectors sign and indicate concurrence or non-concurrence on each damage survey report. In cases of non-concurrence, provide explanatory information or comments.

d. Conduct interim inspections as requested and report problems noted.

e. When notified that final inspections are needed, contact the appropriate federal agency and schedule the inspections. Each inspection should be completed and all documentation, including the Final Inspection Report Form, should be returned within two weeks of the agency's notification.

f. Maintain complete records of all manpower and financial expenditures made in carrying out these functions.

3. Department of State

Identify all properties within the disaster area which are included in or eligible for the National Register of Historic Places and assist in determining the possible impacts of public assistance projects upon those properties.

B. Local Government

Identify and train inspectors for damage survey teams.

C. Local Governments and State Agencies Applying for Public Assistance

1. Charlotte County Emergency Management Office Director will be responsible for coordinating the pre-identification of potential applications.

2. Prepare a list of all the damaged facilities in the affected jurisdiction. The list should identify site by a common name (for example: county road, culvert, washout 1.4 miles south of intersection Stated Road 31).

3. Mark the location of each damage site on a map and make a plan for traveling to each site to save time and for the damage survey team.

4. Be familiar with the total damage and repair costs to date at each site so that the extent of the damage can be clearly pointed out.

5. Have photographs, site sketches or drawing of each damage site available to the damage survey team when they arrive.

6. Provide an inspector who is knowledgeable of the type of damage to participate on each damage survey team and to sign indicating concurrence or non-concurrence with each damage survey report. In cases of non-concurrence, provide additional information or comments. In cases involving state agencies, the agency representative may not be the official damage survey team member, but someone familiar with the damage and the plans for restoration will still be needed to accompany the team.

7. Be prepared to describe the way in which the applicant intends to repair or reconstruct the damaged facility (force account or contract). If contractor's estimates have been received, have them available.

8. If damaged facilities must be rebuilt to conform with new codes or regulations and which represent an upgrading of the facilities when compared to their pre-disaster condition, have copies of the codes or regulations available.

9. The Director of the Office of Emergency Management will notify DEM when an

interim inspection is needed to check on developing problems, such as major changes in scope or cost of work, and will serve as local representative at all inspections.

10. The Emergency Management Director will notify DEM when all work of each type has been completed so that final inspections can be scheduled.

11. Maintain complete records of all manpower and financial expenditures made in carrying out these functions.

Refer to www.Floridapa.org for guide/steps to apply for reimbursement procedures.

D. Data Storage & Updating

1. Potential applicants are responsible for keeping their information current.

2. All applications are stored on the county computer server which is located in the Public Safety Building (EOC). There is a complete mirrored server system in place for the county as backup located at the County Administration Building in Port Charlotte. Backups of this system are preformed regularly and data is stored in an offsite secure facility.

VIII. DEBRIS MANAGEMENT

1. General

A. This section of the plan deals primarily with post-disaster management of debris which may be located in roadways and waterways after a major storm or disaster.

B. Charlotte County has a FEMA approved Debris Management Plan (September 19, 2008). The approval letter is shown at end of this section.

B. Charlotte County has about 286 miles of waterways and about 2000 linear miles of public roads. Debris consisting of trees, abandoned vehicles, both cars and boats, floating objects such as broken docks and dead animals present a hazard to both land and water transportation on a daily basis as well as post-storm. There are approximately 13,000 registered boats in Charlotte County and this public safety consideration mandates some management system be in place.

C. Debris on private property is the responsibility of the owner of that property as to removal and disposal. Employees of Charlotte County government will not remove debris from private property except as may be essential to rescue operations or otherwise essential to counter an immediate threat to life, such as the containment or removal of extremely hazardous materials. In any such exceptional case, the County may charge and collect for the cost of debris removal. Private trash and waste haulers are expected to haul segregated yard waste and other debris from private property when it is properly sized and bundled. Debris on the public right of way will be removed by employees of local government. Removal of storm debris by government employees from public rights of way may be limited to a specified period after the storm.

2. Concept of Operations

A. The post-disaster debris removal period and special rules pertaining to disaster debris removal will be stated in the initial or subsequent disaster declarations by the BCC. Among the special rules could be waivers of usual rules as well as new rules establishing temporary burn sites, collection points for non-burnable construction materials, recyclables and hazardous materials.

B. Debris removal must be initially coordinated with damage assessment and rescue operations. An estimate of the cost of debris removal is an important part of the initial damage assessment that will be conducted to determine if a State or Federal disaster declaration is warranted. Over flights and ground surveys of the damage areas must therefore integrate debris removal cost estimation. Special attention must be given in estimates to the potential costs of hazardous materials disposal.

C. Burn sites will be established in number and at locations so as to minimize transport requirements. Chipper machines will be used to the maximum of availability to reduce the volume of downed vegetation to be transported. Where possible, chips will be left in the neighborhood where they were generated for free use in landscaping and to minimize transport of chips. Chips that must be transported will be moved minimum distance to where they can be subsequently used as mulch. Vegetation that cannot be chipped will be removed to the nearest temporary burn site. Curtain wall forced air burners will be used to the maximum of availability at the burn sites to reduce smoke and remains volume.

D. Depending on the amount of land area affected by the disaster, it will be necessary to establish one or more sites for the collection of construction materials that may be subsequently useable as "clean construction fill" and one or more sites where hazardous materials (hazard waste, white goods, etc.) can be given protected collection prior to ultimate disposal.

E. As a special pre-storm action, the County may keep landfill facilities open throughout a storm watch period to provide a place for disposal of refuse and debris from construction sites and other areas that accumulate refuse that might become an airborne hazard in a storm.

F. The Charlotte County Public Works Manager of Maintenance & Operations is the overall county-wide coordinator and contact for both road and waterway debris removal during post major storm periods. They are a liaison with the City of Punta Gorda Public Works and both the Charlotte County Mosquito Control Manager (landfill operations) and the County Public Works Director, who acts as the County Resource Coordinator, is necessary for a teamwork response. It will be normal during these periods for the county to be under a state-of-emergency declaration. This declaration will permit rapid letting of contracts. It will also state which, if any, County statutes or other rules have been suspended, canceled or modified regarding debris recovery and disposal.

G. The Directors of both County and City Public Works Departments and the Manager of Mosquito Control shall maintain a complete log of government and contractor manpower, equipment and supplies used in the removal of debris. An immediate post disaster requirement is for and initial assessment of the potential cost of debris removal. Photographs showing damage sites and depicting the debris removal task are necessary to support any claims for Federal reimbursement. These agency directors/managers will also provide information for state and federal financial assistance and oversight as required.

H. Resources available through the Emergency Operations Center will be called on to deal with post-storm debris removal. The Director of Emergency Management will coordinate prioritization of debris removal efforts on roads and waterways to respond to emergency needs including damage assessment and then to permit an orderly return to normal operations.

I. Emergency funding will be coordinated thru the County Administrator. Chapter 252 Florida Statutes broadly covers funding with the statement that funds are always considered to be available to respond· to emergencies.

J. Further information on Debris Management can be found in the Debris Management Standard Operating Procedures in the CCOEM library as well as attached to this CEMP submission.

3. Disposal of Debris

A. Debris, once removed from roads and waterways, will be disposed of by burning at designated sites or delivery to the County Landfill or to other designated temporary special purpose sites for reusable construction material or for hazardous materials such as hazardous waste and white goods. Vegetation will be burned, chipped or delivered for mulching to the extent feasible. Coordination will be effected with DEP for approval of disposal.

B. Depending on the severity of the storm or other disaster, and as declared by the

BCC, any or all of the following County rules may be waived, suspended or modified for a specified period of time. Any or all of these waivers may be changed by subsequent declaration as the situation warrants.

a. The County Landfill disposal fee may be waived.
b. County burn regulations may be suspended.
c. County solid waste separation requirements may be suspended.
d. The requirement that all commercial franchise haulers use the Zemel Road Landfill exclusively may be waived.

C. Temporary collection and burn sites will be given wide publicity for general public use. Dead animals may be disposed of at the County facility on Zemel Road. Burning of dead animals will be ordered only upon advice of the Manager of Mosquito Control when landfill facilities cannot be used for disposal of dead animals.

D. Each landowner will be required to sign a right-of-entry from (shown below in number 5) providing a release of liability to the agency removing debris from or over his property. Also included on this form is a statement regarding any compensation he may have received from other sources for removal of the same debris. Charlotte County is responsible for obtaining right-of-entry agreements with each private landowner to include ensuring the duplication-of-benefits section of the form.

E. The Management Budget Analyst within Charlotte County Budget and Administration Services Division has the overall responsibility for coordinating the activities of the Public Assistance Program.

4. Pollution & Public Health

Any threat of possible pollution or endangerment to public health must be dealt with rapidly. The Director of the Florida Health Department in Charlotte County must be contacted immediately for any pollution threat. The U.S. Coast Guard in Tampa is the assisting agency for oil pollution. All local government agencies must be sensitive to this pollution and health threat and call on the Director of the Florida Health Department in Charlotte County as the lead agency to deal with it.

5. Key Contacts for Debris Related Problems

This information can be found in detail within the Charlotte County Debris Management Plan enclosed within.

RELEASE AND RIGHT OF ENTRY AGREEMENT

I_____, We_____ , the owner(s}of the property commonly identified as _____, (Street) _____ , Charlotte County, State of Florida, (City or Town}do hereby grant and give freely and without any coercion whatsoever, the right of access, entry to and use of said property to the county of Charlotte, State of Florida, its agencies, contractors, and subcontractors thereof, for the purpose of removing and clearing any and all disaster generated debris of whatever nature from the above described property at no cost to the owner.

IT IS FULLY UNDERSTOOD THAT THIS AGREEMENT IS NOT AN OBLIGATION TO PERFORM DEBRIS CLEARANCE.

The undersigned agrees and warrants to hold harmless the County of Charlotte, State of Florida, its

agencies, contractors and subcontractors for any damage of any type whatsoever, either to the above described property or persons situated thereon and hereby release, discharge and waive any and all action, either legal or equitable, which might arise out of any use or activities on the above described property.

_____ I (have __ , have not___) (will___, will not____) receive any compensation for debris removal from any other source, including SBA,ASCS, private insurance, Individual and Family Grant program or any other Public Assistance Program. For the considerations and purposes set forth herein, I hereby set by hand and seal this _____ day of _____, 20__.

_____ _____

(Witness) (Owner/Owners

_____

(Current Telephone Number)

_____

(Current Address)

FEMA APPROVAL LETTER

U.S. Department of Homeland Security
Joint Field Office
2501 Principal Row
Orlando, Florida 32837

FEMA

September 19, 2008

Mr. W. Craig Fugate
State Coordinating Officer
State of Florida
FEMA-1785-DR-FL
State EOC
2555 Shumard Oak Boulevard
Tallahassee, Florida 32399-2100

Attention: Phil Worley

Reference: Public Assistance Pilot Program
Debris Management Plan
Charlotte County

Dear Mr. Fugate:

On August 2, 2008, FEMA received a Debris Management Plan from the referenced Applicant for consideration under the PA Pilot Program for the Increased Federal Share Incentive procedure. FEMA has evaluated the Debris Management Plan against criteria contained in the PA Pilot Program Guidance, June 2007, Appendix E. The results of our review are reflected on the enclosed PA Pilot Program Increased Federal Share Incentive Checklist. Based on our review, the Plan has been approved. The Applicant will receive an additional five (5) percent Federal cost share for eligible Category A debris removal work, not to exceed 100 percent Federal cost share. The Applicant should retain this approval letter and the enclosed checklist. Please instruct the Applicant to submit a copy of both to the Public Assistance Coordinator (PAC) Crew Leader assigned to the Applicant's jurisdiction during the Kickoff Meeting.

If you have questions or need additional information, please contact Mr. Jesse F. Munoz, Director, Disaster Assistance Division, at (770) 220-5300.

Sincerely,

Tom Davies
Federal Coordinating Officer/
Disaster Recovery Manager
FEMA-1785-DR-FL

www.fema.gov

Enclosure

IX. COMMUNITY RESPONSE

1. General

This section of the plan deals with Community Response teams and their functions in a post-disaster scenario. Community Response teams have a mission to go into the affected areas after a disaster and determine resource shortfalls in the area of human needs. These teams also disseminate information and tele-registration numbers in regards to disaster assistance services to residents and businesses.

2. Concept of Operations

The Director of Charlotte County Human Services will act as the liaison with the Federal Emergency Management I State Community Response Team as well as the State Community Response Coordinator.

Charlotte County Human Services staff, the American Red Cross, the Salvation Army, and Community Emergency Response Teams will staff and serve as support agencies to the Community Response Team.

Community Response Teams in Charlotte County will work with the Public Information Office to distribute public information to media outlets.

All unmet resource needs are to be reported to the Emergency Operations Center Operations Desk, where the information will be analyzed and forwarded to the appropriate local, State, or Federal agency. Tasking will only take place through this method.

Other details on priorities and criteria for determining strategies are included in the Community Response Standard Operating Procedures in the CCOEM library.

3. Tasks

State and Federal

1. Deploy to affected communities and work with local official to determine areas where community response activities should be prioritized.
2. Assist local officials in identifying resource needs for human services.
3. Assist local officials in disseminating information to the public and businesses about available local, state, and federal disaster assistance programs, and where and how to apply for these programs.

Local (Countv/City)

1. Assign and train appropriate staff on Community Response teams.
2. Analyze event's affects, geographies and demographics to devise a strategy (routes, populations, etc) for Community Response.
3. Analyze human needs and identify any shortfalls in resources. Report these shortfalls to the Operations desk in the County EOC.
4. Develop pertinent local information to be distributed by teams.

X. UNMET NEEDS COORDINATION

Primary Agency: Charlotte County Emergency Management, Charlotte County VOAD

Support Agencies: All Charlotte County Agencies, All City of Punta Gorda Agencies, Charlotte County American Red Cross, Charlotte County Salvation Army, Charlotte County Chamber of Commerce, Punta Gorda Business Alliance, Englewood Chamber of Commerce

A. General

Unmet needs coordination will be the function of Volunteers Position (ESF-15 equivalent) and Charlotte County Emergency Management (for both declared and non-declared events).

Following a disaster, shortfalls may be identified, which will need to be addresses. The function of this position is for identifying and fulfilling unmet needs in a post-disaster scenario.

Many volunteer agencies will be available during the response. However, the survivors of an incident may have needs far beyond the initial response period of the incident.

Unmet needs will be addressed with a Committee consisting of the following agencies:

- Charlotte County Emergency Management
- Charlotte County VOAD
- Charlotte County Building Construction Services
- Charlotte County American Red Cross
- Charlotte County Salvation Army
- Charlotte County Chambers of Commerce Representatives
- City of Punta Gorda

B. Concept of Operations

1. Unmet needs coordination will be the function of Volunteers Position (ESF-15 equivalent) and Charlotte County Emergency Management.

2. The Unmet Needs function will be used to manage shortfalls in resources identified by Community Response Teams.

3. Support agencies for unmet needs coordination may include volunteer agencies, private organizations, or other not-for profit organizations that are able to provide a service to citizens.

4. Coordination with the City of Punta Gorda - Charlotte County's only municipality will be ongoing prior to and after the event (during response and recovery). A representative from the City of Punta Gorda will serve on the committee and will be point of coordination with municipality unmet needs.

5. The following agencies may be able to provide the services following a disaster:

Charlotte County Emergency Management

- Flood Mitigation Assistance
- Wind Mitigation Assistance
- Disaster-related Information

Charlotte County American Red Cross

- Mass Care (feeding, shelter)
- Family Services
- Disaster-related information

Charlotte County Salvation Army

- Mass Care (feeding)
- Family Services

Charlotte County Building Construction Services

- Building-related information (codes, etc.)
- Flood Mitigation Assistance
- Wind Mitigation Assistance
- Protection of Home Information

Florida Health Department in Charlotte County

- Information on protection of personal health during disaster Information on hazardous health conditions.

Charlotte County Chambers of Commerce (City & County)

- Information on businesses that can provide goods and services following a disaster.

6. Needs from any agency will be forwarded to the Charlotte County Emergency Operations Center through the Volunteer Position located in the EOC. They will then be reviewed and prioritized according to their nature. Prioritization Procedures will be as follows:

1. Immediate life-safety issues
2. Immediate health issues
3. Short-term sheltering
4. Long-term sheltering
5. Long term health and safety
6. Disaster Assistance
7. Mitigation Assistance
8. Other issues as identified

These priorities are guidelines only. In some cases, a lower priority may become a more prominent issue than a higher priority issue. For this reason, the Unmet Needs Committee shall review all unmet needs on a case-by-case basis.

C. Training and Education

Training courses are available for members of the Unmet Needs Committee and all eligible parties, from the State of Florida Division of Emergency Management and the Federal Emergency Management Agency for many issues regarding unmet needs. Courses may include topics such as emergency home repair, Flood Mitigation Assistance, Hazard Mitigation Grant Program, donations management, developing volunteer resources, Disaster Recovery Center management, Critical Incident Stress Debriefing, and Public and Individual Assistance.

XI. EMERGENCY TEMPORARY HOUSING

This following has been inserted from the Charlotte County Temporary Housing Plan.

A. General

The Charlotte County Temporary Housing Plan (THP) encompasses coordination with FEMA in the placement of displaced persons into temporary housing after an event has occurred. This will be for a period of up to 18 months.

It will be the responsibility of the Charlotte County Department of Human Services to implement the THP, and to coordinate with Charlotte County Emergency Management (CCOEM), FDEM, FEMA, and other agencies as needed to implement this Plan.

A central Temporary Housing Office (THO) will be located at the Charlotte County Emergency Operations Center (EOC), and then will relocate to other county facilities. Satellite offices will be established where Disaster Recovery Centers (DRC's) are opened.

B. Preparedness

The Charlotte County Department of Human Services (CCDHS) has a dedicated employee/position of Housing/Community Initiatives Manager who is designated as the Disaster Housing Coordinator (DHC) during disasters, and is in charge of the implementation of the THP. This position also encompasses the Local Disaster Housing Task Force.

By June 1st of each year, the DHC will work with CCOEM to identify a pool of county staff who could potentially serve as THO staff in the event that the Office is activated.

The DHC will be responsible for determining the resources necessary to implement the THP and for securing such resources. At a minimum, Temporary Housing staff should have proper forms, writing utensils, and communications capabilities with the THO by designated radio and/or phone lines.

The DHC is responsible for ensuring that local resource information regarding sites and potential housing locations is updated by June 1st of each year. The DHC will also work to identify additional/substitute sites by the same time each year.

At the time of updates, the DHC will provide CCOEM with current lists of housing resources so that they may be checked in a post-disaster scenario by the Charlotte County Damage Assessment Teams for suitability.

C. Response

Upon notification of the activation of the EOC, the DHC will report to the EOC and implement any staffing scheduling to ensure 24/7 coverage of the THO until the situation warrants.

The DHC will monitor the incoming damage assessment reports and will coordinate with the Emergency Operations/Recovery Position, or designee, in determining the estimated number of displaced Charlotte County residents.

The DHC will activate identified potential THO staff as necessary, and will arrange for continuity of operations. The number of staff members activated will be dictated by the estimated magnitude of demand for temporary housing services. The DHC will be responsible for assigning duties to staff and maintaining staff's time and attendance records.

The THO will collect and maintain information on available existing vacant housing units through varies support agencies/contacts.

The THO will coordinate with the Operations/Recovery Position, or designee, on estimating the number of temporary housing units needed.

When executing their missions, the damage assessment teams will assess the conditions of potential temporary housing sites within their geographic areas of responsibility. Conditions to be assessed include:

- On-site flooding
- Damage to on-site infrastructure
- Extent of debris present at site
- Accessibility to site

The DHC will coordinate with the Operations/Recovery Position, FDEM, and FEMA to determine the numbers of displaced persons that require temporary housing assistance.

The DHC will coordinate with the Public Information Officer (PIO) on media releases advising the public of the THO contact information. Subsequent media releases will be coordinated, as necessary, regarding the locations of the main THO and satellite locations.

The DHC will coordinate with representatives from CCOEM, Charlotte County Facilities Management, Charlotte County Community Development, FDEM, and FEMA to select temporary housing site(s) based on estimates of households left homeless, the location(s) of the displaced population, the condition of potential sites, and the type(s) of temporary housing that will be provided by FEMA.

The DHC will coordinate with the appropriate site owners for preliminary approval of the selected site(s) and will submit the site(s) to Charlotte County Community Development, Charlotte County Environmental Health, and the County Administrator, or designee, for approval.

The EOC/Joint Information Center (JIC) will coordinate with FDEM and FEMA for joint media releases concerning temporary housing sites.

The THO will be relocated to the Charlotte County Human Services Building or any other County department without damage. Charlotte County Facilities Management will be consulted for alternate facilities should their building/offices be rendered non-functional.

The DHC will coordinate with FDEM and FEMA to direct temporary housing resources to the site(s).

On an on-going basis, the THO shall report to FEMA on the availability and locations of existing vacant housing units.

The THO will provide displaced households with referrals to public/private agencies and programs providing disaster assistance, as well as information on available existing vacant housing units.

The THO will collect and maintain information on client households which includes:

- Household size
- Address
- Contact information
- Needs
- Assistance offered

The THO will prepare daily reports on numbers of households provided with various types of assistance, and on the number of additional temporary housing units that are reported to the THO.

The THO will work with the Charlotte County American Red Cross to ensure that all survivors requiring temporary housing are recorded and captured on a single list.

The THO will prepare a final report that complies the information contained in the daily reports, and summarizes all work performed during its period of activation.

D. Local Resources

1. Rental Units

Local vacant rental units represent one of the first sources to which displaced persons will turn to meet their temporary housing needs. The vacancy rate of rental apartments is variable, but is typically higher between the months of April/May through October. This provides for a potential for increased housing availabilities for most of Charlotte County's hurricane season.

The Charlotte County Multiple Listing Service (MLS) has some capability to identify listed homes and condominiums that are vacant. The MLS listing does not indicate if a home is vacant or not, but it can identify vacant properties to their subscribing members to facilitate timely marketing to families in need.

2. Hotel/Motel Units

Vacant hotel/motel units will serve as temporary housing for displaced persons requiring shelter for shorter periods of time, or for those who cannot be accommodated by existing vacant rental units. The Charlotte County Tourism Development keeps a current report of inventory available within all of the Charlotte County hotel/motels. Unfortunately, many of these locations are highly vulnerable to storm surge flooding. This must be taken into consideration when looking at the numbers of available rooms following an event.

3. Mobile Home/RV Parks

Charlotte County has numerous mobile home and RV parks throughout our community. These parks are subject to a heavy seasonal influx which has its peak between the months of November and April.

These existing mobile home and RV sites, both vacant and occupied, represent important temporary housing resources in Charlotte County. In a catastrophic event, a large portion of Charlotte County's existing mobile home and RV stock could be damaged and rendered uninhabitable or destroyed. If such an event were to occur, once the debris was cleared from the sites, they could serve as additional resources for temporary housing. However, it is likely that the vacant space will serve as a resource for the original resident.

4. Vacant Commercial/Industrial Properties/Land

Various commercial or industrial structures may be suitable for conversion to temporary housing in a **worst case scenario** when all other temporary housing resources are exhausted. In addition, some partially developed or underdeveloped commercial/industrial properties may be suitable for establishing tent cities or for placing mobile homes and travel trailers.

Charlotte County Economic Development Division maintains a database of commercial and industrial properties and land parcels available for lease or purchase in Charlotte County. Information regarding available commercial/industrial properties and land can be found with the following resources:

- Charlotte Area Multiple Listing Service: This resource lists available commercial, industrial, and residential land and structures that are available for sale, lease, or rent from participating real estate and land brokers.
- Florida Gulfcoast Commercial Association of Realtors (FGCAR): This service only shows commercial properties that are for sale and lease. The listings are limited. The listings for this service are powered by www.loopnet.com.
- Florida Commercial Real Estate Exchange (FLCOMMREX**):** Florida COMMREX is the Florida division of COMMREX which is a nationwide listing service for commercial properties.

All of the resources listed above have websites that can be searched on a regular basis. All office properties are presumed to have air conditioning and heating when accepted for listing. Though the majority of listings are inappropriate for our emergency purposes, a limited number of listings describe properties, outside of business hubs, which may be more appropriate for emergency purposes.

In the event that more space is needed for placing emergency housing, certain deforested or cleared land from the realty market may be appropriate. Dozens of properties have been located in the Charlotte Area MLS. These properties are located throughout the county with most being located along major roadways or readily accessible from them. These properties are relatively close to schools, churches, employment, and grocery stores.

E. **Selection Criteria**

In considerations of the various requirements of the temporary housing alternatives which may be located in the identified open spaces, the following is a list of factors to be considered in site recommendation decisions:

- Size
- Topography
- Existing use of site
- Site hazards
- Compatibility with adjacent uses
- Ownership
- Accessibility to population centers
- Accessibility to commercial/institutional services
- Storm surge classification
- FEMA Flood Hazard Zone Classification
- Elevation above sea level
- Adequacy of ingress/egress
- Availability/proximity of public water and sewer infrastructure
- Site preparation requirements

In addition to the listed factors, all comments received from reviewing entities are considered during discussion of each potential site.

NOTE: Most of the properties are vulnerable to storm surge flooding in a worst case scenario hurricane. Availability of identified properties will depend on if and how they have been affected by a storm.

The Charlotte County Office of Emergency Management will work with Charlotte County Economic Development and any other pertinent organizations to ensure the listing of available properties is updated. Listings will be updated annually at the onset of the Atlantic Hurricane Season which officially begins June 1st. More frequent updates may occur as threat conditions warrant.

F. Codes and Permitting

When it is determined by the Charlotte County Board of County Commissioners that a situation exists for the use of travel trailers and mobile homes as temporary housing, the following will be considered:

- The Zoning Department will petition to the Charlotte County Board of County Commissioners to temporarily set aside the regulations pertaining to the placement of travel trailers and/or mobile homes.
- Consider using vacant parcels of land for temporary placement of travel trailers and/or mobile homes. The final decision regarding location and number of temporary units placed thereon rests with Charlotte County government.
- The Charlotte County Board of County Commissioners will determine an effective period for temporary occupancy.
- The mobile home installer must be Florida state-licensed and must secure required permits for the temporary unit.

During normal operations, the Building and Construction Services Department has a two to four business day processing time. It can be expected that following a disaster, there will be a significant increase in the number of applications and the county will do its best to expedite permits. In order to assist in the timely processing of applications, the department may:

- Request additional staff members to process applications.
- Re-locate the temporary unit permitting site so as to accommodate additional personnel.
- Seek additional assistance from State and/or Federal resources.

THIS PAGE LEFT BLANK INTENTIONALLY

ANNEX II – MITIGATION

I. INTRODUCTION

Charlotte County is vulnerable to various types of disasters. We define the specific natural hazards; discuss Charlotte County's vulnerability to them; and the mitigation measures that can be taken to reduce the effects of these disasters. All information contained in the Charlotte County Local Mitigation Plan is consistent with the Charlotte County/City of Punta Gorda Local Mitigation Strategy. A copy of our approved plan can be found in our CCOEM Library as well as a copy located at the FDEM office in Tallahassee.

II. COMMUNITIES WITH AN APPROVED LOCAL MITIGATION STRATEGY

A. Charlotte County has a State & FEMA-approved Local Mitigation Strategy, which expires on August 19, 2015. Copies of the approval letters can be found on the proceeding pages for reference.

B. Charlotte County Emergency Management has a two fulltime positions (LMS Coordinator & Mitigation Planner) that are responsible for coordinating mitigation activities with the Local Mitigation Strategy Working Group. They ensure that annual meetings are accomplished as well as prioritization of all LMS items.

C. Charlotte County Emergency Management works with the Community Development Division County Floodplain Manager on an as needed basis to identify damaged structures in Special Flood Hazard Areas (SFHA's) for substantial damage determination. When damage occurs or potential grants are obtained to mitigate, the Community Development Division County Floodplain Manager and CCOEM work together.

STATE OF FLORIDA

DIVISION OF EMERGENCY MANAGEMENT

CHARLIE CRIST
Governor

DAVID HALSTEAD
Director

August 23, 2010

Mr. Gerry Mallet
Charlotte County Local Mitigation Strategy Working Group Chair
26571 Airport Road
Punta Gorda, Florida 33982

Dear Mr. Mallet:

Congratulations! The enclosed letter constitutes the Federal Emergency Management Agency's (FEMA) formal approval of the Charlotte County Local Mitigation Strategy Plan (LMS) for the City of Punta Gorda and Charlotte County (unincorporated). The plan has been approved for a period of five years and will expire again on August 19, 2015.

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 Laura Herbert at 850-922-5580 or laura.herbert@em.myflorida.com.

Respectfully,

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

MEA/lh

Enclosed: FEMA letter of notification dated August 19, 2010

FLORIDA RECOVERY OFFICE
36 Skyline Drive
Lake Mary, FL 32746-6201

DIVISION HEADQUARTERS
2555 Shumard Oak Boulevard
Tallahassee, FL 32399-2100
Tel: 850-413-9969 • Fax: 850-488-1016
www.FloridaDisaster.org

STATE LOGISTICS RESPONSE CENTER
2702 Directors Row
Orlando, FL 32809-5631

STATE OF FLORIDA

DIVISION OF EMERGENCY MANAGEMENT

CHARLIE CRIST
Governor

DAVID HALSTEAD
Director

July 10, 2010

Mr. Gerard Mallet
Charlotte County LMS Chair
26571 Airport Road,
Punta Gorda, Florida 33982

Dear Mr. Mallet:

Congratulations! The enclosed letter constitutes the Federal Emergency Management Agency's (FEMA) "approval pending adoption" of the Charlotte County Local Mitigation Strategy Plan. As indicated in the letter from FEMA, the plan is in compliance with the Federal hazard mitigation planning standards resulting from the Disaster Mitigation Act of 2000, as contained in 44 CFR 201.6. A second letter giving formal approval of the plan will be issued as soon as FEMA receives proof of adoption by at least one participating jurisdiction. The plan would then be approved for a period of five years.

The mitigation planning unit would like to thank you for all of your hard work in accomplishing such a feat. Together we can make Florida a safer place to live for all.

If you have any questions regarding this matter, please contact Laura Herbert via email at laura.herbert@em.myflorida.com or 850-922-5580.

Respectfully,

Miles E. Anderson, State Hazard Mitigation Officer
Bureau of Recovery and Mitigation
Mitigation Section

MEA/lh

Enclosed: FEMA letter of notification dated June 22, 2010

FLORIDA RECOVERY OFFICE • DIVISION HEADQUARTERS • STATE LOGISTICS RESPONSE CENTER
35 Skyline Drive — 2555 Shumard Oak Boulevard — 2702 Directors Row
Lake Mary, FL 32746-6201 — Tallahassee, FL 32399-2100 — Orlando, FL 32809-5631
Tel: 850-413-9969 • Fax: 850-488-1016
www.FloridaDisaster.org

U.S. Department of Homeland Security
FEMA Region IV
3003 Chamblee Tucker Road
Atlanta, GA 30341

FEMA

June 22, 2010

Mr. David Halstead, Director
Division of Emergency Management
2555 Shumard Oak Boulevard
Tallahassee, Florida 32399-2100

Attention: Mr. Miles Anderson

Reference: Charlotte County Local Hazard Mitigation Plan Update

Dear Mr. Halstead:

This is to confirm that we have completed a Federal/State review of the Charlotte County Hazard Mitigation Plan Update for compliance with the federal hazard mitigation planning standards contained in 44 CFR 201/6(b)-(d). Based on our review and comments, Charlotte County developed and submitted all the necessary revisions. Our staff has reviewed and approved these revisions. We have determined that the Charlotte County Hazard Mitigation Plan is compliant with federal standards, subject to formal community adoption.

In order for our office to issue formal approval of the plan, Charlotte County must submit adoption documentation and document that the final public meeting occurred. Upon submittal of these items to our office, we will issue formal approval of the Charlotte County Hazard Mitigation Plan.

If you have any questions or need any further information, please do not hesitate to contact Gabriela Vigo, of the Hazard Mitigation Assistance (HMA) Branch at (229) 225-4546 or Linda L. Byers, Planning Lead Specialist, at (770) 220-5498.

Sincerely,

Robert E. Lowe, Chief
Risk Analysis Branch
Mitigation Division

RECEIVED
JUL 2 2010

Attachment 3:
Charlotte County
Local Mitigation Strategy

COMMUNITY DEVELOPMENT DEPARTMENT
18500 Murdock Circle
Port Charlotte, FL 33948
Phone: 941.764.4909 | Fax: 941.764-4108

2015

Charlotte County
Local Mitigation Strategy

Prepared By:

Charlotte County Local Mitigation Strategy Work Group

Table of Contents

Catalogue of Tables and Maps

Part I

Local Mitigation Strategy Adoption

This page left blank for FEMA approval letter.

Charlotte County Government

"To exceed expectations in the delivery of public service"

www.CharlotteCountyFL.com

MEMORANDUM

Date: September 9, 2013

To: Charlotte County Board of County Commissioners

From: Gerard S. Mallet, Local Mitigation Strategy 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 employees who monitor and revise the plan as needed. The following is a progress report for 2012/2013. A copy of this memorandum is being made available to the public through a posting on the County's website at www.CharlotteCountyFl.com/emergency .

1. Background

The Charlotte County Office of Emergency Management initiated the LMS process in 1999. The original plan then went under extensive revision to comply with the Federal Disaster Mitigation Act of 2000. The LMS has since been reviewed in 2005 and 2010 by the Florida Division of Emergency Management and re-adopted by the Board of County Commissioners on each occasion. 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.

PUBLIC SAFETY
Emergency Management
26571 Airport Road, Punta Gorda, FL 33982
Phone: 941.833.4000 | Fax: 941.833.4081

The LMS relies on grant funding to achieve many of its goals. The Hazard Mitigation Grant Fund, 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 most funding was received from Hurricane Charley in 2004 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.

Since 2004 Charlotte County has not been directly impacted by any severe tropical systems. The LMS Committee 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 a number of ways. All new construction must comply with strict building codes that require both wind and flood protection. Structures within the Special Flood Hazard Area (SFHA) are also required to obtain base flood elevations as part of the permitting process. All new construction is required to be elevated 18" 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 Emergency Management Office who has instituted a number of programs to provide flood warning to the residents and visitors to Charlotte County. Reflective collars with the color of the evacuation zone that corresponds to a given area have been installed on approximately nine thousand stop signs. A website, "Know Your Zone", is given prominence on the County site each year allowing for County residents to easily determine their evacuation zone and the appropriate actions to take if their area is threatened. The Emergency Management Office maintains both Twitter and Facebook accounts to distribute and receive information from social media.

PUBLIC SAFETY
Emergency Management
26571 Airport Road, Punta Gorda, FL 33982
Phone: 941-833-4000 | Fax: 941-833-4081

The County, through the Building Construction Services Office and the Emergency Management Office, monitors properties deemed to be Repetitive Loss Properties in the NFIP, offers mitigation advice to the owners and, when funding can be secured, eliminates 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 to County and City Departments, Civic Organizations, and the general public are extended for each meeting. Projects are discussed, selected, and prioritized by consensus. Should the County experience a natural hazard, 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 entity that accepts the LMS as the Floodplain Management Plan and agrees to cooperatively address mitigation efforts. The Interlocal Agreement was reaffirmed and resolved by both political subdivisions with the adoption of the 2010 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 that code standard or retrofitted since 2004.

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

Status: Ongoing. The Charlotte County Comprehensive Emergency Management Plan (CEMP) was updated, and revised in 2010. The complete plan was adopted by the Charlotte County 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.

Objective 5: Ongoing. The Charlotte County Emergency Management Office has a continuing public awareness program to promote preparedness and response to hazardous weather. The Office produces and distributes 40,000 All Hazard Guides annually, conducts numerous expos and seminars, and maintains a public website,

PUBLIC SAFETY
Emergency Management
26571 Airport Road, Punta Gorda, FL 33982
Phone: 941-833-4000 | Fax: 941-833-4081

www.CharlotteCountyFL.com/emergency, that provides preparedness information. The Charlotte County Building Construction Services Division, who maintains the Community Rating System for the NFIP, regularly contacts owners of repetitive loss and severe repetitive loss properties and offers flood safety and protective construction methods seminars.

Objective 6: Protect and acquire unique natural habitats and wetlands as part of the flood protection system.

Status: Ongoing. In the last four years the County has acquired 2,164 acres of unique natural habitats and wetlands to be preserved as green space. These areas, along with the over 40,000 acres of the Charlotte Harbor Preserve State Park, protects over 50 miles of Charlotte County's shoreline. All of the preserved area is in the SFHA with FIRM ratings of 8AE to 26AE.

3. Community Rating System

The Charlotte County Community Development, Building Services Division, is responsible for the maintenance of the Community Rating System (CRS). Charlotte County began the CRS in 1993 and in 2002 achieved the current rating of 5. That rating has been continuously maintained.

4. Prioritized Project Status

Repetitive Loss Properties are always included in the prioritized projects in the LMS. Funding has been secured through Severe Repetitive Loss Grant to demolish, elevate, and rebuild a residence in Charlotte Harbor. The project was completed in June of 2013 resulting in the property being elevated above the 100 year floodplain and removed from the repetitive loss list. The LMS Committee has met and reviewed the prioritized project list, removed the projects that have been completed, added a number of 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. Funding for additional projects, in the absence of any HMGP, is becoming difficult to obtain. The Emergency Management Office and the Building Construction Services Office will continue to seek projects and funding sources to mitigate the County's hazard vulnerability.

Gerard S. Mallet
LMS Coordinator

PUBLIC SAFETY
Emergency Management
26571 Airport Road, Punta Gorda, FL 33982
Phone: 941-833-4000 | Fax: 941-833-4081

City of Punta Gorda, Florida
Urban Design
M E M O R A N DU M

TO: Mayor Rachel Keesling
Members of the Punta Gorda City Council

FROM: David C. Hilston, AICP, Urban Design Manager

CC: Howard Kunik, City Manager

DATE: September 3, 2014

RE: Local Mitigation Strategy Implementation – ISO/CRS Program

The City Council formally adopted the "Local Mitigation Strategy" (LMS) for Charlotte County and the City of Punta Gorda on June 1, 2005. This was accomplished following the adoption of an Interlocal Agreement between Charlotte County and the City of Punta Gorda on March 9, 2004 wherein the County and City pledged mutual cooperation in planning for hazard mitigation.

The LMS is the vehicle upon which the City participates in the National Flood Insurance Program (NFIP). To continue participation in the NFIP, a yearly progress report is required. Please accept this memorandum as the City's formal yearly report under the ISO/CRS Program.

Background

The LMS was created and adopted in order to more effectively plan for disaster related responses. The LMS lists a variety of mitigation initiatives designed to reduce flooding problems and/or to protect people and property when flooding does occur.

The initiatives were created by the LMS Working Group and from a vulnerability analysis completed for structures in Charlotte County. The LMS Working Group is made up of thirty-eight (38) members representing seven (7) distinct governmental agencies and civic organizations. In addition to the initiatives, the LMS sets forth six (6) goals for which Charlotte County and the City of Punta Gorda's hazard mitigation programs are geared. They are as follows:

- Charlotte County shall reduce the vulnerability and exposure of the public by protecting lives and property from the losses of natural disasters.
- 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.
- Reduce the vulnerability of critical and public facilities from natural disasters.
- Strengthen plans for post-disaster, recovery and mitigation plans.
- Improve coordination of Emergency Management information, through the media, to increase public awareness and participation in preparedness, response, mitigation and recovery.
- 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.

Local Initiatives

The City currently has nine (9) local initiatives for which it is responsible for under the LMS program. The projects and their current status are listed as follows:

- *Hendrickson Dam Rebuild*: This project has been completed.
- *Punta Gorda Downtown Drainage Project*: The first phase of this project has been funded through the Hazard Mitigation Grant Program through the Florida Department of Community Affairs. Construction has been completed on Phase One. Phase Two was approved for construction funding by the Federal Emergency Management Agency (FEMA) and is currently under construction.
- *Punta Gorda River and Harbor Seawall Rebuilds*: This is part of the City's annual seawall replacement program for the various canal assessment districts. Work continues on a year round basis.
- *Punta Gorda City Hall Wind Retrofit*: Through post-disaster reconstruction the identified wind retrofits have been completed.
- *Cooper Street Recreation Center Wind Retrofit:* Through post-disaster reconstruction the identified wind retrofits have been completed.
- *Bayfront Center Wind Retrofit*: Through post-disaster reconstruction the identified wind retrofits have been completed.
- *Historic Homes Wind Retrofit*: The City has coordinated private historic home wind retrofit grants through the Hazard Mitigation Grant Program administered by FEMA and Department of Community Affairs. This project has been completed.
- *Public Safety building Shutters*: Through post-disaster reconstruction the identified shutters have been completed.
- *Punta Gorda Fire Station #3 Wind Retrofit*: These retrofits have been completed.

Conclusions

The City has progressively achieved or is striving to achieve each of the City's mitigation initiatives, 100% of the initiatives have been completed or are being implemented. In 2014, the Local Mitigation Strategy (LMS) mandated ten year update began; City staff is in coordination with Charlotte County staff to ensure the City's continued participation in the National Flood Insurance Program.

Thank you for your time and consideration in this matter.

Copy to: Sun Herald Newspaper
23170 Harborview Road
Port Charlotte, FL 33980

Herald Tribune Newspaper
1617 Tamiami Trail
Port Charlotte, FL 33948

City of Punta Gorda

RESOLUTION NO. 3116-14

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

WHEREAS, the City Council of the City of Punta Gorda, Florida, approved an Interlocal Agreement between the City of Punta Gorda ("City") and Charlotte County (County") on March 9, 2004, requiring that the City and County 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 the State managed funding programs such as the Hazard Mitigation Program Grant (HMPG), the Emergency Management Preparedness Assistance Trust Fund, Communities Trust, Community Development Block Grant (CDBG), 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, there have been no substantial changes to the Local Mitigation Strategy since the adoption on June 1, 2005;

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 reaffirms that the Charlotte County/City of Punta Gorda Local Mitigation Strategy is 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 3 day of September, 2014.

Rachel Keesling
RACHEL KEESLING, Mayor

ATTEST:
Karen Smith
KAREN SMITH, City Clerk

APPROVED AS TO FORM:

DAVID M. LEVIN, City Attorney

9/3/14
Date

Part II

Local Mitigation Strategy Planning Process

SECTION 1: WORKING GROUP ORGANIZATION

INTRODUCTION

The Charlotte County 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 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.

This section describes the local jurisdictions and organizations participating in the ongoing Charlotte County/Punta Gorda Local Mitigation Strategy (LMS) Working Group that began in 1999. It discusses the organizational structure used to complete the required five year LMS update. It also provides a summary of the current status of planning activities by the participants.

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 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. 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.

Participating Jurisdictions

Charlotte County and the City of Punta Gorda are the two jurisdictions that have been involved from the initial development of the Charlotte County/City of Punta Gorda Local Mitigation Strategy. These jurisdictions are also participating in the planning process to complete the Charlotte County/City of Punta Gorda Local Mitigation Strategy 2009 update. These two entities represent the only two jurisdictions in the County. Charlotte County represents the unincorporated portions of the County. Representatives from different segments of the governments of Charlotte County and Punta Gorda in the LMS Working Group are listed below.

The City and County are discussed as one in regards to having similar vulnerabilities for all of the hazards, and will be discussed separately only if/when the level of risk varies. Aside from actual LMS Working Group Members, departments within each entity are included through the availability of all planning documents and open comment periods. Ideas and suggestions from these different sectors are requested. By providing the LMS Working Group with information relating to the different elements within Charlotte County, each jurisdiction helps to improve this document.

The project list provided in this LMS will continue to change and evolve as potential new members are identified.

Roles of the LMS Working Group

The LMS Working Group represents all of the local jurisdictions and key organizations participating in the planning process and makes the official decisions regarding the planning process. The LMS Working Group is also responsible for approval of proposed mitigation initiatives for incorporation into the plan, for determining the priorities for implementation of those initiatives, and for removing or terminating initiatives that are no longer desirable for implementation.

The LMS Working Group reviews the results of the actual 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 receiving and coordinating the mitigation initiatives that are proposed by the LMS Working Group participants for incorporation into this plan.

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 or not 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.

Table I-1 Charlotte County/City of Punta Gorda *Local Mitigation Strategy Working Group Members 2014*		
Name	***Position/Agency***	***CRS Step 7 Categories***
Gerry Mallet	Coordinator/ LMS Chair Emergency Management	Emergency Services
Ellen Pinder	Mitigation Planner/ LMS Vice Chair	Emergency Services
Wayne Sallade	Charlotte County Emergency Management Director	Emergency Services
Lynne Stickley	Emergency Planning Specialist Emergency Management	Emergency Services
Chief Marianne Taylor	Fire Chief Charlotte County Fire/ EMS/ Public Safety	Emergency Services
Dee Hawkins-Garland	Public Information Officer Charlotte County Fire/EMS/Public Safety	Public Information
Jason Fair	Deputy Chief Charlotte County Fire/EMS/Public Safety	Emergency Services
Bill Van Helden	Deputy Chief Charlotte County Fire/EMS/Public Safety	Emergency Services
David Milligan	Director Charlotte County Facilities	Property Protection
Teri Salomon	Business Service Supervisor Charlotte County Facilities	Property Protection
Karen Bliss	Community Development Engineering Division Storm water Management	Structural Projects
Mike Dallenbach	Maintenance & Operations Road Superintendent Public Works	Structural Projects
Paul Polk	Property Appraiser	Public Information
Scott Graham	Director Information Services Property Appraiser	Public Information
Kevin Edwards	Information Services Coordinator Information Technology	Public Information
Elizabeth Nocheck	Concurrency Manager Growth Management	Preventive
Chip Hague	Plans Examiner Building Construction Services	Preventive
Steven Ellis	Planner Community Development Zoning Division	Preventive
Tim Free	Maintenance and Operations Manager	Property Protection
Richard Allen	Solid Waste Operations Manager	Property Protection
Mike Koenig	Financial Planner Parks and Recreation	Natural Resource Protection
Bruce Bullert	Operations and Engineering CC Utilities	Preventive & Property Protection
Gary Pederzolli	GIS Programmer Information Technology	Preventive
David Johnston	Financial Consultant - Records Retention	Public Information
Tina Jones	**Permit & Licensing Coordinator Community Development**	Preventive
Tommy Scott	**Director Community Services**	Preventive
Matt Trepal	**Planner Growth Management**	Preventive & Property Protection

Claire Jubb	**Customer Service Manager Charlotte County Community Development**	Preventive & Property Protection
Bob Hebert	**Housing Manager Human Services**	Preventive & Property Protection
Gary Harrell	**Planner Metropolitan Planning Organization**	Preventive & Property Protection
Mitchell Austin	**Urban Planner City of Punta Gorda**	Preventive & Property Protection
Brian Jones	Lieutenant Animal Control	Natural Resource Protection
Tracie Baird	Administrative Services Supervisor Animal Control	Natural Resource Protection
Ray Briggs	Fire Chief Punta Gorda Fire Department	Emergency Services
Holden Gibbs	Punta Gorda Fire Department	Emergency Services
Scott Lane	Fire Chief Englewood Fire Department	Emergency Services
Sherman Robinson	Logistics Division Commander Charlotte County Sheriff's Office	Emergency Services
Darin Chandler	Logistics Division Commander Charlotte County Sheriff's Office	Emergency Services
Rick Christman	Forest Area Supervisor Myakka River District	Emergency Services
Patrick Mahoney	Wildfire Mitigation Specialist/ PIO Florida Division of Forestry- Myakka River District	Emergency Services
David Lupinetti	District Security/ Emergency Management Charlotte County Public Schools	Emergency Services
April Prestipino	Charlotte County Schools	Emergency Services
Jerry Olivo	Charlotte County Schools	Emergency Services
Dr. Henry Kurban	Administrator Charlotte County Health Department	Emergency Services
Joseph Pepe	Preparedness Planner Charlotte County Health Department	Emergency Services
John Fanning	Charlotte County Homeless Coalition	Public Information
Patricia Land	President Edison State College- Charlotte Campus	Public Information
Tim Walker	Southwest Regional Florida Planning Council	Public Information
Dr. Harry Agabedis	Volunteer Coordinator	Public Information
Linda Landry	Administrative Director of Facilities Fawcett Memorial Hospital	Public Information
Liz Barton	Administrator Douglas T Jacobson Veterans Nursing Home	Public Information
Patrick Fuller	Region 6 Coordinator Florida Division of Emergency Management	Public Information
Bonnie Jacobs	Emergency Services Chair American Red Cross	Public Information

SECTION 2: PLANNING PROCESS

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.

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 located 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.

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.

Hazard Identification and Risk Estimation

The LMS Working Group identifies the natural hazards that threaten portions or all of 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. 100/500 Year Floodplain Delineation Maps
2. Sea, Lake, and Overland Surge from Hurricane (SLOSH)
3. Wind Damage Model (Tornado/Hurricane)
4. Areas Subject to Wildfires
5. Areas at Risk to Erosion
6. Community Redevelopment Areas

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.

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.

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 on the basis of 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 if and 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.

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.

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.

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.

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.

The 2015 Local Mitigation Strategy Five 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 involved, in addition to the same processes described above, a meticulous review and revision of every section of the LMS. The changes made to the 2010 document are outlined as followed:

I. Plan Adoption

A. Once approved plan has been adopted, the resolutions will be inserted here.

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 located in Part IV Section 1, Table IV.1-1

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. In order to meet the standards of the Emergency Management Accreditation Program (EMAP) all hazards are now part of the LMS including man made disasters.

B. Inclusion of recent hazard occurrences: The LMS Working Group consulted extensive literature containing reports of hazard events that have occurred since the 2010 LMS was written. If the event did not cause extensive damage or cost to the county it was not listed.

IV. Mitigation Strategy

A. The LMS Working Group reviewed but did not change the goals and objectives.

B. New projects: The LMS Working Group actively solicited for new projects throughout the 2014 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. The inclusion of several maps

IV. Plan Maintenance Process

A. Ambitious actions are planned to incorporate this updated LMS, once approved, into any relevant local planning mechanisms.

B. Further public outreach initiatives that have both already been completed and planned are now mentioned.

Local Mitigation Strategy Working Group Meetings

During the drafting stage of the 2014 LMS update process, the LMS Working Group held one publicly open meeting. This meeting was advertised on the county website and an ad was put in the local newspaper inviting the public to attend the planning process. An email was sent to all county, city, and public stakeholders involved in updating the LMS.

The meeting took place on June 27, 2014. The focus of this meeting was a reexamination of the LMS's goals and objectives which would enable the solicitation of more effective mitigation projects. All members present were also asked to review the entire LMS document in hopes that the revision would be as complete and cooperative as possible.
The meeting announcements and sign-in sheets are located in Appendix 1.

At this meeting it was decided that all communication for the plan would be done electronically through email or phone calls. If a section needed further revision the stakeholders responsible for that section would then arrange to meet. The emails are located in Appendix 1.

The stakeholders discussed the sections that would need further review, how the tasks were divided will be described in this paragraph. 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 were required to give feedback on the mitigations initiatives, goals, objectives, and future projects, including approving and ranking of projects. They were also required to read the plan and give input.

After this meeting, the LMS Working Group members were in constant contact with each other concerning potential mitigation projects. All agencies and members responsible for updating the project list for the LMS were sent an electronic copy of the Project Evaluation sheet. The sheets would give each project a ranking based on the projects benefits and cost. The LMS Working Group submitted their projects electronically a month after the meeting. In order to give the LMS Working Group time to review the projects and consider their benefits and costs the list was then compiled by ranking order. The compiled list was then sent to all agencies and members of the LMS workgroup in an electronic vote format.

SECTION 3: EXISTING PLANNING MECHANISMS

At the earliest stages of the 2015 update process, the LMS Working Group diligently examined relevant planning mechanisms already in place that could significantly inform the revision of the LMS. They are as follows:

CHARLOTTE COUNTY

Standard 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.

Smart Charlotte 2050 Comprehensive Plan

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

Comprehensive Emergency Management Plan (CEMP)

The Charlotte County CEMP identifies the manner in which 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.

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 in itself is a mitigation program to protect the loss of life and property should a wildfire occur.

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.

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 in itself is a mitigation program to protect the loss of life and property should a hazardous materials event occur.

CITY OF PUNTA GORDA

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.

City of Punta Gorda Emergency Plan
The City of Punta Gorda's Emergency Plan identifies the manner in which 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.

City of Punta Gorda Comprehensive Plan
The Comprehensive Plan has a number of land use regulations that directly and indirectly relate to hazard mitigation activities.

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.

CHARLOTTE COUNTY/CITY OF PUNTA GORDA

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.

Part III

Risk Assessment

Each hazard's section contains all of the information pertaining to that hazard. This includes a profile of the hazard in general and a history of the hazard in Charlotte County[1] 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 Table III.1-1.

Table III.1-1. Hazard Vulnerability Overview

Type	Hazard	Probability	Impact	Frequency	Distribution
Natural	Coastal Erosion	Medium	Moderate	1 to 2 years	Coastal areas and barrier islands
	Drought	Medium	Major	5-10 years	County-wide
	Earthquakes	Low	Minor	500 years	County-wide
	Exotic Pests	Low	Minor	Continuous	County-wide
	Extreme Heat	High	Minor	Annually	County-wide
	Flooding	Medium	Major	5-10 years	Localized
	Freeze	Medium	Minor	5-10 years	County-wide
	High Wind Event	High	High	5-10 years	County-wide
	Sinkholes	Low	Minor	30+ Years	Localized
	Tornado	Medium	Moderate	Several per year	County-wide
	Tropical Cyclone*	Medium	Major-Catastrophic	2-3 years	Coastal areas and barrier islands
	Tsunami	Low	Major	500 years	Coastal areas and barrier islands
	Wildfire	Medium	Moderate	Several per year	County-wide
Technological	Dam Failure	Low	Minor	N/A	Three parcels in northwest corner of county
	Hazardous Materials	Medium	Minor	Sporadically	County-wide
	Terrorism	Low	Major-Catastrophic	N/A	County-wide
	Critical Infrastructure Disruption	Low	Moderate	N/A	County-wide

*Refers to the storm surge impact of a tropical cyclone. For the wind impact of a tropical cyclone, refer to High Wind Event.

This table addresses the top hazards to potentially affect Charlotte County. The hazards were separated by type: Natural or Technological. Each hazard's 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.

The following hazards were not included due to the little to no risk of the hazard: Nuclear Power Plant Incidents, Civil Disturbance, Mass Immigrations, Coastal Oil Spill, Epidemic, Solar Storms, and Traffic Accidents. For further information on these hazards and their impact on Charlotte County refer to the Comprehensive Emergency Management Plan or Appendix II of this 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.

[1] Unless explicitly identified otherwise, "Charlotte County" or "the county" refers to both unincorporated Charlotte County and the City of Punta Gorda collectively.

HAZARD IDENTIFICATION:

In the hazards sections there is a general description of natural and technological hazards that could possibly affect the jurisdiction. If a hazard has scales of severity, like a hurricane's Saffir-Simpson scale, this section outlines those scales.

VULNERABILITY ANALYSIS:

HAZARD HISTORY:

The hazards section catalogues recent occurrences of hazards that had some impact on Charlotte County or the City of Punta Gorda. 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.

PROBABILITY OF HAZARD OCCURRENCE:

Since the majority 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 time period greater than five years.

ESTIMATION OF POTENTIAL LOSSES

This section inventories the losses that Charlotte County stands 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. Content value and functional use value were calculated based on tables provided in FEMA's guide 3-12, "State and Local Mitigation Planning how-to guide, Understanding Your Risks." 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 two jurisdictions this Local Mitigation Strategy was designed for, Charlotte County and the City of Punta Gorda. The exposure value is further divided into land use types.

SECTION 2: CHARLOTTE COUNTY ASSET OVERVIEW

CHARLOTTE COUNTY'S ASSETS BY LAND USE TYPE

According to Charlotte County Property Appraiser records, there are 105,857 buildings located in Charlotte County, with a total building value of approximately $18.2 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 Table III-1 referred to as "Total Exposure" here and throughout the LMS, 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, 93.6% of the structures are classified as residential land use. These structures represent 83.4% of the total value for the County. While only 2.5% of the structures in Charlotte County are classified as commercial (the land use type containing the second most number of buildings), the commercial land use has 7.3% of the total value for the County.

Table III.2-1:
Estimated Values for Structures Located in Charlotte County and the City of Punta Gorda by Land Use

	City of Punta Gorda		Charlotte County		Both Jurisdictions Combined	
Land Use	No. of Structures	Total Exposure	No. of Structures	Total Exposure	No. of Structures	Total Exposure
Agricultural	0	$0	1,180	$80,930,055	1,180	$80,930,055
Commercial	347	$231,472,940	2305	$1,094,782,346	2652	$1,326,255,286
Government	153	$196,653,587	773	$502,834,195	926	$669,487,782
Industrial	65	$9,691,918	820	$270,047,347	885	$279,739,265
Institutional	80	$100,764,934	581	$477,938,588	661	$578,703,522
Misc.	36	$21,287,004	266	$35,884,392	302	$57,171,396
Residential	8,140	$1,701,487,509	91,111	$13,491,649,643	99,251	$15,193,137,152
Total	8,821	$2,261,357,892	97,036	$15,954,066,566	105,857	$18,215,424,458

Source: Charlotte County property appraiser data analysis by Charlotte County LMS Working Group

CHARLOTTE COUNTY'S 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 8.1% of the county's total structures. Collectively they amount to 12.4% of the total value of all county structures. Also of note is the fact that the majority of Charlotte County's historic structures are within or just outside Punta Gorda's city limits.

CHARLOTTE COUNTY ECONOMY, TAX BASE, AND MAJOR EMPLOYERS

One of Charlotte County's top employers, with close to 2,500 employees, is the Charlotte County School District. With over 2,200 employees, Health Management Association provides industry leading medical care with two medical center locations and eight other locations throughout Charlotte County. The third top employer is Walmart, with six stores employing over 1500 employees. As of May 2014, there are over 67,500 employed within Charlotte County with a Median household income of $44,596 (ACS 2008-2012)

Every year Charlotte County draws thousands with an average year round temperature of 75 degrees and plenty of sunshine, Charlotte County is the perfect place to enjoy the great outdoors. Based on tourist tax revenues (RERI) from 2014, over 275,000 tourists visit Charlotte County each year.

REPETITIVE LOSS PROPERTIES

There are 133 structures in Charlotte County that are repetitive loss structures. They make up 0.13% of the total number of structures in the County. These account 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 a majority of them clustering on the islands in the western section of the county (Map III.2-1).

Table III.2-2:
Estimated Values for Repetitive Loss Structures in Charlotte County by Land Use

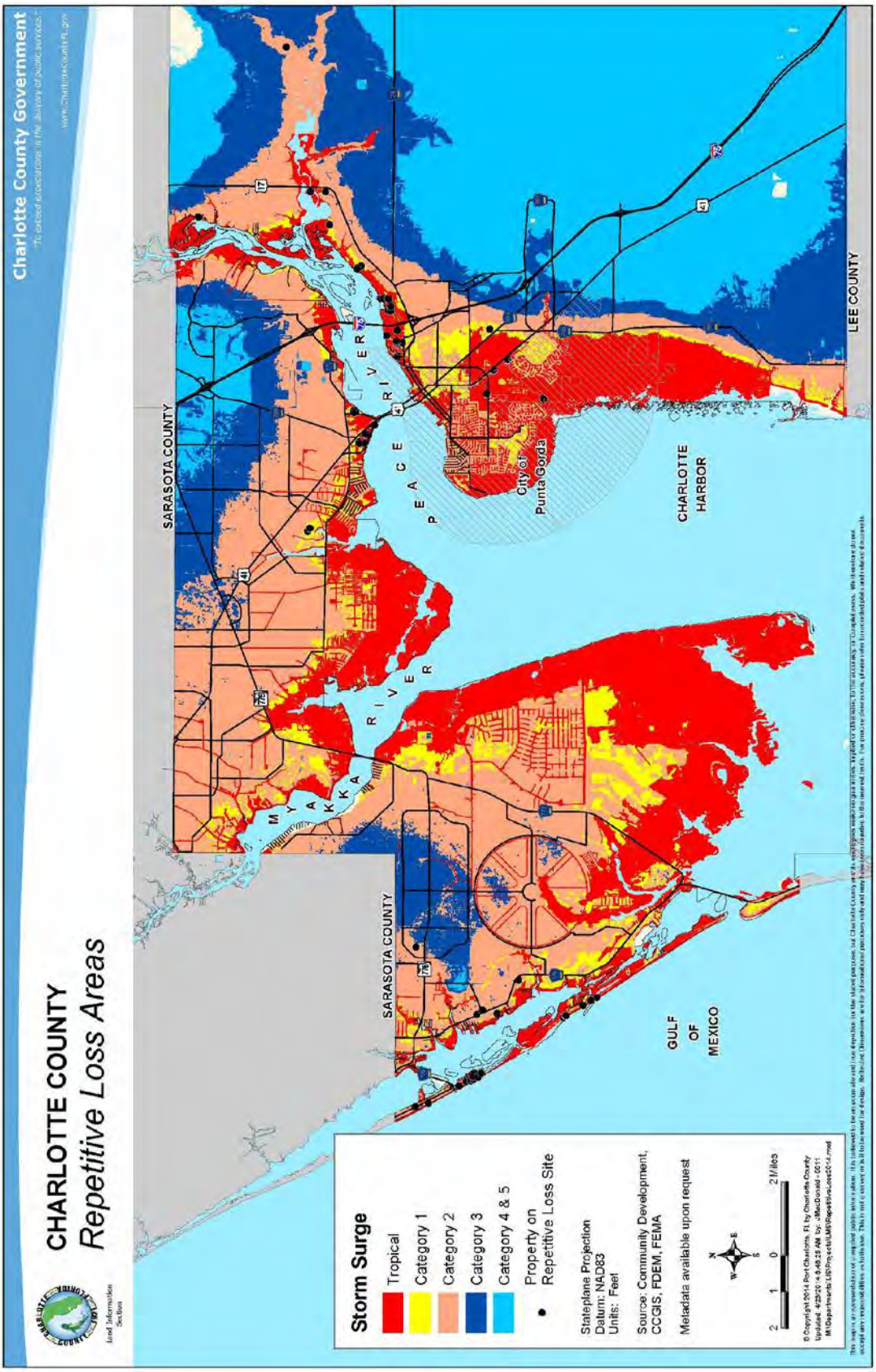
	City of Punta Gorda		Charlotte County		Both Jurisdictions Combined	
Land Use	No. of Structures	Total Exposure	No. of Structures	Total Exposure	No. of Structures	Total Exposure
Commercial	5	$762,641	6	$4,603,467	11	$5,366,108
Residential	34	$3,083,891	95	$5,732,655	129	$8,816,546
Total	39	$3,846,532	101	$10,336,122	140	$14,182,654

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 August 31, 2011, the number of NFIP policies in force in Charlotte County was 28,569 and 8,755 in Punta Gorda. Charlotte County has had 2,177 total losses which resulted in a payout totaling $10,094,395. The City of Punta Gorda has had 574 total losses which resulted in a payout totaling $2,146,291.

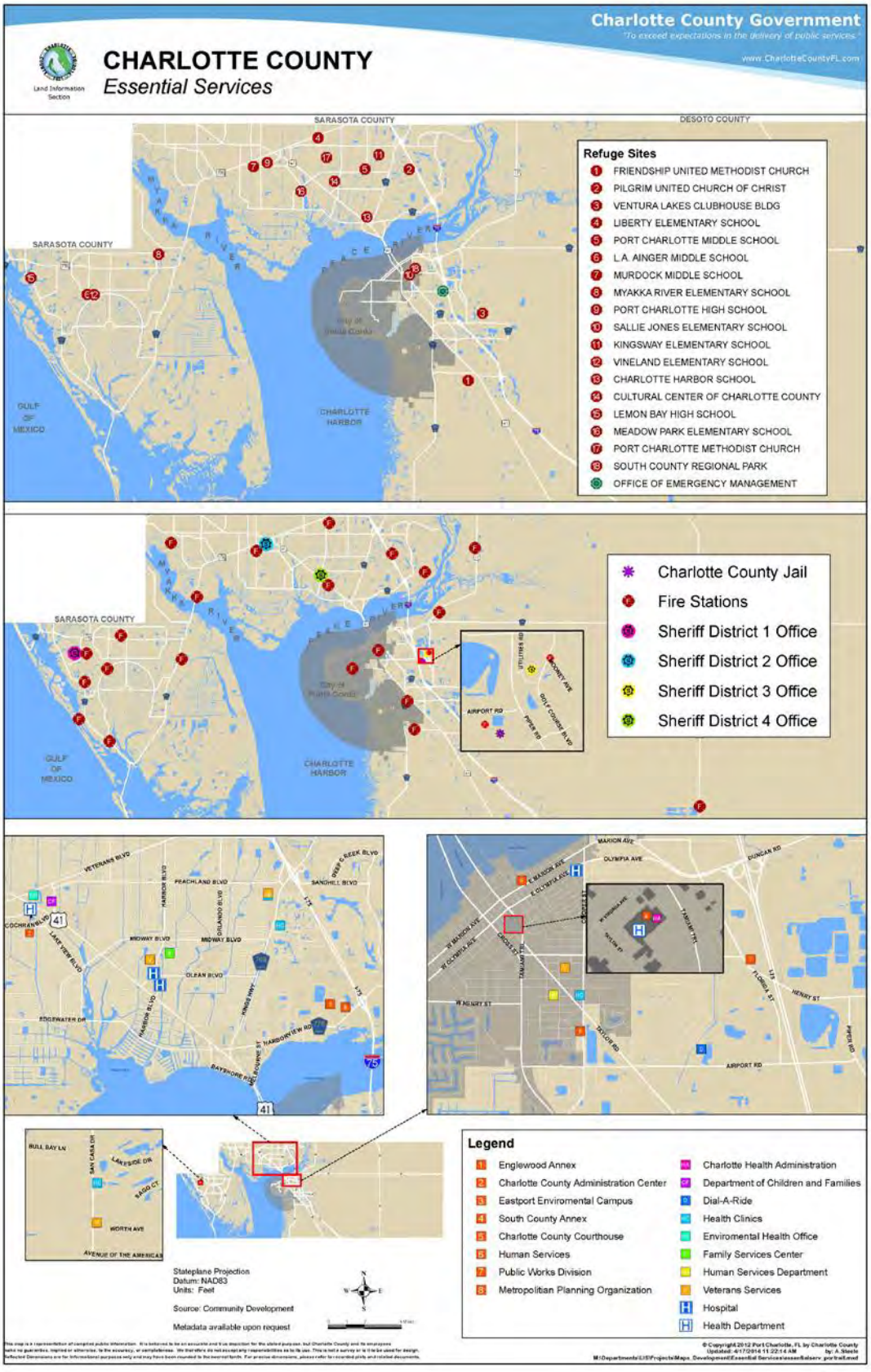
CRITICAL FACILITIES

A critical facility is a structure which essential services and functions for victim survival, continuation of public safety actions, and/ or disaster recovery are performed. There are 104 structures in Charlotte County that are critical facilities. These structures are labeled essential services and are scattered throughout both Charlotte County and Punta Gorda (Map III.2-2).

Map III.2-1 Repetitive Loss Areas

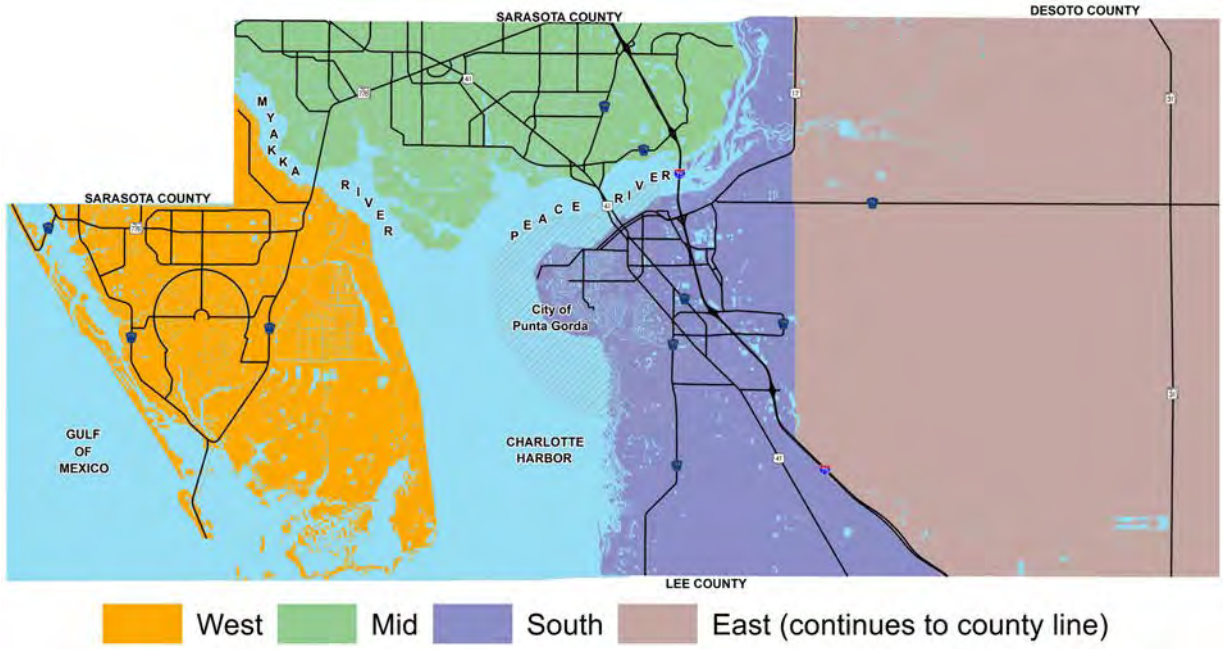


Map III.2-2 Essential Services



.

Map III.3-1. Charlotte County by Planning Zone



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 the vast majority 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.

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.

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.

WEST COUNTY (SOUTHWEST OF THE MYAKKA RIVER)

West County's land use pattern is similar to 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.

THE FUTURE: PROJECTIONS

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 Smart Charlotte 2050 Comprehensive Plan the projected population of Charlotte County for 2015 is 168,000, up from the 160,380 of the 2010 US Census. For every five year period following, up until the year 2050, Charlotte County can expect to experience a fairly consistent amount of growth.

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 16,000 seasonal residents 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. Unfortunately, the only year for which population projection data *by planning zone* is available is for the distant year 2050 (Table III-1).

TABLE III.3-1:
POPULATION DISTRIBUTION BY PLANNING ZONE AND FOR THE CITY OF PUNTA GORDA

	West County		Mid County		South & East County		Punta Gorda	
Year	Population	Dwelling Units	Population	Dwelling Units	Population	Dwelling Units	Population	Dwelling Units
2015	37,482	29,822	82,642	48,677	13,651	12,612	22,385	8,140
2050	155,692	87,153	199,919	109,579	94,981	54,357	26,262	15,123

Source: Charlotte County Property Appraisers Data Analysis

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 improved roadway flooding. Charlotte County as a whole is more resilient since the last update.

SECTION 4: TROPICAL CYCLONE

HAZARD IDENTIFICATION

Tropical cyclones are coastal storms that form over the ocean, within the tropics. These storms cover a smaller area than extra tropical coastal cyclones, the storm center is warmer than the surrounding air, and the strongest winds are about 100,000 feet above the ground. Tropical cyclones are categorized by wind speed, as shown in Table III.4-1. This Charlotte County Local Mitigation Strategy will describe, analyze, and attempt to mitigate only tropical storms and all 5 categories of hurricanes. Since tropical depressions are relatively weak and any mitigation activity designed with tropical storms/hurricanes in mind would also mitigate damage caused by tropical depressions, this plan will ignore tropical depressions.

Table III.4-1:
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

Source: FEMA/NWS "Hazardous Weather and Flooding Preparedness Course

Tropical cyclones are generated by the rising and cooling of humid air over the ocean. They need the following ingredients to develop: ocean water over 80° F and about 200 feet deep; winds converging near the water surface; unstable air, so the warm air will continue rising; humidity up to approximately 18,000 feet, to supply heat energy; winds moving in one direction, to move the storm along without breaking it up; and upper atmosphere high pressure, to help move out the rising air of the storm (FEMA/NWS).

Hurricanes are classified using the following Saffir-Simpson Hurricane Damage Potential Scale, based on central barometric pressure and wind speed (Table III.4-2).

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

Source: FEMA/NWS "Hazardous Weather and Flooding Preparedness Course"

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. These hazards are described below. For more information, please refer to the section dedicated to each of the hazards (Part III, Sections 4, 5, and 7.)

Historically, the worst damage from tropical cyclones comes from coastal flooding caused by storm surge. A storm surge is an abnormal rise in water level caused by wind and low-pressure forces; the lower the pressure of the storm, the greater the height of the storm surge. High winds and low pressure can build a wall of water out in the ocean about 10 feet high. The highest surges in the U.S. have reached 20 feet. When the surge reaches land, the wall of water can cause extensive coastal flooding (FEMA/NWS).

Hurricane-force winds also can cause extensive damage and death. The strongest winds in a hurricane occur from 10 to 30 miles from the center of the eye, in a region called the eye wall. Winds that extend outward from the eye wall in the front right quadrant are the most devastating. Precursor winds will affect land well before the most damaging winds of the eye (FEMA/NWS).

Storm surge is a type of flooding that is exclusively associated with tropical cyclones and in included in this profile for that reason. 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. The level of surge in a particular area is also determined by the slope of the continental shelf. According to the National Hurricane Center (NHC), the greatest potential loss for life related to a tropical cyclone is from the storm surge.

TROPICAL CYCLONE RISK ANALYSIS:

HISTORY OF TROPICAL CYCLONE EVENTS IN CHARLOTTE COUNTY

The 2004 hurricane season was especially brutal to Charlotte County and the City of Punta Gorda; however, there have been no occurrences of a tropical cyclone since the last plan update. The direct hit from Hurricane Charley caused damage and destruction throughout the county. Ten years later, the county has essentially completely recovered from the massive devastation that that hurricane caused. This was in part made possible by the funding that the 2005 LMS made procurable.

According to the National Climatic Data Center of NOAA, there have been a total of 18 hurricane and tropical storm events officially reported in Charlotte County between November 13, 1994 and August 18, 2008. These events resulted in 16 deaths and 833 injuries. An estimated $5.8 billion in property damage and $300.5 million in crop damage is attributed to these events. Following is a brief description of the hurricane and tropical storm events that have directly threatened/impacted Charlotte County since August 14, 2004.

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 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.

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).

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 medium. The entire county is equally vulnerable to the effects of a tropical cyclone. While a Category 5 is possible, in any given year, Charlotte County could expect to see a Category 4 Hurricane make landfall within the county limits or within 50 miles of the county limits.

ESTIMATING POTENTIAL LOSSES

Tropical storm 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.

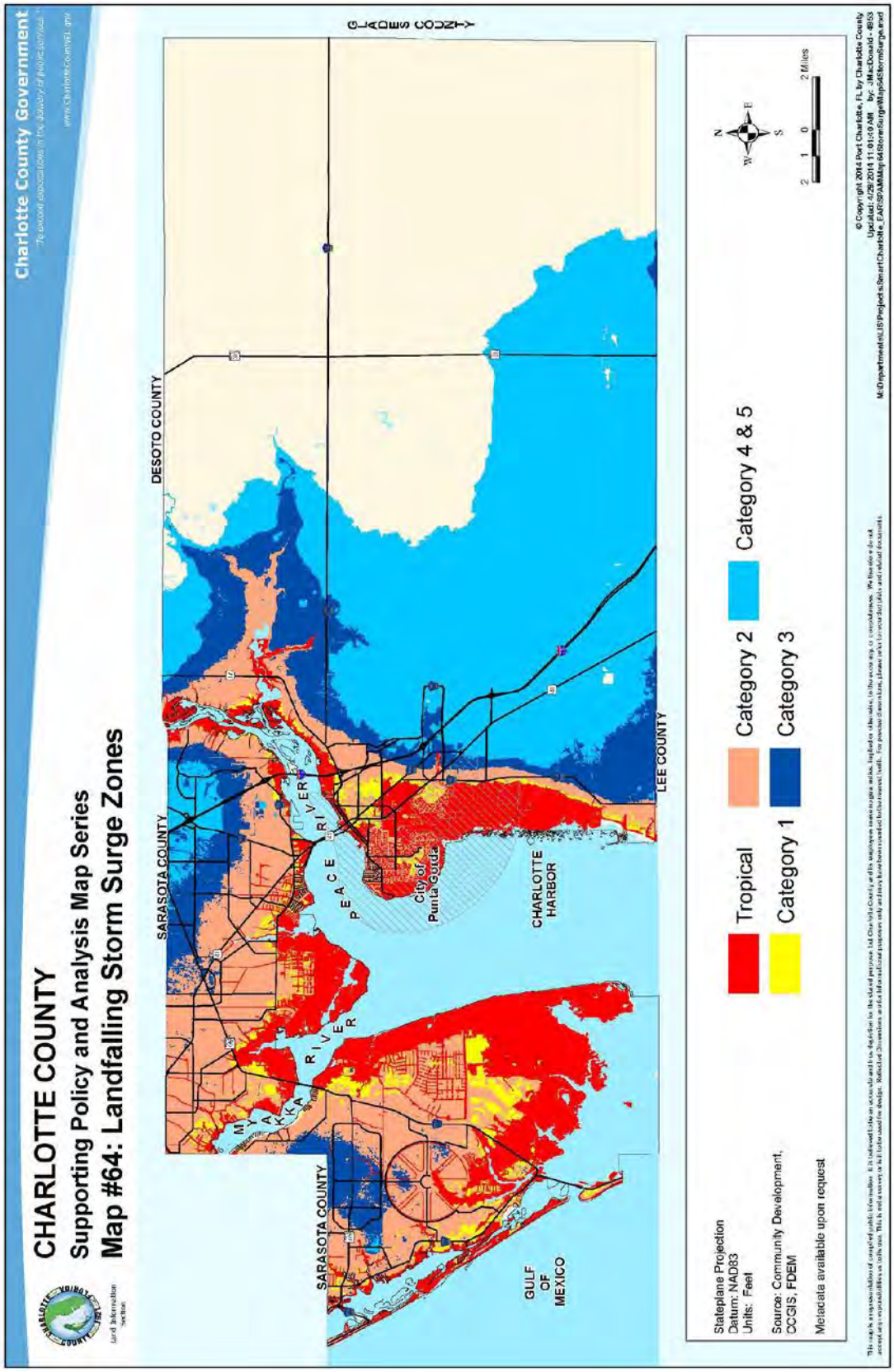
The SLOSH (Sea, Lake, and Overland Surges from Hurricanes) model is the computer model developed by the National Weather Service for coastal inundation risk assessment and the prediction of storm surge. It estimates storm surge heights resulting from historical, hypothetical, or predicted hurricanes.

POTENTIAL FUTURE RISK

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.

Charlotte County has 47961 homes built before the code change in 1992 and 11848 mobile homes. This would make 60% of the homes in Charlotte County vulnerable to tropical cyclones.

MapIII.4-1. Storm Surge Zones



SECTION 5: FLOODING

HAZARD IDENTIFICATION

According to FEMA, floods are the most common and widespread of all natural disasters, with the exception of 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 as a result 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).

FLOODING RISK ANALYSIS

HISTORY OF FLOODING IN CHARLOTTE COUNTY

There have been a total of 14 flood events officially reported in Charlotte County between September 5, 1988 and September 5, 2003 (National Climactic Data Center of NOAA). These events resulted in no deaths or injuries. However, they did cause an estimated $6.65 million in property damage. No significant flooding events occurred within the update period.

PROBABILITY OF FLOODING IN CHARLOTTE COUNTY

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

In order 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 Table V-1. See Map V-1 of the FEMA FIRM Zones on the following page.

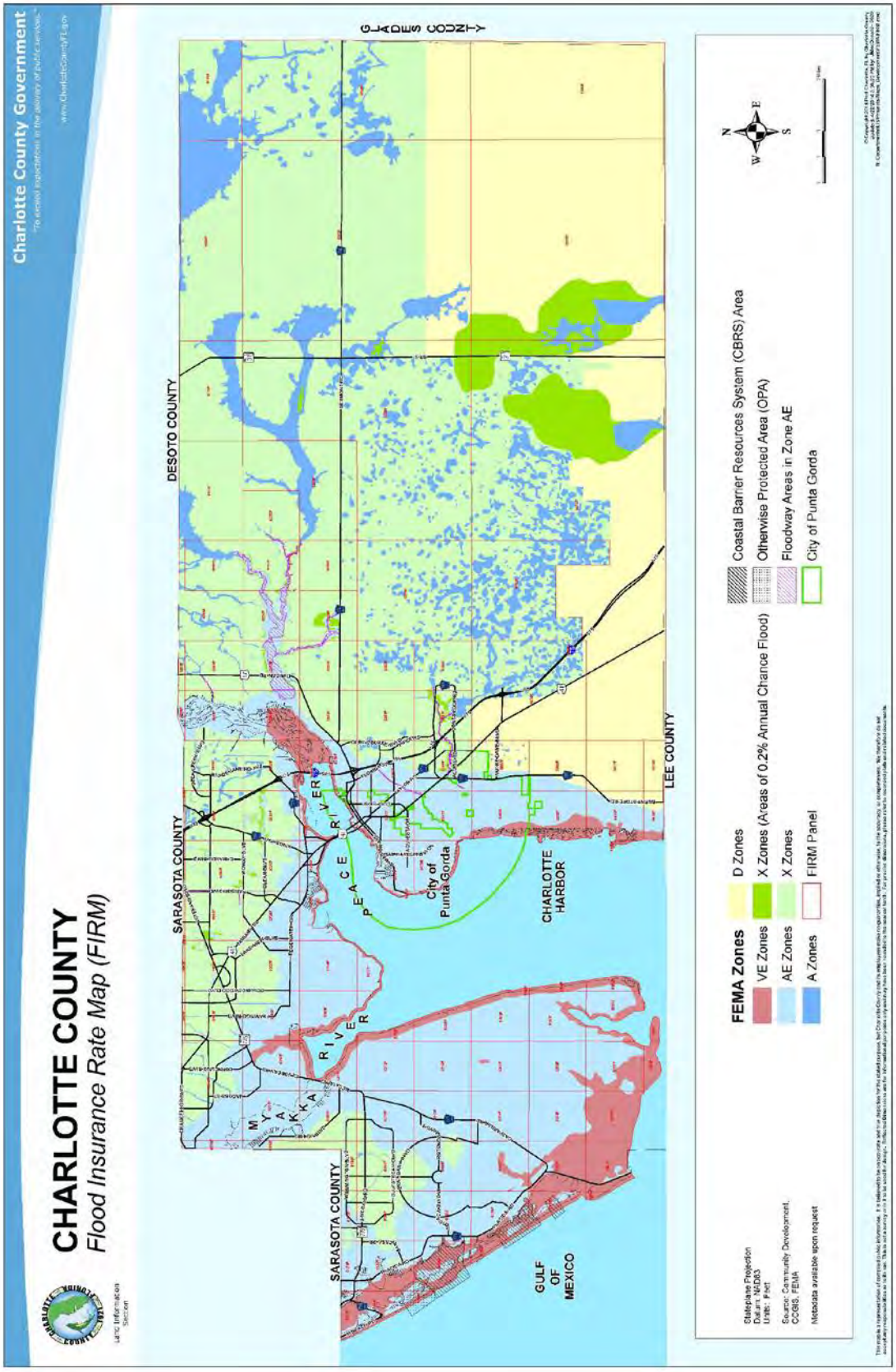
Table III.5-1. Definitions of FIRM Flood Zones

Risk Level	Zone Codes	Description
Medium to Low	B, C, and X	Areas outside the 1-percent annual chance floodplain, areas of 1% annual chance sheet flow flooding where average depths are less than 1 foot, areas of 1% annual chance stream flooding where the contributing drainage area is less than 1 square mile, or areas protected from the 1% annual chance flood by levees. No Base Flood Elevations (BFE) or depths are shown within this zone.
High	A	Areas with a 1% annual chance of flooding and a 26% chance of flooding over the life of a 30-year mortgage. This area is also known as the "100 year flood plain."
High - Coastal	V	Coastal areas with a 1% or greater chance of flooding and an additional hazard associated with storm waves. These areas have a 26% chance of flooding over the life of a 30-year mortgage. No base flood elevations are shown within these zones.
Undetermined	D	. No flood hazard analysis has been conducted.

Source: FEMA Map Service Center

Please refer to 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.

Map III.5-1. Flood Insurance Rate Map (FIRM)



Since the purpose of this plan is to develop the most cost-effective and logical mitigation strategies, a catalog of structures in the moderate to low risk zones will not be provided here. Instead, tables V-2, V-3, and V-4 below provide structure counts and exposure value for the buildings in higher risk flood zones.

Table III.5-2:
Estimated Values for Structures Located in Flood Zone A by Land Use

	City of Punta Gorda		Charlotte County		Both Jurisdictions Combined	
Land Use	No. of Structures	Total Exposure	No. of Structures	Total Exposure	No. of Structures	Total Exposure
Agricultural	0	$0	76	$5,150,498	76	$5,150,498
Commercial	60	$58,355,552	507	$126,297,282	567	$184,652,834
Government	30	$9,195,798	60	$16,976,040	90	$26,171,838
Industrial	0	$0	95	$18,650,455	95	$18,650,455
Institutional	12	$28,540,260	56	$15,928,061	68	$44,468,321
Misc.	22	$13,876,093	73	$7,270,976	95	$21,147,069
Residential	3886	$979,254,042	12,323	$1,556,007,478	16209	$2,535,261,520
Total	4,010	$1,089,221,745	13,190	$1,746,280,790	17,200	$2,835,502,535

Source: Charlotte County property appraiser data analysis by Charlotte County LMS Working Group

Table III.5-3:
Estimated Values for Structures Located in Flood Zone V by Land Use

	City of Punta Gorda		Charlotte County		Both Jurisdictions Combined	
Land Use	No. of Structures	Total Exposure	No. of Structures	Total Exposure	No. of Structures	Total Exposure
Agricultural	0	$0	76	$5,269,368	76	$5,269,368
Commercial	0	$0	167	$33,671,971	167	$33,671,971
Government	9	$12,305,602	27	$1,122,397	36	$13,427,999
Industrial	0	$0	0	$0	0	$0
Institutional	0	$0	0	$0	0	$0
Misc.	0	$0	10	$599,027	10	$599,027
Residential	50	$1,174,726	1647	$896,516,805	1697	$897,691,531
Total	59	$13,480,328	1852	$932,114,285	1911	$945,594,613

Source: Charlotte County property appraiser data analysis by Charlotte County LMS Working Group

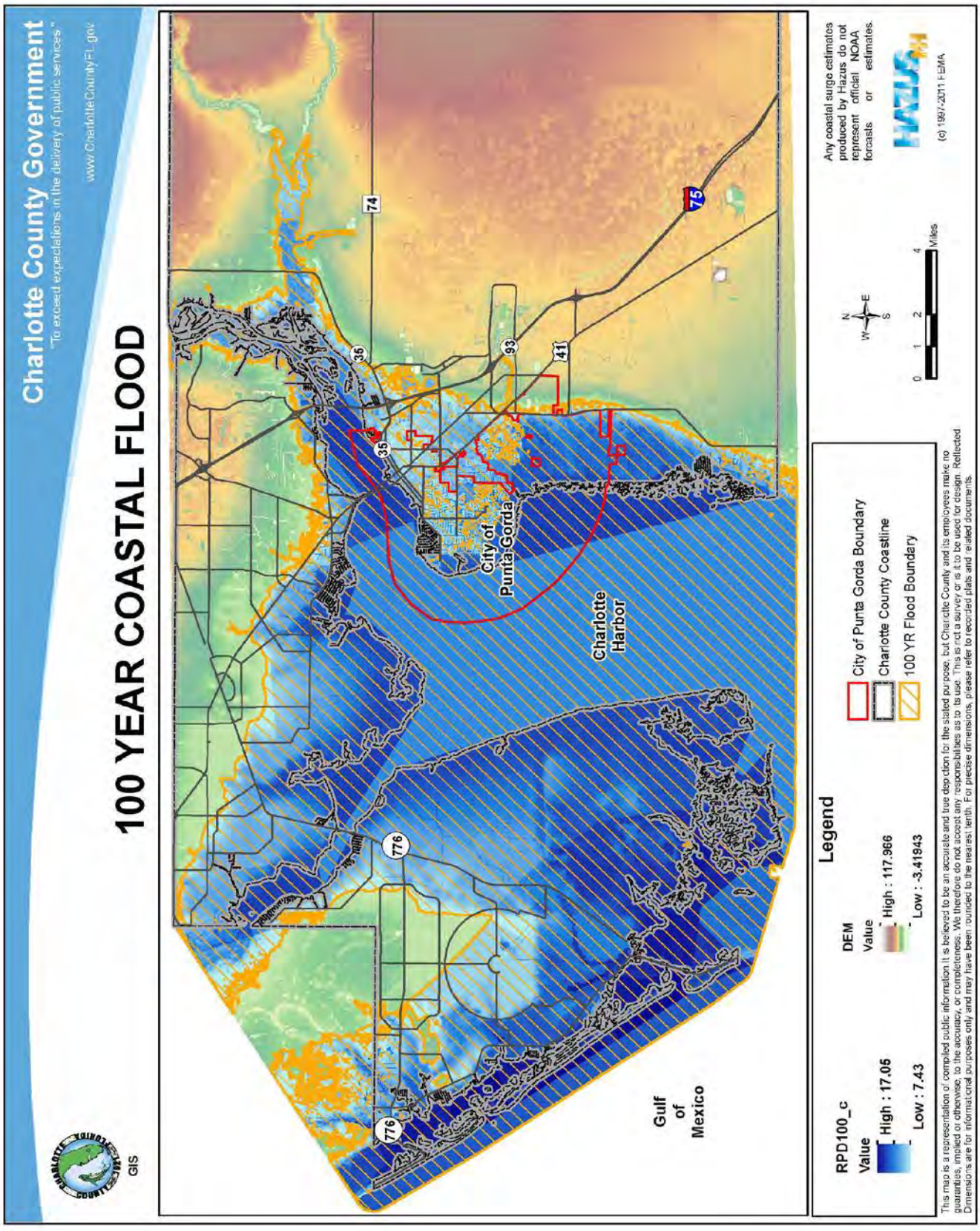
Table III.5-4: Estimated Values for Structures Located in Flood Zone D by Land Use						
	City of Punta Gorda		Charlotte County		Both Jurisdictions Combined	
Land Use	No. of Structures	Total Exposure	No. of Structures	Total Exposure	No. of Structures	Total Exposure
Agricultural	0	$0	162	$9,910,877	162	$9,910,877
Commercial	0	$0	112	$12,355,561	112	$12,355,561
Government	0	$0	50	$41,804,510	50	$41,804,510
Industrial	0	$0	48	$4,111,228	48	$4,111,228
Institutional	0	$0	16	$1,774,971	16	$1,774,971
Misc.	0	$0	27	$3,690,703	27	$3,690,703
Residential	0	$0	3041	$270,293,008	3041	$270,293,008
Total	0	$0	3456	$343,940,858	3456	$343,940,858

Source: Charlotte County property appraiser data analysis by Charlotte County LMS Working Group

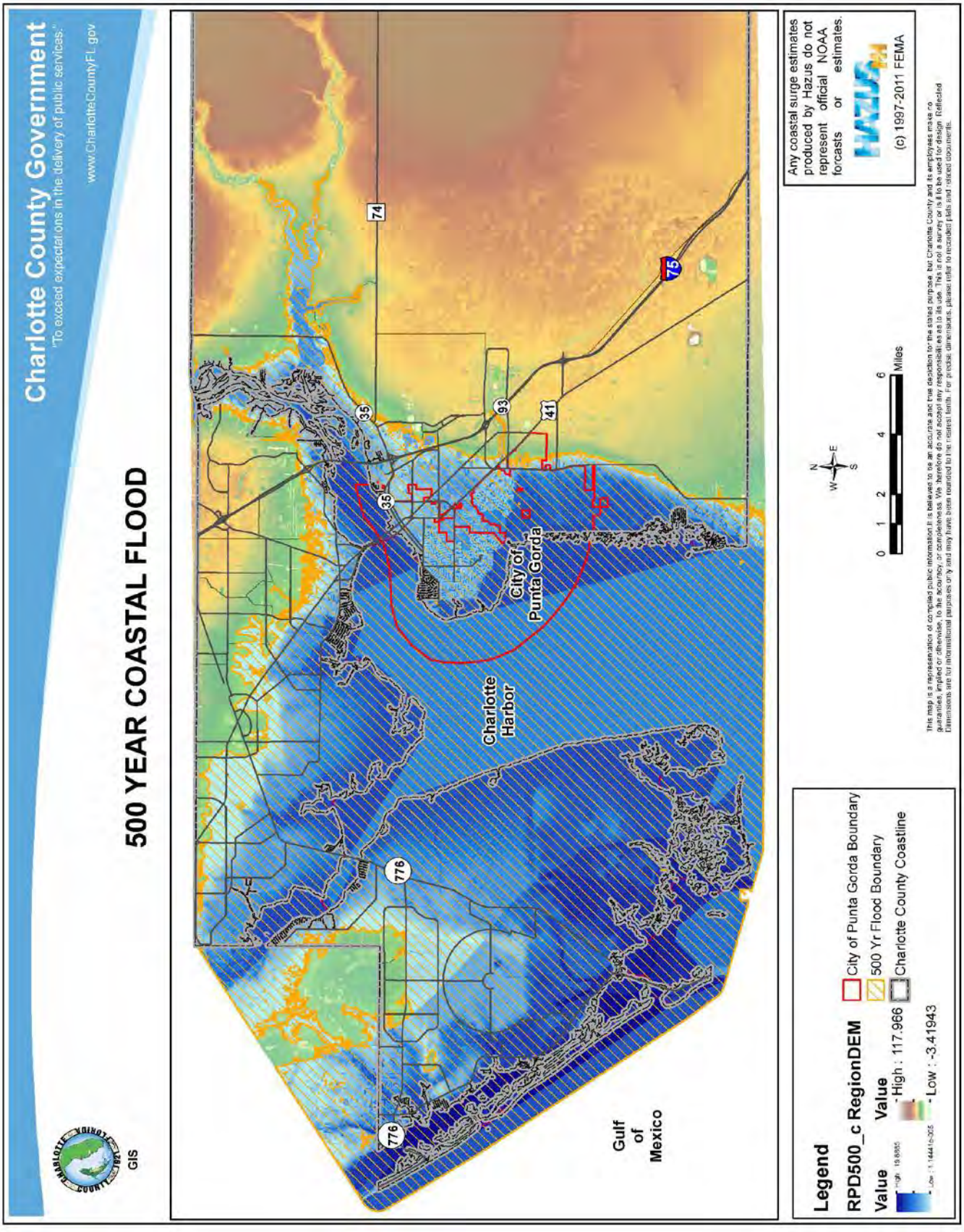
HAZUS was used to calculate displaced population, and buildings with substantial damage for the 100 year and 500 year flood. These maps are located below along with maps for the 100 year flood and 500 year flood.

These three flood zones would receive the most damage in a worst case scenario of 18 feet of storm surge. Almost all property in these zones would be flooded with over 8 feet of water. The rest of the county would only receive a few feet, if any, water.

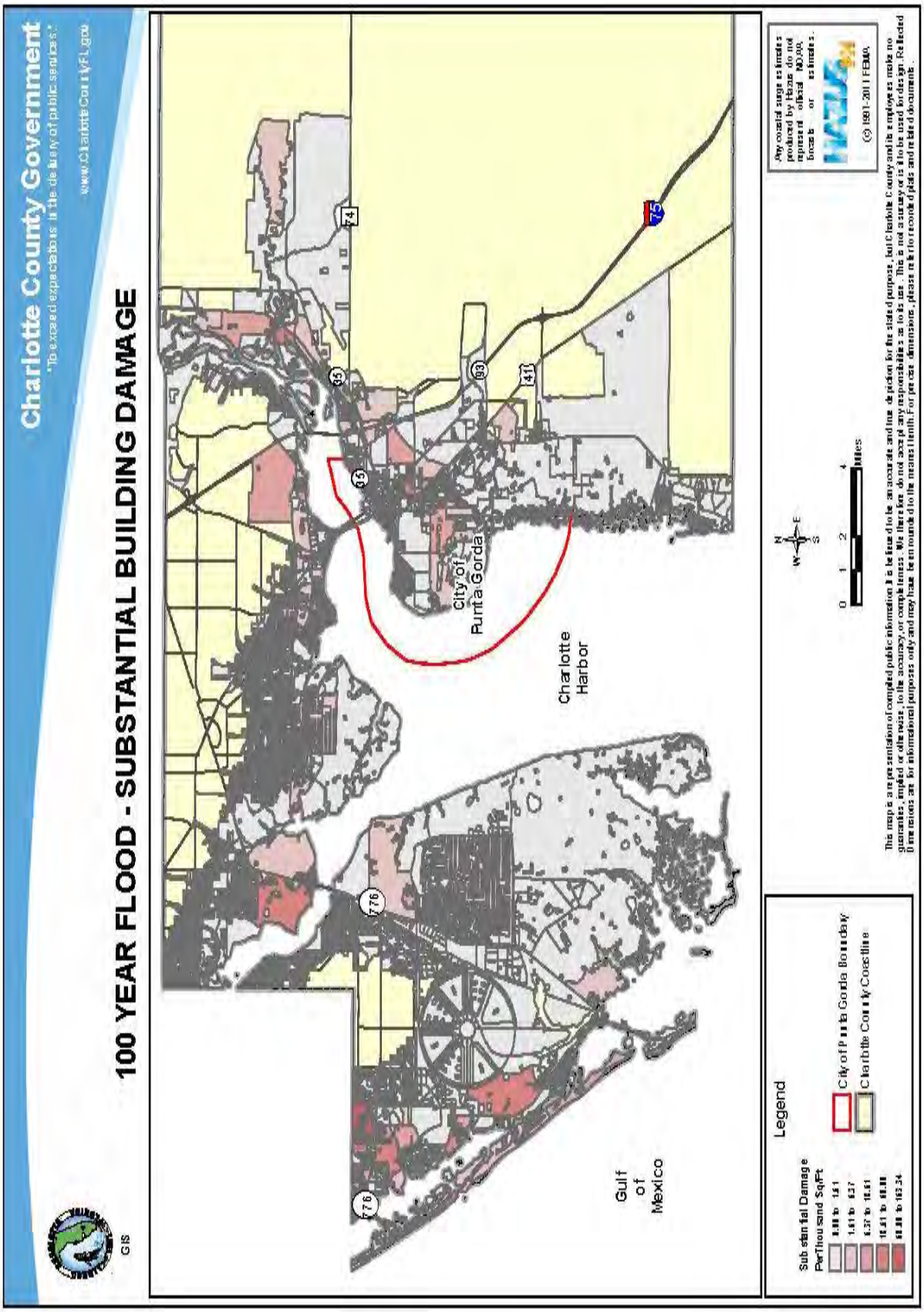
Map III.5-2. 100 Year Flood



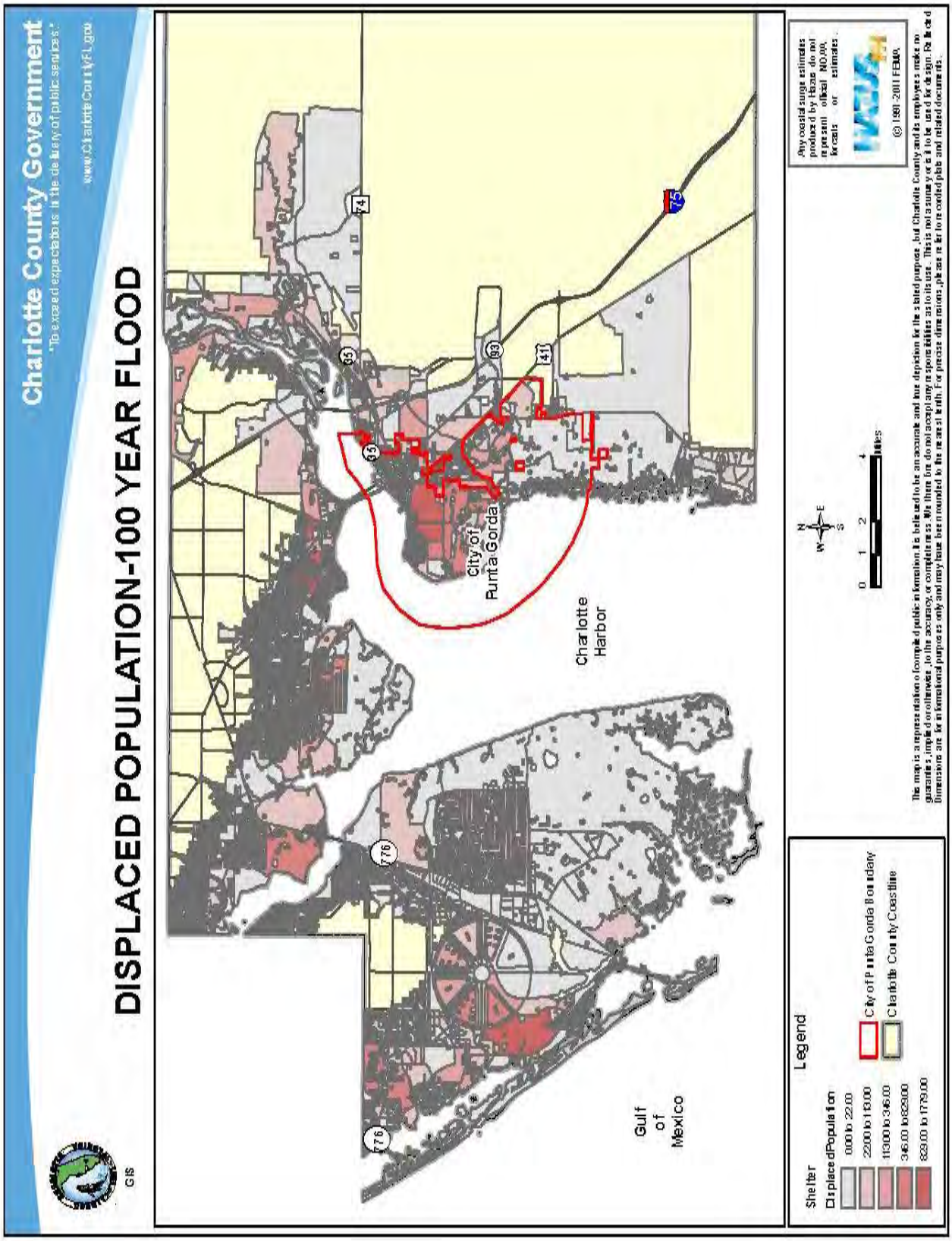
Map III.5-3. 500 Year Flood



Map III.5-4. 100 Year Flood Substantial Building Damage



Map III.5-5. 100 Year Flood displaced Population



SECTION 6: 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 wild land/urban interface (WUI) fires in Charlotte County.

A wildfire is an uncontrolled fire spreading through vegetative fuels, exposing and possibly consuming structures. They often begin unnoticed, spread quickly, and are usually signaled by dense smoke that fills the area for miles around. Naturally occurring and nonnative species of grasses, brush, and trees fuel wildfires (FEMA guidebook).

A wildland fire is a wildfire in an area which development is essentially nonexistent, except for roads, railroads, power lines, and similar facilities. A wildland/urban interface fire is a wildfire in a geographical area where structures and other human development meet or intermingle with wild land or vegetative fuels (FEMA guidebook).

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. People start more than four out of every five wildfires, usually as debris burns, arson, or carelessness. Lightning strikes are the next leading cause of wildfires (FEMA).

Wildfire behavior is based on three primary factors: fuel, topography, and weather. 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 (FEMA guidebook).

WILDFIRE RISK ANALYSIS

HISTORY OF WILDFIRE IN CHARLOTTE COUNTY

According to the Florida Forest Service, there has been a total 7 wild/forest fire events officially reported in Charlotte County since 2009. These events resulted in no deaths and 1 injury. However, they did burn over 2,292 acres with over $ 100,000 in property damage. Following is a brief description of the wildfire events.

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

April 28, 2011, Port Charlotte:
A wildfire ignited after a lighting strike. This fire consumed a total of 230 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.

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

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

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

The Charlotte County Property Appraiser's Office has fire risk areas designated on a parcel level. The value for each structure was also provided by the Charlotte County Property Appraiser's Office.

Currently, there are no standard loss estimation tables in existence for calculating losses to structures, contents, or functional use as a result of a wildfire event (FEMA guidebook). 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.

POTENTIAL FUTURE RISK

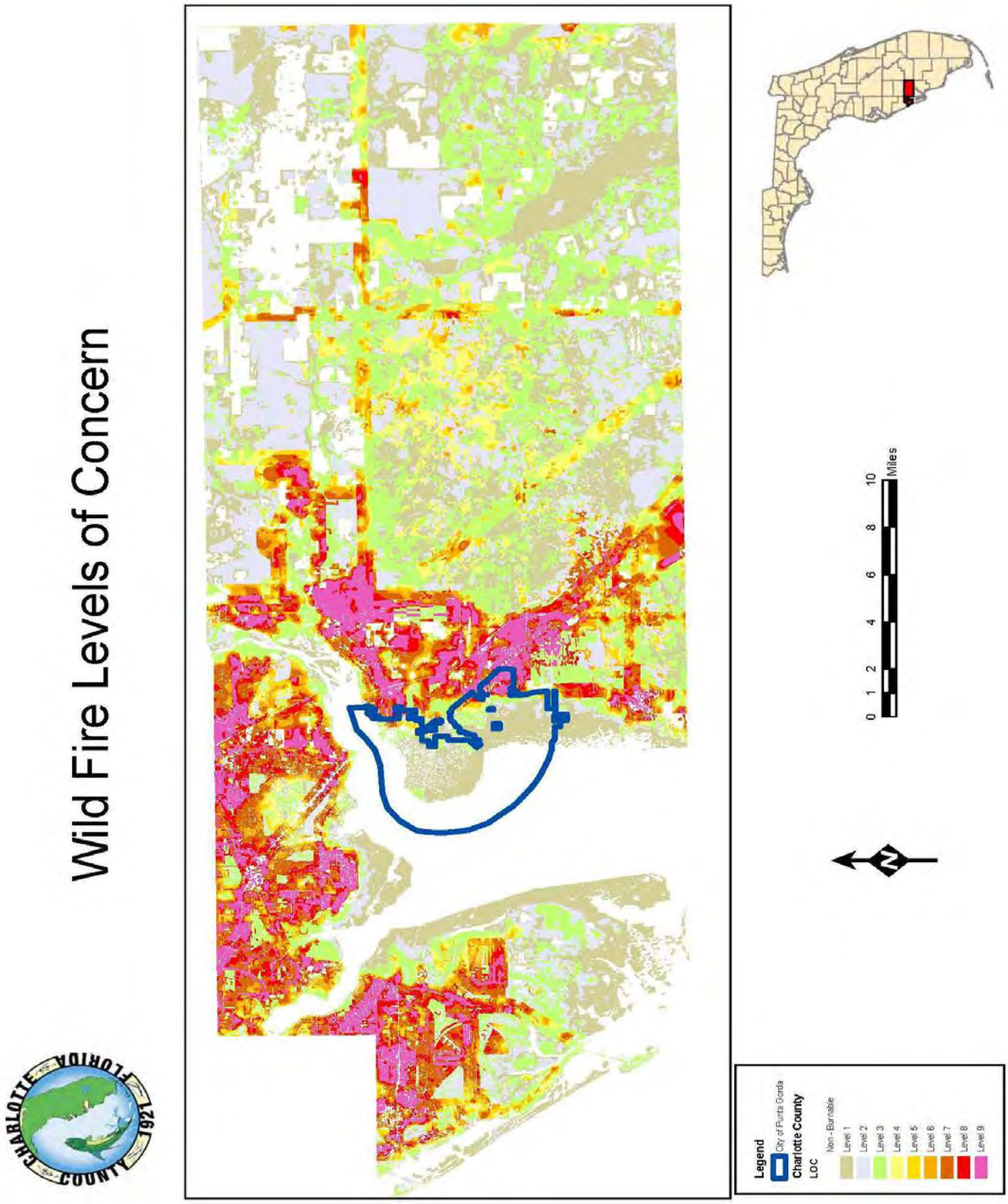
In assessing physical vulnerability, the most important factor is the extent to which structures get damaged when they are exposed to fire and heat. Structures located near the wildland/urban interface area are at the greatest risk for damage from wildfires.
The history of wildfires in Charlotte County 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. Map VI-1 below shows the Wildfire Levels of Concern throughout the County.

Table III.6-1: Wildfire Levels of Concern- Low						
	City of Punta Gorda		Charlotte County		Both Jurisdictions Combined	
Land Use	No. of Structures	Total Exposure	No. of Structures	Total Exposure	No. of Structures	Total Exposure
Agricultural	0	$0	519	$57,380,921	519	$57,380,921
Commercial	223	$173,585,409	1126	$763,802,043	1349	$937,387,452
Government	45	$148,675,538	103	$352,066,930	148	$500,742,468
Industrial	28	$8,072,605	334	$115,169,993	362	$123,242,598
Institutional	39	$99,813,525	134	$180,552,621	173	$280,366,146
Misc.	3	$2,053,792	53	$12,015,131	56	$14,068,923
Residential	12,737	$2,487,026,431	73,024	$9,642,995,253	85,761	$12,130,021,680
Total	13,075	$2,919,227,300	75,293	$11,123,982,892	49,720	$14,043,210,190

Table III.6-2: Wildfire Levels of Concern- Medium						
	City of Punta Gorda		Charlotte County		Both Jurisdictions Combined	
Land Use	No. of Structures	Total Exposure	No. of Structures	Total Exposure	No. of Structures	Total Exposure
Agricultural	0	$0	8	$680,460	8	$680,460
Commercial	2	$6,105,248	201	$222,856,059	203	$228,961,307
Government	1	$1,012,844	12	$63,357,606	13	$16,307,595
Industrial	0	$0	31	$15,294,751	31	$15,294,751
Institutional	0	$0	29	$60,415,376	29	$60,415,376
Misc.	0	$0	6	$525,657	6	$525,657
Residential	18	$4,081,011	7289	$754,474,458	7307	$758,555,469
Total	21	$11,199,103	7576	$1,117,604,367	49,720	$1,128,803,470

Table III.6-3: Wildfire Levels of Concern- High						
	City of Punta Gorda		Charlotte County		Both Jurisdictions Combined	
Land Use	No. of Structures	Total Exposure	No. of Structures	Total Exposure	No. of Structures	Total Exposure
Agricultural	0	$0	3	$922,370	3	$922,370
Commercial	1	$8,645,684	84	$54,570,647	85	$63,216,331
Government	0	$0	10	$2,619,476	10	$2,619,476
Industrial	0	$0	10	$1,521,394	10	$1,521,394
Institutional	0	$0	5	$4,290,111	5	$4,290,111
Misc.	0	$0	5	$1,274,537	5	$1,274,537
Residential	51	$13,066,618	3331	$630,762,369	3382	$643,828,987
Total	52	$21,712,302	3448	$695,960,904	3500	$717,673,206

Map III.6-1 Wildfire Levels of Concern



SECTION 7: 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 Fujita Scale, which ranks tornadoes on the basis of wind speed and damage potential and separates them into six categories.

Table III.7-1

The Fujita Scale

STRENGTH	WIND SPEED	DAMAGE
EF-0	65-85	LIGHT
EF-1	86-110	MODERATE
EF-2	111-135	CONSIDERABLE
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 faces from high wind events was determined.

HISTORY OF TORNADOES IN CHARLOTTE COUNTY

There have been a total of 47 tornadoes officially reported in Charlotte County since January 1, 1950. (National Climactic Data Center of NOAA). These events resulted in 1 death and 4 injuries. An estimated $9.18 million in property damage is attributed to these events. Following is a brief description of the tornado events that have occurred in Charlotte County since January 1, 2004.

There is no recorded history of a tornado with a classification greater than F2 striking in Charlotte County. Of the tornado events that have occurred in Charlotte County, 80% of them were F0 tornadoes and 12% of them were classified as F1 tornadoes. This means that the majority of the tornado events that occur in Charlotte County are events that cause only moderate damage. Since tornados are unpredictable this makes Charlotte County vulnerable to all 6 categories of tornados.

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.

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.

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.

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 (F3 or higher) occurring is very low. On the other hand, even an F2 tornado has the potential to cause total 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. With that being said, it can be assumed that every structure has an equal chance of exposure to a tornado event. Therefore, all of the assets of Charlotte County should be included in the exposure zone. Please see the asset overview section (Part III, Section 2, Table III.2-1) of this report for a representation of Charlotte County and the city of Punta Gorda's Assets.

There is less than one recorded F3-F5 tornado per 3,700 mi^2 for Charlotte County (Map III.7-1). However, as FEMA points out, the nature of tornadoes is that they strike at random. While it is known that some places in the country experience tornadoes more frequently and at higher intensities than other places, it is very difficult to predict which portions of Charlotte County have a greater chance of being struck by a tornado than other portions. The entire county is considered when looking at the probability and location of occurrence for any strength tornado.

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. Please see this section for more information. 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. You need 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 47961 homes built before the code change in 1992 and 11848 mobile homes. This would make 60% of the homes in Charlotte County vulnerable to tornados.

Map 1II.7-1. Tornado Activity in the United States

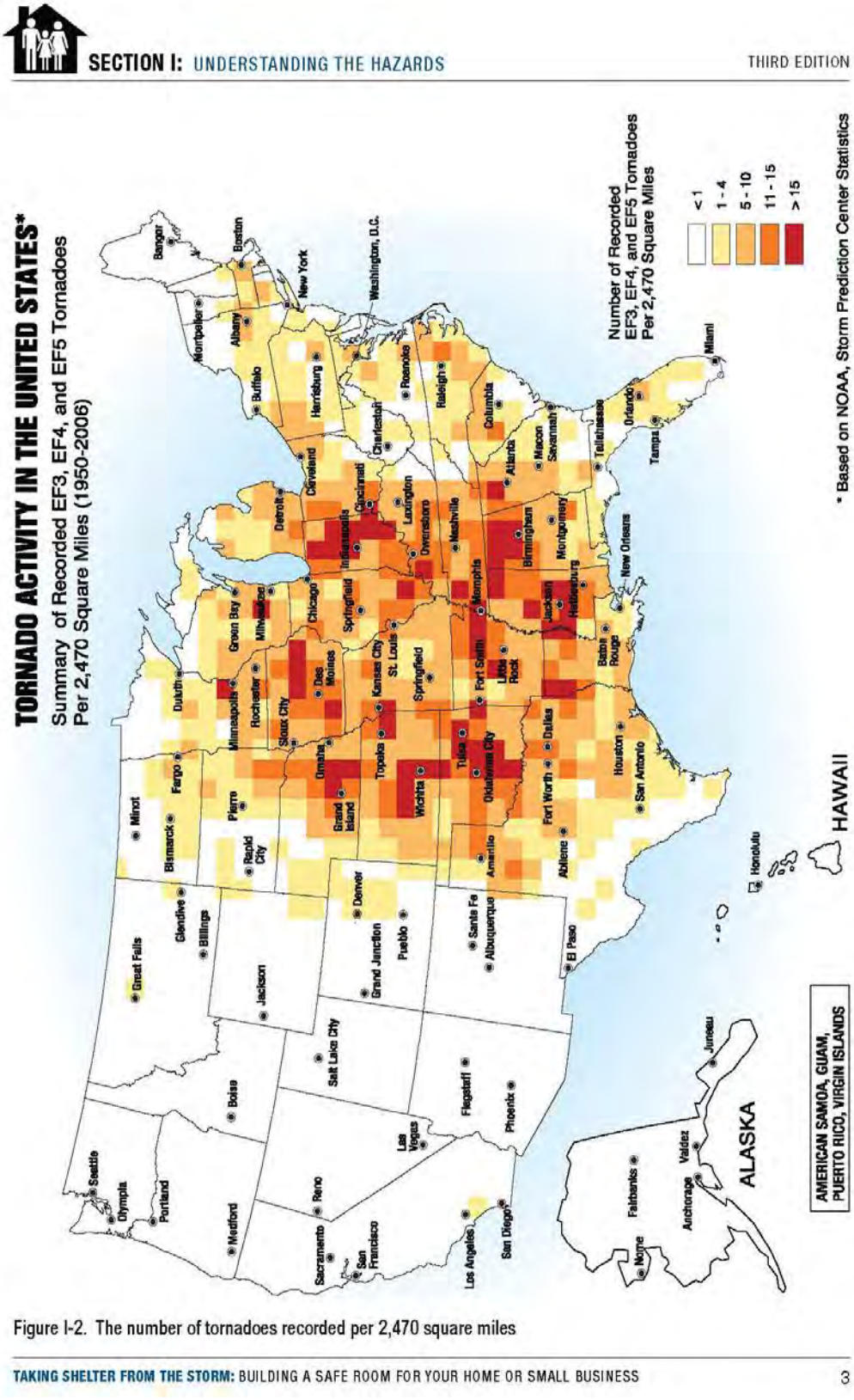


Figure I-2. The number of tornadoes recorded per 2,470 square miles

Source: *Taking Shelter from the Storm: Building a Safe Room inside Your House*, FEMA

SECTION 8: HIGH WIND EVENTS

HAZARD IDENTIFICATION

While high wind events bring with them the threat of numerous individual hazards, 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 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.

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.

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.

PROBABILITY OF THUNDERSTORM ASPECT OF HIGH WIND EVENT OCCURRENCE

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. Charlotte County has 47961 homes built before the code change in 1992 and 11848 mobile homes. This would make 60% of the homes in Charlotte County vulnerable to high wind events.

ESTIMATING POTENTIAL LOSSES

FEMA's software program HAZUS-MH was used to estimate potential losses in a worst case scenario high wind event. These models depict events for both a tropical storm and all five categories of hurricanes making landfall directly on Charlotte County's west coast moving due east. The group calibrated the numerical building inventory and monetary damage estimate data output from HAZUS in order to bring it up to date with the most recent available property appraiser data. As a result, the numbers in the following tables are rather rough, and should only be used to obtain a very general idea of potential losses in a worst case scenario high wind event.

The following tables and maps illustrate the wind damage predicted according to the six different scenarios. The building numbers in the tables represent the buildings that HAZUS predicts to suffer either "moderate," "severe," or "destruction" types of damage. HAZUS cannot distinguish between a county and the jurisdictions within a county, so the numbers here are the unincorporated Charlotte County and Punta Gorda aggregate numbers. The full reports of each scenario are located in Appendix 3.

Table III.8-1:
Number of Structures Estimated to be Significantly Damaged by the Tropical Storm's Wind in Charlotte County and the City of Punta Gorda by Land Use

Land Use	Moderate Damage	Severe Damage	Destruction
Agricultural	0	0	0
Commercial	0	0	0
Education	0	0	0
Government	0	0	0
Industrial	0	0	0
Religion	0	0	0
Residential	2	0	0
Total	2	0	0

According to HAZUS, there are an estimated 84,658 buildings in the study region with a total building replacement value of $11.596 million (2002 dollars). Approximately 92% of the buildings are associated with residential housing. HAZUS estimates that there will not be any significant damage throughout the County in regards to the winds of a tropical storm.

Table III.8-2:
Number of Structures Estimated to be Significantly Damaged by the Category 1 Hurricane's Wind in Charlotte County and the City of Punta Gorda by Land Use

Land Use	Moderate Damage	Severe Damage	Destruction
Agricultural	34	16	2
Commercial	446	72	1
Education	6	1	0
Government	5	1	0
Industrial	135	32	2
Religion	22	3	0
Residential	3845	241	74
Total	4493	366	79

According to HAZUS, there are an estimated 84,658 buildings in the study region with a total building replacement value of $11.596 million (2002 dollars). Approximately 92% of the buildings are associated with residential housing. HAZUS estimates that approximately 4,939 buildings will be moderately damaged which is over 6% of the total number of buildings in the study region. It is also estimated that approximately 366 buildings will have severe damage and 79 will be completely destroyed. The total property damage losses for a Category 1 hurricane's winds are estimated to be $266 million.

Table III.8-3:
Number of Structures Estimated to be Significantly Damaged by the Category 2 Hurricane's Wind in Charlotte County and the City of Punta Gorda by Land Use

Land Use	Moderate Damage	Severe Damage	Destruction
Agricultural	117	82	23
Commercial	1403	934	27
Education	22	18	0
Government	14	13	0
Industrial	441	382	16
Religion	86	55	0
Residential	20,598	5877	2005
Total	22,681	7361	2071

According to HAZUS, there are an estimated 84,658 buildings in the study region with a total building replacement value of $11.596 million (2002 dollars). Approximately 92% of the buildings are associated with residential housing. HAZUS estimates that approximately 22,681 buildings will be moderately damaged which is over 26% of the total number of buildings in the study region. HAZUS also estimates approximately 7,361 buildings will have severe damage and 2,071 buildings will be completely destroyed. The total property damage losses for a Category 2 hurricane's winds are estimated to be $1.9 billion.

Table III.8-4:
Number of Structures Estimated to be Significantly Damaged by the Category 3 Hurricane's Wind in Charlotte County and the City of Punta Gorda by Land Use

Land Use	Moderate Damage	Severe Damage	Destruction
Agricultural	110	213	75
Commercial	951	2713	230
Education	15	53	1
Government	8	34	0
Industrial	273	1089	53
Religion	73	182	8
Residential	22,569	26,576	17,500
Total	23,999	30,808	17,867

According to HAZUS, there are an estimated 84,658 buildings in the study region with a total building replacement value of $11.596 million (2002 dollars). Approximately 92% of the buildings are associated with residential housing. HAZUS estimates that approximately 23,999 buildings will be moderately damaged which is over 28% of the total number of buildings in the study region. HAZUS also estimates approximately 30,808 buildings will have severe damage and 17,867 buildings will be completely destroyed. The total property damage losses for a Category 3 hurricane's winds are estimated to be $8 billion.

Table III.8-5:
Number of Structures Estimated to be Significantly Damaged by the Category 4 Hurricane's Wind in Charlotte County and the City of Punta Gorda by Land Use

Land Use	Moderate Damage	Severe Damage	Destruction
Agricultural	18	225	198
Commercial	172	2833	1250
Education	3	58	13
Government	2	36	8
Industrial	52	1139	292
Religion	12	199	79
Residential	4003	21,153	52,359
Total	4263	25,644	54,199

According to HAZUS, there are an estimated 84,658 buildings in the study region with a total building replacement value of $11.596 million (2002 dollars). Approximately 92% of the buildings are associated with residential housing. HAZUS estimates that approximately 4,263 buildings will be moderately damaged and 25, 644 buildings will be severely damaged. HAZUS also estimates approximately 52,359 buildings will be completely destroyed which is over 61% of the total number of buildings in the study region. The total property damage losses for a Category 4 hurricane's winds are estimated to be $15.1 billion.

Table III.8-6:
Number of Structures Estimated to be Significantly Damaged by the Category 5 Hurricane's Wind in Charlotte County and the City of Punta Gorda by Land Use

Land Use	Moderate Damage	Severe Damage	Destruction
Agricultural	2	112	300
Commercial	30	1638	2628
Education	1	35	40
Government	0	22	24
Industrial	11	683	802
Religion	2	105	185
Residential	643	10,548	66,798
Total	690	13,131	70,806

According to HAZUS, there are an estimated 84,658 buildings in the study region with a total building replacement value of $11.596 million (2002 dollars). Approximately 92% of the buildings are associated with residential housing. HAZUS estimates that approximately 690 buildings will be moderately damaged and 13,131 buildings will have severe damage. HAZUS also estimates 70,806 buildings will be completely destroyed which is over 83% of the total number of buildings in the study region. The total property damage losses for a Category 5 hurricane's winds are estimated to be $17.2 billion.

In a thunderstorm, wind gusts could be as high as 73 mph and sustained winds can be up to 39-73mph in our area, we could see up to 2 inch diameter hail and the lightning density for our county is 21-27 strikes per square mile per year.

SECTION 9: 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. The value for each structure within this area was provided by the Charlotte County Property Appraiser's Office.

HISTORY OF COASTAL EROSION EVENTS IN CHARLOTTE COUNTY

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.

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 dollars worth of beach restoration.

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).

September 23, 2004, Hurricane Jeanne:
Hurricane Jeanne caused further erosion damage to the Don Pedro Island dune system.

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 $3.0 million dollars worth of damage, and a loss of over 147,000 cubic yards of beach.

PROBABILITY OF COASTAL EROSION OCCURRENCE

There have been no events occur in the past five years, 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 located in the coastal erosion hazard area. These structures account for 5.5% of the county's building value ($652 million) and 5.0% of the county's estimated value ($983 million). Erosion of the beaches is measured by the cost per cubic yard of sand, and also includes the cost of contractors and mobilization and demobilization.

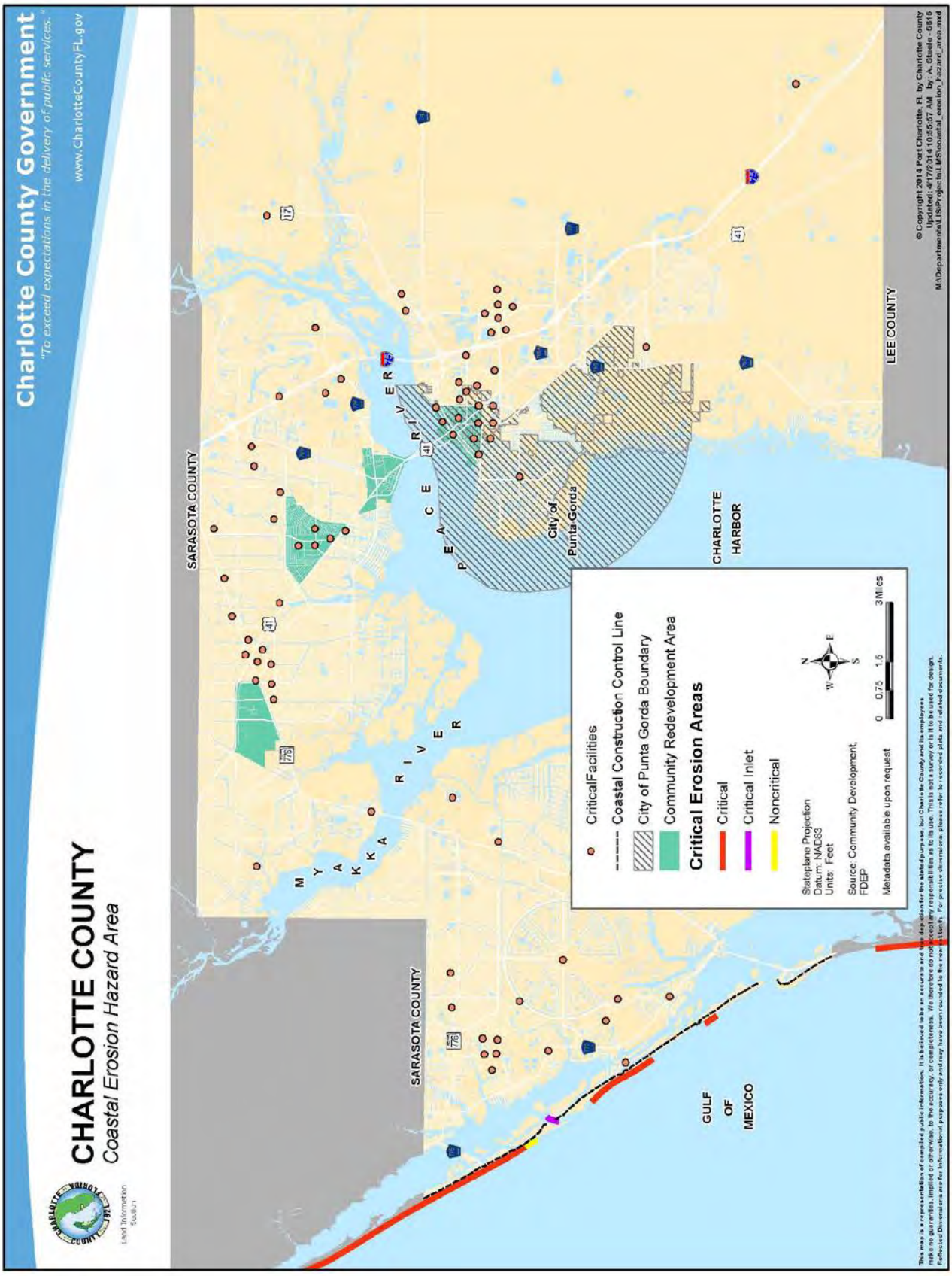
As can be seen from Map III.9-2, all of the properties vulnerable to erosion are located in Charlotte County (there are none in Punta Gorda), and more specifically, all are on the islands in the Gulf Coast to the west of mainland Charlotte County.

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. There are currently three projects underway in Charlotte County that take advantage of this funding source.
There are currently three critically eroded areas (5.2 miles), and one noncritical eroded area (0.4 mile) in Charlotte County (See Map III.9-1).

Map III.9-1 Charlotte County Critical Erosion Hazard Area

Map III.9-2 Charlotte County Coastal Erosion Hazard Area



Map III.9-3 Critically Eroded Beaches in Charlotte County

SECTION 10: 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.

VULNERABILITY ANALYSIS

HISTORY OF DROUGHT IN CHARLOTTE COUNTY

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. However, Charlotte County has not experienced drought conditions since 2008.

DROUGHT PROBABILITY

Charlotte County's probability of a drought occurrence is moderate based on hydrological factors (precipitation).

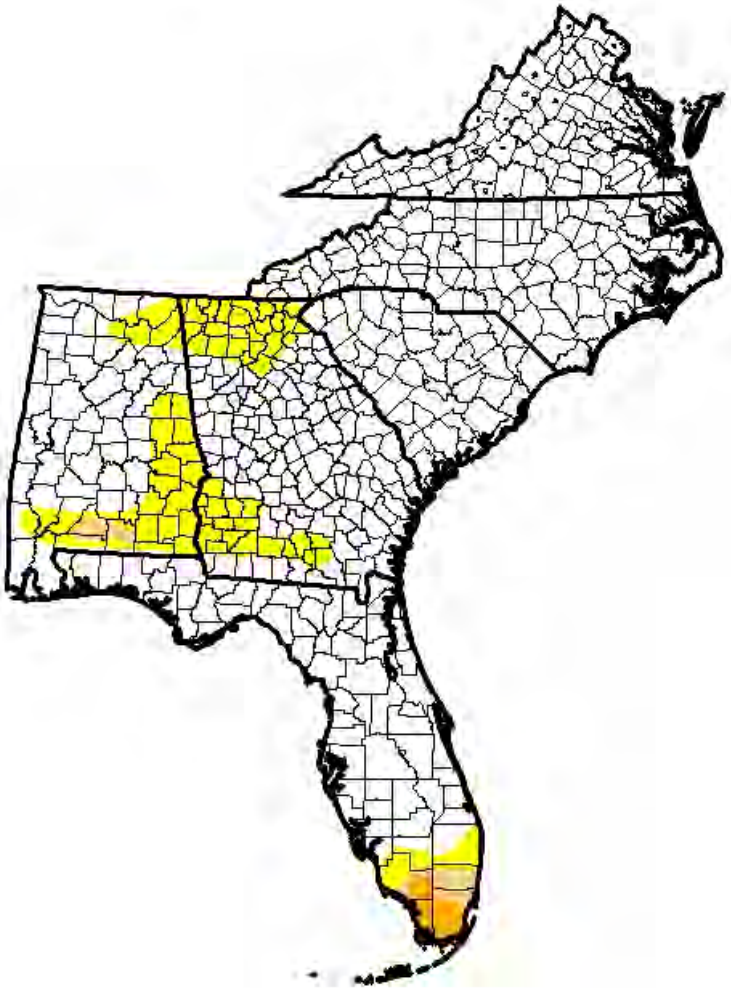
ESTIMATING POTENTIAL LOSSES

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 21,663 acres of citrus crops and over 19,000 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.

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. This is confirmed by the U.S drought monitor map on the following page as D2.

U.S. Drought Monitor
Southeast



April 21, 2015
(Released Thursday, Apr. 23, 2015)
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	86.15	13.85	2.19	0.99	0.00	0.00
Last Week 4/14/2015	63.34	36.66	4.01	0.60	0.00	0.00
3 Months Ago 1/20/2015	84.71	15.29	0.67	0.00	0.00	0.00
Start of Calendar Year 12/30/2014	85.13	14.87	0.87	0.00	0.00	0.00
Start of Water Year 9/30/2014	54.60	45.40	9.31	1.20	0.00	0.00
One Year Ago 4/22/2014	98.24	1.76	0.23	0.00	0.00	0.00

Intensity:

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:
Anthony Artusa
NOAA/NWS/NCEP/CPC

http://droughtmonitor.unl.edu/

SECTION 11: 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).

PROBABILITY OF AN EXTREME HEAT EVENT

While NOAA does not have any record of an extreme heat event in Charlotte County, 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, taken into account with the facts that the average summer high temperature in Charlotte County can already be considered very hot, and that the world's climate as a whole 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 through, for example, loss of revenue from tourists whom the heat might detract from visiting the area. More importantly, an extreme heat event could imperil the lives of the residents of Charlotte County, a disproportionate amount of who are elderly.

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.

HISTORY OF EXTREME HEAT IN CHARLOTTE COUNTY

There has not been any occurrence of extreme heat. The below chart illustrates the extent in the event of a high heat event. 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.

Classification	Heat Index	Effect on the body
Caution	80°F - 90°F	Fatigue possible with prolonged exposure and/or physical activity
Extreme Caution	90°F - 103°F	Heat stroke, heat cramps, or heat exhaustion possible with prolonged exposure and/or physical activity
Danger	103°F - 124°F	Heat cramps or heat exhaustion likely, and heat stroke possible with prolonged exposure and/or physical activity

SECTION 12: 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. USDA and the Florida Department of Agriculture and Consumer Services (FDACS) spent about $25 million to eradicate Mediterranean fruit fly (Medfly) outbreaks from Tampa and surrounding areas in 1997; efforts to eradicate bacterial citrus canker from Florida currently cost more than $10 million annually (USDA).

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 OF EXOTIC PEST AND DISEASE EVENTS IN CHARLOTTE COUNTY

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

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.

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

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

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

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

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

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

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

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

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

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 18,000 acres of citrus crops, and over 19,000 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, and the most severe consequence would be a long-term loss in revenue from citrus production.

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.

SECTION 13: 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 is located on the Peace River in Desoto County at a distance of about five miles to the nearest point in Charlotte County. The area is triangular in shape 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 of the information in this section was found in the "Peace River/Manasota Regional Water Supply Authority Reservoir Emergency Action Plan."

HISTORY OF DAM FAILURE IN CHARLOTTE COUNTY

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 actually 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 new dam actually fail, the losses experienced in Charlotte County would be very minor. This is due to two circumstances: 1) only three buildings (all commercial) sit in the Charlotte County area predicted to be flooded by a dam failure; 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 three commercial properties in the exposure area are Wal-Mart, Murphy's Gas Station, and Wachovia Bank, and they amount to a total exposure value of $3,778,627.

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.

SECTION 14: 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 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 OF FREEZES IN CHARLOTTE COUNTY

According to the National Climatic Data Center of NOAA, three freeze events were reported in Charlotte County since 2010. A description of these events follows.

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.

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.

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.

PROBABILITY OF A SEVERE 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 21,663 acres of citrus crops, and 19,000 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.

While the greatest economic impact of freezes is to agricultural production, freezes may also necessitate the opening of local shelters and the mobilization of personnel and resources for the protection of homeless persons or residents of sub-standard dwellings.

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.

SECTION 15 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 (Table III.15-1).

Table III.15-1: 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

POTENTIAL IMPACT:

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 out of, 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.

EARTHQUAKE RISK ANALYSIS

HISTORY OF HAZARD IN CHARLOTTE COUNTY

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. The USGS southwest Florida has a 10% chance of a 5.8 magnitude earthquake near Charlotte County.

PROBABILITY OF HAZARD 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 area will experience an earthquake, the potential damages caused by earthquakes will not be analyzed in the risk assessment portion of this document.

SECTION 16 SINKHOLES:

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 groundwater 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 sudden collapse of the land surface can occur. These collapses can be small, or, as this picture shows, 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.

SINKHOLE RISK ANALYSIS

HISTORY OF HAZARD IN CHARLOTTE COUNTY

Only one sinkhole has been recorded in Charlotte County and was repaired. Subsidence occurred in a roadway in a low density residential area in Englewood on April 28, 2010. There have been no other instances of sinkholes in Charlotte County.

PROBABILITY OF HAZARD OCCURRENCE

The probability of a sinkhole occurring in Charlotte County is very low.

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. The extent of a sinkhole would be minimal since the only recorded sinkhole was less than five feet in diameter and depth and cause was a wash out.

Vulnerability

Sinkholes are a fact of life in Florida. They occur because the entire state of Florida is underlain by limestone, a type of rock that is slowly dissolved by weak natural acids found in rain 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 rain water 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.

SECTION 17 TSUNAMI:

HAZARD IDENTIFICATION

Tsunamis, also called seismic sea waves or, incorrectly, tidal waves, are a series of traveling ocean waves of extremely long length. They are generally caused by earthquakes occurring below or near the ocean floor, less commonly by submarine landslides, infrequently by submarine volcanic eruptions, and very rarely by large meteorite impacts in the ocean.

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 OF HAZARD IN CHARLOTTE COUNTY

There is no historical record of a tsunami impacting any of Florida's coasts.

PROBABILITY OF HAZARD OCCURRENCE

According to MEMPHIS, Florida is located 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)

ESTIMATING 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.

SECTION 18 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 18 facilities that are registered as carrying extremely hazardous substances (EHS).

HAZARDOUS MATERIALS RISK ANALYSIS

HISTORY OF HAZARD IN CHARLOTTE COUNTY

There have not been any major incidents involving hazardous materials.

PROBABILITY OF HAZARD OCCURRENCE

The threat of hazardous materials spills in Charlotte County is considered to be 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.
.

SECTION 19 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 Brevard 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 a number of 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 as a whole. This is described further in the next Section below, Critical Infrastructure Disruption.

TERRORISM RISK ANALYSIS

HISTORY OF HAZARD IN CHARLOTTE COUNTY

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

PROBABILITY OF HAZARD OCCURRENCE

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

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.

SECTION 20 CRITICAL INFRASTRUCTURE DISRUPTIONS:

HAZARD IDENTIFICATION

Charlotte County has many facilities and systems that are considered to be "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, cyber-attack, 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 OF HAZARD IN CHARLOTTE COUNTY

There is no historical record of a tsunami impacting any of Florida's coasts.

PROBABILITY OF HAZARD 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.

Part IV

Mitigation Strategy

SECTION 1: MITIGATION GOALS AND OBJECTIVES

GOALS AND OBJECTIVES

The following numbered listing does not reflect a prioritization. Priorities among the following goals and objectives, if any; as well as whether any or all of 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.

GOAL 1: CHARLOTTE COUNTY SHALL REDUCE THE VULNERABILITY AND EXPOSURE OF THE PUBLIC BY PROTECTING LIVES AND PROPERTY FROM THE LOSSES OF NATURAL DISASTERS.

Objective 1.1
Maximize the protection of the public's health, safety, and welfare as they are related to natural disasters.

Objective 1.2
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 1.3
Require the protection of natural resources (such as environmentally sensitive lands) in order to maximize their mitigative benefits and to safeguard them from damage caused by natural disasters.

Objective 1.4
Ensure that Charlotte County's code and ordinances are sufficient to protect public property and safety.

Objective 1.5
Develop advance plans for the safe evacuation of coastal residents and other high risk flood areas.

Objective 1.6
Protect coastal resources, marine resources, and dune systems from the adverse effects of development.

Objective 1.7
Ensure mitigation measures are effectively incorporated in the comprehensive system of coordinated planning, management, and land acquisition.

Objective 1.8
Encourage land and water uses which are compatible with the protection of sensitive coastal resources having value and benefits as mitigative measures.

Objective 1.9
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 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: REDUCE THE VULNERABILITY OF CRITICAL FACILITIES, PUBLIC FACILITIES, AND HISTORIC STRUCTURES FROM NATURAL DISASTERS.

Objective 3.1
Disaster-proof existing and proposed critical facilities and historic structures, in regards to location and construction (see the County Critical Facility Inventory in the Critical Facility Section of the Risk Analysis Part of this LMS document).

Objective 3.2
Develop and maintain energy preparedness plans that will be both practical and effective under circumstances of disrupted energy supplies.

Objective 3.3
Incorporate hazard mitigation measures in any rehabilitation or reuse of existing public facilities, structures, buildings, and historic structures.

GOAL 4: STRENGTHEN PLANS FOR POST-DISASTER, RECOVERY, AND MITIGATION PLANS.

Objective 4.1
Analyze, review, and update the Charlotte County post-disaster, recovery, and mitigation plans.

GOAL 5: IMPROVE COORDINATION OF EMERGENCY MANAGEMENT INFORMATION THROUGH THE MEDIA TO INCREASE PUBLIC AWARENESS AND PARTICIPATION IN PREPAREDNESS, RESPONSE, MITIGATION, AND RECOVERY.

Objective 5.1
Develop and maintain a comprehensive, multi-media/multi-lingual public education campaign on emergency preparedness, response, mitigation, and recovery.

Objective 5.2
Provide educational programs and research to meet local, state, and regional planning growth management and hazard mitigation needs.

Objective 5.3
Establish a standardized format for use in dissemination of information to the media during a disaster.

Objective 5.4
Establish coordinated information and procedures for public information officers and media working in disasters.

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.

SECTION 2: MITIGATION INITIATIVES

INTRODUCTION

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.

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 2014 updated LMS is in ranked order following the review model.

HAZARD MITIGATION PROJECT EVALUATION CRITERIA WORKSHEET

This worksheet is used, as a consistent approach, to assign a numeric value to each project. It allows the Charlotte County Local Mitigation Strategy Work Group to prioritize projects relative to one another based on several factors outlined below.

Project Information

Project Priority *	
Project Score	
Name of Project	
Brief Description of Project	
Hazard Mitigated*	
Hazard Mitigation Strategy*	
Hazard Mitigation Goals Achieved *	
Funding Source	
Jurisdiction(s) Project Benefit *	
Agency Responsible for Implementation	
Estimated Cost	
Timeframe for Project Completion	

* Refer to The Charlotte County Local Mitigation Strategy Project List notes for assistance.

Project Scoring

Cost or Cost Impact: This would refer to the actual cost of the project over the life of the project and/or the cost impact that would occur because of the project.

Score	Points	Description
	4	No quantifiable Cost or Cost Impact, or the Cost/Cost Impact is less than 50,000
	3	Cost/Cost Impact is between $50,000 and $250,000
	2	Cost/Cost Impact is between $250,001 and $1,000,000
	1	Cost/Cost Impact is between $1,000,001 and $5,000,000
	0	Cost/Cost Impact exceeds $5,000,000

Probability of Funding: How likely is it that this project could get funded?

Score	Points	Description
	4	Funding is available through local short-term budgeting (less than two years) or a grant for this type of project is available and the likelihood of success is high.
	3	Funding is available through local long-term budgeting (more than two years) or grants for this type of project are available, but the likelihood of success is moderate.
	2	Funding could only be accomplished through matching local dollars with funds from other sources; or would require a blend of funding sources.
	1	Funding could only be accomplished through post-disaster funding options.
	0	No funding sources can be identified.

Probability of Community Acceptance:

Score	Points	Description
	4	This type of project would likely be endorsed by the entire community.
	3	This type of project would benefit only those directly affected and would not adversely affect the rest of the community.
	2	This type of project could place some burden of cost on the community, but would likely be endorsed as an acceptable cost for the benefit received.
	1	This type of project would place a burden of cost on the community that might not win endorsement by residents and/or businesses.
	0	This type of project is not likely to be endorsed by the community.

Estimated Ration of Benefit vs. Cost: The individual or entity proposing this project should have completed a "Consequence Analysis" to support the ration of benefit vs. cost.

Score	Points	Description
	4	Both quantitative and qualitative benefits make this a high priority project.
	3	The benefit of this project is 2 to 4, or more, times the cost and/or the qualitative benefits make the project one that should be given a relatively high priority.
	2	The benefit of this project is over 1, but less than 2 times the cost and/or the qualitative benefits make the project one that should be strongly considered.
	1	The benefit of this project is equal to or less than the cost and/or the benefits are difficult to quantify due to their qualitative nature.
	0	The ratio of benefits vs. cost cannot be quantified.

Complexity of Implementation: The following list shows examples of various items that can make a project more complex;

- Time involved for planning and/or completion.
- Involves numerous agencies and/or jurisdictions
- Permitting (Either the type of permitting required or the time period involved, or both)
- Difficulty in obtaining funding
- Requires a public vote
- Requires a public hearing

Score	Points	Description
	4	This project will be relatively easy to put in place in a short period of time.
	3	This project should not be very complex based on the items listed.
	2	This project will be somewhat complex due to one of the items listed.
	1	This is a complex project because it involves at least two of the items listed.
	0	This is a complex project because it involves three or more of the items listed.

Addressed in Plans, Programs, and Policies: The following list shows examples of various guiding principles that may affect, or be affected by, the project;

- Goals & Objectives of Sarasota LMS
- Comprehensive Growth Management Plans
- Comprehensive Emergency Management Plans
- Land Development Codes, Zoning Ordinances, or Building Codes
- Environmental, Conservation, Preservation and/or Reclamation plans, programs or policies.
- Statutes, Public Laws, other local laws, and/or other plans, programs, or policies.

Score	Points	Description
	4	This project is addressed in at least three of the items listed.
	3	This project is addressed in at least two of the items listed.
	2	This project is addressed in at least one of the items listed.
	1	Where this project is addressed in any plans, programs or policies is not clear.
	0	This project may not fall within the purview of Sarasota LMS.

Health and Safety:

Score	Points	Description
	4	This project could affect the Health & Safety of several jurisdictions (totaling over 250,000 people) and/or major portions of the county population.
	3	This project could affect the Health & Safety of between 50,000 and 250,000 people
	2	This project could affect the Health & Safety of between 1,000 and 50,000 people
	1	This project could affect the Health & Safety of less than 1,000 people.
	0	This project has no Health & Safety implications.

Compilation of Scores	
Scores	**Issues**
	Cost or Cost Impact
	Probability of Funding
	Probability of Community Acceptance
	Ration of Benefit vs. Cost
	Complexity of Implementation
	Consistency with other Plans, Programs, and Policies
	Health and Safety Considerations
	Total Score

Table IV.1-1: 2015 Local Mitigation Strategy Projects

Priority	Description of Project or Initiative	Goal for Hazards Mitigated	Mitigation Goals Achieved	Funding Source	Jurisdiction (Location)	Agency Responsible for Implementation	Estimated Costs	Status				Timeframe to Complete
	The projects located in this color are completed projects.							New	Ongoing	Deferred	If Deferred Why?	
	Transit Annex	Hurricanes, Tornadoes and Tropical Storms	Yes	County Sales Tax, HMGP	All jurisdictions in Charlotte County	Transit	N/A	The Transit Annex was retrofitted for wind with new shutters.				N/A
	Flood Control Culverts	Floods	Yes	County Sales Tax, SWFWMD FMAP, HMGP	All jurisdictions in Charlotte County	Public Works	$10,800,000	This is an ongoing project. Five of the 17 flood control structures that are located on roadways has been rebuilt. Four are currently under construction and two are expected to start construction before the end of the county's fiscal year of 2015.				N/A
1	Niagra 5.72 Flood Control Culvert	Floods	No	County Sales Tax, SWFWMD, FMAP, HMGP	All jurisdictions in Charlotte County	Public Works	$900,000	This is an ongoing project. Five of the 17 flood control structures that are located on roadways has been rebuilt. Four are currently under construction and two are expected to start construction before the end of the county's fiscal year of 2015.				Within a one-year timeframe.
2	Fordham 5.11 Flood Control Culvert	Floods	No	County Sales Tax, SWFWMD, FMAP, HMGP	All jurisdictions in Charlotte County	Public Works	$900,000	This is an ongoing project. Five of the 17 flood control structures that are located on roadways has been rebuilt. Four are currently under construction and two are expected to start construction before the end of the county's fiscal year of 2015.				Within a one-year timeframe.
3	Forham 4.60 Flood Control Culvert	Floods	No	County Sales Tax, SWFWMD, FMAP, HMGP	All jurisdictions in Charlotte County	Public Works	$900,000	This is an ongoing project. Five of the 17 flood control structures that are located on roadways has been rebuilt. Four are currently under construction and two are expected to start construction before the end of the county's fiscal year of 2015.				Within a two-year timeframe.
4	Lionhart 4.03 Flood Control Culvert	Floods	No	County Sales Tax, SWFWMD, FMAP, HMGP	All jurisdictions in Charlotte County	Public Works	$900,000	This is an ongoing project. Five of the 17 flood control structures that are located on roadways has been rebuilt. Four are currently under construction and two are expected to start construction before the end of the county's fiscal year of 2015.				Within a two-year timeframe.

Priority	Description of Project or Initiative	Goal for Hazards Mitigated	Mitigation Goals Achieved	Funding Source	Jurisdiction (Location)	Agency Responsible for Implementation	Estimated Costs	Status				Timeframe to Complete
	The projects located in this color are completed projects.							New	Ongoing	Deferred	If Deferred Why?	
13	Wind Retrofit Douglas T. Nursing Home	Hurricanes, Tornadoes and Tropical	No	County Sales Tax, HMGP	All jurisdictions in Charlotte County	Facilities	TBD	This building is a Veterans nursing home and shutters installed to withstand possible wind damage.				Within a five-year timeframe
14	Wind Retrofit Charlotte County Cultural	Hurricanes, Tornadoes and Tropical	No	HMGP	All jurisdictions in Charlotte County	Facilities	TBD	This building needs a wind retrofit and shutters installed to withstand possible wind damage.				Within a five-year timeframe
15	Wind Retrofit Rebecca Neal Owens Meal Site	Hurricanes, Tornadoes and Tropical	No	HMGP	All jurisdictions in Charlotte County	Facilities	$150,000	This building needs a wind retrofit and shutters installed to withstand possible wind damage.				Within a five-year timeframe
16	Wind Retrofit Charlotte County Justice Center	Hurricanes, Tornadoes and Floods	No	HMGP	All jurisdictions in Charlotte County	Facilities	$400,000	This building needs a wind retrofit and shutters installed to withstand possible wind damage.				Within a five-year timeframe
17	Water Line Relocation from crossing on bridges to under	Floods	No	County Sales Tax, SWFWMD, FMAP,	All jurisdictions in Charlotte County	Utilities	$50,000	The goal of this project is to remove water lines that cross canals on bridges which are prone to flooding and collapse to relocate water lines through directional bores under waterways.				Within a five-year timeframe
18	Public Education	Hurricanes and Floods	No	HMGP	All jurisdictions in Charlotte County	Charlotte County Emergency Management	$50,001	The Emergency Management and Community Development departments have many public education and outreach programs for the community to educate on preparedness, mitigation,				Within a five-year timeframe
19	Wildfire Mitigation	Wildfires	No	HMGP; State Forestry Services	All jurisdictions in Charlotte County	Charlotte County Emergency Management	Wildfire	The county has several Firewise housing communities. It is a combined effort between the State Forestry Department and Emergency Management to expand this program by completing fire hazard.				Within a five-year timeframe
	Fire Station 10	Hurricanes, Tropical Storms, Tornadoes	No	HMGP	All jurisdictions in Charlotte County	Charlotte County Fire/EMS	$710,000	This project has been deferred until funding can be made available.				TBD
	Corto Andra/ Boca Grande Area Drainage Improvements	Floods	No	County Sales Tax, HMGP	City of Punta Gorda	City of Punta Gorda	$180,000	This project has been deferred until funding can be made available.				TBD
	Fire Station 3	Hurricanes, Tropical Storms, Tornadoes	No	HMGP	All jurisdictions in Charlotte County	Charlotte County Fire/EMS	$1,200,000	This project has been deferred until funding can be made available.				TBD

Priority	Description of Project or Initiative	Goal for Hazards Mitigated	Mitigation Goals Achieved	Funding Source	Jurisdiction (Location)	Agency Responsible for Implementation	Estimated Costs	Status				Timeframe to Complete
	The projects located in this color are completed projects.							New	Ongoing	Deferred	If Deferred Why?	
	Fire Station 5	Hurricanes, Tropical Storms, Tornadoes	No	HMGP	All jurisdictions in Charlotte County	Charlotte County Fire/EMS	$1,300,000	This project has been deferred until funding can be made available.				TBD
	Fire Station 6	Hurricanes, Tropical Storms, Tornadoes	No	HMGP	All jurisdictions in Charlotte County	Charlotte County Fire/EMS	$1,600,000	This project has been deferred until funding can be made available.				TBD
	Relocate Public Works Complex	All Hazards	No	County Sales Tax,	Charlotte County	Facilities	Undetermined	This project has been deferred until funding can be made available.				TBD
7	Purchase a reverse 911 system that could be operated from the EOC.	All Hazards	No	County Sales Tax, HMGP	All jurisdictions in Charlotte County	Charlotte County Emergency Management	$25,000	This project has been deferred until funding can be made available.				TBD

The LMS group included mitigation projects for only exiting buildings and infrastructure but for new projects that were considered a priority because of their impact on life safety, protection of property, or the community's resilience.

SECTION 3: NFIP COMPLIANCE

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 1991. The current FIRM maps for the area took effect on May 5, 2003. The Floodplain Administrator is the County Building Official or his designee, and that individual is housed in the Building Construction Services Department. In an effort 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.
5. Continue Community Rating System (CRS) outreach programs.

Currently, Charlotte County has a few regulations that surpass the NFIP minimum standards. The first is the cumulative for substantial improvement/ substantial damage being 5 years rather than the annual requirement of the NFIP. Another is in the un-numbered A zones, structures must be built three feet above the highest adjacent natural grade which is a foot higher than the NFIP two feet requirement.

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 5 and 6 respectively. Charlotte County residents receive a 25% discount and City of Punta Gorda residents receive a 20% discount on their flood insurance premiums.

Since the risk to the hazard of flooding in Charlotte County and the City of Punta Gorda is overwhelmingly high, County and City officials are actively seeking to improve their standings in the CRS. The Local Mitigation Strategy Working Group has made it clear that flood mitigation and NFIP compliance is a top priority by ranking projects relevant to this goal first, second, and third overall (see Mitigation Projects).

The LMS Working Group also wants to keep the initiative of Reducing or Eliminating All Losses in Repetitive Loss Areas, which is an ongoing initiative that was listed in the previous LMS document.

STORMWATER MANAGEMENT PLAN

Charlotte County has developed a Master Stormwater Management Plan (MSMP) and has begun implementation of the capital improvement projects identified as a result of the areas studied.

The Master Stormwater Management Plan (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 Stormwater Unit (MSBU).

REDUCING OR ELIMINATING ALL LOSSES IN REPETITIVE LOSS AREAS

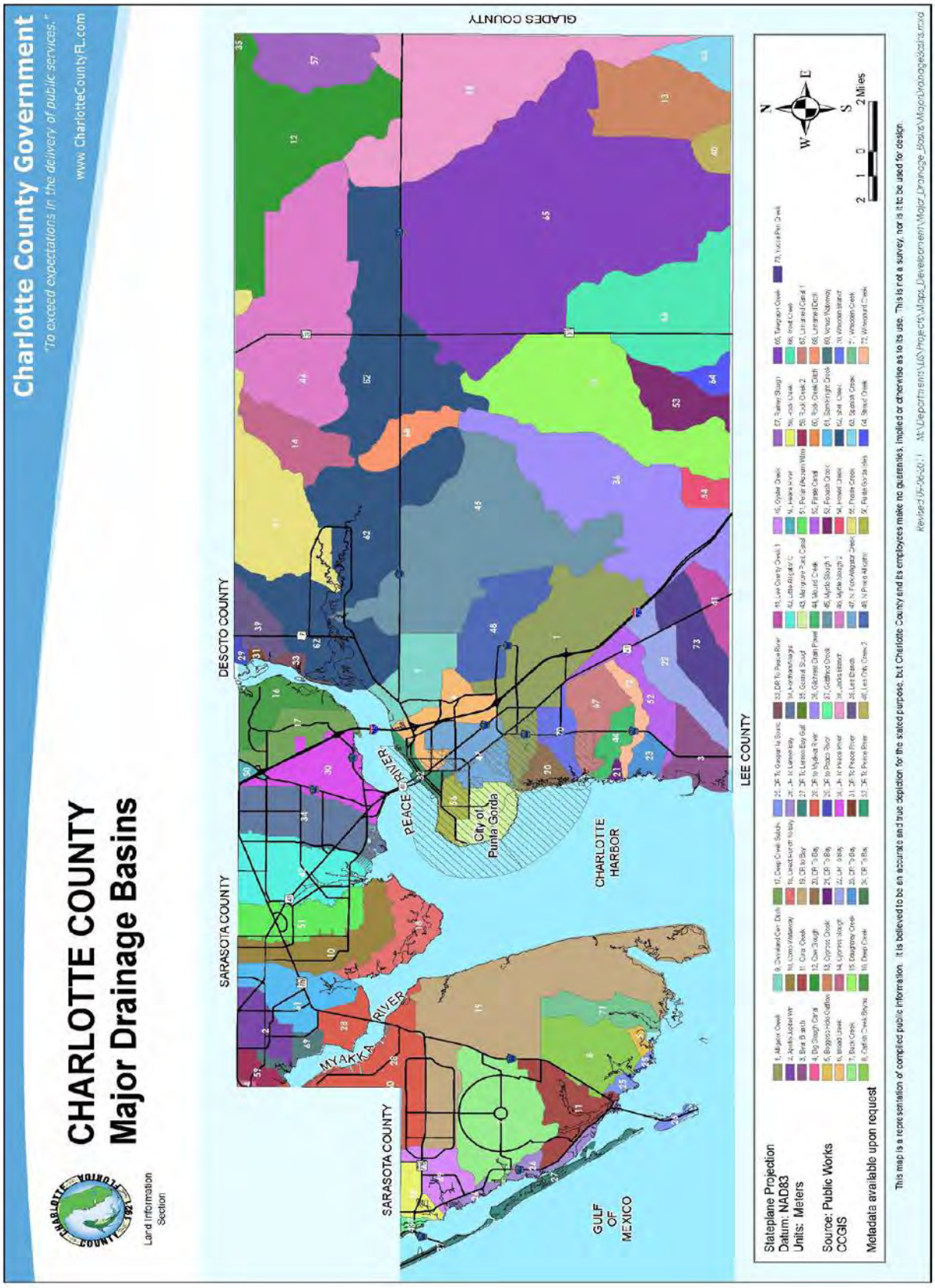
The current planning for this initiative includes the following:

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.

Discussion

This initiative has been in place for several years. Each year, in coincidence with Community Rating System requirements, the County notifies these properties of their flood risk and ways which property owners can reduce their flood risk. This initiative cannot be followed through with until there is interest from the repetitive loss property owners. Funding for this project is possible through the Flood Mitigation Assistance Program. Once interest is shown from these property owners, funding from this source will be sought. In a post-disaster scenario, funding from the Hazard Mitigation Grant Program may be sought.

Map IV.3-1 Charlotte County Major Drainage Basins



Part V

Plan Maintenance Process

SECTION 1: UPDATING THE PLAN

PLAN UPKEEP

The Florida Division of Emergency Management (DEM) Local Mitigation Strategy Contract 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 proposal is to revise and update the LMS document during one period each year or after a major disaster declaration in which new mitigation initiatives 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 the LMS vice 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 in order to update the LMS.

GENERAL UPDATING

SPRING UPDATE PERIOD

Hurricanes

As the annual hurricane season begins on June 1, updating hurricane-related sections of the LMS should be completed prior to May 1 (allowing one month for review/revision). The entire LMS Working Group should be involved in the update process because hurricanes should be considered "county-wide disasters" involving the whole community. Focus should be given to any changes/improvements to evacuation routes, shelter/equipment inventories, any new infrastructure or infrastructure concerns, and population growth. The update should reflect any lessons learned, or changes made to procedures after the previous hurricane season. Information sources include, but are not limited to, the current Regional Hurricane Evacuation Study Update, State/American Red Cross Shelter Guidelines, Census or BEBR data, information generated by the State's annual hurricane exercise, and statewide experience from recent hurricane events.

Severe Thunderstorms

This category includes weather phenomena such as tornadoes, sleet or hail, high winds, lightning, and rainfall flooding. In Southwest Florida, these are typically late winter or spring events. Therefore, this section of the LMS should probably be updated prior to April 1. This would hopefully allow review/revision to be completed prior to work on the Hurricane portion. LMS members involved in this update should include building department officials, mobile home/RV park representatives, power and communications company representatives, campground/outdoor recreation area operators, storm water system operators, agricultural agents, and others as needed. The focus of the update should be on reducing future vulnerability to these types of natural hazards; as well as preparing local personnel and resources for periodic small-scale (less than county-wide) evacuations due to these events. Information utilized in the update would primarily be experience gained during the previous storm season.

Wildfires

This section refers to fires which arise (through natural or manmade events) in rural or wild areas, and which may or may not affect human lives and property. As many of these fires are started by lightning and tend to occur in the late winter or early spring, it may be prudent to update this section of the LMS document in conjunction with the Severe Thunderstorm Section (prior to April 1). LMS Working Group members involved in the update should include emergency management and fire personnel, forestry or wildlife officials, agricultural interests, GIS programmers, and residents of areas likely to be affected by wildfires. Focus should be on reducing the likelihood of fire occurrence or using such methods as controlled burns, debris removal activities, and other methods. Secondary focus should be given to improving response and containment methods. Information utilized in the update could include data gathered from the previous fire season and information derived from state and federal resources.

WINTER UPDATE PERIOD

Freezes

Charlotte County is generally subject to a moderate freeze once every two years. While the greatest economic impact of freezes is to agricultural production, freezes may also necessitate the opening of local shelters and mobilization of personnel and resources for the protection of homeless persons or residents of sub-standard dwellings. Since freezes tend to occur in January or February of each year, the update should probably be accomplished prior to December 1 (to allow review/revision time). LMS Working Group members involved in the update should include extension service agents, agricultural interests, shelter operators, social service agencies, police, fire and EMS personnel, and others as needed. The group's focus should be on improving responses to freeze events. Information utilized in the update effort would primarily be derived from review of the previous year's freeze occurrences, and critiquing of actions taken in response to those events.

Droughts

In Southwest Florida, drought is primarily a late winter occurrence. Its greatest impact is on agricultural production, with secondary impacts on public water supplies. To avoid impacting the spring update activities, the drought section update should be completed prior to February 1 of each year. The primary LMS members involved should include extension agents, forestry and fire officials (for the wildfire connection), agricultural interests, utility personnel, and representatives of the South West Florida Water Management District and/or storm water operators. Focus should be given to ameliorating drought conditions through water resource allocation, water supply rationing/restrictions, and the use of drought resistant crops (where feasible). Information utilized in the update could include experiences of LMS Working Group members, Water Management District records and knowledge, and data on utility operations.

Exotic Pests and Disease

Disease refers to diseases of plants and animals, as opposed to human diseases. Such diseases may effect native vegetation or wildlife (with possible spread to domestic plants or animals) or may be confined to domestic livestock or crops. In certain instances (such as rabies), these diseases may pose a threat to human beings. Occurrence of disease is not restricted to any particular time of year. This section will be updated in the winter because the spring update period is likely to be more concerned with storm event disasters. The LMS Working Group

members assigned to this update task could include agricultural interests, forestry or wildlife officials, extension services, South West Florida Water Management District, emergency management and public health officials, and/or veterinary interests. Focus should be given to improving disease tracking and prevention (both in the natural environment and in domestic crops and livestock), and in developing response procedures. Information sources include reports and written materials from all relevant agencies and interests, as well as member experience.

New Regulations

New regulations can be referred to as a change in City/County code in regards to building restrictions. This section could be updated in the winter or spring update period, whichever one allows for more time. The LMS Working Group members assigned to this update task could include building officials, zoning officials, and emergency management.

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.

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.

- Place the mitigation pamphlet that was developed during this current five-year update process at local institutions, available free to the public.

While these efforts to include the public in the overall LMS process are important, it is not an easy task. Interest in hazard mitigation increased due to the impacts of the 2004 hurricane season, but has since begun to wane. Some individuals fallaciously believe, in fact, that since the devastation Charlotte County suffered in 2004 was so profound that it must be a very long time before something similar happens again. 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 Division of Emergency Management. The Charlotte County Emergency Management Director 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 Office of Charlotte County Emergency Management. The Office of Charlotte County 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 of 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.

SECTION 2: INCORPORATION OF THE LMS INTO OTHER PLANNING MECHANISMS

The fact that there was a markedly increased level of participation by individuals representing many different divisions of local government during the current update period bodes well for the prospect of the approved LMS being meaningfully incorporated into other local planning mechanisms.

- 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.

- Charlotte County Standard Building Code: It is hoped that the individuals in charge of maintaining the building codes will 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 counties website for review.

- Long Range Transportation Plan (LRTP): The current LRTP (2030) contains very 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 2035 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 Charlotte County-Punta Gorda multijurisdictional plan, the city has actively participated in the update process.

- City of Punta Gorda Comprehensive Plan: This document in its present form already contains extensive hazard mitigation initiatives. Nevertheless, the city will examine the approved LMS update for elements that could further improve the hazard mitigation aspect of its comprehensive plan.

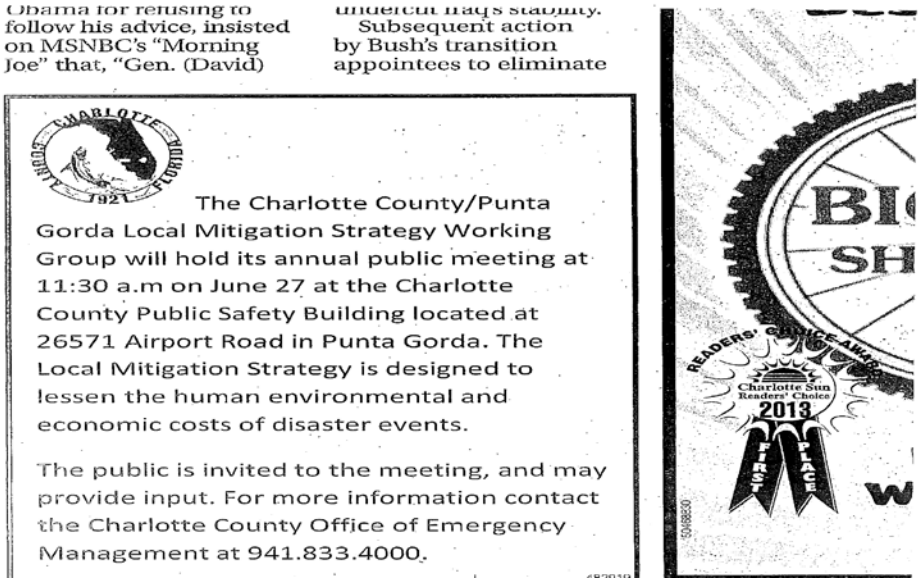
- City of Punta Gorda Downtown Redevelopment Plan: During the ongoing annual update process, the city has the potential to strengthen this plan by proposing mitigation initiatives, informed by content in the LMS, which will harden vulnerable downtown structures against disaster.

Appendix A

Local Mitigation Strategy

Working Group Meeting

2014 Work Group



From: Pinder, Ellen
Cc: Dallenbach, Mike; Jubb, Claire; Taylor, Marianne; Hawkins-Garland, Dee; Jones, Brian; Hebert, Robert; Johnston, David; Haque, Hovie; Mallet, Gerard; Edwards, Kevin; Bliss, Karen; Stickley, Lynne; Trepal, Matthew; Koenig, Mike; Baird, Tracie; Pederzolli, Gary; Allen, Richard; Sallade, Wayne; Ellis, Steven; Nocheck, Elizabeth; Free, Tim; Scott, Tommy; Polk, Paul; Graham, Scott; "Rick Christman"; "patrick.mahoney@freshfromflorida.com"; "Ray Briggs"; "Ray Briggs"; "Mitchell Austin"; "Patrick Fuller (patrick.fuller@em.myflorida.com)"; Pinder, Ellen; English, Brian; Jones, Elaine
Subject: Local Mitigation Strategy Planning Meeting
Date: Tuesday, June 17, 2014 2:49:23 PM
Attachments: image001.png
image002.png

Planning Committee,

The Office of Emergency Management would like to invite you to our annual Local Mitigation Strategy Update meeting to be held at the Emergency Operations on the 27th of June at 11:30am.

The purpose of the annual LMS meeting is to discuss initiatives that are ongoing or any future projects that might be applicable to the County and /or your specific discipline. The LMS plan is developed by the county to reduce and or eliminate the risks associated with natural and man-made hazards. This meeting will decide what projects will be added to the 2015 LMS plan that will be sent to the state and FEMA for approval.

I have attached the project evaluation worksheet and the project ranking notes. Please talk with your department about possible projects that can be added to the 2015 LMS plan update.

The 2013 projects list has also been attached. Please look through the 2013 list and update your departments project statuses.

If you have any questions please call my office.

Ellen F. Pinder

From: Pinder, Ellen
To: "aqabites@comcast.net"; Allen, Richard; "patrick.fuller@em.myflorida.com"; "maustin@ci.punta-gorda.fl.us"; Baird, Tracie; "bartone@fdva.state.fl.us"; Bliss, Karen; "henry.kurban@doh.state.fl.us"; "Lane@Englewood-Fire.com"; "christre@doacs.state.fl.us"; "jerry.olivo@yourcharlotteschools.net"; "april.prestipino@yourcharlotteschools.net"; "david.lupinetti@yourcharlotteschools.net"; Dallenbach, Mike; Taylor, Marianne; Polk, Paul; Graham, Scott; Edwards, Kevin; Nocheck, Elizabeth; Haque, Hovie; Ellis, Steven; "rbriggs@ci.punta-gorda.fl.us"; "hgibbs@pgorda.us"; Pinder, Ellen; Harrell, Gary; Hebert, Robert; "alan.holbach@charlottefl.com"; "jacobsb@redcross-charlotte.org"; Jones, Brian; Koenig, Mike; "john.fanning@cchomelesscoalition.org"; Mallet, Gerard; "Milosky, Bernard"; "linda.landry@hcahealthcare.com"; Pederzolli, Gary; "sherman.robinson@ccso.org"; "darin.chandler@ccso.org"; Sallade, Wayne; "pland@edison.edu"; Jones, Tina; "mahonep@doacs.state.fl.us"; Stickley, Lynne; "joseph.pepe@flhealth.gov"; Trepal, Matthew; "twalker@swfrpc.org"; Milligan, David; Salomon, Teri; Scott, Tommy; Jubb, Claire; Johnston, David; Hawkins-Garland, Dee
Subject: LMS Projects List Approval
Date: Monday, October 20, 2014 11:12:47 AM
Attachments: 2015 LMS Projects - November 2013.xlsx
Importance: High

LMS Workgroup,

Over the last few months, the LMS workgroup has been compiling all the project submissions for the 2015 Local Mitigation Strategy project list. The attached list is the completed project list with the ranking order that was decided by the workgroup. Please go over the list and make sure the projects associated with your department are correct. Please make sure you approve or reject this submission. (There should be an option at the top of this email.)

Please contact me at my office or by email if you have any questions or would like more information.

Thanks,

Ellen F. Pinder

Friday

June 27th, 2014

11:30 AM

CHARLOTTE COUNTY EOC

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

EMERGENCY MANAGEMENT CHARLOTTE COUNTY

AGENDA

- Welcome & Introductions
- What is the Local Mitigation Strategy?
  - What projects were funded because Charlotte County had an approved LMS?
  - How does this process work?
- Work Group
  - Project proposals
  - Sections Update
- Final project submission July 31st
- Adjournment

LMS Working Group Sign In
June, 27 2014

	PRINTED NAME	AGENCY	CONTACT #	EMAIL	SIGNATURE
1	Lynne Stickley	CC EM	833-4004	Lynne.Stickley@charlotteFL.com	
2	ELLEN PINDER	CC. EM	833 4003	ELLEN.PINDER@CHARLOTTEFL.com	
3	APRIL PRESTIPINO	CCPS	255.0808	april.prestipino@yourcharlotteschools.net	
4	David Lupinetti	CCPS	255-0808	David.Lupinetti@yourcharlotteschools.net	
5	Karen Bliss	CC-Engineering	575-3642	Karen.Bliss@charlotteFL.com	
6	Mike Desjardins	CCPS	255-0808	Mike.desjardins@yourcharlotteschools.net	
7	Juan Nieves	CCEM	833-4000	juan.nieves@charlotteFL.com	
8	GARY PEDERZOLI	GIS	574-5512	GARY.PEDERZOLI@CHARLOTTEFL.COM	
9	D Hawkins Exec	Fuel Ens	833 5610	lee.hawkins-galvez@charlotteFL.com	
10	K EDWARDS	IT-GIS	764-5527	KEVIN.EDWARDS@CHARLOTTEFL.COM	
11	MIKE DALLENBACH	PUBLIC WORKS	575-3635	MIKE.DALLENBACH@CHARLOTTECOUNTYFL.COM	
12	LAINE GIBB	Com Dev	743-1241	claine.gibb@charlottefl.com	
13	Chip Hague	Com Dev	623-1080	Chip.Hague@charlotteFL.com	
14	HOLDEN GIBBS	PGFD	575-5529	hgibbs@pgorda.us	
15	JASON FAIR	FIRE/EMS	628-0369	JASON.FAIR@CHARLOTTEFL.COM	
16	Marianne Taylor	Fire/Ems/Public Safety	833-5600	marianne.taylor@charlotteFL.com	
17	RAY BRIGGS	PGFD	628-4616	rbriggs@pgorda.us	
18	MITCHELL AUSTIN	PUNTA GORDA	575-3335	MAUSTIN@PGORDA.US	
19	Wayne Sallade	Char. EM	833-4001	wayne.sallade@charlotteFL.com	
20	Scott Grahovac	CC Property Appraiser	743-1497	scott@ccpropappraiser.com	
21	ELLEN PINDER	C.C. EM	833-4003	ELLEN.PINDER@CHARLOTTE.FL.COM	
22	DAVID MILLIGAN		743-1394	DAVID.MILLIGAN@CharlotteFL.com	David Milligan
23	TERI SALOMON	FACILITIES	743-1905	Teri.Salomon@CharlotteFL.com	
24	Bruce R. Bullent	CCH	764-4509	Bruce.Bullent@charlotteFL.com	Bruce R Bullent
25	JOSEPH PEPE	FL DOH - CHARLOTTE	624-7200	JOSEPH.PEPE@FLHEALTH.GOV	

2013 Work Group

Tuesday

December, 11th 2013

9:30 AM

CHARLOTTE COUNTY EOC

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

EMERGENCY MANAGEMENT CHARLOTTE COUNTY

AGENDA

- Welcome & Introductions
- Housekeeping
- Old Business
  - LMS Update
  - Projects Update
  - Grants
  - Post Development Plan
- New Business
  - New Projects/New Opportunities
  - Better Oppourtunties
- Questions / Comments
- Next Meeting Date

	PRINTED NAME	AGENCY	CONTACT #	EMAIL	SIGNATURE
1	Linda Landry	Fawcett Hospital	627-6566	linda.landry@healthcare.com	Linda L. Landry
2	Richard Chapman	FEFD	525-6996	chapman@fernleaf-fire.com	
3	BERNARD MYLOSKY	CCU	764-4304	BERNARD.MYLOSKY@CHARLOTTEFL.COM	
4	Rick Christman	FFS	460-1333	Richard.Christman@freshfromflorida.com	
5	Edward Vuolo	FFS	575-5737	Edward.Vuolo@freshfromflorida.com	Edward Vuolo
6	ADAM DUBIS	DOH CHARLOTTE	624 7291	ADAM.DUBIS@FLHEALTH.GOV	
7	Amber Jolla	DOH - Charlotte	624-7265	amber.jolla@flhealth.gov	
8	Dr. Alyabadi's	Econ	575-1988		Dr. Alyabadi
9	MIKE DALLENBACH	CC PW	575-3635	MIKE.DALLENBACH@CHARLOTTEFL.COM	
10	Paul Polk	CCPA	743-1471	Paul.Polk@charlotteh.	
11	Claire Subb	ComDev	743-1241	Claire.subb@charlottefl.com	
12	Tim Free	CCPW	575-3640	tim.free@charlottefl.com	
13	RAY BRIGGS	PG. Fire	575-5529	rbriggs@pgorda.us	
14	[illegible]	[illegible]	575-33[illegible]	[illegible]@pgorda.us	
15	TINA JONES	Comm Dev	764-4919	tina.jones@charlottefl.com	
16	Stephen Berman	CCU	764-4595	Stephen.Berman@charlottefl.com	
17	Mike Koenig	Community Services	235-5003	Mike.Koenig@charlottefl.com	
18	Tim Walker	SWFRPC	939-2[illegible]	twalker@SWFRPC.org	
19	[illegible]	DTJ	914-0919	StarkW@FDUA.State.FL.US	
20	JAMES Stuckey	Charl. Reg Hospital	941-650-7282	JAMES.Stuckey@HMA.com	
21	Patrick Thompson	Fawcett	941 627-1411	Patrick.Thompson2@healthcare.com	
22	Patrick Fuller	FDEM	850 519-8035	Patrick.fuller@em.myflorida.com	
23	MARK GERING	Co PG PW	941 575-5030	mgering@pgorda.us	
24	Inge Williams	Comm. Dev	743-1242	inge.williams@charlottefl.com	
25	Thomas Mansor	Peace River Med Ctr	766-4281	Thomas.mansor@hma.com	

	PRINTED NAME	AGENCY	CONTACT #	EMAIL	SIGNATURE
26	Kevin Edwards	Charlotte Co GIS	941/764-5567	KevinEdwards@charlotteFL.com	
27	Conrad Mallett	Charlotte Co EM	941-833-4002	conrad.mallett@charlottefl.com	
28	Lynne Stickley	" "	941-833-4047	Lynne.Stickley@charlottefl.com	
29	Bill VanHelden				
30					

2012 Work Group

The Sun Classified Page 12 E/N/C Sunday, January 30, 2011

NOTICE OF

after the sale.
Publish: January 23, 30, 2011
232598 2527709

NOTICE OF MEETING
3126

The Charlotte County/ Punta Gorda Local Mitigation Strategy Working Group will host its annual public meeting February 3, 2011 at 10am at the Charlotte County Public Safety Complex located at 26571 Airport Road, Punta Gorda. The Local Mitigation Strategy is designed to lessen the human, environmental, and economic costs of disaster events. For more information, please contact the Charlotte County Office of Emergency Management at 941-833-4000.
Publish: January 30, 2011
163352 2531413

NOTICE OF SALE

OTHE

care busines 5 941-
the State o
Newspapers
accept adv
violati

ll size.
6-4624

COMPUT

Misted
well. $60

een gold
rtain incl.

COMP
(Your
ONLY $
Please
941

IN SIZE
ea. $30

Dt White

HOM
IMPR

26
1 summer
941-697-

r stainless
ond $24,

CARPENTE
wood, windo
counter rep
941-627-06

ED

PLANT STAND 36" tall, Green. Drawer. Photo ava 941-266-1016

POOL TABLE Picture 30x es black framed pool sticks. $30, OBO 941-735

PRINT BY MARCUS Framed, Signed with Pape 941-889-7592

PRINT BY TRACY DE Signed, Framed & Nu $130 941-889-7592

PROPANE TURKEY dee used once! $35, OBO 3863

REVERSE OSMOSIS WA TEM WATERSHIELD. $5 863-722-0015

RUG DOCTOR Mighty hose, upholstry tool ar solution. $325 201-224-

SALTON HOT Tray Grea ties. Excellent conditi 941-475-1275

SEWING MACHINE Mor

Tuesday

July 31, 2012

10 AM

CHARLOTTE COUNTY EOC

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

EMERGENCY MANAGEMENT CHARLOTTE COUNTY

AGENDA

- Welcome & Introductions
- Housekeeping
- Old Business
  - LMS Update
  - Grants
  - Post Development Plan
- New Business
- Questions / Comments
- Next Meeting Date
- Adjournment

2011 Work Group

SUN NEWSPAPERS
Charlotte • DeSoto • Englewood • North Port • Venice

PUBLISHER'S AFFIDAVIT OF PUBLICATION
STATE OF FLORIDA
COUNTY OF CHARLOTTE:
Before the undersigned authority personally appeared Diane Brinckman, who on oath says that she is legal clerk of the (Charlotte Sun, Englewood Sun, The Arcadian, North Port Sun, Venice Gondolier Sun), a newspaper published at Charlotte Harbor in Charlotte County, Florida; that the attached copy of advertisement, being a Notice of Meeting, was published in said newspaper in the issues of:

January 30, 2011

Affiant further says that the said newspaper is a newspaper published at Charlotte Harbor, in said Charlotte County, Florida, and that the said newspaper has heretofore been continuously published in said Charlotte County, Florida, Sarasota County, Florida and DeSoto County, Florida, each day and has been entered as periodicals matter at the post office in Punta Gorda, in said Charlotte County, Florida, for a period of 1 year next preceding the first publication of the attached copy of advertisement; and affiant further says that he or she has neither paid nor promised any person, firm or corporation any discount, rebate, commission or refund for the purpose of securing this advertisement for publication in the said newspaper.

The Charlotte County/ Punta Gorda Local Mitigation Strategy Working Group will host its annual public meeting February 3, 2011 at 10am at the Charlotte County Public Safety Complex located at 26571 Airport Road, Punta Gorda. The Local Mitigation Strategy is designed to lessen the human, environmental, and economic costs of disaster events. For more information, please contact the Charlotte County Office of Emergency Management at 941-833-4000.
Publish: January 30, 2011
169352 2531413

Diane Brinckman
(Signature of Affiant)

Sworn and subscribed before me this 31st day of January 2011.

12.78

Amber Freeman
(Signature of Notary Public)

AMBER FREEMAN
Comm# DD0780576
Expires 4/20/2012
Florida Notary Assn., Inc

Personally known X OR Produced Identification ___

Type of Identification Produced _____

Dana - Need Receiver(if was pulled) or Check Request

Charlotte County LMS Workgroup Meeting – February 3, 2011

Name	Agency	Phone	Email
Dana Harper	CCEM	9418334000	dana.harper@charlottefl.com
Lynne Stickley	CCEM	941 833 4004	Lynne.Stickley@charlottefl.com
GARY PEDERZOLLI	GIS	941 764-3512	GARY.PEDERZOLLI@CHARLOTTEFL.COM
Henry Burden	DOH	941-624-7200	henry.burden@doh.state.fl.us
CHAD LORENZ	PEIRCE ROWER REG. MED CTR	941-766-4250	chad.lorenz@hma.com
MITCHELL AUSTIN	CITY OF PUNTA GORDA	575-3335	MAUSTIN@CI.PUNTA-GORDA.FL.US
MIKE DALLENBACH	CHARLOTTE COUNTY PUBLIC WORKS	941-575-3635	MIKE.DALLENBACH@CHARLOTTEFL.COM
Patrick Maloney	DOT	941-737-9056	patrick.maloney@freshfromflorida.com
Jie Shao	CC Building & Growth Management	941-743-1272	jie.shao@charlottefl.com
Gerry Mauet	CCEM	9418334000	gerard.mauet@charlottefl.com

Charlotte County LMS Workgroup Meeting – February 3, 2011

Name	Agency	Phone	Email
BERNIE MILOSKY	CCU	941-764-4304	BERNARD.MILOSKY@CHARLOTTEFL.COM
Wayne Saucde	CCEM	941 8334001	wayne.saucde@charlottefl.com

Local Mitigation Strategy Working Group Agenda

February 3, 2011
10 am

1. Welcome and Introductions
2. LMS Update
3. Grants (Utilities and SRL)
4. Post Disaster Redevelopment Plan
5. Questions/ Comments

2010 Work Group

Figure II-3. County Website Public Notification of the Second LMS Meeting

Charlotte County LMS Workgroup Meeting - June 30, 2009

Name	Agency	Phone	Email
Anca (Anca)	Kimberly Place	(941) 625-083	(anca) anca_1971 @yahoo.com
Karen Bliss	Charlotte County PW	941-575-3642	Karen.Bliss@charlottefl.com
John DeGiovine	Charlotte Co PW	941-575-3650	John.degiovine@charlotteFL.com
STEVEN ELLIS	CC GROWTH MGMT	941-764-4054	steven.ellis@charlotteFL.com
Kevin Edwards	IT	941 764-5507	Kevin.edwards@charlotteFL.com
Vince Lafferty	BCS	743-1214	Vincel@charlotteFL.com
Chip Hague	BCS	683-1080	chip.Hague@charlotteFL.com
Lynne Stickley	EM Dept	833-4004	Lynne.Stickley @ " " "
Richard Allen	Charlotte County	764-4393	Richard.Allen@charlottefl.com
Alan Holbach	CC PW	575 3624	alan.holbach@charlotteFL.com
MIKE DALLENBACH	CC PW	575-3635	MIKE.DALLENBACH@CHARLOTTEFL.COM
Norma Overmyer	Brookdale Senior Living - Sterling House	941-743-9300	NOvermyer@Brookdalelivings.com

Appendix B

Hazard Summary Sheets

List of Hazard Summary Sheets

Hazard Summary

Hazard	*Frequency of Occurrence*
Flooding	☐ Annual event ☒ Every 5 years or less ☐ Every 10 years or less ☐ Every 30 years or less ☐ Greater than 30 years
Flooding occurs in the county when there is severe weather or is cyclone-related.	

Impacts	
Public and Responders	• High risk to loss of life and injury, displacement, increased distress • May affect drinking water; can increase risks to health • Risk to life and safety while responding to populations affected by flooding
Continuity of Operations and Program Operations	• Operations may be interrupted if affected by flooding • Staffing difficulties are possible (personnel unable to drive to work)
Property, Facilities, and Infrastructure	• High impact • Utility outages, transportation infrastructure closures, and isolated populations • Varying levels of damage to structures in low-lying areas
Delivery of Services	• High risk to disruption of basic life support systems, typically for short duration
Public's Confidence in Jurisdiction's Governance	• The publics confidence in the counties ability to respond to a flooding situation would be based on our ability to restore services in a timely manner.
Economic Condition	• Impact dependent on severity of flooding • High impact on insurance industry
Environment	• Increased risk of exposure to hazardous materials • Displacement of wildlife may increase public health and safety issues • Increased arboviral vectors

Hazard Summary

Hazard	*Frequency of Occurrence*
Tropical Storm/Category 1 Hurricane	☒ Annual event ☐ Every 5 years or less ☐ Every 10 years or less ☐ Every 30 years or less ☐ Greater than 30 years
Forty-four land-falling Category 1 hurricanes have affected the state since 1851. 136 tropical storms have affected the state since 1900.	

Impacts	
Public and Responders	• Injuries or casualties caused by preventable circumstances • Increased fatigue and distress • Food and water issues if residents are unprepared to shelter in place for duration of event • Injuries/fatalities possible when responding to calls for service during the event • Increased fatigue and stress from hazardous conditions • Status of responder's family will affect the responder's ability to perform his/her duties
Continuity of Operations and Program Operations	• Local governments may have to shut down non-essential functions for duration of event • Charlotte County EOC is rated to withstand the winds of a Category 5 hurricane
Property, Facilities, and Infrastructure	• Minor damage to buildings and structures • Damage primarily to unanchored mobile homes; some damage to poorly constructed signs • Also, some coastal road flooding and minor pier damage
Delivery of Services	• Minor disruption in the service delivery. • Some operations may choose to continue business while others may suspend actions
Public's Confidence in Jurisdiction's Governance	•The publics confidence in the counties ability to respond to a hurricane would be based on our ability to restore services in a timely manner.
Economic Condition	• Highly unlikely to affect the overall economic condition; however, uncontrolled rumors could worsen the situation
Environment	• Negligible damage to environment

Hazard Summary

Hazard	*Frequency of Occurrence*
Category 2 Hurricane	☐ Annual event ☒ Every 5 years or less ☐ Every 10 years or less ☐ Every 30 years or less ☐ Greater than 30 years
Thirty-four land falling Category 2 hurricanes have affected the state since 1851.	

Impacts	
Public and Responders	• Evacuation of homes near coast that cannot withstand Category 1 hurricane conditions • Injuries/fatalities caused from preventable circumstances. • Injuries/fatalities possible when responding to calls for service after the event • Increased fatigue and stress from hazardous conditions • Status of responder's family will affect the responder's ability to perform his/her duties
Continuity of Operations and Program Operations	• Local governments will shut down non-essential functions for duration of event • Implementation of continuity of operations (COOP) for essential functions. • County EOC is rated to withstand the winds of a Category 5 Hurricane
Property, Facilities, and Infrastructure	• Considerable damage to mobile homes, poorly constructed signs, and piers • Some roofing material, door, and window damage of buildings • Coastal and low-lying escape routes flood 2–4 hours before arrival of the hurricane center • Small craft in unprotected anchorages break moorings
Delivery of Services	• Disruption in the delivery of services for the duration of the event • Non-essential services are suspended for several days to a week until recovery functions are implemented
Public's Confidence in Jurisdiction's Governance	• The publics confidence in the counties ability to respond to a hurricane would be based on our ability to restore services in a timely manner.
Economic Condition	• Low impact to the industries in the area of storm's path; however, could also affect industries in other areas if import/export schedules are interrupted • Uncontrolled rumors could worsen the situation
Environment	• Considerable damage to shrubbery and trees, with some trees blown down

Hazard Summary

Hazard	*Frequency of Occurrence*
Category 3 Hurricane	☐ Annual event ☒ Every 5 years or less ☐ Every 10 years or less ☐ Every 30 years or less ☐ Greater than 30 years

Twenty-nine land falling Category 3 hurricanes have impacted the state since 1851, with 4 occurring in the 2004 and 2005 seasons (2004: Ivan, Jeanne; 2005: Dennis, Wilma).

Impacts	
Public and Responders	• Evacuation of low-lying residences within several blocks of the shoreline may be required • Increased fatigue and distress • Food and water issues if residents are unprepared to shelter in place for duration of event • Injuries/fatalities caused from hazardous conditions • Injuries/fatalities possible when responding to calls for service after the event • Increased fatigue and stress from hazardous conditions Status of responder's family will affect the responder's ability to perform his/her duties
Continuity of Operations and Program Operations	• May have to relocate if government offices are damaged • Implementation of COOP for essential functions •County EOC is rated to withstand the winds of a Category 5 Hurricane.
Property, Facilities, and Infrastructure	• Some structural damage to small residences and utility buildings, with a minor amount of curtain wall failures • Low-lying escape routes are cut by rising water 3–5 hours before arrival of the center of the hurricane • Debris
Delivery of Services	• Disruption in the delivery of services for the duration of the event • Non-essential services are suspended for several weeks to a month until recovery operations are implemented
Public's Confidence in Jurisdiction's Governance	•The publics confidence in the counties ability to respond to a hurricane would be based on our ability to restore services in a timely manner.
Economic Condition	• Low to moderate impact to the industries in the area of storm's path; however, could also affect industries in other areas if import/export schedules are interrupted • Uncontrolled rumors could worsen the situation
Environment	• Damage to shrubbery and trees, with foliage blown off trees and large trees blown down. • Terrain continuously lower than 5 feet above sea level may be flooded inland 8 miles • Increase in debris and hazardous materials

Hazard Summary

Hazard	*Frequency of Occurrence*
Category 4 Hurricane	☐ Annual event ☒ Every 5 years or less ☐ Every 10 years or less ☐ Every 30 years or less ☐ Greater than 30 years
Six land falling Category 4 hurricanes have affected the state since 1851.	

Impacts	
Public and Responders	• Massive evacuation of residential areas as far inland as 6 miles • Injuries/fatalities caused from hazardous conditions (e.g., flood, fire, downed electrical lines). • Injuries/fatalities possible when responding to calls for service after the event • Increased fatigue and stress from hazardous conditions • Status of the responder's family will affect the responder's ability to perform his/her duties
Continuity of Operations and Program Operations	• May have to relocate if government offices are damaged; implementation of COOP for essential functions. • County EOC is rated to withstand the winds of a Category 5 Hurricane.
Property, Facilities, and Infrastructure	• More extensive curtain wall failures, with some complete roof structure failures on small residences • Complete destruction of mobile homes • Extensive damage to doors and windows
Delivery of Services	• Disruption in the delivery of services for the duration of the event • Non-essential services are suspended for a month to several months until recovery operations are implemented
Public's Confidence in Jurisdiction's Governance	• The publics confidence in the counties ability to respond to a hurricane would be based on our ability to restore services in a timely manner.
Economic Condition	• Moderate to extensive impact to the industries in the area of storm's path; however, could also affect industries in other areas if import/export schedules are interrupted • Uncontrolled rumors could worsen the situation
Environment	• Shrubs and trees are blown down • Terrain lower than 10 feet above sea level may be flooded, requiring massive evacuation of residential areas as far inland as six miles • Contamination of inland environment with seawater mixed with debris and other hazardous materials could affect aquifer

Hazard Summary

Hazard	*Frequency of Occurrence*
Category 5 Hurricane	☐ Annual event ☐ Every 5 years or less ☐ Every 10 years or less ☐ Every 30 years or less ☒ Greater than 30 years
The Labor Day Hurricane in 1935 and Hurricane Andrew in 1992 are the only land falling Category 5 storms in a 100-year period for the state.	

Impacts	
Public and Responders	• Massive evacuation of residential areas on low ground within 5–10 miles of the shoreline may be required • Injuries/fatalities possible when responding to calls for service after the event • Increased fatigue and stress from hazardous conditions • Status of the responder's family will affect the responder's ability to perform his/her duties
Continuity of Operations and Program Operations	• May have to relocate if local government offices are damaged • Implementation of COOP for essential functions • County EOC is rated to withstand the winds of a Category 5 hurricane
Property, Facilities, and Infrastructure	• Complete roof failure on many residences and industrial buildings • Some complete building failures, with small utility buildings blown over or away • Complete destruction of mobile homes • Major damage to lower floors of structures located less than 15 feet above sea level and within 500 yards of the shoreline
Delivery of Services	• Disruption in the delivery of services for the duration of the event • Non-essential services are suspended for a month to several months until recovery operations are implemented
Public's Confidence in Jurisdiction's Governance	•The publics confidence in the counties ability to respond to a hurricane would be based on our ability to restore services in a timely manner.
Economic Condition	• Extensive to catastrophic impact to the industries in the area of storm's path; however, could also affect industries in other areas if import/export schedules are interrupted • Uncontrolled rumors could worsen the situation
Environment	• All shrubs, trees, and signs blown down • Contamination of inland environment with seawater mixed with debris and other hazardous materials could affect aquifer

Hazard Summary

Hazard	Frequency of Occurrence
Severe Weather and Tornadoes	☒ Annual event ☐ Every 5 years or less ☐ Every 10 years or less ☐ Every 30 years or less ☐ Greater than 30 years

Severe weather affects Florida every day during the summer season. However, extensive severe weather events occur an average of five times annually, most often in the spring and fall. Extreme strong winds level tropical storm force and intense lengthy period of lightning. Annually, fatalities occur as a result of tornadoes.

Impacts	
Public and Responders	• Potential for minimal loss of life and injuries resulting from severe weather • Potential for mass fatalities and large number of injuries resulting from tornadoes • Requires shelter operations • Major impact on mental and physical health • Injuries/fatalities possible in areas affected by tornadoes • Protective actions required for responders from hazards; personal protective equipment (PPE) is required for emergency worker safety from downed utility line, hazardous materials, and debris; basic responder needs must be met. • Status of responder's family will affect the responder's ability to perform his/her duties
Continuity of Operations and Program Operations	• Impact unlikely to cause relocation of government operations as a result of severe weather; locally affected government agencies may be forced to relocate to continue essential operations as a result of impact from tornadoes
Property, Facilities, and Infrastructure	• Severe weather may cause utility outages and transportation infrastructure closures • Tornadoes may cause massive failures in electrical, communications, and other critical infrastructures
Delivery of Services	• Local disruption in services, typically of short duration. • With regard to tornadoes, the area impacted may have widespread disruptions • 911 systems may be overwhelmed
Public's Confidence in Jurisdiction's Governance	•The publics confidence in the counties ability to respond to a tornado would be based on our ability to restore services in a timely manner.
Economic Condition	• Moderate to extensive impact on affected area's economy depending on the type of hazard
Environment	• Moderate impact • Impact on environmental tolerances can easily be overwhelmed from any of the hazards classified under severe weather • Debris and hazardous materials could be released into the environment

Hazard Summary

Hazard	Frequency of Occurrence
Wildfire	☒ Annual event ☐ Every 5 years or less ☐ Every 10 years or less ☐ Every 30 years or less ☐ Greater than 30 years
Wildfires occur annually in Florida. Since 2009, there have been 284 fires and 5150 acres burned in Charlotte County.	

Impacts	
Public and Responders	• Health affected from smoke inhalation • Displacement possible • Special needs populations will require more attention • Increased distress • Increased exposure to smoke inhalation • High risk to health and safety of responders
Continuity of Operations and Program Operations	• If affected, operations may have to be relocated or suspended
Property, Facilities, and Infrastructure	• Moderate impact to the transportation and utility infrastructure, damage to properties
Delivery of Services	• Moderate impact to the delivery of services • Services likely to be temporarily interrupted in affected areas
Public's Confidence in Jurisdiction's Governance	• Extensive impact to wildlife and vegetation
Economic Condition	• Impact on Florida's agricultural and timber industry • High impact on insurance industry
Environment	• The public's confidence is reflected in the Governor's approval rating. The Governor kept a high approval rating during the 2007 wildfires.

Hazard Summary

Hazard	*Frequency of Occurrence*
Drought	☐ Annual event ☐ Every 5 years or less ☒ Every 10 years or less ☐ Every 30 years or less ☐ Greater than 30 years

Since 1900, nine drought cycles (typically of two-year periods) have occurred in Florida. Most often, the area of impact was regional rather than Statewide. Most summer seasons have micro-heat waves based on a geographic area of Florida. Florida averages 12 heat-related fatalities annually.

Impacts	
Public and Responders	• Drought conditions may require water use restrictions, which could cause distress to agricultural concerns • Increase in heat-related illnesses • Infants and children, elderly and access and functional needs populations, and pets may require more attention • Increased risk of dehydration • Prolonged exposure to severe conditions • Overexertion required by job will increase risk of heat-related illness
Continuity of Operations and Program Operations	• Low impact to government • Prolonged drought periods may require the suspension of services
Property, Facilities, and Infrastructure	• Low impact to property, facilities, and infrastructure • Heat-sensitive components may be compromised
Delivery of Services	• Low impact to the delivery of services • Non-essential services (e.g., park and recreational area watering, public property watering) may be suspended
Public's Confidence in Jurisdiction's Governance	• Extensive impact to wildlife and vegetation
Economic Condition	• High impact to agri-business, public utilities, and other industries reliant upon water for production or services
Environment	• Low impact • A reduction in ground water supplies creates a situation conducive to sinkholes • Non-domesticated animals will be directly impacted Flora may die off

Hazard Summary

Hazard	*Frequency of Occurrence*
Extreme Heat	☒ Annual event ☐ Every 5 years or less ☐ Every 10 years or less ☐ Every 30 years or less ☐ Greater than 30 years
While extended extreme heat events are not as common, the State of Florida routinely experiences excessive heat outlooks, watches, and warnings/advisories throughout the State.	

Impacts	
Public and Responders	• Extreme heat leads to an increase in heat-related illnesses • Infants and children, elderly and access and functional needs populations, and pets may require more attention • Increased risk of dehydration • Prolonged exposure to severe conditions • Overexertion required by job will increase risk of heat-related illness
Continuity of Operations and Program Operations	• Negligible impact to government
Property, Facilities, and Infrastructure	• Negligible impact to property, facilities and infrastructure
Delivery of Services	• Low impact to the delivery of services • Non-essential services (e.g., outdoor government activities) may be suspended to mitigate impacts to staff and attendees.
Public's Confidence in Jurisdiction's Governance h	•Extensive impact to wildlife and vegetation
Economic Condition	• High impact to tourism, agri-business, public utilities, and other industries tasked with caring for the population or providing services for comfort
Environment	• Low impact • A reduction in ground water supplies creates a situation conducive to sinkholes • Non-domesticated animals will be directly impacted Flora may die off

Hazard Summary

Hazard	*Frequency of Occurrence*
Winter Storms/Freezes	☐ Annual event ☒ Every 5 years or less ☐ Every 10 years or less ☐ Every 30 years or less ☐ Greater than 30 years

During the winter of 1989–1990, 26 Floridians died of hypothermia. Because of normally mild temperatures, Florida homes often lack adequate heating and insulation and the Florida outdoor lifestyle leads to danger for those not prepared. In addition to the actual temperature, when the wind blows, a wind chill is experienced on exposed skin.

Impacts	
Public and Responders	• Risk of hypothermia and extreme loss of heat if residents are not prepared for conditions • Infants and children, elderly and access and functional needs populations, and pets will require more attention • Low impact to emergency workers • Exposure to extended periods of cold weather increases the risk for hypothermia, frostbite, fatigue, etc.
Continuity of Operations and Program Operations	• Low impact to government • Prolonged severe cold weather periods may strain utility company
Property, Facilities, and Infrastructure	• High impact • Risk of electrical outages and frozen or broken water pipes • Road closures due to ice or debris on roadway
Delivery of Services	• Low Impact • Impacted services would include medical facilities, nursing homes, and assisted living facilities • Organizations that use vehicles to provide services could be subjected to harsher conditions
Public's Confidence in Jurisdiction's Governance	• Extensive impact to wildlife and vegetation
Economic Condition	• Prolonged periods of extreme cold weather could greatly affect agriculture, especially susceptible plant and animal industries within the state • Impact on Florida's produce can have national repercussions
Environment	• Moderate impact • Damage or loss of susceptible plants and animals

Hazard Summary

Hazard	Frequency of Occurrence
Erosion	☒ Annual event ☐ Every 5 years or less ☐ Every 10 years or less ☐ Every 30 years or less ☐ Greater than 30 years

During the 2004 and 2005 hurricane seasons, tropical storms and hurricanes made landfall along the counties coastline. Nearly all of the counties sandy beach shorelines were affected.

Impacts	
Public and Responders	• Low impact on majority of public • There may be isolated incidents of distressed citizens • Public may not be able to visit beaches while erosion repair is underway • Low impact to responders • There may be isolated incidents of responding to calls
Continuity of Operations and Program Operations	• Minimal impact on operations
Property, Facilities, and Infrastructure	• Moderate impact on property near or on the coastlines • Facilities and infrastructure near the coast could be impacted
Delivery of Services	• Low impact • Services normally provided in the areas near the coast may be shut down during repairs
Public's Confidence in Jurisdiction's Governance	• Coastal erosion is a concern within the county. How erosion is prevented and corrected can affect public confidence. Residents on the coast, whose property value declines because of erosion, may lose confidence if no actions are taken to restore the coastline of their property.
Economic Condition	• $3 million and $5 million per mile to restore a coastal shore
Environment	• Moderate impact to coastline. Beaches serve as a natural barrier

Hazard Summary

Hazard	*Frequency of Occurrence*
Sinkholes	☐ Annual event ☐ Every 5 years or less ☐ Every 10 years or less ☐ Every 30 years or less ☒ Greater than 30 years

There is only one known sinkhole in Charlotte County. Sinkholes are a common naturally occurring geological phenomenon and one of the predominant landforms in Florida.

Impacts	
Public and Responders	• Low impact on public outside of immediate collapse • Risk to health if drinking water is contaminated due to sinkhole encroaching into the aquifer • Low impact to emergency workers
Continuity of Operations and Program Operations	• Minimal effect on the state's COOP
Property, Facilities, and Infrastructure	• Minimal impact overall, but isolated homes or businesses may be affected • Sinkholes can affect the infrastructure by draining unfiltered water from streams, lakes, and wetlands directly into the aquifer. If a sinkhole directly affects a structure, it could be extremely costly to repair.
Delivery of Services	• Low impact on delivery of services
Public's Confidence in Jurisdiction's Governance	• Residents affected by sinkholes may look to local and state governments for assistance.
Economic Condition	• Low impact to all industries
Environment	• Moderate impact to the environment; sinkholes can affect the environment by threatening water supplies by draining water from streams, lakes, and wetlands directly into the aquifer; this could affect wildlife habitats

Hazard Summary

Hazard	*Frequency of Occurrence*
Seismic Events	☐ Annual event ☐ Every 5 years or less ☐ Every 10 years or less ☐ Every 30 years or less ☒ Greater than 30 years
Seismic events were more common approximately 30–100 years ago, ranging from slight tremors to a 6 on Modified Mercalli intensity scale.	

Impacts	
Public and Responders	• Moderate impact • Risk to health and safety from falling debris • Stress and fatigue are also possible if incident is severe enough • Risk to life and safety while responding to affected populations • Stress and fatigue from working long hours • Status of responder's family will affect the responder's ability to perform his/her duties
Continuity of Operations and Program Operations	• Moderate impact • Alternate facilities may be unusable; COOP of last resort will be used • Resources to continue operations may be limited (i.e., phones, Internet)
Property, Facilities, and Infrastructure	• High impact • Major damage to property, facilities, and infrastructure
Delivery of Services	• High impact on services if infrastructure is disrupted
Public's Confidence in Jurisdiction's Governance	• Public's confidence will be reflected in the response to the situation.
Economic Condition	• High impact on overall economic condition if seismic event is severe enough
Environment	• High impact • Fallen trees and debris could be hazardous for wildlife

Hazard Summary

Hazard	Frequency of Occurrence
Tsunami	☐ Annual event ☐ Every 5 years or less ☐ Every 10 years or less ☐ Every 30 years or less ☒ Greater than 30 years

Even though Charlotte County is located next to the Gulf of Mexico the risk of a Tsunami is low. According to NOAA the surge of a Tsunami would be very incignificant due to the depth and mass of the Gulf of Mexico.

Impacts	
Public and Responders	• Minimal impacts to the public; more than two-thirds of the population resides near the coast • May be overwhelmed with calls for response due to increased stress on residents.
Continuity of Operations and Program Operations	• There would be minimal impact on the county after a Tsunami.
Property, Facilities, and Infrastructure	• Minimal impact on property near or on the coastlines, may cause beach erosion. • There would be minimal impact on the county after a Tsunami.
Delivery of Services	• There would be minimal impact on the county after a Tsunami.
Public's Confidence in Jurisdiction's Governance	• There would be minimal impact on the county after a Tsunami.
Economic Condition	• There would be minimal impact on the county after a Tsunami.
Environment	• There would be minimal impact on the county after a Tsunami.

Hazard Summary

Hazard	*Frequency of Occurrence*
Solar Storm	☐ Annual event ☐ Every 5 years or less ☐ Every 10 years or less ☐ Every 30 years or less ☒ Greater than 30 years

An emerging threat with potential impacts to the electric grid, satellites, and technology.

Impacts	
Public and Responders	• More frequent, minor solar storms have a low impact on the overall population. • Rare, major solar storms would have a high impact on the overall population • Responders may have difficulty due to widespread disruptions in the electric grid and lack of fuel
Continuity of Operations and Program Operations	• Low impact to COOP for more frequent minor solar storms • Rarer, major solar storms would severely disrupt COOPs because of widespread disruptions to the electric grid, and communications
Property, Facilities, and Infrastructure	• Minor impacts for more frequent solar storms because the infrastructure can handle small energy fluctuations • Major solar storms could severely affect Infrastructure on a regional level if there are disruptions to the electric grid
Delivery of Services	• Low impacts to deliver of service from more frequent solar storms • Potential for high impact on delivery of services if wide spread disruption to power. • Communications, and GPS services could also be disrupted lading to difficulties in delivery of services
Public's Confidence in Jurisdiction's Governance	• High confidence in handling minor, more frequent solar storms • Low confidence in handling rare, major solar storms
Economic Condition	• Potential for high to catastrophic impact on industries if the electricity grid fails.
Environment	• Low impact to the environment overall

Hazard Summary

Hazard	*Frequency of Occurrence*
Technological Hazards	☐ Annual event ☒ Every 5 years or less ☐ Every 10 years or less ☐ Every 30 years or less ☐ Greater than 30 years

The State Watch Office receives information regarding technological hazards on a daily basis. The type and magnitude vary.

Impacts	
Public and Responders	• Low impact on the overall population. Risk to health and safety in areas of occurrence • Shelter-in-place may cause distress and fatigue • Low impact to health and safety of responders as long as training and PPE are up-to-date and meet specifications • Critical Incident Stress Debriefing may be required
Continuity of Operations and Program Operations	• Low impact to COOP • Operations within the vicinity areas affected
Property, Facilities, and Infrastructure	• Facilities near the affected areas may have to shut down • Properties may have to undergo decontamination • Infrastructure on a regional level could be severely affected if shut down
Delivery of Services	• Low impact on delivery of services
Public's Confidence in Jurisdiction's Governance	• High confidence in the county governance based on compliance of regulations. Florida has many facilities that house extremely hazardous materials per the EPA's listing of said chemicals all year round.
Economic Condition	• Low impact on the overall economic condition • Plenty of facilities in the State of Florida with duplicative nature can ensure there would never be a shortage of materials
Environment	• Low impact to the environment overall; however, the areas affected could have moderate impact depending on the type of hazard

Hazard Summary

Hazard	*Frequency of Occurrence*
Hazardous Materials	☒ Annual event ☐ Every 5 years or less ☐ Every 10 years or less ☐ Every 30 years or less ☐ Greater than 30 years

782 hazardous materials events were reported to the State Watch Office from July 2011 to June 15, 2012. 6.8 percent of these reports involved evacuation of individuals from the area of impact.

Impacts	
Public and Responders	• High impact to the health and safety of people living in the impacted area • May require shelter-in-place • Protective actions required for responders • Critical Incident Stress Debriefing may be required
Continuity of Operations and Program Operations	• Low impact to COOP
Property, Facilities, and Infrastructure	• High impact to property, facilities, and infrastructure
Delivery of Services	• Low impact to the delivery of services
Public's Confidence in Jurisdiction's Governance	• The public's confidence will be reflected in the response to .
Economic Condition	• Low impact to the economic and financial community of the impacted area
Environment	• High impact to the areas of highest concentration

Hazard Summary

Hazard	*Frequency of Occurrence*
Nuclear Power Plant	☐ Annual event ☐ Every 5 years or less ☐ Every 10 years or less ☐ Every 30 years or less ☒ Greater than 30 years
The closest nuclear power plant is located 115 miles away on the opposite coast of Charlotte County.	

Impacts	
Public and Responders	• Low impact to the health and safety of personnel. • Protective actions required to protect responders from radiation exposure
Continuity of Operations and Program Operations	• Low impact to COOP
Property, Facilities, and Infrastructure	• Low impact to property, facilities, and infrastructure
Delivery of Services	• Low impact to the delivery of services
Public's Confidence in Jurisdiction's Governance	• Due to the location of the tow power plants in Florida the publics confindence is high.
Economic Condition	• Low impact to the economic and financial community of the impacted area
Environment	• Low impact to the areas of highest concentration of radiological particulate

Hazard Summary

Hazard	Frequency of Occurrence
Mass Migration	☐ Annual event ☐ Every 5 years or less ☐ Every 10 years or less ☒ Every 30 years or less ☐ Greater than 30 years

The State of Florida's refugee program is the largest in the nation, resettling more than 25,000 refugees and Cuban/Haitian entrants each year. Florida also becomes home to more than 2,000 asylum-seekers eligible for services each year.

Impacts	
Public and Responders	• Mass influx to population density will affect the public, most likely in the southern part of the state and along major transit routes • Possible increase in crime rate • Civil disturbances may occur if presence of migrating population upsets the current residents of the area • Moderate impact on responders • Responders may be overwhelmed by increased calls to service
Continuity of Operations and Program Operations	• Civil unrest could lead to disruption in operations in affected areas
Property, Facilities, and Infrastructure	• Moderate impact to property, facilities, and infrastructure • Influx in population could overtax these resources
Delivery of Services	• Moderate impact on services due to overwhelming demand caused by population influx • Medical services, in particular, may be unable to meet the demand
Public's Confidence in Jurisdiction's Governance	• How the county responds to incidents of mass migration will affect the public's confidence. Members of the public may be of the same background as the people who migrate and may react to how the migrants are treated.
Economic Condition	• Moderate impact • Increased demands of deliverable goods • Increased crime in the affected areas could affect the tourism industry
Environment	• Massive increase in population could strain environment

Hazard Summary

Hazard	*Frequency of Occurrence*
Terrorism	☐ Annual event ☐ Every 5 years or less ☐ Every 10 years or less ☒ Every 30 years or less ☐ Greater than 30 years

On September 11, 2001, the United States was attacked by terrorists. Florida has many targets of opportunity for terrorists—political, industrial, historical, and military. South Florida experienced an Anthrax outbreak in 2001. In addition, several terrorist plots directed at Florida residents have been thwarted in recent years.

Impacts	
Public and Responders	• Moderate impact to the health and safety of people as the result of a CBRNE dispersal • Low impact if a result from a cyber-attack on an industry (identity theft or banking attack) • This could increase stress and fatigue • Localized higher impacts near any attacks involving explosives • Protective actions required to protect responders from hazardous exposure • Increase in stress and fatigue
Continuity of Operations and Program Operations	• High impact on the COOP if CBRNE dispersal is in vicinity
Property, Facilities, and Infrastructure	• High impact to property, facilities, and infrastructure depending on what is targeted
Delivery of Services	• High impact to the delivery of services if either form of terrorism is conducted; a cyber attack on the mail system could result in delays; a delay in receiving mail financially affects the state
Public's Confidence in Jurisdiction's Governance	• National and state security have become important topics in light of current events. Poor prevention and response to an attack within the state could result in low public confidence.
Economic Condition	• High impact to the economic condition of the impacted area, since terrorism attempts to change the operations of a target • Industries, infrastructure, and/or the delivery of services could be shut down from the incident
Environment	• High impact to environment if CBRNE dispersal • Florida's aquifer system is close to the surface, which results in extremely low tolerances for the notification of spills

Appendix C

HAZUS Reports

Tropical Storm

Hazus-MH: Hurricane Event Report

Region Name: Flood and Hurricane

Hurricane Scenario: Probabilistic 10-year Return Period

Print Date: Friday, June 06, 2014

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.

Table of Contents

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

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

The geographical size of the region is 713.81 square miles and contains 23 census tracts. There are over 63 thousand households in the region and has a total population of 141,627 people (2000 Census Bureau data). The distribution of population by State and County is provided in Appendix B.

There are an estimated 84 thousand buildings in the region with a total building replacement value (excluding contents) of 11,596 million dollars (2006 dollars). Approximately 92% of the buildings (and 81% of the building value) are associated with residential housing.

Building Inventory

General Building Stock

Hazus estimates that there are 84,658 buildings in the region which have an aggregate total replacement value of 11,596 million (2006 dollars). Table 1 presents the relative distribution of the value with respect to the general occupancies. Appendix B provides a general distribution of the building value by State and County.

Table 1: Building Exposure by Occupancy Type

Occupancy	Exposure ($1000)	Percent of Tot
Residential	9,397,477	81.0%
Commercial	1,602,176	13.8%
Industrial	286,386	2.5%
Agricultural	42,817	0.4%
Religious	175,778	1.5%
Government	32,764	0.3%
Education	58,131	0.5%
Total	**11,595,529**	**100.0%**

Essential Facility Inventory

For essential facilities, there are 3 hospitals in the region with a total bed capacity of 722 beds. There are 33 schools, 22 fire stations, 4 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

Building Damage

General Building Stock Damage

Hazus estimates that about 23 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 Volume 1: Chapter 6 of 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	441	99.25	3	0.70	0	0.04	0	0.01	0	0.00
Commercial	4,248	99.04	39	0.91	2	0.05	0	0.00	0	0.00
Education	74	99.25	1	0.74	0	0.00	0	0.00	0	0.00
Government	46	99.36	0	0.64	0	0.00	0	0.00	0	0.00
Industrial	1,484	99.15	13	0.84	0	0.01	0	0.00	0	0.00
Religion	291	99.41	2	0.59	0	0.01	0	0.00	0	0.00
Residential	77,638	99.52	356	0.46	20	0.03	0	0.00	0	0.00
Total	**84,222**		**413**		**22**		**0**		**0**	

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

Building	None		Minor		Moderate		Severe		Destruction	
Type	**Count**	**(%)**	**Count**	**(%)**	**Count**	**(%)**	**Count**	**(%)**	**Count**	**(%)**
Concrete	3,781	99.01	37	0.97	1	0.02	0	0.00	0	0.00
Masonry	44,263	99.45	230	0.52	15	0.03	0	0.00	0	0.00
MH	11,513	100.00	0	0.00	0	0.00	0	0.00	0	0.00
Steel	3,181	98.93	33	1.02	2	0.06	0	0.00	0	0.00
Wood	21,512	99.52	99	0.46	4	0.02	0	0.00	0	0.00

Essential Facility Damage

Before the hurricane, the region had 722 hospital beds available for use. On the day of the hurricane, the model estimates that 722 hospital beds (only 100.00%) are available for use. After one week, 100.00% of the beds will be in service. By 30 days, 100.00% will be operational.

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	3	0	3
Police Stations	4	0	0	4
Schools	33	0	0	33

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 33,548 tons of debris will be generated. Of the total amount, 25,788 tons (77%) is Other Tree Debris. Of the remaining 7,760 tons, Brick/Wood comprises 20% 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 61 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 6,231 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.

Social Impact

Shelter Requirement

Hazus estimates the number of households that are expected to be displaced from their homes due to the hurricane and the number of displaced people that will require accommodations in temporary public shelters. The model estimates 1 households to be displaced due to the hurricane. Of these, 0 people (out of a total population of 141,627) will seek temporary shelter in public shelters.

Economic Loss

The total economic loss estimated for the hurricane is 15.1 million dollars, which represents 0.13 % 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 15 million dollars. 0% 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 97% of the total loss. Table 4 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	13,218.92	365.49	42.97	40.35	13,667.73
	Content	883.27	11.16	0.97	0.53	895.93
	Inventory	0.00	0.00	0.27	0.09	0.36
	Subtotal	**14,102.18**	**376.65**	**44.21**	**40.97**	**14,564.02**
Business Interruption Loss						
	Income	0.00	0.00	0.00	0.00	0.00
	Relocation	342.57	7.44	0.14	0.26	350.40
	Rental	223.44	0.00	0.00	0.00	223.44
	Wage	0.00	0.00	0.00	0.00	0.00
	Subtotal	**566.01**	**7.44**	**0.14**	**0.26**	**573.84**
Total						
	Total	**14,668.19**	**384.09**	**44.35**	**41.23**	**15,137.86**

Appendix A: County Listing for the Region

Florida
- Charlotte

Appendix B: Regional Population and Building Value Data

	Population	Building Value (thousands of dollars) Residential	Non-Residential	Total
Florida				
Charlotte	141,627	9,397,477	2,198,052	11,595,529
Total	**141,627**	**9,397,477**	**2,198,052**	**11,595,529**
Study Region Total	**141,627**	**9,397,477**	**2,198,052**	**11,595,529**

Category 1 Hurricane

Hazus-MH: Hurricane Event Report

Region Name: Flood and Hurricane

Hurricane Scenario: Probabilistic 20-year Return Period

Print Date: Friday, June 06, 2014

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.

Table of Contents

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

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

The geographical size of the region is 713.81 square miles and contains 23 census tracts. There are over 63 thousand households in the region and has a total population of 141,627 people (2000 Census Bureau data). The distribution of population by State and County is provided in Appendix B.

There are an estimated 84 thousand buildings in the region with a total building replacement value (excluding contents) of 11,596 million dollars (2006 dollars). Approximately 92% of the buildings (and 81% of the building value) are associated with residential housing.

Building Inventory

General Building Stock

Hazus estimates that there are 84,658 buildings in the region which have an aggregate total replacement value of 11,596 million (2006 dollars). Table 1 presents the relative distribution of the value with respect to the general occupancies. Appendix B provides a general distribution of the building value by State and County.

Table 1: Building Exposure by Occupancy Type

Occupancy	Exposure ($1000)	Percent of Tot
Residential	9,397,477	81.0%
Commercial	1,602,176	13.8%
Industrial	286,386	2.5%
Agricultural	42,817	0.4%
Religious	175,778	1.5%
Government	32,764	0.3%
Education	58,131	0.5%
Total	**11,595,529**	**100.0%**

Essential Facility Inventory

For essential facilities, there are 3 hospitals in the region with a total bed capacity of 722 beds. There are 33 schools, 22 fire stations, 4 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

Building Damage

General Building Stock Damage

Hazus estimates that about 461 buildings will be at least moderately damaged. This is over 1% of the total number of buildings in the region. There are an estimated 1 buildings that will be completely destroyed. The definition of the 'damage states' is provided in Volume 1: Chapter 6 of 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	414	93.25	24	5.35	4	1.00	2	0.37	0	0.02
Commercial	4,011	93.52	228	5.32	48	1.11	2	0.05	0	0.00
Education	71	94.49	4	4.98	0	0.52	0	0.01	0	0.00
Government	43	93.03	3	6.16	0	0.79	0	0.02	0	0.00
Industrial	1,415	94.55	71	4.77	9	0.59	1	0.09	0	0.01
Religion	277	94.43	15	5.13	1	0.43	0	0.01	0	0.00
Residential	73,425	94.12	4,196	5.38	386	0.49	6	0.01	1	0.00
Total	**79,656**		**4,541**		**448**		**11**		**1**	

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

Building Type	None		Minor		Moderate		Severe		Destruction	
	Count	(%)	Count	(%)	Count	(%)	Count	(%)	Count	(%)
Concrete	3,585	93.86	207	5.43	27	0.71	0	0.01	0	0.00
Masonry	41,689	93.67	2,547	5.72	266	0.60	5	0.01	0	0.00
MH	11,492	99.82	16	0.14	4	0.03	0	0.00	1	0.01
Steel	3,004	93.42	169	5.25	41	1.26	2	0.07	0	0.00
Wood	20,184	93.38	1,350	6.24	77	0.36	4	0.02	0	0.00

Essential Facility Damage

Before the hurricane, the region had 722 hospital beds available for use. On the day of the hurricane, the model estimates that 514 hospital beds (only 71.00%) are available for use. After one week, 100.00% of the beds will be in service. By 30 days, 100.00% will be operational.

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	3	0	2
Police Stations	4	0	0	4
Schools	33	0	0	31

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 212,734 tons of debris will be generated. Of the total amount, 179,077 tons (84%) is Other Tree Debris. Of the remaining 33,657 tons, Brick/Wood comprises 33% 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 442 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 22,618 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.

Social Impact

Shelter Requirement

Hazus estimates the number of households that are expected to be displaced from their homes due to the hurricane and the number of displaced people that will require accommodations in temporary public shelters. The model estimates 59 households to be displaced due to the hurricane. Of these, 13 people (out of a total population of 141,627) will seek temporary shelter in public shelters.

Economic Loss

The total economic loss estimated for the hurricane is 80.5 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 80 million dollars. 1% 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 92% of the total loss. Table 4 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	63,406.65	2,847.64	363.07	384.40	67,001.75
	Content	4,471.87	610.54	116.98	69.78	5,269.17
	Inventory	0.00	14.77	28.59	5.42	48.78
	Subtotal	**67,878.52**	**3,472.96**	**508.64**	**459.60**	**72,319.71**
Business Interruption Loss						
	Income	0.00	652.16	4.21	33.81	690.19
	Relocation	3,716.18	569.96	25.01	62.96	4,374.10
	Rental	2,124.94	306.36	3.00	5.58	2,439.89
	Wage	0.00	426.23	7.02	224.06	657.32
	Subtotal	**5,841.12**	**1,954.72**	**39.24**	**326.42**	**8,161.49**
Total						
	Total	**73,719.64**	**5,427.67**	**547.88**	**786.02**	**80,481.21**

Appendix A: County Listing for the Region

Florida
- Charlotte

Appendix B: Regional Population and Building Value Data

	Population	Building Value (thousands of dollars)		
		Residential	Non-Residential	Total
Florida				
Charlotte	141,627	9,397,477	2,198,052	11,595,529
Total	**141,627**	**9,397,477**	**2,198,052**	**11,595,529**
Study Region Total	**141,627**	**9,397,477**	**2,198,052**	**11,595,529**

Category 2 Hurricane

Hazus-MH: Hurricane Event Report

Region Name: Flood and Hurricane

Hurricane Scenario: Probabilistic 50-year Return Period

Print Date: Friday, June 06, 2014

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.

Table of Contents

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

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

The geographical size of the region is 713.81 square miles and contains 23 census tracts. There are over 63 thousand households in the region and has a total population of 141,627 people (2000 Census Bureau data). The distribution of population by State and County is provided in Appendix B.

There are an estimated 84 thousand buildings in the region with a total building replacement value (excluding contents) of 11,596 million dollars (2006 dollars). Approximately 92% of the buildings (and 81% of the building value) are associated with residential housing.

Building Inventory

General Building Stock

Hazus estimates that there are 84,658 buildings in the region which have an aggregate total replacement value of 11,596 million (2006 dollars). Table 1 presents the relative distribution of the value with respect to the general occupancies. Appendix B provides a general distribution of the building value by State and County.

Table 1: Building Exposure by Occupancy Type

Occupancy	Exposure ($1000)	Percent of Tot
Residential	9,397,477	81.0%
Commercial	1,602,176	13.8%
Industrial	286,386	2.5%
Agricultural	42,817	0.4%
Religious	175,778	1.5%
Government	32,764	0.3%
Education	58,131	0.5%
Total	**11,595,529**	**100.0%**

Essential Facility Inventory

For essential facilities, there are 3 hospitals in the region with a total bed capacity of 722 beds. There are 33 schools, 22 fire stations, 4 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

Building Damage

General Building Stock Damage

Hazus estimates that about 6,211 buildings will be at least moderately damaged. This is over 7% of the total number of buildings in the region. There are an estimated 113 buildings that will be completely destroyed. The definition of the 'damage states' is provided in Volume 1: Chapter 6 of 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	285	64.18	94	21.14	41	9.25	21	4.70	3	0.73
Commercial	2,830	65.99	809	18.86	537	12.51	111	2.59	2	0.05
Education	51	68.12	14	18.93	8	10.61	2	2.34	0	0.00
Government	30	65.96	9	19.83	5	11.73	1	2.48	0	0.00
Industrial	1,021	68.18	269	17.99	161	10.78	44	2.94	2	0.12
Religion	197	67.24	63	21.60	27	9.36	5	1.81	0	0.00
Residential	55,253	70.82	17,521	22.46	4,741	6.08	393	0.50	106	0.14
Total	59,667		18,780		5,520		577		113	

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

Building Type	None		Minor		Moderate		Severe		Destruction	
	Count	(%)	Count	(%)	Count	(%)	Count	(%)	Count	(%)
Concrete	2,556	66.93	684	17.90	490	12.84	89	2.33	0	0.00
Masonry	30,447	68.41	10,793	24.25	2,957	6.64	274	0.62	36	0.08
MH	11,297	98.13	112	0.97	73	0.63	5	0.04	26	0.23
Steel	2,130	66.25	529	16.47	446	13.86	108	3.35	2	0.07
Wood	14,695	67.98	5,607	25.94	1,179	5.45	111	0.51	24	0.11

Essential Facility Damage

Before the hurricane, the region had 722 hospital beds available for use. On the day of the hurricane, the model estimates that 0 hospital beds (only 0.00%) are available for use. After one week, 0.00% of the beds will be in service. By 30 days, 100.00% will be operational.

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	3	0	0
Police Stations	4	0	0	4
Schools	33	4	0	4

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 635,709 tons of debris will be generated. Of the total amount, 520,895 tons (82%) is Other Tree Debris. Of the remaining 114,814 tons, Brick/Wood comprises 49% of the total, Reinforced Concrete/Steel comprises of 1% 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 2294 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 57,462 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.

Social Impact

Shelter Requirement

Hazus estimates the number of households that are expected to be displaced from their homes due to the hurricane and the number of displaced people that will require accommodations in temporary public shelters. The model estimates 598 households to be displaced due to the hurricane. Of these, 154 people (out of a total population of 141,627) will seek temporary shelter in public shelters.

Economic Loss

The total economic loss estimated for the hurricane is 405.1 million dollars, which represents 3.49 % 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 405 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 80% of the total loss. Table 4 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	240,386.48	30,819.13	4,980.56	4,710.45	280,896.62
	Content	40,034.88	14,830.64	3,051.32	1,961.15	59,877.98
	Inventory	0.00	511.42	626.13	84.96	1,222.51
	Subtotal	**280,421.36**	**46,161.19**	**8,658.01**	**6,756.56**	**341,997.11**
Business Interruption Loss						
	Income	78.40	2,517.23	64.75	320.77	2,981.15
	Relocation	29,602.85	7,997.71	624.55	1,236.56	39,461.67
	Rental	11,928.34	4,149.53	58.57	106.71	16,243.16
	Wage	184.79	2,663.04	108.56	1,432.54	4,388.94
	Subtotal	**41,794.38**	**17,327.52**	**856.44**	**3,096.58**	**63,074.92**
Total						
	Total	**322,215.74**	**63,488.71**	**9,514.45**	**9,853.14**	**405,072.03**

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	141,627	9,397,477	2,198,052	11,595,529
Total	141,627	9,397,477	2,198,052	11,595,529
Study Region Total	141,627	9,397,477	2,198,052	11,595,529

Category 3 Hurricane

Hazus-MH: Hurricane Event Report

Region Name: Flood and Hurricane

Hurricane Scenario: Probabilistic 200-year Return Period

Print Date: Friday, June 06, 2014

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.

Table of Contents

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

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

The geographical size of the region is 713.81 square miles and contains 23 census tracts. There are over 63 thousand households in the region and has a total population of 141,627 people (2000 Census Bureau data). The distribution of population by State and County is provided in Appendix B.

There are an estimated 84 thousand buildings in the region with a total building replacement value (excluding contents) of 11,596 million dollars (2006 dollars). Approximately 92% of the buildings (and 81% of the building value) are associated with residential housing.

Building Inventory

General Building Stock

Hazus estimates that there are 84,658 buildings in the region which have an aggregate total replacement value of 11,596 million (2006 dollars). Table 1 presents the relative distribution of the value with respect to the general occupancies. Appendix B provides a general distribution of the building value by State and County.

Table 1: Building Exposure by Occupancy Type

Occupancy	Exposure ($1000)	Percent of Tot
Residential	9,397,477	81.0%
Commercial	1,602,176	13.8%
Industrial	286,386	2.5%
Agricultural	42,817	0.4%
Religious	175,778	1.5%
Government	32,764	0.3%
Education	58,131	0.5%
Total	**11,595,529**	**100.0%**

Essential Facility Inventory

For essential facilities, there are 3 hospitals in the region with a total bed capacity of 722 beds. There are 33 schools, 22 fire stations, 4 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

General Building Stock Damage

Hazus estimates that about 32,987 buildings will be at least moderately damaged. This is over 39% of the total number of buildings in the region. There are an estimated 6,026 buildings that will be completely destroyed. The definition of the 'damage states' is provided in Volume 1: Chapter 6 of 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 : 200 - year Event

	None		Minor		Moderate		Severe		Destruction	
Occupancy	Count	(%)	Count	(%)	Count	(%)	Count	(%)	Count	(%)
Agriculture	133	29.88	98	22.05	87	19.60	96	21.68	30	6.78
Commercial	1,354	31.58	796	18.55	1,001	23.35	1,063	24.78	75	1.74
Education	26	34.91	14	18.89	15	20.50	19	25.38	0	0.32
Government	20	42.51	9	20.65	9	20.31	8	16.43	0	0.10
Industrial	465	31.03	256	17.09	308	20.55	447	29.89	22	1.44
Religion	103	35.20	68	23.31	59	20.27	60	20.54	2	0.68
Residential	27,050	34.67	21,279	27.28	14,485	18.57	9,302	11.92	5,898	7.56
Total	**29,150**		**22,521**		**15,966**		**10,995**		**6,026**	

Table 3: Expected Building Damage by Building Type : 200 - year Event

Building Type	None		Minor		Moderate		Severe		Destruction	
	Count	(%)	Count	(%)	Count	(%)	Count	(%)	Count	(%)
Concrete	1,163	30.47	634	16.60	900	23.56	1,118	29.27	4	0.11
Masonry	14,007	31.47	13,230	29.73	8,885	19.96	5,678	12.76	2,707	6.08
MH	10,663	92.62	139	1.21	164	1.42	64	0.56	483	4.20
Steel	1,015	31.58	468	14.56	731	22.74	937	29.14	64	1.98
Wood	6,691	30.95	6,645	30.74	4,129	19.10	2,707	12.53	1,443	6.68

Essential Facility Damage

Before the hurricane, the region had 722 hospital beds available for use. On the day of the hurricane, the model estimates that 0 hospital beds (only 0.00%) are available for use. After one week, 0.00% of the beds will be in service. By 30 days, 29.00% will be operational.

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	10	0	15
Hospitals	3	3	2	0
Police Stations	4	1	0	3
Schools	33	21	0	1

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 1,101,522 tons of debris will be generated. Of the total amount, 413,523 tons (38%) is Other Tree Debris. Of the remaining 687,999 tons, Brick/Wood comprises 73% of the total, Reinforced Concrete/Steel comprises of 8% 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 22297 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 130,562 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.

Social Impact

Shelter Requirement

Hazus estimates the number of households that are expected to be displaced from their homes due to the hurricane and the number of displaced people that will require accommodations in temporary public shelters. The model estimates 11,386 households to be displaced due to the hurricane. Of these, 2,773 people (out of a total population of 141,627) will seek temporary shelter in public shelters.

Economic Loss

The total economic loss estimated for the hurricane is 3536.5 million dollars, which represents 30.50 % 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 3,537 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 79% of the total loss. Table 4 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	1,777,965.18	235,762.60	46,616.69	30,619.69	2,090,964.16
	Content	656,622.39	168,114.80	39,236.54	19,018.25	882,991.96
	Inventory	0.00	4,447.04	7,986.53	633.90	13,067.47
	Subtotal	**2,434,587.56**	**408,324.44**	**93,839.76**	**50,271.83**	**2,987,023.60**
Business Interruption Loss						
	Income	1,422.39	55,457.14	863.63	756.33	58,499.48
	Relocation	251,436.59	46,404.28	2,907.50	6,517.02	307,265.39
	Rental	88,500.93	30,088.75	431.81	570.28	119,591.77
	Wage	3,351.09	57,104.92	1,468.51	2,235.06	64,159.58
	Subtotal	**344,711.00**	**189,055.08**	**5,671.44**	**10,078.69**	**549,516.22**
Total						
	Total	**2,779,298.56**	**597,379.52**	**99,511.20**	**60,350.53**	**3,536,539.81**

Appendix A: County Listing for the Region

Florida
- Charlotte

Appendix B: Regional Population and Building Value Data

	Population	Building Value (thousands of dollars) Residential	Non-Residential	Total
Florida				
Charlotte	141,627	9,397,477	2,198,052	11,595,529
Total	**141,627**	**9,397,477**	**2,198,052**	**11,595,529**
Study Region Total	**141,627**	**9,397,477**	**2,198,052**	**11,595,529**

Category 4 Hurricane

Hazus-MH: Hurricane Event Report

Region Name: Flood and Hurricane

Hurricane Scenario: Probabilistic 500-year Return Period

Print Date: Friday, June 06, 2014

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.

Table of Contents

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

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

The geographical size of the region is 713.81 square miles and contains 23 census tracts. There are over 63 thousand households in the region and has a total population of 141,627 people (2000 Census Bureau data). The distribution of population by State and County is provided in Appendix B.

There are an estimated 84 thousand buildings in the region with a total building replacement value (excluding contents) of 11,596 million dollars (2006 dollars). Approximately 92% of the buildings (and 81% of the building value) are associated with residential housing.

Building Inventory

General Building Stock

Hazus estimates that there are 84,658 buildings in the region which have an aggregate total replacement value of 11,596 million (2006 dollars). Table 1 presents the relative distribution of the value with respect to the general occupancies. Appendix B provides a general distribution of the building value by State and County.

Table 1: Building Exposure by Occupancy Type

Occupancy	Exposure ($1000)	Percent of Tot
Residential	9,397,477	81.0%
Commercial	1,602,176	13.8%
Industrial	286,386	2.5%
Agricultural	42,817	0.4%
Religious	175,778	1.5%
Government	32,764	0.3%
Education	58,131	0.5%
Total	**11,595,529**	**100.0%**

Essential Facility Inventory

For essential facilities, there are 3 hospitals in the region with a total bed capacity of 722 beds. There are 33 schools, 22 fire stations, 4 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

Building Damage

General Building Stock Damage

Hazus estimates that about 65,276 buildings will be at least moderately damaged. This is over 77% of the total number of buildings in the region. There are an estimated 12,862 buildings that will be completely destroyed. The definition of the 'damage states' is provided in Volume 1: Chapter 6 of 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	19	4.22	59	13.39	124	27.86	180	40.63	62	13.90
Commercial	245	5.72	387	9.01	1,133	26.41	2,358	54.99	166	3.88
Education	5	6.25	7	9.09	18	24.16	45	59.85	0	0.65
Government	3	5.84	3	7.60	10	22.09	29	63.95	0	0.52
Industrial	93	6.24	125	8.38	342	22.87	895	59.79	41	2.72
Religion	15	5.10	34	11.75	83	28.40	156	53.14	5	1.61
Residential	4,504	5.77	13,882	17.79	24,481	31.38	22,559	28.92	12,588	16.14
Total	**4,884**		**14,499**		**26,191**		**26,223**		**12,862**	

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

Building Type	None		Minor		Moderate		Severe		Destruction	
	Count	(%)	Count	(%)	Count	(%)	Count	(%)	Count	(%)
Concrete	224	5.88	242	6.34	895	23.43	2,449	64.13	9	0.22
Masonry	1,794	4.03	8,007	17.99	14,235	31.98	14,218	31.95	6,253	14.05
MH	9,860	85.64	169	1.47	391	3.40	172	1.49	921	8.00
Steel	205	6.38	190	5.91	711	22.12	1,978	61.54	130	4.05
Wood	795	3.68	4,080	18.87	7,148	33.07	6,379	29.51	3,214	14.87

Essential Facility Damage

Before the hurricane, the region had 722 hospital beds available for use. On the day of the hurricane, the model estimates that 0 hospital beds (only 0.00%) are available for use. After one week, 0.00% of the beds will be in service. By 30 days, 0.00% will be operational.

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	1	0	0
Fire Stations	22	21	0	15
Hospitals	3	3	3	0
Police Stations	4	4	0	0
Schools	33	33	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 2,301,696 tons of debris will be generated. Of the total amount, 993,780 tons (43%) is Other Tree Debris. Of the remaining 1,307,916 tons, Brick/Wood comprises 78% of the total, Reinforced Concrete/Steel comprises of 8% 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 44846 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 186,778 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.

Social Impact

Shelter Requirement

Hazus estimates the number of households that are expected to be displaced from their homes due to the hurricane and the number of displaced people that will require accommodations in temporary public shelters. The model estimates 29,251 households to be displaced due to the hurricane. Of these, 7,216 people (out of a total population of 141,627) will seek temporary shelter in public shelters.

Economic Loss

The total economic loss estimated for the hurricane is 7870.5 million dollars, which represents 67.87 % 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 7,870 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 77% of the total loss. Table 4 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	3,828,426.65	545,838.68	97,501.01	90,554.65	4,562,320.99
	Content	1,502,006.72	415,801.94	84,472.48	80,794.15	2,083,075.29
	Inventory	0.00	11,022.96	16,470.02	1,459.97	28,952.96
	Subtotal	**5,330,433.37**	**972,663.58**	**198,443.51**	**152,808.77**	**6,654,349.23**
Business Interruption Loss						
	Income	6,417.62	127,769.90	1,823.37	1,526.64	137,537.53
	Relocation	530,509.64	102,143.16	5,717.59	18,529.23	656,899.61
	Rental	183,915.31	66,735.05	968.11	2,074.17	253,692.63
	Wage	15,114.48	144,992.91	3,102.50	4,762.13	167,972.02
	Subtotal	**735,957.06**	**441,641.01**	**11,611.57**	**26,892.17**	**1,216,101.81**
Total						
	Total	**6,066,390.43**	**1,414,304.59**	**210,055.08**	**179,700.94**	**7,870,451.04**

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	141,627	9,397,477	2,198,052	11,595,529
Total	**141,627**	**9,397,477**	**2,198,052**	**11,595,529**
Study Region Total	**141,627**	**9,397,477**	**2,198,052**	**11,595,529**

Category 5 Hurricane

Hazus-MH: Hurricane Event Report

Region Name: Flood and Hurricane

Hurricane Scenario: Probabilistic 1000-year Return Period

Print Date: Friday, June 06, 2014

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.

Table of Contents

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

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

The geographical size of the region is 713.81 square miles and contains 23 census tracts. There are over 63 thousand households in the region and has a total population of 141,627 people (2000 Census Bureau data). The distribution of population by State and County is provided in Appendix B.

There are an estimated 84 thousand buildings in the region with a total building replacement value (excluding contents) of 11,596 million dollars (2006 dollars). Approximately 92% of the buildings (and 81% of the building value) are associated with residential housing.

Building Inventory

General Building Stock

Hazus estimates that there are 84,658 buildings in the region which have an aggregate total replacement value of 11,596 million (2006 dollars). Table 1 presents the relative distribution of the value with respect to the general occupancies. Appendix B provides a general distribution of the building value by State and County.

Table 1: Building Exposure by Occupancy Type

Occupancy	Exposure ($1000)	Percent of Tot
Residential	9,397,477	81.0%
Commercial	1,602,176	13.8%
Industrial	286,386	2.5%
Agricultural	42,817	0.4%
Religious	175,778	1.5%
Government	32,764	0.3%
Education	58,131	0.5%
Total	**11,595,529**	**100.0%**

Essential Facility Inventory

For essential facilities, there are 3 hospitals in the region with a total bed capacity of 722 beds. There are 33 schools, 22 fire stations, 4 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

Building Damage

General Building Stock Damage

Hazus estimates that about 73,523 buildings will be at least moderately damaged. This is over 87% of the total number of buildings in the region. There are an estimated 22,873 buildings that will be completely destroyed. The definition of the 'damage states' is provided in Volume 1: Chapter 6 of 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 : 1000 - year Event

	None		Minor		Moderate		Severe		Destruction	
Occupancy	Count	(%)	Count	(%)	Count	(%)	Count	(%)	Count	(%)
Agriculture	21	4.62	29	6.63	85	19.10	223	50.26	86	19.39
Commercial	170	3.96	207	4.82	752	17.54	2,835	66.11	325	7.58
Education	4	5.90	4	5.64	12	16.09	53	70.47	1	1.89
Government	4	8.33	3	6.93	8	17.56	30	66.19	0	0.99
Industrial	69	4.62	68	4.57	213	14.25	1,084	72.40	62	4.16
Religion	12	4.00	20	6.73	60	20.62	189	64.55	12	4.10
Residential	3,352	4.30	7,171	9.19	17,759	22.76	27,345	35.05	22,386	28.69
Total	**3,632**		**7,503**		**18,890**		**31,760**		**22,873**	

Table 3: Expected Building Damage by Building Type : 1000 - year Event

Building	None		Minor		Moderate		Severe		Destruction	
Type	Count	(%)	Count	(%)	Count	(%)	Count	(%)	Count	(%)
Concrete	156	4.09	142	3.71	561	14.70	2,939	76.96	20	0.53
Masonry	1,201	2.70	3,834	8.61	10,037	22.55	17,300	38.87	12,134	27.26
MH	9,798	85.11	121	1.05	291	2.53	163	1.41	1,140	9.90
Steel	149	4.85	114	3.54	437	13.59	2,288	71.18	226	7.04
Wood	559	2.59	2,013	9.31	5,202	24.06	7,893	36.52	5,948	27.52

Essential Facility Damage

Before the hurricane, the region had 722 hospital beds available for use. On the day of the hurricane, the model estimates that 0 hospital beds (only 0.00%) are available for use. After one week, 0.00% of the beds will be in service. By 30 days, 0.00% will be operational.

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	1	0	1
Fire Stations	22	21	0	5
Hospitals	3	3	3	0
Police Stations	4	4	0	1
Schools	33	32	1	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 2,642,212 tons of debris will be generated. Of the total amount, 704,654 tons (27%) is Other Tree Debris. Of the remaining 1,937,558 tons, Brick/Wood comprises 80% of the total, Reinforced Concrete/Steel comprises of 9% 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 69328 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 204,349 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.

Social Impact

Shelter Requirement

Hazus estimates the number of households that are expected to be displaced from their homes due to the hurricane and the number of displaced people that will require accommodations in temporary public shelters. The model estimates 42,008 households to be displaced due to the hurricane. Of these, 10,341 people (out of a total population of 141,627) will seek temporary shelter in public shelters.

Economic Loss

The total economic loss estimated for the hurricane is 10872.5 million dollars, which represents 93.76 % 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 10,873 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 77% of the total loss. Table 4 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	5,287,969.65	741,298.40	130,856.80	115,368.22	6,275,493.08
	Content	2,158,267.16	598,560.89	118,185.02	81,111.57	2,956,124.64
	Inventory	0.00	15,185.33	23,102.10	2,040.42	40,327.85
	Subtotal	**7,446,236.81**	**1,355,044.63**	**272,143.92**	**198,520.21**	**9,271,945.56**
Business Interruption Loss						
	Income	8,207.02	172,536.81	2,433.05	2,062.59	185,239.48
	Relocation	697,247.39	129,507.17	6,554.75	22,054.95	855,364.27
	Rental	245,639.69	86,755.25	1,185.00	2,397.58	335,977.53
	Wage	19,328.56	195,084.03	4,160.75	5,426.83	224,000.16
	Subtotal	**970,422.67**	**583,883.27**	**14,333.56**	**31,941.96**	**1,600,581.45**
Total						
	Total	**8,416,659.48**	**1,938,927.89**	**286,477.48**	**230,462.17**	**10,872,527.01**

Appendix A: County Listing for the Region

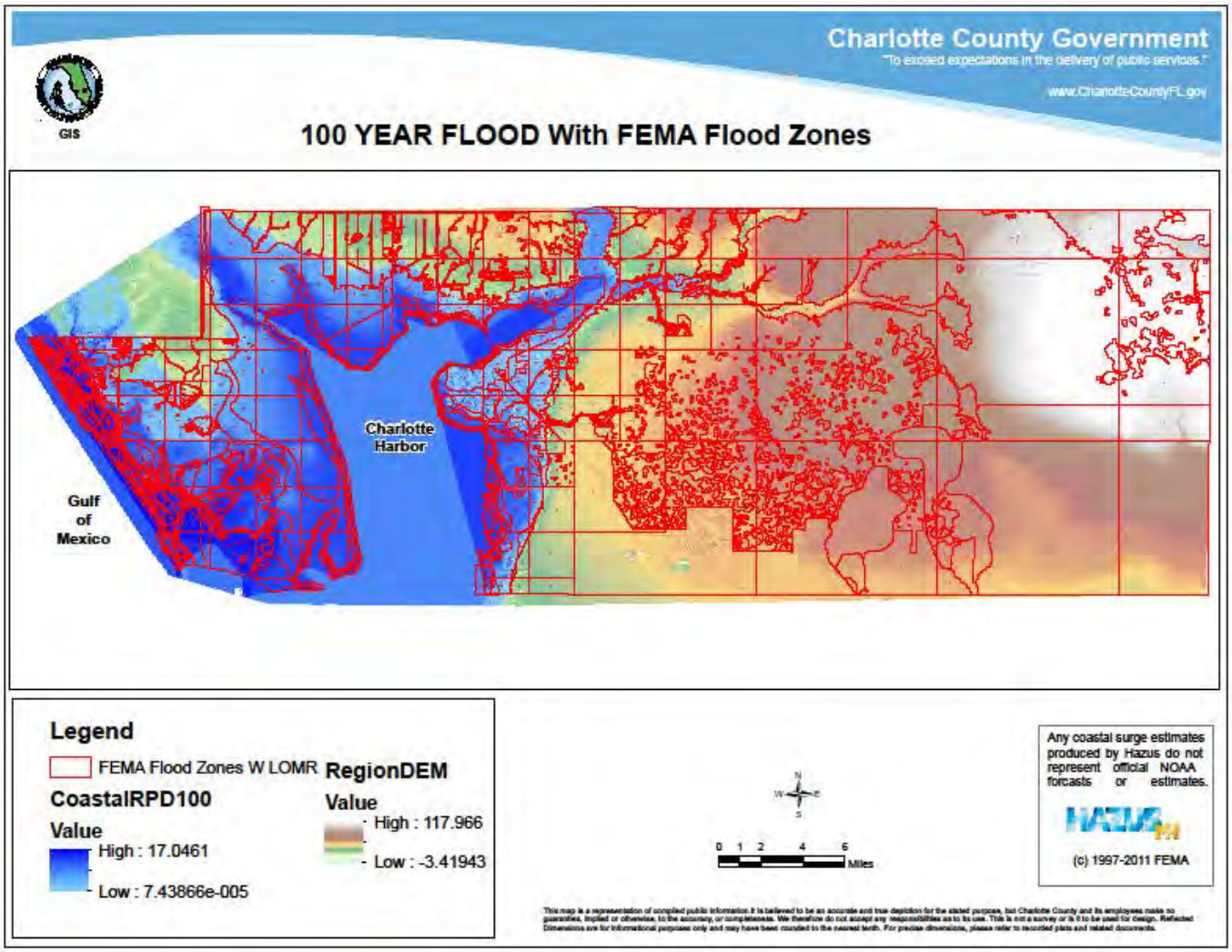
Florida
- Charlotte

Appendix B: Regional Population and Building Value Data

		Building Value (thousands of dollars)		
	Population	Residential	Non-Residential	Total
Florida				
Charlotte	141,627	9,397,477	2,198,052	11,595,529
Total	141,627	9,397,477	2,198,052	11,595,529
Study Region Total	141,627	9,397,477	2,198,052	11,595,529

Appendix D

FEMA Flood Zones



To view FEMA Flood Zones double click on map and set view to 800%.

Attachment 4: Policies Address Residential Developments Within Coastal High Hazard Areas and Evacuation Times)

COMMUNITY DEVELOPMENT DEPARTMENT
18500 Murdock Circle
Port Charlotte, FL 33948
Phone: 941.764.4909 | Fax: 941.764-4108

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 3.2: 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 affects 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 prohibit 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.

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 shall declare a complete evacuation of the area of the County located west of the Myakka River and Charlotte Harbor (Cape Haze Peninsula) when it is determined that it will be affected by a landfalling storm at an intensity greater than a Category 2 storm event as measured on the Saffir-Simpson scale.

CST Policy 4.1.6: Development Impact on Evacuation Times
The County shall utilize the help of the SWFRPC 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.

Community Development Department
Comprehensive Planning Section
18400 Murdock Circle
Port Charlotte, FL, 33948

CHARLOTTE COUNTY
COMMUNITY DEVELOPMENT DEPARTMENT

APPLICATION for LARGE SCALE PLAN AMENDMENT (TEXT)

Date Received:	Time Received:
Date of Log-in:	Petition #:PA-15-10-15-LS Accela #:
Receipt #:	Amount Paid:

1. PARTIES TO THE APPLICATION

Name of Applicant: Charlotte County Board of County Commissioners

Mailing Address: 18500 Murdock Circle

City: Port Charlotte	State: FL	Zip Code: 33948
Phone Number:		Fax Number:
Email Address:		

Name of Agent: Charlotte County Community Development Department

Mailing Address: 18400 Murdock Circle

City: Port Charlotte	State: FL	Zip Code: 33948
Phone Number:		Fax Number:
Email Address:		

2. APPLICANT'S ATTACHMENTS

a. Submit a strikethrough/underline version of the proposed changes.
b. Describe the purpose of/reason for the proposed change. Revisions to Future Land Use (FLU) Appendix 1: land Use Guide by revising "Shelter Requirement" under the "Special Provisions" subsection of the Compact Growth Mixed Use (CGMU) Future Land Use Map (FLUM) category to be consistent with the overall intent and vision set forth in the County's Comprehensive Plan.

3. ADDITIONAL REQUIREMENTS

a. *Traffic Impact Study*: If the proposed change could influence traffic patterns, supply a study that identifies the impacts that could occur through adoption of the proposed change. N/A
b. *Environmental Impact Assessment*: If the proposed change could have an impact on environmental resources, supply a narrative discussing what those impacts could be and how they will be mitigated. N/A
c. *Public Infrastructure and Service Impact Assessment*: If the proposed change could have an impact on infrastructure or services, supply a narrative discussing what those impacts could be

and how they will be mitigated or addressed. N/A

Community Development Department
Comprehensive Planning Section
18400 Murdock Circle
Port Charlotte, FL, 33948

AFFIDAVIT

I, the undersigned, being first duly sworn, depose and say that all data and other supplementary matter attached to and made a part of the application and staff report are honest and true to the best of my knowledge and belief.

STATE OF FLORIDA, COUNTY OF CHARLOTTE

The foregoing instrument was acknowledged before me this 23rd day of DECEMBER, 2015, by JIE SHAO who is personally known to me or has/have produced

as identification and who did/did not take an oath.

Notary Public Signature	Signature of Applicant or Agent: Jie Shao
Notary Printed Signature	Printed Signature of Applicant or Agent: Jie Shao
Title: Notary Public State of Florida Gayle L Moore My Commission EE 868878 Expires 03/06/2017	Address: Charlotte County Community Development Department – Comprehensive Planning 18500 Murdock Circle, B-205 Port Charlotte, FL 33948
Commission Code	City, State, Zip
	Telephone Number

FLU APPENDIX I: LAND USE GUIDE

COMPACT GROWTH MIXED USE (CGMU)

This land use designation is established to advocate compact, transit-oriented, walkable and bicycle-friendly, mixed-use development within the Urban Service Area. This type of development shall only be located within Revitalizing and Emerging Neighborhoods.

General Range of Uses

Single-family attached and detached residential dwelling units, multi-family residential dwelling units, commercial uses including professional office and institutional uses, industrial uses and public services and facilities.

Maximum Density/Intensity

Density: Maximum density is 65 dwelling units per acre, gross

Intensity: Commercial: 2.5 FAR of the commercial or mixed use acreage

Industrial: 1.0 FAR of the industrial acreage

Table A-4.: Compact Growth Mixed Use Percentage of Mix of Uses		
Land Use	**Minimum Development Percentage (gross acreage)**	**Maximum Development Percentage (gross acreage)**
Residential	20	75
Commercial	20	75
Industrial	No minimum	50
Recreational/Open Space	5	10

Special Provisions

1. *Location and Site Layout.*
    a. The project must be sensitive to surrounding developments with regard to density, intensity, height, scale and character. The site layout and building design shall mitigate traffic, parking, noise and compatibility issues wherever possible.
    b. The site layout shall create clusters of buildings to promote a variety of transportation options, such as pedestrian, bike, automobile, mass transit, etc.
    c. All portions of the development shall be accessible by a direct, convenient, attractive, safe and comfortable system of pedestrian facilities, and the development shall provide appropriate pedestrian amenities.
    d. The intent of this land use category is to create a compact development pattern, therefore, long, shallow tracts or deep, narrow tracts are generally not appropriate for this type of development.
2. *Mix of land uses.*

a. The combining of land uses must promote easy access among services, stores and other amenities, especially by pedestrians.
b. To best achieve a mix of land uses, the project shall be developed such that for every one dwelling unit there are between 50-400 square feet of non-residential building space; however, this range may be increase for special projects.
c. The project attribute shall include multiple buildings, more than one land use within the project, and a comprehensive development plan. Buildings may also accommodate one or more uses.
d. Buildings on the site shall be connected by internal streets and drives, and pedestrian connections and pathways.
e. Buildings and individual project components may use common features and support services such as parking, servicing, loading, and utility areas.

3. *Connectivity.* A street system shall provide linkages to local shopping, services, housing, and amenities, as well as linkage between adjacent developments.
4. *Phasing Development.* If the development is phased, the first phase shall be sufficient to stand on its own as a mixed-use development. At a minimum, non-residential development shall be in the ratio of 50 square feet per each dwelling unit.
5. *Flexible Parking.* Parking requirements are not necessarily the sum of requirements for each individual use. Parking requirements will be established on a project-by-project basis with an emphasis on shared parking.
6. *Watershed Protection.* Low Impact Design techniques shall be required to supplement and enhance traditional stormwater retention/detention development.
7. *Compatibility:* Residential, commercial or industrial development shall be built to be compatible visually with the surrounding uses.
8. *Shelter Requirement:* Any CGMU project shall be in compliance with the County's Comprehensive Emergency Management Plan and Local Mitigation Strategy. ~~Where the project is located within the Coastal High Hazard Area or Category II Storm Surge Zone, all residents shall be required to evacuate and the developer is required to provide monetary contributions to the County's shelter system. If outside these areas, sufficient shelter shall be created in each development to support the residential population of the development in the event of a natural disaster.~~
9. *Implementing Zoning.* The implementing zoning district under CGMU shall be a Planned Development district or a Compact Mixed Use district, as may be developed and adopted into the Land Development Regulations.
10. *DRI threshold.* If a project developing under the CGMU FLUM designation meets the threshold of a Development of Regional Impact (DRI), a plan amendment to Mixed Use DRI is not required.