

**Post-Disaster Redevelopment Planning Policies
for the Fort Myers Comprehensive Plan**

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A digital copy of this report can be downloaded from:
www.spikowski.com/FortMyersPDRP.pdf

1. DISASTER-RELATED REDEVELOPMENT PLANNING

Disaster-related redevelopment planning helps communities organize their long-term disaster recovery strategies in a deliberate manner so that after a disaster they can recover more efficiently, maintain local control over the recovery process, and build back better.

This report has been prepared to assist the City of Fort Myers in amending its Comprehensive Plan to update disaster-related redevelopment planning policies. This plan amendment process also provides an opportunity to update other provisions of the Comprehensive Plan concerning hurricane evacuation and shelter issues. Corresponding regulatory changes to the Land Development Code will follow.

EMERGENCY PLANNING TERMINOLOGY

About five years ago, amendments to the Fort Myers Comprehensive Plan added numerous objectives and policies relating to natural and man-made disasters. Some of these amendments refer to other plans and ordinances, existing or proposed, without describing their purpose or contents. The following summaries should assist the public in interpreting the current Comprehensive Plan.

Comprehensive Emergency Management Plan (CEMP). This is an operational plan that establishes emergency management procedures during the preparedness, response, and recovery stages. It assigns duties to specific personnel or agencies and includes checklists and forms that will be used. CEMPs may also address certain mitigation issues.

- In January 2009, Fort Myers adopted its own Comprehensive Emergency Management Plan (CEMP) which describes the basic strategies, assumptions, and detailed “who-does-what” details about the city’s mobilization of emergency resources during the response and initial recovery period. Fort Myers is the only city in Lee County that has its own CEMP; the state encourages but does not require cities to prepare a CEMP.
- Lee County’s most recent CEMP was adopted in 2009. County CEMPs are encouraged but not required to address their municipalities. The State of Florida’s CEMP was adopted in 2010.

Local Mitigation Strategy (LMS): This is a plan to mitigate hazards from natural or manmade disasters before they occur – to make the effects of future disasters less severe. This plan identifies actions that can be taken to permanently reduce the risks from known hazards. (Some mitigation actions can be deferred until after a disaster, for instance relocating damaged buildings or rebuilding them in a safer manner in order to reduce risks from the *next* disaster.)

- Lee County adopted its most recent LMS in December 2011 (replacing earlier strategies adopted in 2007 and 2000). Fort Myers and the other municipalities in Lee County participated in preparing this local mitigation strategy. The Fort Myers City Council formally endorsed this strategy in February 2012.
- There are state and local requirement for local mitigation strategies, but Fort Myers is not required to have its own mitigation strategy. However, specific mitigation policies can be found in Policy 3.4 of the Fort Myers Future Land Use Element.

Post-Disaster Redevelopment Plan (PDRP). This is a plan for long-term recovery after completion of the immediate response to a disaster.

- Fort Myers does not have a stand-alone PDRP, nor do any of the other cities in Lee County.
- Lee County’s PDRP is contained in Chapter 3 of its Comprehensive Emergency Management Plan; many of its implementing provisions have been adopted into the county’s Post-Disaster Recovery Ordinance (07-20).
- Local governments in Florida are encouraged but not required to prepare a stand-alone PDRP. The following counties are known to have some type of PDRP at this time: Collier, Escambia, Hillsborough, Lee, Okaloosa, and Palm Beach. The following cities have PDRPs: Anna Maria Island (covering Anna Maria, Holmes Beach, and Bradenton Beach), Brooksville, Destin, and Dunedin.

ORGANIZATION OF THIS REPORT

Due to budget and time constraints, this report does not constitute a stand-alone Post-Disaster Redevelopment Plan as envisioned in a state guidebook, *Post-Disaster Redevelopment Planning* (referred to herein as PDRP Guidebook, which is published by the Florida Division of Emergency Management and available from <http://www.floridadisaster.org/Recovery/IndividualAssistance/pdredevelopmentplan/tools.htm>). The following pages analyze ten different policy issues and propose specific Comprehensive Plan amendments for each policy issue, followed by implementing code changes.

Appendix A then presents most disaster-related policies in the entire Fort Myers Comprehensive Plan, in order by plan element. The policy revisions proposed in the main body of the report are repeated here, accompanied by numerous other revisions and reorganization so that the elements will be easier to understand and duplication will be minimized.

Appendices B and C provide a thorough assessment of the Fort Myers Comprehensive Plan and Land Development Code as to their current provisions on disaster-related topics. Appendix B identifies policies in the current plan (and regulations in the current code) that address these six topics:

<i>Land Use</i>	<i>Economic Redevelopment</i>	<i>Health & Social Services</i>
<i>Housing</i>	<i>Infrastructure & Public Facilities</i>	<i>Environment</i>

Appendix C analyzes gaps between the current plan and code and “best practices” for disaster-related redevelopment planning as set forth in the PDRP Guidebook. These gaps are organized according to the same six topics as Appendix B.

Appendix D provides a useful summary of Lee County’s hazard mitigation program, excerpted from a recent publication of the American Planning Association.

NEXT STEPS

After City officials evaluate the contents of this report, Comprehensive Plan amendments can be brought forward to the Planning Board and City Council through the standard plan amendment process.

Land Development Code amendments will also proceed through the standard ordinance amendment process, with public hearings before the Planning Board and City Council.

A state grant from the Waterfronts Florida program to the Fort Myers Community Redevelopment Agency has underwritten the cost of this project. Technical assistance has been generously provided by Leigh Scrabis of the Fort Myers Community Redevelopment Agency, Judith Hartwell of the Fort Myers Fire Department, John Wilson of Lee County’s Public Safety Department, Dan Trescott of the Southwest Florida Regional Planning Council, Nicole DeVaughn of the Fort Myers Community Development Department, and Jerry Murphy of Murphy Planning who prepared Appendices B and C.

2. ALL-HAZARDS MSTU

Adopted Policies:

Future Land Use Standard 3.4.4.1: *The City shall work towards participating in the Lee County All-Hazards MSTU.*

Future Land Use Action 3.4.11: *The City will execute an interlocal agreement with Lee County to enable City participation in the Lee County All-Hazards MSTU.*

Future Land Use Standard 3.4.11.1: *The City of Fort Myers shall enter into an interlocal agreement with Lee County, which agreement shall outline City participation within the Lee County All-Hazards MSTU as soon as the City is eligible.*

Discussion and Policy Recommendation:

These provisions were adopted into the Comprehensive Plan in late 2007. No progress has been made to date toward an interlocal agreement or the actual collection of taxes for the All-Hazards MSTU.

In 1993 Lee County began collecting a small all-hazards millage from all property owners in the unincorporated county. This program had been established in 1990 by Lee County Resolutions 90-12-19 and 91-03-42.

All-hazards funds can only be used for the following purposes (actual expenditures are shown in parentheses):

- **Hazardous Material Response** – personnel, equipment, training, etc. (currently funding the Fort Myers Fire Department and private contractors for these services).
- **Emergency Preparedness** – shelters, emergency transportation, infrastructure, etc. (funds have been used for shelter upgrades on Lee County schools and private ventures like the TECO/Germain Arena, and for equipment for the new emergency operations center being constructed on Ortiz Avenue).
- **Emergency Contingency** – matching funds to qualify for federal disaster relief (funds have been used for this purpose several times).
- **Property Acquisition** – purchase storm-damaged property (to date, no funds have been used for this purpose).

The current millage rate is 0.0693, or \$6.93 yearly on a lot assessed at \$100,000. This tax generated \$2.46 million last year.

When Fort Myers Beach and Bonita Springs incorporated as municipalities, their property owners stopped paying into the All-Hazards MSTU.

Beginning in 2002, Cape Coral joined this program.

Cape Coral property owners now pay the same millage as unincorporated residents, and through an interlocal agreement, are guaranteed the following uses of funds generated from Cape Coral:

- 40% – construct new shelters of particular benefit to Cape Coral
- 25% – reduce Cape Coral’s share of shelter deficit costs for prior expenditures by Lee County
- 35% – for other projects in Cape Coral that meet one of the four purposes listed above

Fort Myers committed to join this program when it adopted these policies into its Comprehensive Plan in 2007 but has not moved forward since that time. For a period there was a potential legal hurdle in that cities in Florida cannot impose more than ten mills of ad valorem taxation; due to a two-mill special tax in the Winker Safe Neighborhood District that ended in 2009, Fort Myers was approaching that cap. At present the city’s millage rate is 8.40, presenting no apparent impediment to participation in the all-hazards program.

Services that Lee County provides from this fund are available to everyone in Lee County. To be equitable, the tax shouldn’t be limited to landowners in Cape Coral and the unincorporated county. Through an interlocal agreement, some funds can even be guaranteed for projects located to be convenient to residents of Fort Myers.

An approach that would be even more equitable county-wide would be for the Lee County Commission to re-establish the All-Hazards MSTU as a county-wide tax, applying equally to all cities and to the unincorporated area. Under this scenario, the county-wide millage could be set at a level to generate the same revenue now being generated from Cape Coral and unincorporated county, which would be about 0.0461 mills. Property owners in Fort Myers, Bonita Springs, Fort Myers Beach, and Sanibel would begin paying this millage; property

owners in Cape Coral and unincorporated Lee County would see their all-hazards millage reduced from its current rate of 0.0693.

Fort Myers should renew its commitment to participate in the All-Hazards MSTU and eliminate duplicative language by amending the Comprehensive Plan as shown below. These amendments would relocate this subject to the Public Safety Element inasmuch as it has little relationship to land-use issues.

Proposed Policy Language:

~~**Future Land Use Standard 3.4.4.1:** *The City shall work towards participating in the Lee County All-Hazards MSTU.*~~

Future Land Use Action 3.4.11: *The City will execute an interlocal agreement with Lee County to enable City participation in the Lee County All-Hazards MSTU. See Public Safety Policy 3.8.*

~~**Future Land Use Action 3.4.11:** **Public Safety Policy 3.8:** *No later than the summer of 2013, the City will execute an interlocal agreement with Lee County that establishes the terms of the to enable City's participation in the Lee County All-Hazards MSTU and authorizes the levying of the same property tax millage for that purpose that applies in unincorporated Lee County. This interlocal agreement shall not be required if Lee County adjusts the All-Hazards program to apply automatically to all cities in addition to the unincorporated area.*~~

~~**Future Land Use Standard 3.4.11.1:** *The City of Fort Myers shall enter into an interlocal agreement with Lee County, which agreement shall outline City participation within the Lee County All-Hazards MSTU as soon as the City is eligible.*~~

3. COASTAL HIGH HAZARD AREA

Adopted Policies:

Conservation & Coastal Management Policy 9.1: *The City has designated a Coastal High Hazard Area (CHHA) that includes all area below the elevation of category 1 storm surge line as established by a Sea, Lake and Overland Surges from Hurricane (SLOSH) computerized storm surge model as established by the Southwest Florida Regional Planning Council and demonstrated on Map L-2.*

Future Land Use Standard 3.4.6.1: *The City shall eliminate tax increment incentives for development within the Coastal High Hazard Area.*

Conservation & Coastal Management Action 9.1.1: *Limit public expenditures that subsidize development permitted in the CHHA except for restoration or enhancement of natural resources.*

Conservation & Coastal Management Action 9.1.2: *In order to help control growth in the CHHA, the City shall prohibit the use of tax increment financing incentives to promote development within the CHHA unless the project in question involves a joint public/private partnership.*

Discussion and Policy Recommendation:

Policy 9.1 and Map L-2 were updated in 2007 to comply with changes to state law that required the CHHA be based on the highest predicted storm surge from a Category 1 hurricane. More recently, the Southwest Florida Regional Planning Council adopted a 2010 *Statewide Regional Evacuation Study for the Southwest Florida Region*, replacing the previous hurricane evacuation studies completed in 2005, 2001, 1995, and 1991. Due to advances in data collection and computer modeling, the exact boundaries of the Category 1 storm surge continually change. Updating Map L-2 to reflect the 2010 study would have major impacts on property rights in downtown Fort Myers and is beyond the scope of the current planning effort.

The next two pages show the new map for all of Lee County, then a close-up map of central Fort Myers that shows the existing Coastal High Hazard Area and the 2010 Category 1 storm surge.

The tax incentive provisions cited above require some attention. Standard 3.4.6.1 is quite strict; Actions 9.1.2 is similar but provides a significant exception. Also, Action 9.1.2 is ambiguous because it does not explain what is meant by a “joint public/private partnership.” The term partnership suggests a very significant role for the public sector, such as sharing financial risk and reward with a private development partner. However, it could also be interpreted to include a lesser public role such as development on former public property that has been sold off, or even a rent subsidy or TIF rebate. If tax increment incentives should not be provided for private development in the CHHA, it is not clear how a public partnership of any sort would make incentives acceptable.

Fort Myers should clarify these policies through the amendments shown below.

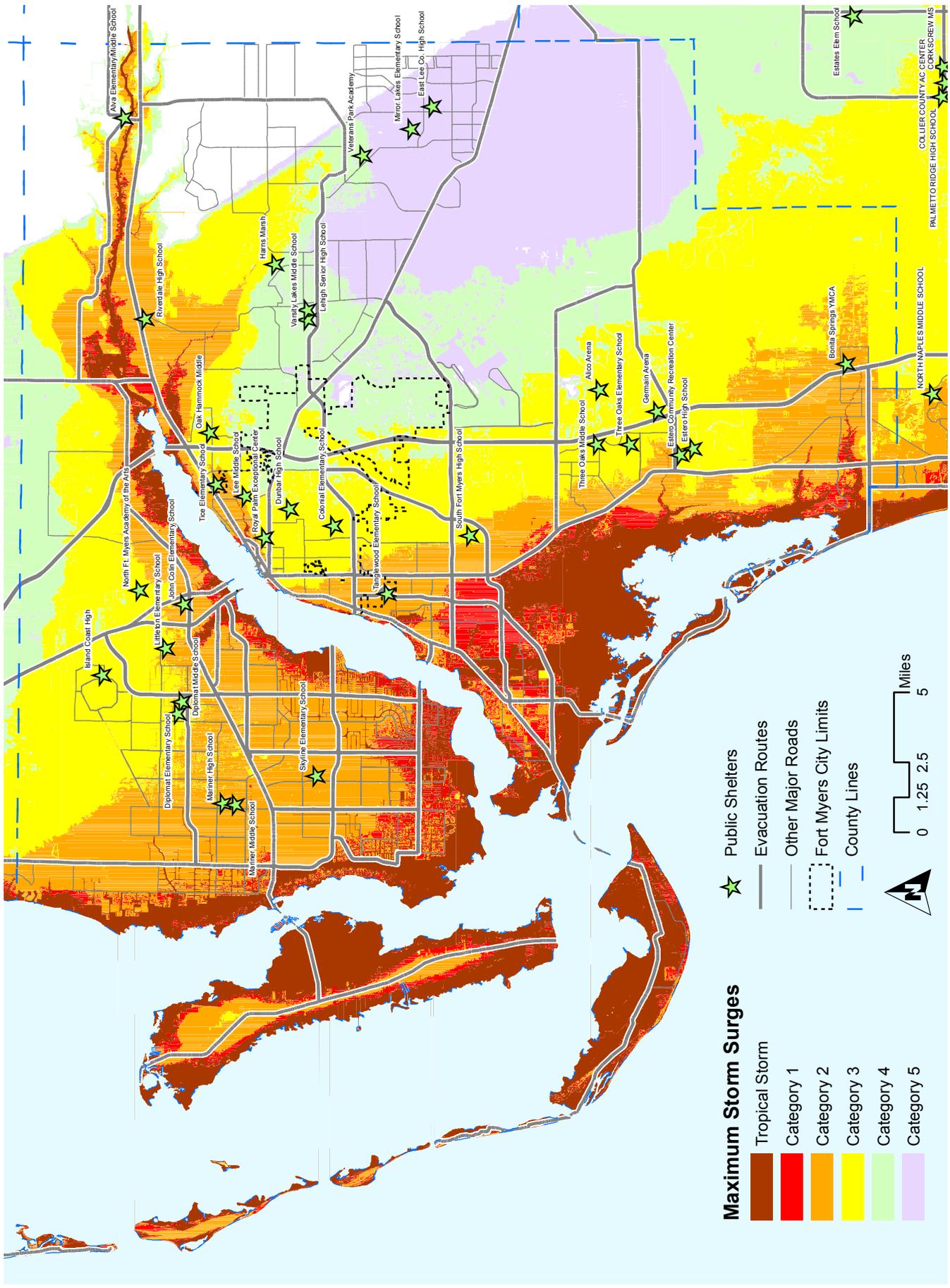
Proposed Policy Language:

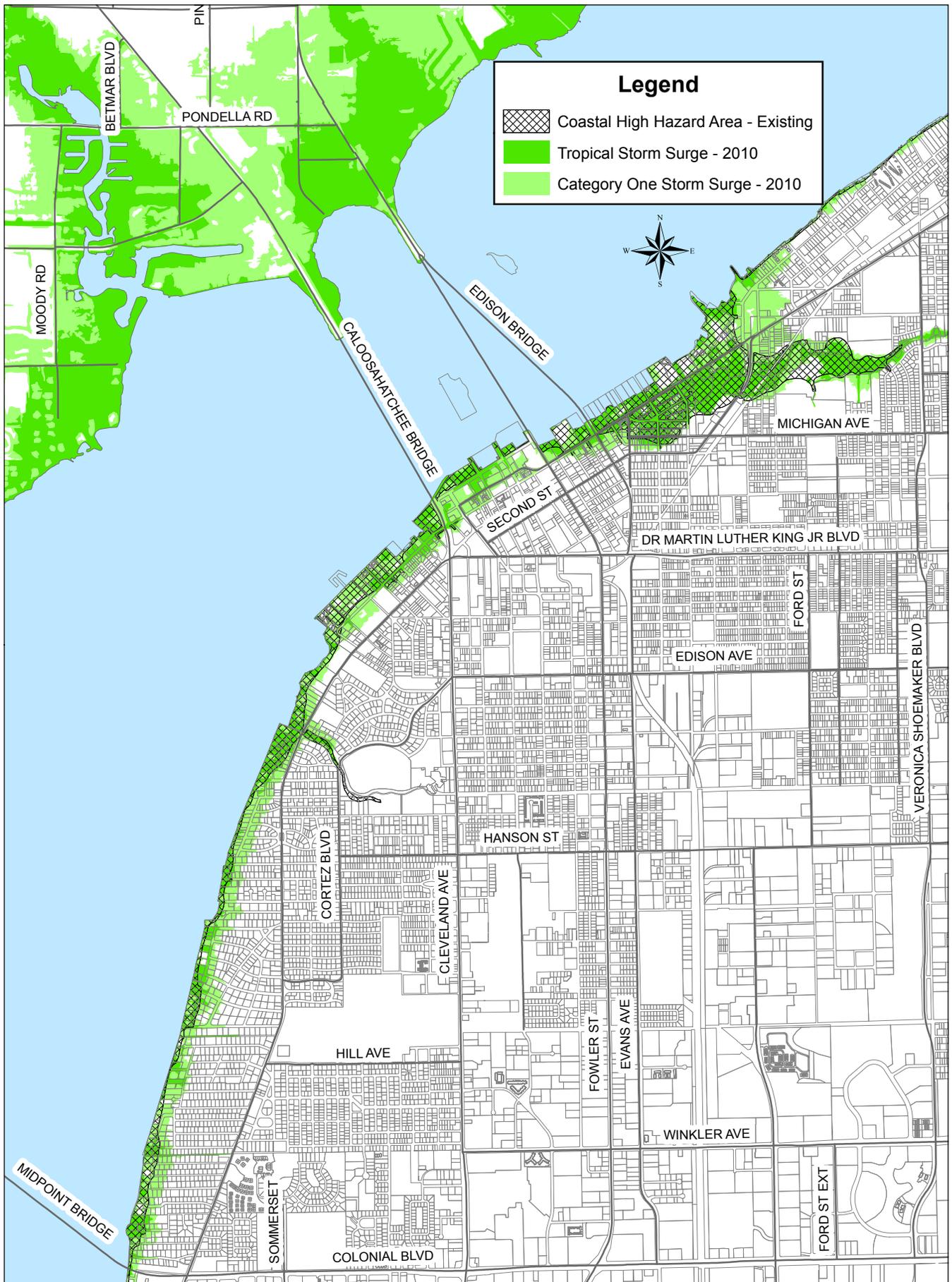
Conservation & Coastal Management Policy 9.1: *In 2007, the City ~~has~~ designated a Coastal High Hazard Area (CHHA) that includes all area below the elevation of category 1 storm surge line as established by a Sea, Lake and Overland Surges from Hurricane (SLOSH) computerized storm surge model as established by the Southwest Florida Regional Planning Council and demonstrated on Map L-2. Detailed maps for downtown are found in Map E-2 and Maps D through D-5.*

Future Land Use Standard 3.4.6.1: *The City shall not grant any ~~eliminate~~ tax increment financing incentives, including but not limited to rebates and subsidies, for private development within the Coastal High Hazard Area.*

Conservation & Coastal Management Action 9.1.1: *Limit public expenditures that subsidize development permitted in the CHHA except for restoration or enhancement of natural resources (see also Future Land Use Action 3.4.6 and Standards 3.4.6.1–3.4.6.2).*

Conservation & Coastal Management Action 9.1.2: *In order to help control growth in the CHHA, the City shall prohibit the use of tax increment financing incentives as described in Future Land Use Standard 3.4.6.1. ~~to~~ promote development within the CHHA unless the project in question involves a joint public/private partnership.*





4. COMPREHENSIVE EMERGENCY MANAGEMENT PLAN

Adopted Policies:

Public Safety Policy 3.1: *The City shall adopt and maintain a Comprehensive Emergency Management Plan, which is consistent with and promotes the use of the Lee County Comprehensive Emergency Management Plan and additionally meets specific needs of the citizens of Fort Myers.*

Surface Water Management Policy 1.1: *The City of Fort Myers subscribes to the findings of the Lee County Comprehensive Emergency Management Plan (CEMP) and maintains a City of Fort Myers Disaster Preparedness Plan consistent with the Lee County Disaster Preparedness Plan. The City of Fort Myers Disaster Preparedness Plan will be updated annually.*

Discussion and Policy Recommendation:

In January 2009, Fort Myers adopted a Comprehensive Emergency Management Plan (CEMP) which describes the basic strategies, assumptions, and detailed “who-does-what” details about the city’s mobilization of emergency resources during the response and initial recovery period.

Specifically, this plan addresses:

- ▶ Evacuation, shelter, and post-disaster response and recovery.
- ▶ Rapid deployment of resources.
- ▶ Communications and warning systems.
- ▶ Annual exercises to prepare for emergencies.

The plan describes in considerable detail the city’s emergency operations center (EOC) and establishes its relationship to county and state EOCs. Precise responsibilities are assigned to all city departments. The plan includes a map of “critical facilities” such as shelters, water/sewage plants, schools, nursing homes, clinics, and law enforcement facilities. Detailed requirements for CEMPs can be found in Chapter 9G-6 of the *Florida Administrative Code*.

The CEMP primarily addresses the preparedness, immediate disaster response, and initial recovery stages. Mitigation and long-term recovery are addressed tangentially; for instance, a potential recovery task force is described, but its membership

isn’t defined and its responsibilities are merely outlined. The CEMP describes the city’s involvement with Lee County in preparing the combined local mitigation strategy and explains the relationship between the CEMP and the city’s comprehensive plan. The CEMP also describes a post-disaster redevelopment plan as being an integral part of the comprehensive plan’s coastal management element, not as a stand-alone document.

The CEMP assigns the Fort Myers Fire Department to prepare necessary plan updates and to notify everyone who received a copy of the plan (primarily city department directors) about these changes. At regular intervals, the updated plan should be readopted by the City Council to formally incorporate all updates; an update is currently planned for early summer of 2012. Regular re-adoption is called for the language presented below.

As currently worded, the second half of Policy 1.1 adds only confusion. Lee County has a CEMP, but nothing specifically called a “Disaster Preparedness Plan.” Fort Myers also has a CEMP, but again nothing specifically called a “Disaster Preparedness Plan.”

To avoid confusion, Policy 1.1 should have its references to “disaster preparedness plans” deleted and should refer readers to the Public Safety Element where the CEMP is described more fully, as shown below.

Proposed Policy Language:

Public Safety Policy 3.1: *The City shall ~~adopt and~~ maintain and update its a Comprehensive Emergency Management Plan that was initially adopted in 2009. This plan shall be, which is consistent with and promotes the use of the Lee County Comprehensive Emergency Management Plan and additionally meets specific needs of the citizens of Fort Myers. This plan should be readopted by the City Council about every three years.*

Surface Water Management Policy 1.1: *The City of Fort Myers subscribes to the findings of the Lee County Comprehensive Emergency Management Plan (CEMP) and maintains its own CEMP, as described in Public Safety Policy 3.1. a City of Fort Myers Disaster Preparedness Plan consistent with the Lee County Disaster Preparedness Plan. The City of Fort Myers Disaster Preparedness Plan will be updated annually.*

5. PLANNING FOR THE POST-DISASTER PERIOD

Adopted Policies:

Public Safety Policy 3.2: *By 2008, the City shall adopt a written Recovery Plan, containing procedure to implement prior to any impending natural or manmade disaster, and which shall be reviewed annually by all relevant City agencies, and again just prior to hurricane season.*

Public Safety Action 3.2.1: *In accordance with Chapter 252 F.S., the Fire Chief of the City of Fort Myers is the City's emergency preparedness coordinator. The Fire Chief and/or his/her designee shall be the coordinator of all City actions and responsibilities related to preparation for and recovery from a natural or manmade disaster. As such, the Fire Chief and/or his/her designee shall work with the relevant City agencies to prepare a city-wide post-disaster recovery plan, which shall be coordinated with the Lee County Comprehensive Emergency Management Plan.*

Public Safety Standard 3.2.1.1: *By 2008, the post-disaster recovery plan shall identify and distinguish between immediate repair and clean-up actions needed to protect the public health and safety and long-term repair and redevelopment activities; address the removal, relocation, or structural modification of damaged infrastructure and unsafe structures; identify areas susceptible to repeated damage, and if any such exist, limit redevelopment in those areas; and include all applicable elements of the Lee County Comprehensive Emergency Management Plan directly or by reference.*

Discussion and Policy Recommendation:

Instead of preparing a “written recovery plan” as stated in Policy 3.2, Fort Myers officials prepared a more thorough Comprehensive Emergency Management Plan (CEMP), which was adopted in early 2009. That plan addresses all procedures necessary to prepare for and respond to an impending disaster, as called for in Policy 3.2.

The cited action and standard below Policy 3.2 call for a “post-disaster recovery plan” by the same 2008 deadline. Although that deadline has passed, the Fort Myers Fire Department is committed to preparing a recovery plan in the coming year.

Planning for the post-disaster period is often divided into two parts, corresponding to the likely assignment of responsibility for each part:

- The first part describes high-priority activities which begin when the immediate pre- and post-disaster mobilization is winding down. The CEMP guides city actions through the emergency response period, but not beyond.

Recovery activities include activities such as removal of debris, restoration of utilities, siting of temporary housing, coordination of out-of-town volunteers, demolition of unsafe structures, and streamlined or waiver of permitting for emergency repairs to roofs, walls, and windows.

This type of plan is typically referred to as a “short-term recovery plan” because it focuses more heavily on initial recovery activities than on long-term redevelopment and reconstruction.

- The second part begins about the same time but describes longer-term redevelopment activities such as rebuilding badly damaged buildings, neighborhoods, and infrastructure. This type of plan is typically referred to as a “post-disaster redevelopment or reconstruction plan.”

The provisions cited above need to be updated with new deadlines and clarification as to the scope and responsibility for each type of planing.

As to short-term recovery planning, responsibility appropriately flows to the Fort Myers Fire Department, which operates the city’s emergency management department. The proposed policy language shown below describes the scope for that assignment. The Fire Department has the necessary expertise and will be drafting a short-term recovery plan in the coming year.

As to post-disaster redevelopment planning, Appendix B of this report summarizes the “best-practices” as formulated by the state of Florida. Most of these practices are well beyond the scope of the current planning effort and are lower priority than the short-term recovery plan discussed above. However, a number of these best practices have been formulated into policy language that can be incorporated into the comprehensive plan at this time instead of waiting for the resources to prepare a stand-alone post-disaster redevelopment plan.

Three significant post-disaster redevelopment issues can be addressed at this time through amendments to the comprehensive plan.

1. POST-DISASTER BUILDBACK: The Comprehensive Plan should identify the general standards that will be enforced when landowners rebuild private buildings that are damaged in a disaster. The Land Development Code currently allows the reconstruction of any single-family home after a disaster but does not provide the same protection for other types of buildings.

A new “post-disaster buildback” policy might follow the Lee County approach, where “build-back” is clearly allowed after a disaster even if the building no longer complies with current regulations. The amount of conformity with current regulations is based on the severity of damage:

- Buildings damaged up to 50% of replacement value may be rebuilt as they were, except that repairs are subject to current building and life-safety codes.
- Buildings damage more than 50% of replacement cost may be rebuilt but must now also comply with current zoning, floodplain elevations, disability access requirements, etc.

If adjustments to current regulations are needed to comply with this policy, a three-member emergency review board is authorized to make decisions without the need for formal variances or rezoning.

The Town of Fort Myers Beach uses Lee County’s approach for post-disaster buildback, except that town staff is authorized to make decisions on adjustments.

The details of these programs are contained in each jurisdiction’s land development code.

Proposed policy language for this program is presented on the following page as Future Land Use Action 3.4.2. Details are provided in Standard 3.4.2.1.

2. PRE-DISASTER BUILDBACK: The Town of Fort Myers Beach goes a step further by offering landowners with buildings that don’t comply with current regulations the opportunity to rebuild *in advance of* a disaster, which is referred to as “pre-disaster buildback.”

Landowners may request this option through a PUD process; the town council may approve requests based on its judgment about the proposed degree of conformance with current policies and regulations.

The details of this program are contained in the town’s land development code.

Proposed policy language for a similar program is presented below as Standard 3.4.2.2.

3. REPETITIVE LOSSES: As a hazard mitigation measure, Lee County’s comprehensive plan greatly limits repairs and improvements to structures that have recorded more than one flood insurance loss.

This strict policy is encouraged by the Federal Emergency Management Agency and is rewarded by credits that can reduce flood insurance premiums for all other property owners in the same community.

However, the cost to an affected building owner is extremely high, often requiring the demolition of their homes, in contrast to the standard rule that a building need not be replaced unless flood damage exceeded 50% of the building’s value.

In 1999 Fort Myers Beach adopted a similar policy in an attempt to speed up the replacement of buildings that were particularly subject to flooding. A single flood loss of \$1,000 or more since 1978 would have forced a building to be replaced when the next flood damage occurred, regardless of how minor the damage.

When considering the implementation of that policy, the town decided that the extreme costs to individuals outweighed the small potential benefits to all. A somewhat less restrictive repetitive loss provision was approved, requiring that structures damaged repeatedly by flooding during any ten-year period would have to be replaced if flood damage from two or more flood events averaged more than 25% of the building’s value.

According to city records, only seven buildings in Fort Myers have recorded more than one flood insurance loss; drainage improvements in Dean Park have resolved the flooding problem for three of these buildings. Given this record, little would be gained by creating a program like Lee County’s that would restrict repairs to buildings suffering more than one flood insurance loss.

Proposed Policy Language:

Future Land Use Action 3.4.2: Provide for the organized and healthy post-disaster redevelopment of Fort Myers by requiring reconstruction to meet stricter standards for flood- and wind-resistance; and mitigate the potential effects of hurricanes by easing regulations that impede the strengthening of existing buildings to allow upgrading before damage occurs.

Future Land Use Standard 3.4.2.1: Damaged structures may be rebuilt in accordance with all existing regulations, or for structures that have been damaged by fire, hurricane, or other natural disaster, landowners may choose to rebuild in accordance with the following post-disaster buildback policy:

- (a) Buildings damaged less than 50% of their value may be rebuilt to their original condition, with repairs subject only to current building codes.
- (b) Buildings damaged more than 50% of their value may be rebuilt to their legally documented actual use, density, intensity, and size provided the new construction complies with:
 - 1. requirements for elevating the first floor above the 100-year floodplain or any requirements for floodproofing;
 - 2. current building and coastal construction codes; and
 - 3. any required zoning or other development regulations (other than density or intensity), except where compliance with such regulations would preclude the reconstruction intended by this policy.
- (c) Redevelopment of damaged property is not allowed for a more intense use or at a density higher than the original lawful density except where such higher density is permitted under this comprehensive plan and the City's land development code.

Future Land Use Standard 3.4.2.2: Structures that do not comply with current density or height limits may also be permitted to be upgraded or rebuilt at their existing density and height prior to a natural disaster. Landowners may request this pre-disaster buildback option through the PUD process; the City Council will approve, modify, or deny such a request based on the proposed conformance with current policies and regulations.

~~**Public Safety Policy 3.2:** By 2008, the City shall adopt a written recovery plan, containing procedure to implement prior to any impending natural or manmade disaster, and which shall be reviewed annually by all relevant City agencies, and again just prior to hurricane season.~~

Public Safety Action 3. 1 2.1: In accordance with Chapter 252 F.S., the Fire Chief of the City of Fort Myers is the City's emergency preparedness coordinator. The Fire Chief and/or his/her designee shall be the coordinator of all City actions and responsibilities related to preparation for, response to, and recovery from a natural or manmade disaster.

~~**Public Safety Policy 3.2:** As such, The Fire Chief and/or his/her designee shall work with the relevant City agencies to prepare a city-wide ~~post-disaster short-term~~ recovery plan by 2013, which shall be coordinated with the ~~Lee~~ Lee County Comprehensive Emergency Management Plans of Lee County and the City of Fort Myers.~~

~~**Public Safety Action Standard 3.2.1.1:** By 2008, The ~~post-disaster short-term~~ recovery plan shall identify and distinguish between immediate repair and clean-up actions needed to protect the public health and safety and long-term repair and redevelopment activities; address activities such as:~~

- ▶ ~~the removal, relocation, or structural modification of damaged infrastructure and unsafe structures;~~
- ▶ ~~identify areas susceptible to repeated damage; and if any such exist, limit redevelopment in those areas; and include all applicable elements of the Lee County Comprehensive Emergency Management Plan directly or by reference.~~
- ▶ ~~remove debris;~~
- ▶ ~~site temporary housing;~~
- ▶ ~~coordinate out-of-town volunteers; and~~
- ▶ ~~streamlined or waiver of permitting for emergency repairs to roofs, walls, and windows.~~

6. REGULATIONS FOR THE POST-DISASTER PERIOD

Adopted Policies:

Conservation & Coastal Management Policy 10.2: *Develop and maintain an interlocal agreement between the City of Fort Myers and Lee County that adopts provisions of Lee County Ordinance Number 95-14, or any subsequent replacement ordinance, regarding managing recovery, reconstruction, and mitigation activities following a major or catastrophic disaster within the City of Fort Myers.*

Conservation & Coastal Management Action 10.2.1: *As part of the Interlocal Agreement process, the City shall perform an analysis of revenue sources that could be directed toward post disaster recovery, reconstruction, and mitigation activities, including but not limited to:*

- (a) Housing assistance;*
- (b) Infrastructure redevelopment;*
- (c) Public facilities recovery; and,*
- (d) Other necessary expenditures.*

Discussion and Policy Recommendation:

Lee County Ordinance 95-14, cited in this policy, addressed both short-term recovery and longer-term redevelopment issues. That ordinance was later overhauled by Ordinance 07-20 to incorporate lessons learned from Hurricane Charley.

The interlocal agreement called for in Policy 10.2 has not been reached, although city emergency officials are familiar with Ordinance 07-20 and use it as guidance for the recovery period.

Policy 10.2 could be amended to make this interlocal agreement a priority by a specific target date. However, many parts of Ordinance 07-20 are specific to Lee County; the portions that apply to Fort Myers belong in city codes rather than in an obscure interlocal agreement.

The best approach for Fort Myers will be to follow the city's existing regulatory framework for organizing regulations for the post-disaster period. The city code contains Part A, with separate chapters organized by subject, and Part B, which is the land development code.

Regulations for short-term recovery activities can be placed in Chapter 22 of Part A, which addresses civil emergencies. Regulations for long-term redevelopment and reconstruction can be placed in appropriate chapters of Part B, the land development code, where the public looks to understand the regulations that govern the use of private property.

The language shown below describes this regulatory approach.

Proposed Policy Language:

Conservation & Coastal Management Policy 10.2: *Develop and maintain an interlocal agreement between the City of Fort Myers and Lee County that adopts provisions of Lee County Ordinance Number 95-14, or any subsequent replacement ordinance, regarding managing recovery, reconstruction, and mitigation activities following a major or catastrophic disaster within the City of Fort Myers.*

Conservation & Coastal Management Action 10.2.1: *As part of the Interlocal Agreement process, the City shall perform an analysis of revenue sources that could be directed toward post disaster recovery, reconstruction, and mitigation activities, including but not limited to:*

- (a) Housing assistance;*
- (b) Infrastructure redevelopment;*
- (c) Public facilities recovery; and,*
- (d) Other necessary expenditures.*

Public Safety Action 3.2.2: *Short-term recovery regulations shall be incorporated into Chapter 22 of the Fort Myers Code of Ordinances, "Civil Emergencies." The City staff shall conduct annual City hurricane drills and reviews with City staff.*

Future Land Use Standard 3.4.2.3: *Post- and pre-disaster buildback regulations and other intermediate- and long-term redevelopment regulations shall be incorporated into the Land Development Code.*

7. MITIGATION STRATEGY

Adopted Policies:

Public Safety Policy 3.4: *The City hereby commits to undertaking a comprehensive disaster mitigation strategy, as identified in Policy 5.4 of the Future Land Use Element of this*

Comprehensive Plan, and its subsidiary Actions and Standards. The following outlines the mitigation strategy defined in Policy 5.4: [etc.]

Discussion and Policy Recommendation:

In December 2011 Lee County updated its 2010 “joint unified local mitigation strategy” (replacing earlier efforts in 2000 and 2007). That document attempts to reduce the effects of future disasters by identifying actions that could permanently reduce risks from known hazards.

Fort Myers city officials helped prepare Lee County’s mitigation strategy. Fort Myers is not required to have its own mitigation strategy; this combined effort with the county and other cities has proven beneficial to all parties. In February 2012, the Fort Myers City Council adopted a resolution supporting Lee County’s latest (December 2011) Joint Unified Local Mitigation Strategy.

Mitigation strategies are separate from planning for post-disaster recovery and redevelopment. Mitigation strategies are normally carried out over long periods as resources become available. However, some mitigation strategies become

more practical after a disaster, such as a long-term strategy to relocate infrastructure that is suddenly damaged or destroyed by a hurricane.

Public Safety Policy 3.4 could be interpreted as requiring a completely new mitigation strategy for Fort Myers. However, the wording of Future Land Use Policy 5.4, renumbered as 3.4 in 2010, makes it fairly clear that the strategy is already contained in the future land use element (where it is now described as a “redevelopment strategy”). The bulleted items in the Public Safety Policy 3.4 are summaries of the actions in Future Land Use Policy 3.4.

This policy should be updated to clarify that the city will continue to participate in Lee County’s joint unified local mitigation strategy and to state more clearly that the bulleted items are summaries of the redevelopment and disaster mitigation strategies now found in Future Land Use Policy 3.4.

Proposed Policy Language:

Policy 3.4: *The City hereby commits to participating in Lee County’s joint unified local mitigation strategy and also undertaking a comprehensive the redevelopment and disaster mitigation strategies, as identified in Policy 3.4 of the Future Land Use Element of this Comprehensive Plan, and its subsidiary Actions and Standards. The following outlines these mitigation strategies defined in Policy 3.4:*

- ▶ *Implementing measures to replace or eliminate unsafe structures that are subject to repetitive damage from coastal storms and floods;*
- ▶ *Providing for the organized and healthy post-disaster redevelopment by requiring reconstruction to meet stricter standards for flood- and wind-resistance and by mitigating the potential effects of hurricanes by easing regulations that impede the strengthening of existing buildings before damage occurs;*
- ▶ *~~Implementing measures to reduce exposure of City infrastructure to natural or manmade hazards;~~*
- ▶ *Implementing operational and capacity improvements to City roadways to ensure that the City maintains or reduces the its component of the County’s overall hurricane evacuation clearance time;*
- ▶ *Implementing measures to reduce the City’s hurricane shelter space deficit and to maintain the City’s Category 3 hurricane evacuation times;*
- ▶ *Implementing measures that require new developments within the City of Fort Myers to contribute to the creation of*

additional public shelters in proportion to the development’s identified impacts on Lee County’s public shelter space deficit and/or hurricane evacuation clearance times;

- ▶ *Ensuring that public expenditures within the Coastal High Hazard Area coastal high hazard zone are limited to those expenditures that maintain existing public facilities, make such facilities more disaster resistant, provide or maintain public shoreline access, and restore and protect natural systems;*
- ▶ *Ensuring that the City continues to maintain participation in the National Flood Insurance Program’s and its Community Rating System (CRS) (see Policy 3.5);*
- ▶ *Implementing measures that ensure the protection of coastal resources and, ~~which~~ provide for public access to the City’s shoreline;*
- ▶ *The preparation of data and analysis regarding activities proposed within the City’s downtown redevelopment area strategy, including, but not limited to, an assessment of the potential for natural hazard damage to structures and the potential costs of such damage; ~~and;~~*
- ▶ *The periodic preparation of data and analysis, based upon the current redevelopment strategy at the time of the analysis, forecasting the impacts of the proposed strategy upon hurricane evacuation clearance times and public shelter capacity; and,*
- ▶ *Participation in the Lee County All-Hazards MSTU (see Policy 3.8).*

8. FORT MYERS HURRICANE SHELTER & EVACUATION STUDY

Adopted Policies:

Future Land Use Action 3.4.10: *The City shall periodically prepare data and analysis, based upon the current redevelopment strategy at the time of the analysis, forecasting the impacts of the proposed strategy upon hurricane evacuation clearance times and public shelter capacity.*

Future Land Use Standard 3.4.10.1: *The City's initial public shelter and hurricane evacuation study shall be prepared by December 2007. The study shall be updated every three years, thereafter.*

Discussion and Policy Recommendation:

Standard 3.4.10.1 was added to the comprehensive plan in 2007. At that time, the regional hurricane evacuation plan update was being delayed and there may be some urgency to a local study, even though hurricane shelters and evacuation are handled on a countywide and regional basis.

The map on Page 6 shows Lee County's public shelters, evacuation routes, and the areas subject to storm surges from various storms.

The regional hurricane evacuation plan update was completed in 2010 and there is no apparent need for either an initial Fort Myers-specific shelter and hurricane evacuation study or regular updates. Standard 3.4.10.1 should be eliminated.

Proposed Policy Language:

Future Land Use Action 3.4.10: *The City shall periodically prepare data and analysis, based upon the current redevelopment strategy at the time of the analysis, forecasting the impacts of the proposed strategy upon hurricane evacuation clearance times and public shelter capacity.*

~~**Future Land Use Standard 3.4.10.1:** *The City's initial public shelter and hurricane evacuation study shall be prepared by December 2007. The study shall be updated every three years, thereafter.*~~

9. HAZARD MITIGATION REPORTS & FLOOD INSURANCE STUDY

Adopted Policies:

Conservation & Coastal Management Policy 3.5: *The City shall coordinate land uses and post disaster redevelopment with Interagency Hazard Mitigation Reports in the event of a natural disaster.*

Surface Water Management Policy 1.2: *The City shall regulate development in floodplains and flood prone area, identified by the federal emergency management agency in its flood insurance study of the City of Fort Myers, dated October 17, 1984.*

Surface Water Management Action 1.2.1: *Any structure erected or substantially improved (regardless of use) shall be built according to the flood hazard reduction standards, which may include: construction of structures by methods and practices that minimize flood damage; the regulation of materials used for construction; anchoring techniques to prevent flotation, collapse or lateral movement of the structure; and the regulation of construction to minimize the accumulation of flood waters.*

Discussion and Policy Recommendation:

The wording of Policy 3.5 is ambiguous. *Interagency Hazard Mitigation Reports* are prepared by teams of federal, state, and local officials during the first 15 days after of a disaster to determine recovery steps that can be achieved. Presumably the intention of this policy was to use knowledge gained after a disaster to improve the rebuilding process and prepare for the next disaster. To clarify that intent, this policy should be revised as shown below and relocated to the Public Safety Element.

The 1984 flood insurance study has been superseded by a 2008 study; the reference in Policy 1.2 should be updated as shown below.

Action 1.2.1 is obsolete language that has been superseded by Public Safety Action 3.5.2; Action 1.2.1 should be deleted.

Proposed Policy Language:

Conservation & Coastal Management Policy 3.5: Public Safety Policy 3.9: *The City shall use knowledge gained after a natural disaster from ~~coordinate land uses and post disaster redevelopment with~~ Interagency Hazard Mitigation Reports to guide the recovery and rebuilding process and to improve preparedness and response techniques for future disasters. in the event of a natural disaster.*

Surface Water Management Policy 1.2: *The City shall regulate development in floodplains and flood prone area, identified by the federal emergency management agency in its flood insurance study of the City of Fort Myers and Lee County, dated August 28, 2008 ~~October 17, 1984~~. See Public Safety Policy 3.5.*

Surface Water Management Action 1.2.1: *~~Any structure erected or substantially improved (regardless of use) shall be built according to the flood hazard reduction standards, which may include: construction of structures by methods and practices that minimize flood damage; the regulation of materials used for construction; anchoring techniques to prevent flotation, collapse or lateral movement of the structure; and the regulation of construction to minimize the accumulation of flood waters.~~*

10. COASTAL ZONE

Adopted Policies:

Conservation & Coastal Management Objective 1 (listed under Goal 2): Designate a Coastal Zone.

Conservation & Coastal Management Policy 1.1 (listed under Goal 2): The City shall designate the Coastal Zone to include the portions of the Caloosahatchee River within the city limits and the Urban Reserve, the natural portions of both Billy Creek and Manuel's Branch, and all parcels within the city limits and the Urban Reserve that abut the Caloosahatchee River, Manuel's Branch, or Billy Creek (Map K).

Other Conservation & Coastal Management Element Goal 2 References to "Coastal Zone" or "Coastal Area":

Action 1.1.1; Policy 3.4; Action 7.3.1; Objective 8; Policy 8.1; Action 8.1.1; Policy 8.2; Action 8.2.1

Public Safety Element References to "Coastal Area":

Policy 3.7

Discussion and Policy Recommendation:

Fort Myers had been required by the state to identify its own "Coastal Zone" in the comprehensive plan. Map K has delineated this Coastal Zone since 1989 (it is sometimes referred to in the plan as the "Coastal Area").

That requirement was removed by the Florida Legislature through the 2011 Community Planning Act.

Fort Myers of course may continue to delineate a separate "Coastal Zone" in its comprehensive plan, but there is no compelling reason to do so. The origin of Map K is unknown; certainly it predated the detailed topographic mapping that was conducted by the Southwest Florida Regional Planning Council for the 2010 *Statewide Regional Evacuation Study for the Southwest Florida Region*. Note however that

Map L-2 designates much less land along Billy's Creek and Manuel Branch than Map K.

Where separate policies are appropriate for Fort Myers' coastline, the Coastal High Hazard Area (Map L-2) provides a more accurate delineation of low-lying land.

Where the current Coastal Zone policies should apply to the entire city of Fort Myers, the policies are being reworded accordingly.

The map on Page 17 compares the existing "Coastal Zone" (from Map K) with the existing "Coastal High Hazard Area" (from Map L-2) and the potential new Coastal High Hazard Area (category one storm surge) from the 2010 evacuation study.

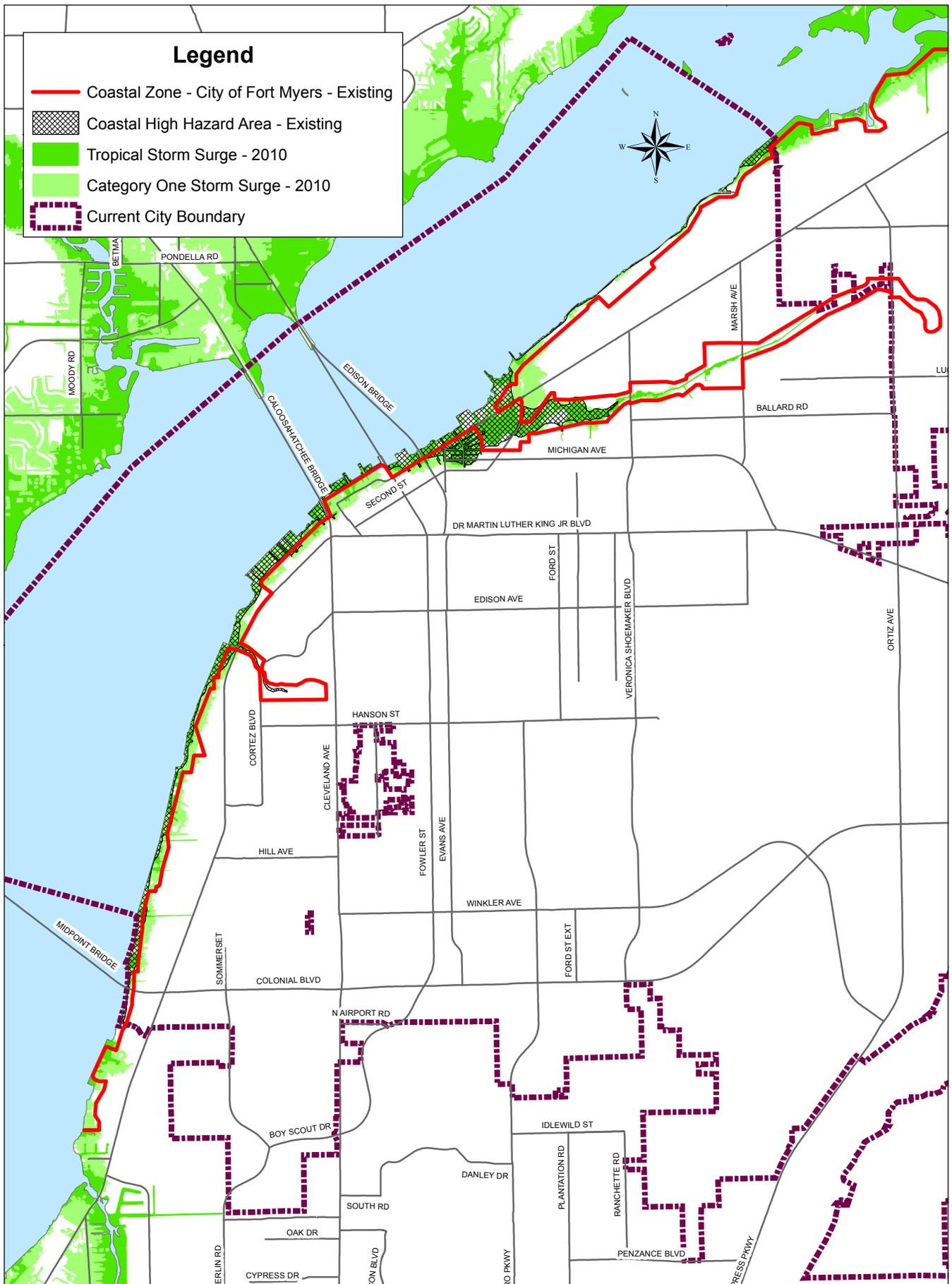
Proposed Policy Language:

Conservation & Coastal Management Objective 1: ~~Designate a Coastal Zone:~~ Reserved.

Conservation & Coastal Management Policy 1.1: ~~The City shall designate the Coastal Zone to include the portions of the Caloosahatchee River within the city limits and the Urban Reserve, the natural portions of both Billy Creek and Manuel's Branch, and all parcels within the city limits and the Urban Reserve that abut the Caloosahatchee River, Manuel's Branch, or Billy Creek (Map K).~~

Numerous minor adjustments to delete specific references to "Coastal Zone" or "Coastal Area" are identified in the attached composite amendments to the Conservation & Coastal Zone Element. These adjustments affect the following:

Conservation & Coastal Management Action 1.1.1; Policy 3.4; Action 7.3.1; Objective 8; Policy 8.1; Action 8.1.1; Policy 8.2; Action 8.2.1; Public Safety Policy 3.7



11. HURRICANE VULNERABILITY ZONE

Adopted Policies:

Conservation & Coastal Management Policy 10.1: (listed under Goal 2) The City has designated a hurricane vulnerability zone, which includes all parcels within the evacuation zone for a tropical storm and Category 1, 2, and 3 hurricanes as established in the Southwest Florida Regional Planning Council's Regional Hurricane Evacuation Study of Southwest Florida, as demonstrated on Map L-3. The City of Fort Myers' designated Coastal High Hazard Area (CHHA) is the most vulnerable portion of the City's designated hurricane vulnerability zone.

Action 10.1.1: All further public expenditures made for new facilities in the CHHA will require a finding by the City Council that such expenditures are necessary to maintain required service levels, protect existing residents, or to provide for recreation and open space needs.

Action 10.1.2: Public investments within the hurricane vulnerability zone shall be designed to withstand expected storm intensities as required by the Land Development Regulations (Standard Building Code reference).

Standard 10.1.2.1: Engineering designs for facilities within the hurricane vulnerability zone shall certify that facility designs shall withstand Category 3 storm event.

Action 10.1.3: When state funding is required for the relocation or replacement of infrastructure currently located within the CHHA, the capacity of the replacement structure will be limited to maintaining required service levels, protecting existing residents, and providing for recreation and open space needs.

Discussion and Policy Recommendation:

Policy 10.1 designates a "hurricane vulnerability zone" on Map L-3 that includes land within evacuation zones for a tropical storm or Category 1, 2, or 3 hurricanes.

This type of map differs from the computer-generated maps that show how far inland storm surges might reach for various categories of storms, which are based on the exact elevation of land. Instead, this type of map identifies very large zones defined by major roads and other landmarks that the public can easily understand.

Fort Myers had been required to identify this hurricane vulnerability zone in its comprehensive plan. That requirement was found in Rule 9J-5 of the Florida Administrative Code, which was repealed by the Florida Legislature through the 2011 Community Planning Act.

Nonetheless, a map of this nature is a useful tool for advising the public about who should evacuate when. Although no longer required, the City of Fort Myers should replace Map L-3 with the most recent similar map from the Southwest Florida Regional Planning Council and Lee County Emergency Management.

This map no longer identifies zones by reference to hurricane categories; rather it contains Zones A through E, with Zone A needing to be evacuated first. Fort Myers contains land in Zones B, C, and D, with Zone B lying west of US 41 and north of Palm Beach Boulevard, and Zone D lying east of I-75 (see map on Page 19). A new map should replace the prior Map L-3; the policies, actions, and standards describing Map L-3 should be updated accordingly, as described below.

Proposed Policy Language:

Conservation & Coastal Management Policy 10.1: The City has designated a hurricane vulnerability zones based on a map prepared by Lee County Emergency Management and the Southwest Florida Regional Planning Council. This map assigns land in Lee County to Evacuation Zones A through E; Zone A would be the first zone to be evacuated. Evacuation Zones in the City of Fort Myers are shown, which includes all parcels within the evacuation zone for a tropical storm and Category 1, 2, and 3 hurricanes as established in the Southwest Florida Regional Planning Council's Regional Hurricane Evacuation Study of Southwest Florida, as demonstrated on Map L-3. The City of Fort Myers' designated Coastal High Hazard Area (CHHA) is the most vulnerable portion of the City's designated hurricane vulnerability zone.

Standard 9.1.1.2: ~~Action 10.1.1:~~ All further public expenditures made for new facilities in the CHHA will require a finding by the City Council that such expenditures are necessary to maintain required

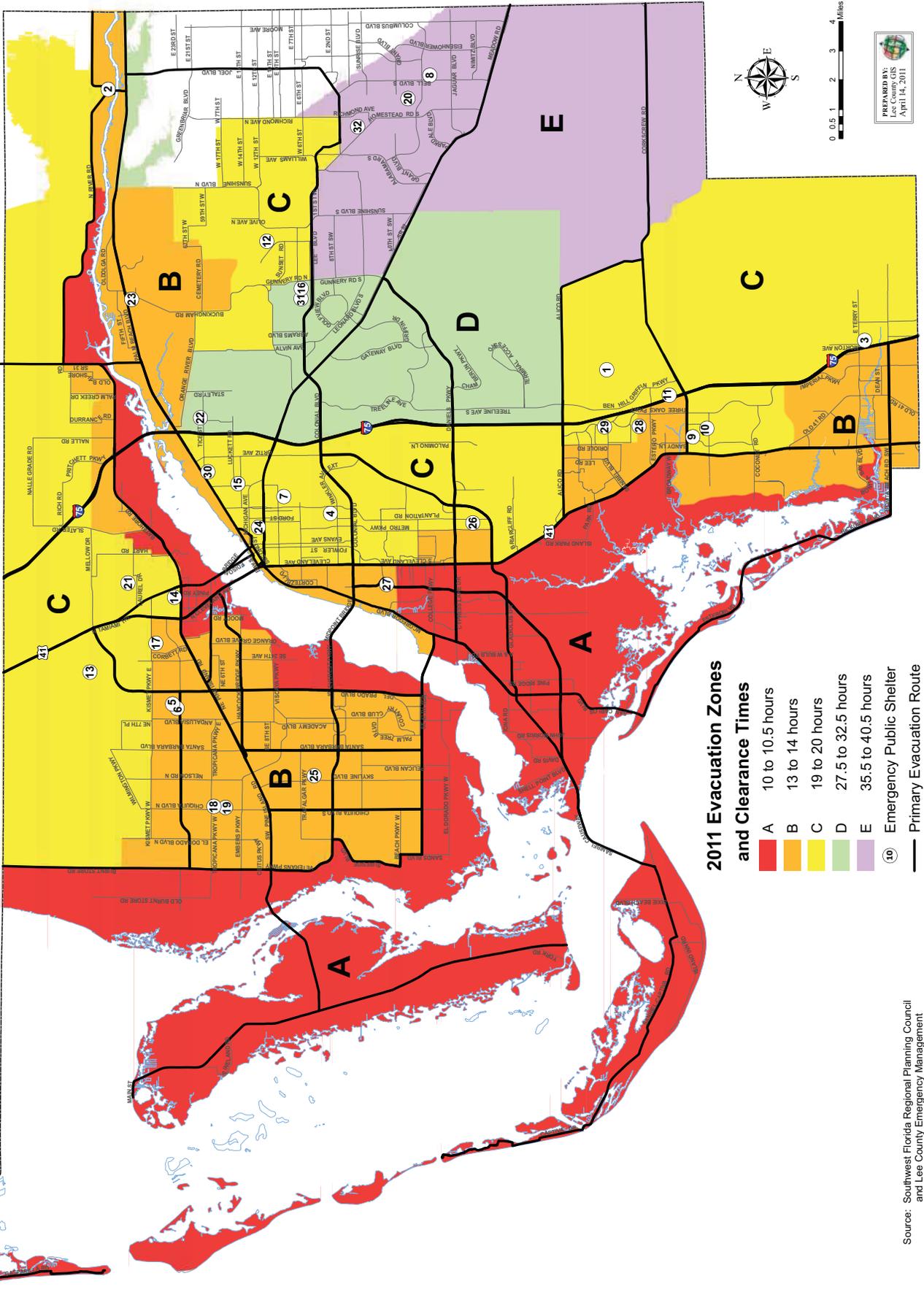
service levels, protect existing residents, or to provide for recreation and open space needs.

~~**Action 10.1.2:** Public investments within the hurricane vulnerability zone shall be designed to withstand expected storm intensities as required by the Land Development Regulations (Standard Building Code reference):~~

~~**Standard 10.1.2.1:** Engineering designs for facilities within the hurricane vulnerability zone shall certify that facility designs shall withstand Category 3 storm event.~~

~~**Standard 9.1.1.3:** ~~Action 10.1.3:~~ When state funding is required for the relocation or replacement of infrastructure currently located within the CHHA, the capacity of the replacement structure will be limited to maintaining required service levels, protecting existing residents, and providing for recreation and open space needs.~~

EVACUATION ZONES, ROUTES & EMERGENCY PUBLIC SHELTERS



PREPARED BY:
Lee County GIS
April 14, 2011

Source: Southwest Florida Regional Planning Council
and Lee County Emergency Management

12. PRE- AND POST-DISASTER BUILDBACK REGULATIONS

Adopted Regulations:

LDC Section 98.4.2.B: *In the event of a natural disaster, the city may permit the reconstruction of any nonconforming single-family dwelling to the same or decreased nonconformity as existed immediately prior to the natural disaster, upon proof satisfactory to the community development director of the configuration of the prior single-family dwelling, and only in compliance with the Florida Building Code. A permit for reconstruction of the single family dwelling must be obtained within 12 months of the event of its destruction.*

LDC Section 118.8.2.A.1.b: *Where housing units within the downtown existing prior to December 9, 2003, are demolished by the property owner, replacement housing units may be permitted for the same number of existing units. The replacement units shall comply with the standards contained in the smart code and land development code as applicable. To obtain the replacement housing units, the property owner must obtain building permits within six months from the date of demolition, commence construction within six months of building permit issuance, and must complete construction within two years of the date of commencement. Failure of the property owner to meet the above time limitations shall preclude the use of the replacement housing units, and the owner shall be required to obtain approvals pursuant to this article as if all of the units were new housing units.*

Discussion and Policy Recommendation:

LDC Section 98.4.2.B allows nonconforming single-family dwellings to be rebuilt after a disaster.

As discussed earlier in this report, this “build-back” policy should be extended to other types of buildings, detailed to address the extent of damage, and expanded to allow pre-disaster as well as post-disaster buildback.

The existing code language is brief and appears in the introduction to the article on nonconformities.

The code would be easier to understand if this subject were merely introduced at this location, followed by a reference to more detailed regulations placed later in the nonconformities article.

References to the detailed regulations should also be provided where the existing code has similar provisions in the Downtown Smart Code (in Section 118.8.2.A.1.b).

Proposed Regulations:

LDC Section 98.4.2.B: *In the event of a natural disaster, the city may permit the reconstruction of any certain nonconforming structures single-family dwelling to the same or decreased nonconformity as they existed immediately prior to the natural disaster, upon proof satisfactory to the community development director of the configuration of the prior single-family dwelling, and only in compliance with the Florida Building Code. A permit for reconstruction of the single family dwelling must be obtained within 12 months of the event of its destruction. See section 98.4.7.*

LDC Section 118.8.2.A.1.b: *Where housing units within the downtown existing prior to December 9, 2003, are demolished by the property owner, replacement housing units may be permitted for the same number of existing units. The replacement units shall comply with the standards contained in the smart code and land development code as applicable. To obtain the replacement housing units, the property owner must obtain building permits within six months from the date of demolition, commence construction within six months of building permit issuance, and must complete construction within two years of the date of commencement. Failure of the property owner to meet the above time limitations shall preclude the use of the replacement housing units, and the owner shall be required to obtain approvals pursuant to this article as if all of the units were new housing units. See also section 98.4.7.*

98.4.7 - Pre- and Post-Disaster Buildback of Nonconforming Structures

A. Pre-disaster buildback. *Owners of buildings or groups of buildings that exceed the density, intensity, or height limits for new buildings may seek permission through the PUD process to voluntarily replace those buildings at up to their existing lawful density or intensity and up to their existing height, in accordance with Future Land Use Standard 3.4.2.2 of the Fort Myers Comprehensive Plan:*

- (1)** *The replacement building must meet the floodplain regulations for new buildings, as provided in chapter 110 of this code.*
- (2)** *The replacement building must comply with all current building and coastal construction codes.*
- (3)** *The replacement building cannot exceed the lawful density and intensity of the existing building:*
 - a.** *as measured for residential buildings and hotel or motels in section 98.4.7.B.(2); or*
 - b.** *as measured for all other buildings by the gross square footage.*
- (4)** *If the lowest floor of the replacement building must be elevated higher than the lowest floor in the existing building to comply with current floodplain or coastal regulations, then the total height of the replacement building can be increased by the same amount.*
- (5)** *Each specific pre-disaster buildback proposal must be proposed to the City Council through the PUD process, as provided in section 98.3.10 of this code. The City Council will approve, modify, or deny each such request based on the proposed conformance with current policies and regulations.*

B. Post-disaster buildback. *Owners of buildings or groups of buildings that exceed the density, intensity, or height limits for new buildings and that are damaged or destroyed by a natural disaster, including fire, tropical storms, and hurricanes, will be permitted to replace those buildings at up to their existing lawful density, intensity, and/or height, in accordance with Future Land Use Standard 3.4.2.1 of the Fort Myers Comprehensive Plan:*

- (1) Less than 50% damage.** *If the cost to repair the damaged building is less than 50% of the building's value (measured at the time of damage) and the repair is thus not a "substantial improvement" as that term is defined in chapter 110 of this code, then the following rules will apply:*
 - a.** *The repairs may be made without bringing the building into full compliance with the requirements of this code for building size, dimension, location on the lot, number of dwelling units, or compliance with floodplain regulations. However, all repairs must comply with current building codes.*
 - b.** *During the repair process, owners may wish to elevate dwelling units that do not comply with the floodplain regulations in chapter 110. To encourage this elevation, the development services manager may administratively modify setbacks, open space, buffer, or height requirements to the minimum extent that would accommodate rebuilding the units in full conformance with chapter 110.*

(2) More than 50% damage. *If the cost to repair or rebuild the damaged building is more than 50% of the building's value and is thus a "substantial improvement" as that term is defined in chapter 110 of this code, then the following rules will apply:*

- a.** *The rebuilt building must meet the floodplain regulations for new buildings, as provided in chapter 110.*
- b.** *The rebuilt building must comply with all current building and coastal construction codes.*
- c. Residential buildings.** *A rebuilt residential building may exceed the density limits for new buildings on vacant land, but cannot exceed the documented number of dwelling units in the building immediately before the natural disaster.*
 - 1.** *All dwelling units lawfully existing prior to the natural disaster may be rebuilt, provided the total interior square footage of the rebuilt dwelling units does not exceed the interior square footage of the previous dwelling units. For purposes of this subsection, interior square footage excludes hallways, stair towers, elevators, open balconies, underbuilding parking, and similar common or non-air-conditioned space.*
 - 2.** *At the owner's option, this same square footage can be used for fewer but larger dwelling units.*
- d. Hotels and motels.** *A rebuilt hotel or motel may exceed the intensity limits for new hotel or motel buildings on vacant land, but cannot exceed the documented number of rentable rooms in the building immediately before the natural disaster.*
 - 1.** *All rooms lawfully existing prior to the natural disaster may be rebuilt, provided the total interior square footage of the rebuilt rooms does not exceed the interior square footage of the previous rooms.*
 - 2.** *At the owner's option, this same square footage can be used for fewer but larger rooms.*
- e. All buildings.** *Rebuilt buildings must comply with all other zoning and development regulations except where compliance with such regulations would preclude the reconstruction intended by Future Land Use Standard 3.4.2.1. Specifically:*
 - 1.** *If the lowest floor of the rebuilt building must be elevated higher than the lowest floor in the damaged or destroyed building to comply with current floodplain or coastal regulations, then the total height of the rebuilt building can be increased by the same amount.*
 - 2.** *If a rebuilt building must be set back further from any property lines due to current requirements of this code, then the volume of the building so reduced can be rebuilt elsewhere on the site, including one or more extra stories on the building if in the opinion of the development services manager there is no other suitable location to replace the volume.*
 - 3.** *If current open space or buffer regulations cannot be met, those requirements may be waived administratively by the development services manager.*

APPENDIX A – POLICY CHANGES ORGANIZED BY ELEMENT

1. Future Land Use Element

GOAL

To ensure that the general patterns and relationships (distribution, allocation, and intensity) of all land uses within, and adjacent to, the City remain or become acceptable to the present and future community of Fort Myers.

OBJECTIVE 3

Revitalize declining areas through rehabilitation, redevelopment, and infill strategies as appropriate.

Policy 3.4) The City hereby adopts into the City of Fort Myers Comprehensive Plan ~~a the following redevelopment and disaster mitigation strategies, consistent with the requirements of Section 163.3177(6)(a), Florida Statutes, as well as local mitigation strategies,~~ which shall include, at a minimum, the following Actions and Standards:

Action 3.4.1) The City will implement measures to replace or eliminate unsafe structures that are subject to repetitive damage from coastal storms and floods.

Standard 3.4.1.1) By June 2007, the City of Fort Myers will have prepared an inventory report of all structures that have had repetitive damage from coastal storms and floods.

Standard 3.4.1.2) The City's Capital Improvements Program will include measures to rehabilitate, relocate or demolish any City-owned structures that have sustained repetitive storm damage.

Standard 3.4.1.3) The City will implement additional measures to reduce repetitive storm damage on private properties, including but not limited to, requiring the placement of hurricane shutters or equivalent protection on existing buildings located within the Coastal High Hazard Area (see Map L-2).

Action 3.4.2) Provide for the organized and healthy post-disaster redevelopment of Fort Myers by requiring reconstruction to meet stricter standards for flood- and wind-resistance; and mitigate the potential effects of hurricanes by easing regulations that impede the strengthening of existing buildings to allow upgrading before damage occurs.

Standard 3.4.2.1) Damaged structures may be rebuilt in accordance with all existing regulations, or for structures that have been damaged by fire, hurricane, or other natural disaster, landowners may choose to rebuild in accordance with the following post-disaster buildback policy:

(a) Buildings damaged less than 50% of their value may be rebuilt to their original condition, with repairs subject only to current building codes.

(b) Buildings damaged more than 50% of their value may be rebuilt to their legally documented actual use, density, intensity, and size provided the new construction complies with:

1. requirements for elevating the first floor above the 100-year floodplain or any requirements for floodproofing;
2. current building and coastal construction codes; and
3. any required zoning or other development regulations (other than density or intensity), except where compliance with such regulations would preclude the reconstruction intended by this policy.

(c) Redevelopment of damaged property is not allowed for a more intense use or at a density higher than the original lawful density except where such higher density is permitted under this comprehensive plan and the City's land development code.

Standard 3.4.2.2) Structures that do not comply with current density or height limits may also be permitted to be upgraded or rebuilt at their existing density and height prior to a natural disaster. Landowners may request this pre-disaster buildback option through the PUD process; the City Council will approve, modify, or deny such a request based on the proposed conformance with current policies and regulations.

Standard 3.4.2.3) Post- and pre-disaster buildback regulations and other intermediate- and long-term redevelopment regulations shall be incorporated into the Land Development Code.

~~Action 3.4.2) The City will implement measures to reduce exposure of City infrastructure to hazards, including relocation and/or structural modification of threatened coastal infrastructure.~~

~~Standard 3.4.2.1) The City will incorporate structural modification of infrastructure, including but not limited to, water, sewer, roadway and lighting facilities, into its Downtown Streetscape Plan. [the Downtown Streetscape Plan has been completed]~~

Action 3.4.3) The City of Fort Myers downtown redevelopment strategy will implement operational and capacity improvements to City roadways to ensure that the redevelopment strategy maintains or reduces the City's component of the County's hurricane evacuation clearance times, as established in the hurricane evacuation study prepared for the City of Fort Myers by the Southwest Florida Regional Planning Council (April 2005) as a part of the City's 2005 Evaluation & Appraisal Report (EAR).

Standard 3.4.3.1) The City will construct and maintain new or improved two-way roadways within the Downtown Redevelopment Area to ensure adequate evacuation of downtown. Further, the City will designate First Street as a two-way City road and Second Street as State Road 80.

Standard 3.4.3.2) In accordance with the April 2005 hurricane evacuation study prepared for the City of Fort Myers by the Southwest Florida Regional Planning Council, the City of Fort Myers will continually monitor new development within the Downtown Redevelopment Area and will permit no development; which increases the City's overall hurricane evacuation clearance time above 18 hours.

Standard 3.4.3.3) The City will require that new developments, which have the potential to adversely impact hurricane evacuation clearance times, contribute on a fair share basis; to road improvements, shelter construction or enhancements, or other mitigation; which acts to reduce clearance times.

Standard 3.4.3.4) The City will require each downtown housing developer to provide a detailed emergency evacuation plan to ~~the Lee County Division of~~ Emergency Management, consistent with the provisions of the appropriate Lee County Administrative Codes.

Action 3.4.4) The City of Fort Myers downtown redevelopment strategy will include measures designed to ensure the reduction of the City's hurricane shelter space deficit and the maintenance of the City's Category 3 hurricane evacuation clearance times below 16.4 hours.

~~Standard 3.4.4.1) The City shall participate in the Lee County All-Hazards MSTU. [subject moved to Public Safety Policy 3.8]~~

Action 3.4.5) The City will implement measures that require new developments within the City of Fort Myers to contribute to the creation of additional public shelters in proportion to the development's identified impacts on Lee County's public shelter space deficit and/or hurricane evacuation clearance times.

Standard 3.4.5.1) For every residential unit approved within the Downtown Coastal High Hazard Area (CHHA, see Maps E-2 and D through D-5), which exceeds the cap on residential units within the CHHA, the City of Fort Myers will provide 2.4 new shelter spaces within the City of Fort Myers. The figure of 2.4 represents the average number of persons per household ~~(for 2005)~~. The provision of new shelter space will be fully funded within the first three (3) years of the City's Capital Improvement Program.

Standard 3.4.~~5~~.2) The City will require developers to contribute to a hurricane shelter fund, based upon the formula used by ~~the Lee County Division of~~ Emergency Management for retrofit costs for shelters. This formula shall be re-evaluated on an as needed basis, or if Lee County adjusts its formula.

Action 3.4.6) The City will ensure that public expenditures within the Coastal High Hazard Area as defined on Map L-2 are limited to those expenditures to maintain existing public facilities, make such facilities more disaster-resistant, provide or maintain public shoreline access, and restore and protect natural systems (see also Conservation and Coastal Management Action 9.1.1 and Standards 9.1.1.1-9.1.1.3).

Standard 3.4.6.1) The City shall not grant any ~~eliminate~~ tax increment financing incentives, including but not limited to rebates and subsidies, for private development within the Coastal High Hazard Area.

~~Standard 3.4.6.2) Conservation and Coastal Management Standard 9.1.1.2)~~ Amend or maintain the Future Land Use Map to decrease or maintain permitted residential densities within the Coastal High Hazard Area located outside the Downtown Redevelopment Area.

Action 3.4.7) The City of Fort Myers will continue to participate in the National Flood Insurance Program (NFIP) and its Community Rating System (CRS). See Public Safety Policy 3.5. Further, the City shall commit to planning and regulatory standards that exceed the minimum standards required by National Flood Insurance Program.

~~Standard 3.4.7.1) The City of Fort Myers is currently rated Class 8 on the National Flood Insurance Program's Community Rating System (CRS). By January 2008, the City shall implement appropriate mitigation measures to improve the City's CRS rating to Class 7 or better.~~

Action 3.4.8) The City shall continue to implement measures that ensure the protection of coastal resources and provide for public access to the City's shoreline.

Standard 3.4.8.1) By January 2008, the City will adopt and begin to implement a shoreline preservation ordinance.

Standard 3.4.8.2) The City shall increase public access to the Caloosahatchee River by requiring new developments along the river shoreline to provide such access.

Action 3.4.9) The City will prepare data and analysis regarding activities proposed within the City's downtown redevelopment area strategy, including, but not limited to, an assessment of the potential for natural hazard damage to structures and the potential costs of such damage. The damage potential and damage cost potential for activities proposed under the redevelopment strategy must be less than the potential for damage and the potential cost of such damage, without the proposed action.

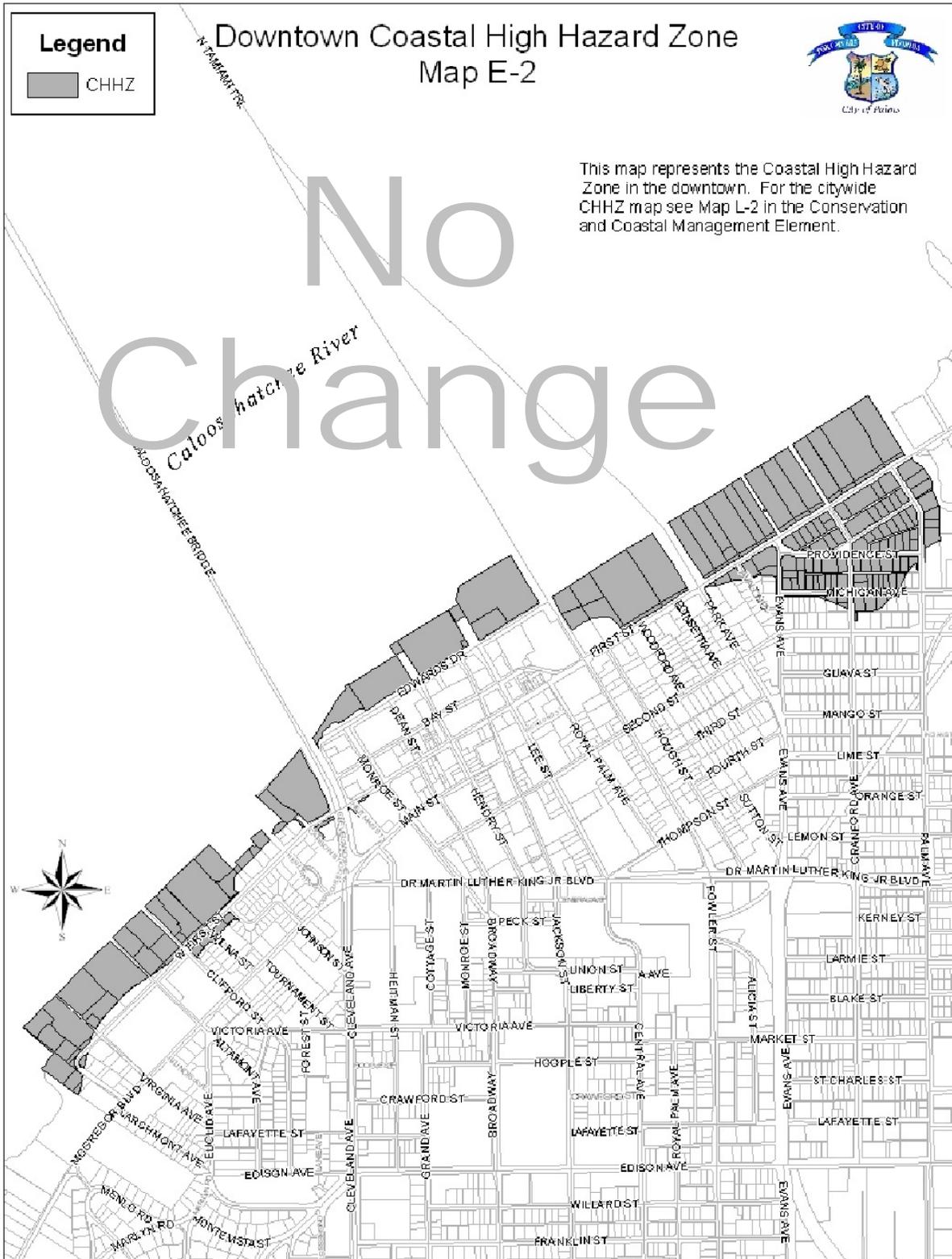
~~Standard 3.4.9.1) By August 2007, the City will prepare an analysis of damage potential to the downtown redevelopment area, relative to currently proposed development scenarios.~~

Action 3.4.10) The City shall periodically prepare data and analysis, based upon the current redevelopment strategy at the time of the analysis, forecasting the impacts of the proposed strategy upon hurricane evacuation clearance times and public shelter capacity.

~~Standard 3.4.10.1) The City's initial public shelter and hurricane evacuation study will be prepared by December 2007. The study will be updated every three years, thereafter.~~

Action 3.4.11) The City will execute an interlocal agreement with Lee County to enable City participation in the Lee County All-Hazards MSTU. See Public Safety Policy 3.8.

~~Standard 3.4.11.1: The City of Fort Myers shall enter into an interlocal agreement with Lee County, which agreement shall outline City participation within the Lee County "All-Hazards MSTU as soon as the City is eligible. [details on this subject have been moved to Public Safety Policy 3.8]~~



Existing Map E-2 (no change proposed)

4c. Surface Water Management Element

GOAL

Minimize the hazardous and adverse effects of surface water and tidal surge flooding while maintaining the physical and environmental integrity of the City.

OBJECTIVE 1

Guide development in flood plains in a manner consistent with their natural functions, to minimize risks of property damage and loss of life.

Policy 1.1) The City of Fort Myers subscribes to the findings of the Lee County Comprehensive Emergency Management Plan (CEMP) and maintains its own CEMP, as described in Public Safety Policy 3.1. ~~a City of Fort Myers Disaster Preparedness Plan consistent with the Lee County Disaster Preparedness Plan. The City of Fort Myers Disaster Preparedness Plan will be updated annually.~~

Policy 1.2) The City shall regulate development in floodplains and flood prone area, identified by the federal emergency management agency in its flood insurance study of the City of Fort Myers and Lee County, dated August 28, 2008 ~~October 17, 1984.~~ See Public Safety Policy 3.5.

~~Action 1.2.1) Any structure erected or substantially improved (regardless of use) shall be built according to the flood hazard reduction standards, which may include: construction of structures by methods and practices that minimize flood damage; the regulation of materials used for construction; anchoring techniques to prevent flotation, collapse or lateral movement of the structure; and the regulation of construction to minimize the accumulation of flood waters. [this subject is addressed by Public Safety Action 3.5.2]~~

5. Conservation and Coastal Management

GOAL 2

Maintain, increase, and manage natural and coastal resources to preserve their quality and ability for use in the future while protecting human life and limiting public expenditures in areas subject to destruction by natural disasters.

OBJECTIVE 1

~~Designate a Coastal Zone.~~ Reserved.

~~Policy 1.1)~~ The City shall designate the Coastal Zone to include the portions of the Caloosahatchee River within the city limits and the Urban Reserve, the natural portions of both Billy Creek and Manuel's Branch, and all parcels within the city limits and the Urban Reserve that abut the Caloosahatchee River, Manuel's Branch, or Billy Creek (Map K).

[Map K, as shown on page 8, will be deleted from the Comprehensive Plan]

~~Action 1.1.1)~~ Land Use within the Coastal Zone shall be consistent with Action 7.2.1 of this Element.

OBJECTIVE 3

Maximize public accessibility to and the use of natural resources without unacceptable adverse impact on them with appropriate development, public expenditures, and hazard mitigation planning.

~~Policy 3.4)~~ Level of service requirements for all community facilities shall be the same in the Coastal Zone as in other areas with emphasis to maintain or reduce hurricane evacuation times.

Action 3.4.1) Priority should be given to community facility projects that complement the Southwest Florida Regional Planning Council Hurricane Evacuation Study, and maintain or improve hurricane evacuation times.

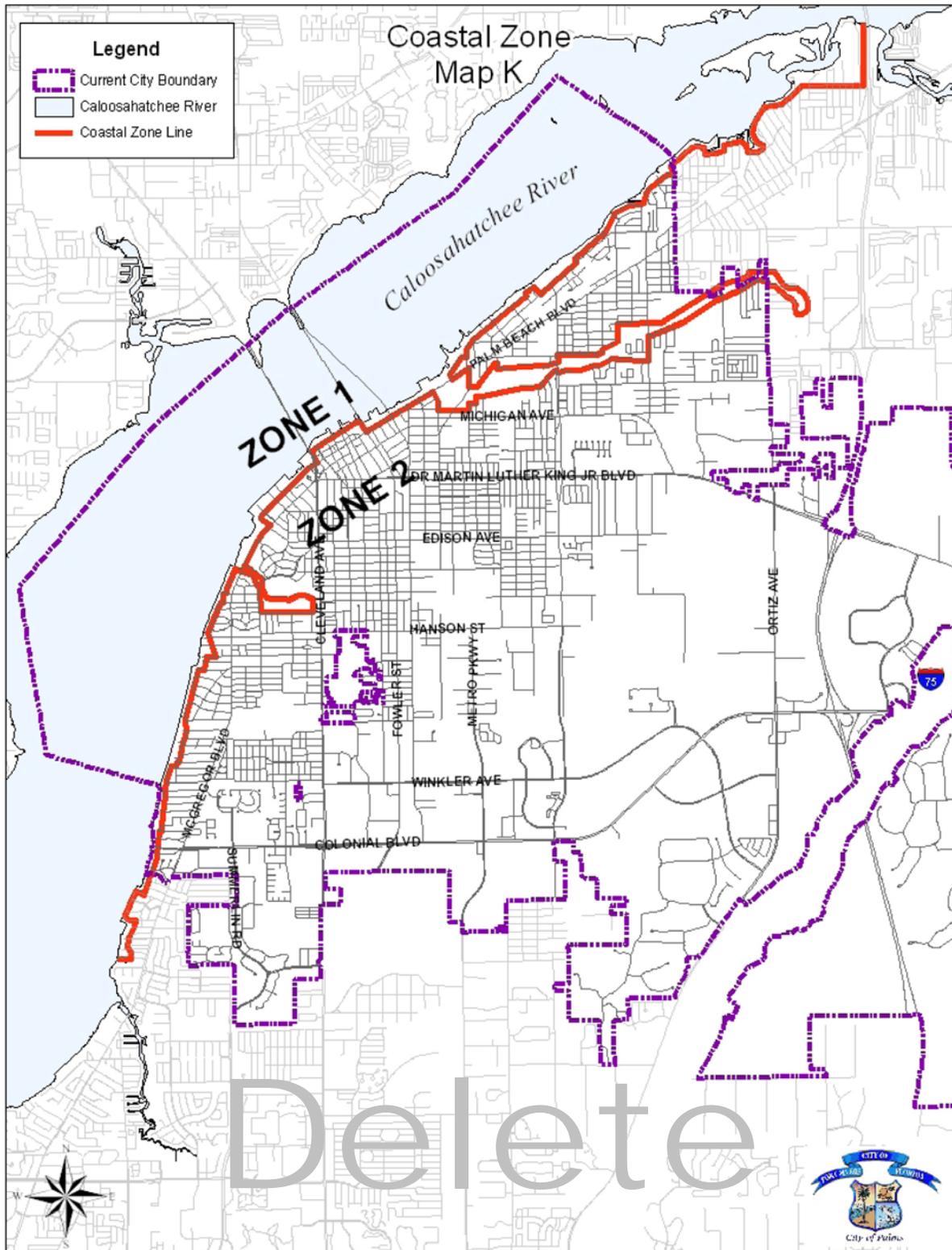
~~Policy 3.5)~~ The City shall coordinate land uses and post disaster redevelopment with Interagency Hazard Mitigation Reports in the event of a natural disaster. *[this policy has been revised and relocated to Public Safety Policy 3.9]*

OBJECTIVE 7

Ensure that water-dependent and shoreline uses located along creeks, the river, and its tributaries take full advantage of their premium location.

~~Policy 7.3)~~ In order to direct development inland, uses not dependent on the water or not enhanced by a waterfront location shall be located inland.

~~Action 7.3.1)~~ For areas within the Coastal Zone, which are located outside the boundaries of the Downtown Redevelopment Area, the Future Land Use Map shall designate low-density residential use as the preferred use.



Existing Map K (being deleted)

OBJECTIVE 8

Preserve significant historical sites and structures ~~within the Coastal Zone.~~

Policy 8.1) The City shall preserve, restore, and promote publicly owned historical resources ~~within the Coastal Zone.~~

Action 8.1.1) Continue to maintain and operate City-owned historic sites ~~within the Coastal Zone.~~

Policy 8.2) The City shall encourage private individuals to preserve, restore, and rehabilitate structures of historic, architectural, or cultural significance ~~located within the Coastal Zone.~~

Action 8.2.1) Maintain the Land Development Regulations to allow non-conforming significant historic structures ~~in the Coastal Zone~~ to be altered if such alteration preserves the historic character of the site or building for the community.

OBJECTIVE 9

Designate a Coastal High Hazard Area (CHHA).

Policy 9.1) In 2007, the City ~~has~~ designated a Coastal High Hazard Area that includes all area below the elevation of category 1 storm surge line as established by a Sea, Lake and Overland Surges from Hurricane (SLOSH) computerized storm surge model as established by the Southwest Florida Regional Planning Council and demonstrated on Map L-2. Detailed maps for downtown are found in Map E-2 and Maps D through D-5.

Action 9.1.1) Limit public expenditures that subsidize development permitted in the Coastal High Hazard Area except for restoration or enhancement of natural resources (see also Future Land Use Action 3.4.6 and Standards 3.4.6.1–3.4.6.2).

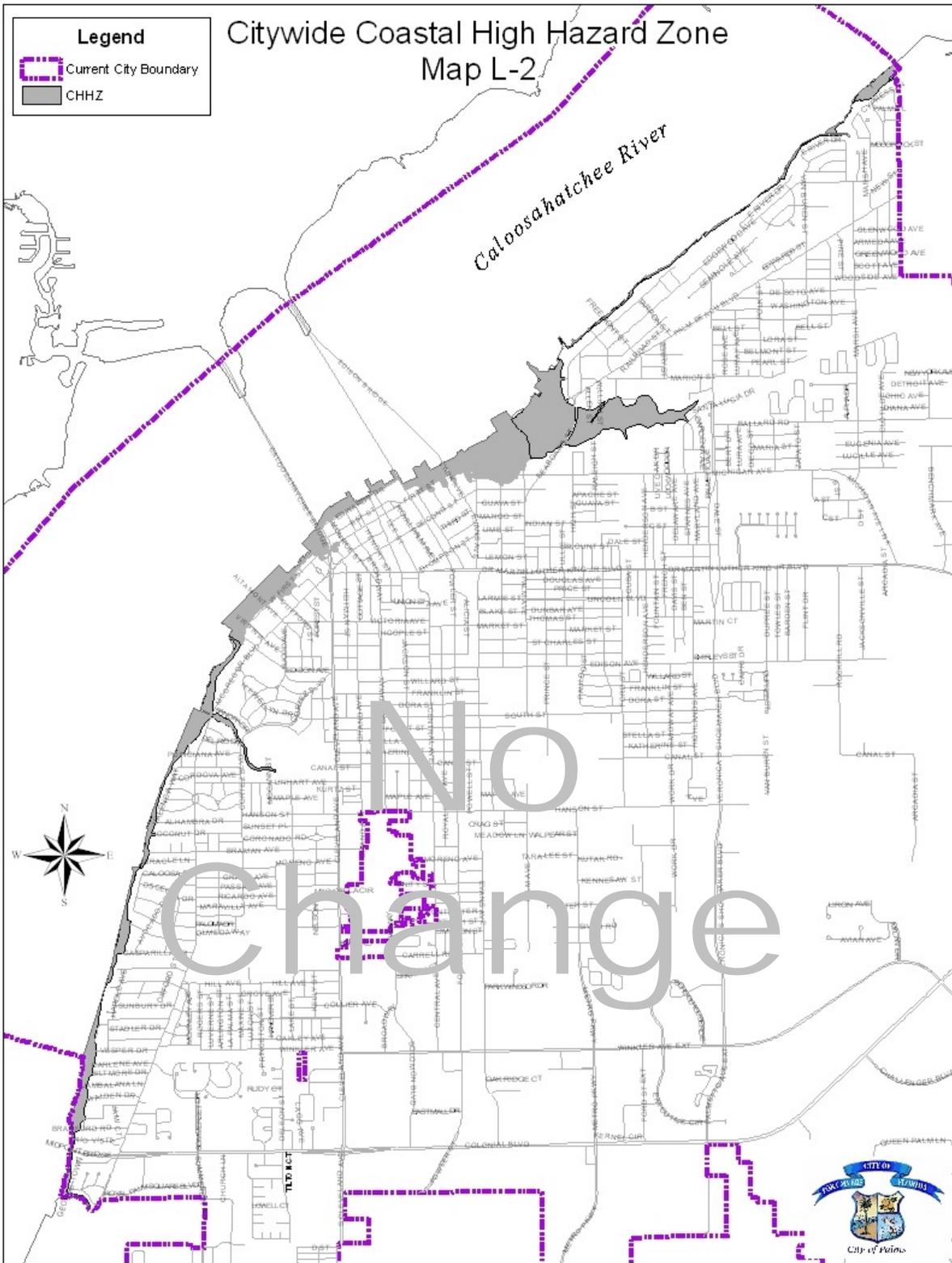
Standard 9.1.1.1) Critical facilities including sewage treatment plants, electrical power plants, police and fire protection facilities, hospitals, housing for special needs groups (including elderly, physically and mentally handicapped, and any other at-risk needs group), and shelters shall be located outside the Coastal High Hazard Area.

~~Standard 9.1.1.2) Amend or maintain the Future Land Use Map to decrease or maintain permitted residential densities within the Coastal High Hazard Area located outside the Downtown Redevelopment Area. [moved to Future Land Use Standard 3.4.6.2]~~

~~Standard 9.1.1.2) Action 10.1.1)~~ All further public expenditures made for new facilities in the CHHA will require a finding by the City Council that such expenditures are necessary to maintain required service levels, protect existing residents, or to provide for recreation and open space needs.

~~Standard 9.1.1.3) Action 10.1.3)~~ When state funding is required for the relocation or replacement of infrastructure currently located within the CHHA, the capacity of the replacement structure will be limited to maintaining required service levels, protecting existing residents, and providing for recreation and open space needs.

Action 9.1.2) In order to help control growth in the Coastal High Hazard Area, the City shall prohibit the use of tax increment financing incentives as described in Future Land Use Standard 3.4.6.1. to promote development within the CHHA, unless the project in question involves a joint public/private partnership.



Existing Map L-2 (no change proposed)

OBJECTIVE 10

Designate a hurricane vulnerability zone.

Policy 10.1) The City has designated ~~a~~ hurricane vulnerability zones based on a map prepared by Lee County Emergency Management and the Southwest Florida Regional Planning Council. This map assigns land in Lee County to Evacuation Zones A through E; Zone A would be the first zone to be evacuated. Evacuation Zones in the City of Fort Myers are shown which includes all parcels within the evacuation zones for a tropical storm and Category 1, 2, and 3 hurricanes as established in the Southwest Florida Regional Planning Council's Regional Hurricane Evacuation Study of Southwest Florida, as demonstrated on Map L-3. The City of Fort Myers' designated Coastal High Hazard Area (CHHA, Map E-2) is the most vulnerable portion of the City's designated hurricane vulnerability zone.

~~Action 10.1.1) All further public expenditures made for new facilities in the CHHA will require a finding by the City Council that such expenditures are necessary to maintain required service levels, protect existing residents, or to provide for recreation and open space needs. [relocated to Standard 9.1.1.2]~~

~~Action 10.1.2) Public investments within the hurricane vulnerability zone shall be designed to withstand expected storm intensities as required by the Land Development Regulations (Standard Building Code reference).~~

~~Standard 10.1.2.1) Engineering designs for facilities within the hurricane vulnerability zone shall certify that facility designs shall withstand Category 3 storm event.~~

~~Action 10.1.3) When state funding is required for the relocation or replacement of infrastructure currently located within the CHHA, the capacity of the replacement structure will be limited to maintaining required service levels, protecting existing residents, and providing for recreation and open space needs. [relocated to Standard 9.1.1.3]~~

Policy 10.2) ~~Develop and maintain an interlocal agreement between the City of Fort Myers and Lee County that adopts provisions of Lee County Ordinance Number 95-14, or any subsequent replacement ordinance, regarding managing recovery, reconstruction, and mitigation activities following a major or catastrophic disaster within the City of Fort Myers.~~

~~Action 10.2.1) As part of the Interlocal Agreement process, the City shall perform an analysis of revenue sources that could be directed toward post disaster recovery, reconstruction, and mitigation activities, including but not limited to:~~

- ~~1. Housing assistance;~~
- ~~2. Infrastructure redevelopment;~~
- ~~3. Public facilities recovery; and;~~
- ~~4. Other necessary expenditures.~~

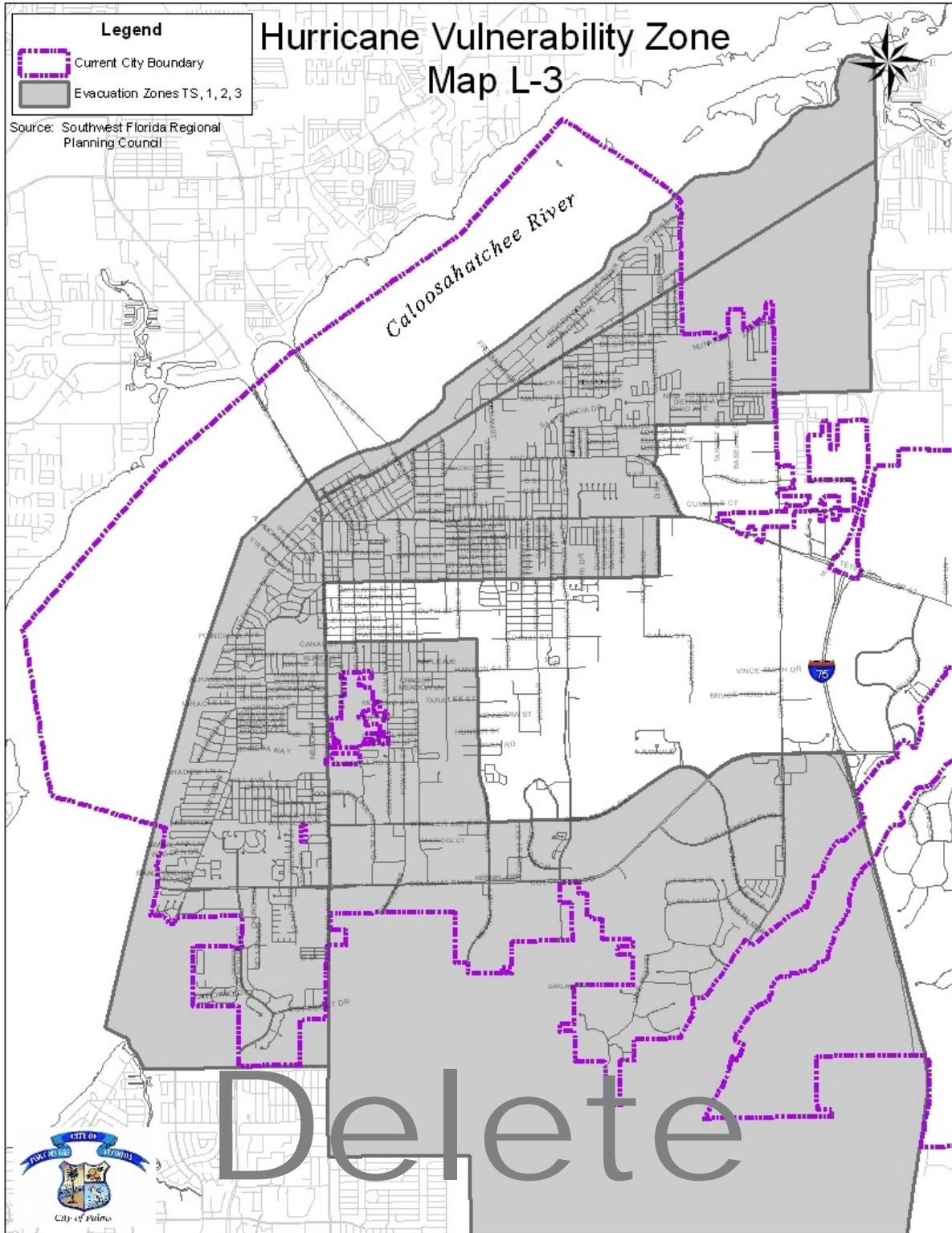
Policy 10.3) Continue participation in the Southwest Florida Regional Planning Council's private employer hurricane shelter development and business preparedness program.

Action 10.3.1) Encourage employers with facilities outside the ~~Category 2~~ hurricane Evacuation Zones A and B to develop a program of employee and family sheltering in the event of a hurricane.

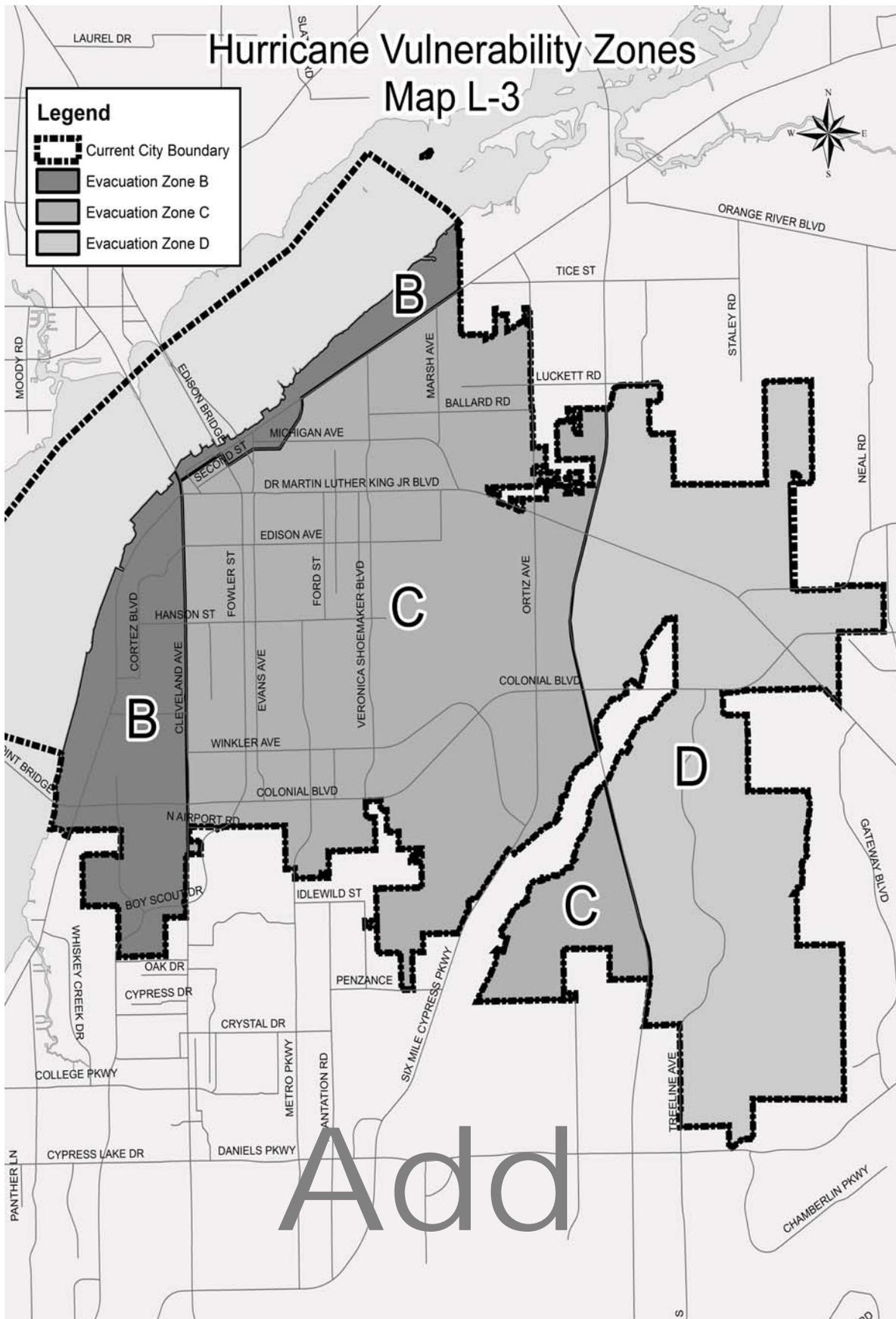
Policy 10.4) Encourage the Lee County School Board to construct or rehabilitate schools that can be used for emergency shelter within ~~hurricane~~ Evacuation Zones D and E. ~~4 and 5~~.

Policy 10.5) All new residential development greater than fifty (50) and less than one hundred (100) dwelling units will be required to annually provide information to residents concerning hurricane evacuation and shelters through a homeowners' or residents' association. Such information shall be approved by ~~the Lee County~~ Emergency Management ~~Division of Public Safety~~ and will be annually updated. A sample information packet is to be submitted prior to building permit issuance.

Policy 10.6) All new residential developments greater than one hundred (100) dwelling units will be required to formulate an emergency hurricane preparedness plan that shall be updated periodically. This plan is subject to the approval of ~~the Lee County~~ Emergency Management ~~Division of Public Safety~~ and will be submitted prior to building permit issuance.



Prior Map L-3 (being deleted)



Revised Map L-3 (being added)

7. Public Safety Element

GOAL

To endeavor to protect the public safety and welfare of the residents and visitors to the City.

OBJECTIVE 3

Continually improve the city's programs in disaster mitigation, preparedness, response, recovery, and reconstruction to minimize the threat to life and property caused by natural disasters.

Policy 3.1) ~~The City shall adopt and maintain and update its a Comprehensive Emergency Management Plan that was initially adopted in 2009. This plan shall be ,which is consistent with and promotes the use of the Lee County Comprehensive Emergency Management Plan and additionally meets specific needs of the citizens of Fort Myers. This plan should be readopted by the City Council about every three years.~~

Policy 3.2) ~~By 2008, the City shall adopt a written recovery plan, containing procedure to implement prior to any impending natural or manmade disaster, and which shall be reviewed annually by all relevant City agencies, and again just prior to hurricane season.~~

Action 3.12.1) In accordance with Chapter 252 F.S., the Fire Chief of the City of Fort Myers is the City's emergency preparedness coordinator. The Fire Chief and/or his/her designee shall be the coordinator of all City actions and responsibilities related to preparation for, response to, and recovery from a natural or manmade disaster.

Policy 3.2) ~~As such,~~ The Fire Chief and/or his/her designee shall work with the relevant City agencies to prepare a city-wide post-disaster short-term recovery plan by 2013, which shall be coordinated with the Lee County Comprehensive Emergency Management Plans of Lee County and the City of Fort Myers.

Action Standard 3.2.1.1) ~~By 2008, The post-disaster short-term recovery plan shall identify and distinguish between immediate repair and clean-up actions needed to protect the public health and safety and long-term repair and redevelopment activities; address activities such as:~~

- the removal, relocation, or structural modification of damaged infrastructure and unsafe structures;
- identify areas susceptible to repeated damage; ~~and if any such exist, limit redevelopment in those areas; and include all applicable elements of the Lee County Comprehensive Emergency Management Plan directly or by reference.~~
- remove debris;
- site temporary housing;
- coordinate out-of-town volunteers; and
- streamlined or waiver of permitting for emergency repairs to roofs, walls, and windows.

Action 3.2.2) Short-term recovery regulations shall be incorporated into Chapter 22 of the Fort Myers Code of Ordinances, "Civil Emergencies." ~~The City staff shall conduct annual City hurricane drills and reviews with City staff.~~

Policy 3.3) Reserved.

Policy 3.4) The City hereby commits to participating in Lee County's joint unified local mitigation strategy and also undertaking a comprehensive the redevelopment and disaster mitigation strategies y, as identified in Policy 35.4 of the Future Land Use Element of this Comprehensive Plan, and its subsidiary Actions and Standards. The following outlines these mitigation strategies y defined in Policy 35.4:

- Implementing measures to replace or eliminate unsafe structures that are subject to repetitive damage from coastal storms and floods;
- Providing for the organized and healthy post-disaster redevelopment by requiring reconstruction to meet stricter standards for flood- and wind-resistance and by mitigating the potential effects of hurricanes by easing regulations that impede the strengthening of existing buildings before damage occurs;
- ~~Implementing measures to reduce exposure of City infrastructure to natural or manmade hazards;~~
- Implementing operational and capacity improvements to City roadways to ensure that the City maintains or reduces the its component of the County's overall hurricane evacuation clearance time;
- Implementing measures to reduce the City's hurricane shelter space deficit and to maintain the City's Category 3 hurricane evacuation times;
- Implementing measures that require new developments within the City of Fort Myers to contribute to the creation of additional public shelters in proportion to the development's identified impacts on Lee County's public shelter space deficit and/or hurricane evacuation clearance times;
- Ensuring that public expenditures within the Coastal High Hazard Area coastal high hazard zone are limited to those expenditures that maintain existing public facilities, make such facilities more disaster resistant, provide or maintain public shoreline access, and restore and protect natural systems;
- Ensuring that the City continues to maintain participation in the National Flood Insurance Program's and its Community Rating System (CRS) (see Policy 3.5);
- Implementing measures that ensure the protection of coastal resources and; ~~which~~ provide for public access to the City's shoreline;
- The preparation of data and analysis regarding activities proposed within the City's downtown redevelopment area strategy, including, but not limited to, an assessment of the potential for natural hazard damage to structures and the potential costs of such damage; ~~and;~~
- The periodic preparation of data and analysis, based upon the current redevelopment strategy at the time of the analysis, forecasting the impacts of the proposed strategy upon hurricane evacuation clearance times and public shelter capacity; ~~and;~~
- Participation in the Lee County All-Hazards MSTU (see Policy 3.8).

~~Action 3.4.10) The City shall periodically prepare data and analysis, based upon the current redevelopment strategy at the time of the analysis, forecasting the impacts of the proposed strategy upon hurricane evacuation clearance times and public shelter capacity.~~

~~Standard 3.4.10.1) The City's initial public shelter and hurricane evacuation study shall be prepared by December 2007. The study shall be updated every three years, thereafter.~~

Policy 3.5) ~~The City will actively pursue the possibility of obtaining Red Cross Certification of City-owned structures suitable for use as public shelters in a Category 3 storm event. The City of Fort Myers will continue to participate in the National Flood Insurance Program (NFIP) and its Community Rating System (CRS).~~

~~Action 3.5.3.1) Maintain Land Development Regulations to include all provisions of the flood hazard protection ordinance and exceeding Future Land Use Action 3.4.7) Further, the City shall commit to planning and regulatory standards that exceed the minimum standards required by National Flood Insurance Program.~~

~~Action 3.5.2) Policy 3.3)~~ New developments and substantial improvements of any structure shall be required to be built or renovated in a manner which will:

- Prevent flotation, collapse, or lateral movement of the structure;
- Prevent or minimize flood damage;
- Prevent water from entering or accumulating within the components of electrical heating, ventilation, plumbing, air conditioning, etc.;
- Eliminate infiltration of floodwaters into the sanitary sewer systems; and,
- Avoid impairment to on-site waste disposal systems..

~~Action 3.5.3) Future Land Use Standard 3.4.7.1)~~ The City of Fort Myers in 2012 improved its rating from is currently rated Class 8 to Class 7 under ~~on~~ the National Flood Insurance Program's Community Rating System (CRS). ~~By January 2008,~~ The City shall continue to implement appropriate preparedness and mitigation measures to maintain or further improve the City's CRS rating ~~to Class 7 or better.~~

Policy 3.6) The City shall coordinate with ~~the Lee County~~ Division of Emergency Management to minimize the City's evacuation times. The City is encouraged to work towards the following goals:

- Participation in the Lee County All-Hazards MSTU (see Policy 3.8);
- Retrofitting of City buildings for use as hurricane shelters ~~and certification of these structures by the American Red Cross;~~
- Commissioning the Southwest Florida Regional Planning Council to aid the City in reanalysis and ~~adjustment subsequent reduction~~ of the City's Coastal High Hazard Area Zone; and,
- Recommitting City staff to annual drills/reviews of hurricane evacuation procedures.

Action 3.6.1) The City shall give priority for improvements to critical roadway links for the evacuation of the City's B, C, and D ~~Category 1 through 3~~ hurricane evacuation zones (see Map L-3).

Policy 3.7) The City shall coordinate both existing and projected population densities in the Coastal High Hazard Area with the Southwest Florida Regional Planning Council so as to ensure that the Council's Hurricane Evacuation Study for the City is based on the most current information. The Study's recommendations will then be used to assess the necessary provision of infrastructure to serve the existing and projected population densities.

Action 3.7.1) The Future Land Use Map shall locate high density residential districts in the Coastal High Hazard Area Zone only if such development is consistent with the provisions contained in Policy 3.4 -5.4, and its subsidiary Actions and Standards, of the Future Land Use Element of this Comprehensive Plan.

Action 5.1.1) The City of Fort Myers will maintain membership in the District 9 (Southwest Florida) Local Emergency Planning Committee Commission (LEPC) and will continue to cooperate with the efforts of the Commission. committee to increase public and private efforts to reduce risks associated with the use and storage of hazardous chemicals.

~~Action 5.1.2) Continue to participate in the activities and programs of the Lee County Hazardous Materials Advisory Committee.~~

Action 5.1.3) Continue to participate in the development and subsequent implementation of the Lee County Comprehensive Emergency Management Response Plan.

Policy 3.8) ~~Future Land Use Action 3.4.11)~~ No later than the summer of 2013, the City will execute an interlocal agreement with Lee County that establishes the terms of the to enable City's participation in the Lee County All-Hazards MSTU and authorizes the levying of the same property tax millage for that purpose that applies in unincorporated Lee County. This interlocal agreement shall not be required if Lee County adjusts the All-Hazards program to apply automatically to all cities in addition to the unincorporated area.

Policy 3.9) ~~Conservation & Coastal Management Policy 3.5)~~ The City shall use knowledge gained after a natural disaster from coordinate land uses and post disaster redevelopment with Interagency Hazard Mitigation Reports to guide the recovery and rebuilding process and to improve preparedness and response techniques for future disasters. in the event of a natural disaster.

APPENDIX B – LOCAL PLAN INTEGRATION

AN ANALYSIS OF HOW THE CURRENT COMPREHENSIVE PLAN AND L.D.C. ADDRESS DISASTER-RELATED REDEVELOPMENT TOPICS

INTRODUCTION / OVERVIEW

The purpose of Appendix B is to assess the current plans and procedures of the City of Fort Myers (City) as they relate to post-disaster redevelopment issues with detailed attention to the Fort Myers Comprehensive Plan (Plan) and the Fort Myers Land Development Code (LDC). Appendix B examines the six major topics reviewed in the Florida Department of Community Affairs/Florida Division of Emergency Management guidebook, Post-Disaster Redevelopment Planning (PDRP Guidebook). It assesses the extent to which the Plan and LDC address: Land Use, Housing, Economic Redevelopment, Infrastructure and Public Facilities, Health and Social Services, and Environment. It identifies certain other disaster-related redevelopment policy documents, and describes in detail how the Plan and LDC currently address post-disaster redevelopment.

Appendix C will analyze in greater detail the gaps in policies not currently existing in the Plan and LDC, but that have the potential to improve the City's disaster-related redevelopment planning.

Organization. Appendix B organizes the City's current policies and regulations under these six PDRP Guidebook topics. Where the Plan provisions and/or LDC requirements do not specifically address these topics, this Section seeks to identify similar provisions or requirements as a starting policy and/or regulatory foundation upon which the City may build. Appendix B follows the topical organization of the PDRP Guidebook itself.

Takeaways. The Plan and LDC do not directly address Economic Redevelopment in relation to Post-Disaster Redevelopment Planning (PDRP). In fact, the Plan does not currently have an Economic element. In terms of planning for economic recovery after a disaster, this is probably the major short-coming of the Plan and LDC. Of the other PDRP Guidebook topics, the Plan and LDC are generally organized well-enough to embrace additional provisions and regulations to address PDRP. However, the City documents reviewed in preparing this Report directly address PDRP in only a very few instances.

COMPREHENSIVE PLAN

LAND USE

The City of Fort Myers Comprehensive Plan (Plan) provides for 10 different future land use categories. These categories are summarized at the beginning of the Future Land Use Element (Element 1 of the Plan) and described in greater detail in the text of Element 1 following the element's singular goal:

To ensure that the general patterns and relationships (distribution, allocation, and intensity) of all land uses within, and adjacent to, the City remain or become acceptable to the present and future community of Fort Myers.

Four of the five Objectives that follow from this goal establish Policies, Actions, and Standards that address disaster-related redevelopment topics to some extent.

Objective 1: Protect distinct functional areas from intrusion and encroachment of incompatible uses.

Supporting **Objective 1**, Actions and Standards following from **Policy 1.7** addressing the **Downtown District (D/T)** address disaster-related redevelopment to some extent. Action 1.7.4 limits to 2,352 the number of residential units that the City may permit within the Downtown Redevelopment Area (DRA) Coastal High Hazard Area (CHHA). This CHHA is indicated on Map E-2 of the Plan. Action 1.7.4 pledges the City to work with developers to reduce the total number of constructed units vested under approvals received under the previous density cap of 2,777.

Action 1.7.5 includes a commitment for the City to focus on hurricane preparedness as a major issue including clearance times and adequate shelter space during the Evaluation and Appraisal Report (EAR). Based on the EAR, the City “will initiate appropriate strategies to improve hurricane preparedness. Potential strategies may include future land use map changes to reduce densities in targeted areas, working with the Lee County Emergency Management Office, Lee County, the Metropolitan Planning Organization, and Florida Department of Transportation to increase the capacity of eva[c]uation routes through structural and non-structural improvements in order to meet recommended evacuation clearance times, and producing sufficient shelter space to meet the projected need.”

The first criteria for approval of bonus density allocations, increased FARs, and/or increased height in the DRA, awarded through implementation of the Land Development Code provided by Action 1.7.7 is “hurricane evacuation.”

Policy 1.19 limits densities in the CHHA shown on Maps D through D-5 of the Plan outside the D/T district to the maximum densities in effect as of October 1, 2010.

Objective 3: Revitalize declining areas through rehabilitation, redevelopment, and infill strategies as appropriate.

Supporting **Objective 3**, **Policy 3.4** most significantly addresses disaster-related redevelopment planning strategies:

Policy 3.4) The City hereby adopts into the City of Fort Myers Comprehensive Plan a redevelopment strategy, consistent with the requirements of Section 163.3177(6)(a), Florida Statutes, as well as local mitigation strategies, which shall include at a minimum, the following Actions and Standards:

Action 3.4.1 requires the City to implement measures to replace or eliminate unsafe structures subject to repetitive storm damage. Three (3) Standards support this Action, including the maintenance of an inventory of damaged structures (3.4.1.1), measures in the Capital Improvements Program to rehabilitate, relocate, or demolish any City-owned structures that have sustained repetitive storm damage (3.4.1.2), and a requirement for the City to implement additional measures to reduce repetitive storm damage to private property, including, but not limited to requiring protective measures (e.g., hurricane shutters) on existing buildings in the CHHA (3.4.1.3).

Action 3.4.2 requires the City to reduce exposure of City infrastructure to hazards, including relocation and/or structural modification of threatened coastal infrastructure. Standard 3.4.2.1 requires the City to incorporate structural modification of infrastructure, e.g., water, sewer, roadway, lighting, into the Downtown Streetscape Plan.

Action 3.4.3 requires the downtown redevelopment strategy to implement operational and capacity measures to ensure that the strategy maintains or reduces the City's component of the County's roadway hurricane evacuation clearance times, through standards established in the City's hurricane evacuation study. Four Standards support this Action, including construction and maintenance of new or improved two-way roadways in the DRA and designation of First Street as a two-way road and Second Street as State Road 80 (3.4.3.1), a requirement to monitor new development within the DRA and a prohibition against permitting development that would increase the City's overall hurricane evacuation clearance time above established standards (3.4.3.2), require new development that have the potential to adversely impact hurricane evacuation clearance times to contribute to road improvements, shelter improvements, or other mitigation to reduce clearance times (3.4.3.3), and require each developer in the CHHA to provide a detailed emergency evacuation plan consistent with the provisions of the Lee County Administrative Code to the Lee County Division of Emergency Management (3.4.3.4).

Action 3.4.4 requires the downtown redevelopment strategy to include measures designed to reduce the City's hurricane shelter space deficit and maintain the Category 3 hurricane evacuation clearance time below 16.4 hours. Standard 3.4.4.1 requires the City to "work towards participating" in the Lee County All-Hazards Municipal Services Taxing Unit (MSTU).

Action 3.4.5 requires the City to require new development to contribute to the creation of additional public shelters in proportion to the development's identified impacts on the County's public shelter space deficit and/or hurricane evacuation times.

Action 3.4.6 requires the City to ensure that public expenditures within the CHHA are limited to maintaining existing public facilities, making them more disaster-resistant, provide or maintain public shoreline access, and protect and restore natural systems. Two Standards support this Action. The City will eliminate tax increment incentives for development within the CHHA (3.4.6.1), and require developers within the CHHA to contribute to a hurricane shelter fund, based on a formula established by Lee County (3.4.6.2).

Action 3.4.7 requires the City to continue to participate in the Community Rating System (CRS) and commit to planning and regulatory standards that exceed the minimum standards required by the National Flood Insurance Program (NFIP). Standard 3.4.7.1 notes that the City currently has a Class 8 NFIP CRS rating and requires the City to implement appropriate mitigation measures to work towards improving that rating to Class 7 or better.¹

Action 3.4.8 requires the City to implement measures that ensure the protection of coastal resources and provide for public access to the City's shoreline. Two Standards support this Action. The City must work toward adopting and implementing a shoreline preservation ordinance (3.4.8.1), and must increase public access to the Caloosahatchee River by requiring new development along the river to provide such access.

Action 3.4.9 requires the City to prepare data and analysis of activities proposed within the downtown redevelopment strategy, including an assessment of the potential natural hazard damage to structures and the potential costs of such damage and requires that those potential damages and costs be less than they would be without the proposed action.

Action 3.4.10 requires the City to periodically prepare data and analysis as the downtown redevelopment strategy evolves over time to forecast the impacts of proposed strategy changes on

¹ The lower the class number under the CRS, the better the rating. Each lower classification results in an additional five (5) percent discount on the cost of flood insurance to the City's property owners.

hurricane evacuation clearance times and public shelter capacity. Standard 3.4.10.1 requires the City's initial public shelter and hurricane evacuation study to be prepared by December 2007 and updated every three years.

Action 3.4.11 requires the City to execute and interlocal agreement with Lee County to enable City participation in the Lee County All-Hazards MSTU. Standard 3.4.11.1 requires this agreement and participation as soon as the City is eligible.

Objective 4: Coordinate land development with the public and private provision of community services and facilities, soil suitability, and topography.

Supporting **Objective 4, Policy 4.5** prohibits development that is not compatible with soil conditions and topography. **Policy 4.7** requires consideration during the design and construction of new schools to serve as hurricane evacuation and emergency shelters.

Objective 5: The City of Fort Myers shall coordinate within its Comprehensive Plan applicable actions of the Charlotte Harbor Comprehensive Conservation Management Plan.

Policy 5.1 requires all implementation mechanisms of the Plan (development regulations, capital expenditures) to be reviewed and revised as the Plan is amended to ensure consistency with the Charlotte Harbor Comprehensive Conservation Management Plan.

HOUSING

The **Goal** of the City's Housing Element (Element 3) is: **To ensure the provision of a sufficient supply and variety of sound, safe, and affordable living units.** The three Objectives that follow from this goal are general enough to support disaster-related redevelopment topics to some extent, but there are no Policies, Actions, or Standards currently in the element directly addressing disaster-related redevelopment. The current Objectives are:

Objective 1: Increase the housing supply while achieving a balanced mix of housing types.

Objective 2: Improve the quality of housing, particularly single-family housing.

Objective 3: Improve availability of housing to meet the differing needs of all Fort Myers' residents and their differing income levels.

ECONOMIC REDEVELOPMENT

The City of Fort Myers does not currently have an economic element.

INFRASTRUCTURE AND PUBLIC FACILITIES

The City addresses its infrastructure and public facilities in the Plan Municipal Services Element. The Municipal Services Element is further divided into five subsections: Potable Water, Solid Waste, Surface Water Management, Sanitary Sewer, and Aquifer Recharge, each with its own overarching Goal.

Potable Water. The Goal of the Potable Water section of the element is: **To provide a satisfactory and economical supply of high quality water to present and future users.** Two of the three Objectives supporting this Goal are general enough to support disaster-related redevelopment topics to some extent, but there are currently no Policies, Actions, or Standards below these Objectives directly addressing disaster-related redevelopment. The current Objectives are:

Objective 1: To achieve and maintain acceptable levels of service standards for water quality and availability through both short-term periods of strain and long-term increases to demand.

and

Objective 3: To assure that costs for improvements to the system's capacity and the enhancement of water quality are distributed in an equitable manner, recognizing benefits to new and existing customers.

Solid Waste. The Goal of this section of the element is: **Protect the health, aesthetics, and convenience of the community from the effects of improperly managed solid waste.** The sole Objective supporting this Goal is general enough to support disaster-related redevelopment topics to some extent, but there are currently no Policies, Actions, or Standards below this Objectives directly addressing disaster-related redevelopment. The current Objective is: **To provide a satisfactory and economical collection, transport, and disposal system for solid waste to present and future customers.**

Surface Water Management. The Goal of this section of the element is: **Minimize the hazardous and adverse effects of surface water and tidal surge flooding while maintaining the physical and environmental integrity of the City.** Of the two Objectives supporting this Goal, **Objective 1**, is most relevant to disaster-related redevelopment topics.

Objective 1: Guide development in floodplains in a manner consistent with their natural functions, to minimize risks of property damage and loss of life. Two Policies further this Objective. **Policy 1.1** states that the City subscribes to the findings of the Lee County Comprehensive Emergency Management Plan (CEMP) and maintains a Disaster Preparedness Plan consistent with the Lee County Disaster Preparedness Plan, and provides that the City's Disaster Preparedness Plan will be updated annually. **Policy 1.2** requires the City to regulate development in floodplains and flood prone areas identified by the Federal Emergency Management Agency (FEMA) in its Flood Insurance Study (FIS) of the City.² **Action 1.2.1** requires any structure erected or substantially improved³ (regardless of use) to be constructed according to flood hazard reduction standards, that may include: construction of structures by methods and practices that minimize flood damage; the regulation of materials used for construction; anchoring techniques to prevent floatation, collapse, or lateral movement of the structure; and the regulation of construction to minimize the accumulation of flood waters.

Sanitary Sewer. The Goal of this section is: **To provide a satisfactory and economical wastewater system for present and future users, resulting in the most acceptable environmental impacts.** The relevant Objective supporting this Goal provides:

² The current language of this Policy references an FIS dated October 17, 1984. This is not the most current FIS on which the City should be relying.

³ In FEMA parlance, substantially improved or *substantial improvement* is a term of art with a specifically defined meaning for local government jurisdictions that participate in the National Flood Insurance Program (NFIP). See City of Fort Myers Land Development Code Section 110-1 for this definition.

Objective 2: Increase the environmental acceptability of the overall impacts of the sanitary sewer system. Policy 2.1 requires the sanitary sewer system to be built in such a way as to minimize damage to the system and environmental damage in the event of a flood. Action 2.1.1 provides that manholes in high hazard flood zones will be replaced with pre-cast manholes coated to eliminate deterioration as part of the sewer line replacement program.

Aquifer Recharge. The Goal of this section is: **Protect, preserve, and enhance the groundwater and other aquifers for human use.** The sole Objective supporting this Goal is:

Objective 1: Protect the aquifer from contamination by restricting land uses with the potential to contaminate the City’s primary water source. There are currently no Policies, Actions, or Standards below these Objectives directly addressing disaster-related redevelopment.

HEALTH AND SOCIAL SERVICES

The Public Safety element is currently the most relevant element of the Plan to the discussion of health and social services, as most of these services are in the purview of Lee County. Much of the attention of the Objectives and Policies of this element is also focused on land use. The Goal of the Public Safety element is:

To endeavor to protect the public safety and welfare of the residents [of] and visitors to the City. Two of the six Objectives supporting this Goal are relevant to disaster-related redevelopment.

Objective 2: The City shall promote an informed citizenry as a vital component of public safety. There are currently no Policies, Actions, or Standards below this Objectives directly addressing disaster-related redevelopment under this Objective.

Objective 3: Minimize the threat to life and property caused by natural disasters. Six Policies further this Objective with varying relevance to disaster-related redevelopment. Policy 3.1 requires the City to adopt and maintain a [C]omprehensive Emergency [M]anagement Plan which is consistent with and promotes the use of the County’s CEMP and additionally meets specific needs of the citizens of Fort Myers. Policy 3.2 requires the City to adopt a written Recovery Plan with implementation procedures prior to any impending natural or manmade disaster that will be reviewed annually by all relevant agencies and again just prior to hurricane season. Action 3.2.1 designates the City’s Fire Chief as the emergency preparedness coordinator, and as coordinator charges him with orchestrating “al[!] City actions and responsibilities related to preparation for and recovery from a natural or manmade disaster”, and to “work with the relevant City agencies to prepare a city-wide post-disaster recovery plan” (PDRP⁴) to be coordinated with the Lee County CEMP. The supporting Standard requires the PDRP to “identify and distinguish between immediate repair and clean-up actions needed to protect the public health and safety and long-term repair and redevelopment activities; address the removal, relocation, or structural modification of damaged infrastructure and unsafe structures; identify areas susceptible to repeated damage, and if any exist, limit redevelopment in those areas; and include all applicable elements of the Lee County CEMP directly or by reference (3.2.1.1). Action 3.2.2 requires City staff to conduct annual hurricane drills and reviews.

⁴ The PDRP acronym is also used to reference “Post-Disaster Redevelopment Planning”. The terms are virtually synonymous.

Policy 3.3 provides requirements for new developments and substantial improvements. **Action 3.3.1** includes all the provisions of the Flood Hazard Protection Ordinance for maintenance in the Land Development Code. **Policy 3.4** commits the City “to undertaking a Comprehensive Disaster Mitigation Strategy, as identified in Policy 5.4 [sic] of the Future Land Use Element” of the Plan and its subsidiary Actions and Standards and reiterates an outline of the Actions and Standards that follow Policy [3].4⁵ **Policy 3.5** commits the City to actively pursue the possibility of obtaining Red Cross Certification of City-owned structures suitable for use as public shelters in a Category 3 storm event.

Policy 3.6 requires the City to coordinate with the Lee County Division of Emergency Management to minimize the City’s evacuations time, and encourages the City to work towards, among other previously mentioned aspirations, retrofitting of City buildings for use as hurricane shelters, and working with the Southwest Florida Regional Planning Council (SWFRPC) to reanalyze and reduce the CHHA. **Action 3.6.1** requires the City to give priority for improvements to critical roadway links for evacuation of Category 1 through 3 evacuation zones.

Policy 3.7 requires the City to coordinate both existing and projected population densities in the coastal areas of the City with the SWFRPC to ensure that the Hurricane Evacuation Study is based on the most current information to maintain necessary infrastructure to serve those population densities. **Action 3.7.1** requires the Future Land Use Map to locate high density residential districts in the Coastal Zone only if such development is consistent with the provisions contained in Policy [3].4 and its subsidiary Actions and Standards.

The Public Education Element addresses health and social services to a limited extent. **Objective 3:**

COORDINATION: Ensure that all future public schools built within the City of Fort Myers are consistent with the Future Land Use Map designation, compatible with surrounding land uses, collocated with other appropriate public facilities (when possible), and have the required level of supporting infrastructure.

Two Policies supporting this Objective speak generally to disaster-related redevelopment. **Policy 3.4** requires the City to coordinate with the Lee County School District to seek opportunities to co-locate public and civic facilities with schools as needs are identified. **Policy 3.6** requires similar coordination with the School District, the County, and the other municipalities within the County to identify issue relating to public school emergency preparedness, e.g., determining evacuation zones, evacuation routes, and shelter locations; design and use of public schools as emergency shelters; and the designating sites other than public schools as long-term shelters to allow schools to resume normal operations following emergency events.

ENVIRONMENT

The Plan addresses environmental issues of disaster-related redevelopment in the Conservation and Coastal Management element. The relevant second Goal of the element is:

Goal 2: Maintain, increase, and manage natural and coastal resources to preserve their quality and ability for use in the future while protecting human life and limiting public expenditures in the areas subject to destruction by natural disasters.

⁵Policy 3.4 of the Public Safety Element incorrectly references Policy 5.4 of the Future Land Use Element. The correct reference should be to Future Land Use Element Policy 3.4, discussed *supra*.

Objective 1 under this Goal is: **Designate a Coastal Zone.** **Policy 1.1** requires the City to designate the Coastal Zone to include certain areas of the City indicated on Map K of the Plan, and **Action 1.1.1** requires land use within the Coastal Zone to be consistent with **Action 7.2.1** of the Conservation and Coastal Management element.

Objective 3: Maximize public accessibility to and the use of natural resources without unacceptable adverse impact on them with appropriate development, public expenditures, and hazard mitigation planning. **Policy 3.4** requires levels of service for all community facilities in the Coastal Zone to be the same as in other areas with emphasis to maintain or reduce hurricane evacuation times. **Action 3.4.1** requires priority be given to projects that complement the SWFRPC Hurricane Evacuation Study to maintain or improve those evacuation times. **Policy 3.5** requires the City to coordinate land uses and post-disaster redevelopment with Interagency Hazard Mitigation Reports in the event of a natural disaster.

Objective 7: Ensure that water-dependent and shoreline uses located along creeks, the river, and its tributaries take full advantage of their premium location. **Policy 7.3** requires uses not dependent on the water or not enhanced by a waterfront location to be located inland to direct development inland. **Action 7.3.1** requires the Future Land Use Map to designate areas in the Coastal Zone outside of the DRA with a low-density residential use preference.

Objective 9: Designate a Coastal High Hazard Area (CHHA). **Policy 9.1** notes that the City has designated a CHHA that includes all area below the elevation of the category 1 storm surge line and demonstrated on Map L-2 of the Plan.⁶ **Action 9.1.1** directs the City to limit public expenditure development subsidies in the CHHA except for restoration or enhancement of natural resources. Two Standards support this Action. Certain critical facilities must be located outside the CHHA (9.1.1.1). Amend or maintain the Future Land Use Map to decrease or maintain permitted residential densities within the CHHA outside of the DRA (9.1.1.2). **Action 9.1.2** requires the City to prohibit tax increment financing incentives to promote development within the CHHA unless the project involves a joint public/private partnership.

Objective 10: Designate a hurricane vulnerability zone. **Policy 10.1** notes that the City has designated a hurricane vulnerability zone, including all parcels within the evacuation zone for a tropical storm and Category 1, 2, and 3 hurricanes, on Map L-3 of the Plan, and that the CCHA is the most vulnerable portion of the hurricane vulnerability zone. **Action 10.1.1** requires a finding by the City Council that further public expenditures in the CHHA are necessary to maintain required service levels, protect existing residents, or to provide needed recreation and open space. **Action 10.1.2** requires public investments in the hurricane vulnerability zone be designed to withstand expected storm intensities as required by the LDC and [applicable] building codes. **Standard 10.1.2.1** requires engineering designs for facilities within the hurricane vulnerability zone to certify the facilities will withstand Category 3 storm event. **Action 10.1.3** limits the capacity of replaced or relocated infrastructure requiring state funding in the CHHA.

Policy 10.2 is to develop and maintain an interlocal agreement between the City and Lee County that adopts provisions of Lee County Ordinance 95-14, as amended, regarding managing recovery, reconstruction, and mitigation activities following a major or catastrophic disaster within the City. **Action 10.2.1** requires the City to perform an analysis of revenue sources that could be directed to

⁶ The category 1 storm surge line was established by a Sea, Lake, and Overland Surges from Hurricane (SLOSH) computerized storm model established by the SWFRPC. The SWFRPC has recently undertaken an update of this model which may require revisions to the City's CHHA.

certain post-disaster recovery, reconstruction, and mitigation activities as part of the interlocal agreement process.

Objective 11: City actions shall be coordinated with existing and future applicable natural resource protection plans. Policy 11.1 requires the City to incorporate applicable actions of the Charlotte Harbor Comprehensive Conservation Management Plan into its LDC. **Action 11.1.1** provides that by 2008 the City must evaluate its compliance with the Management Plan, including certain aquatic resources, and that the evaluation must include a determination of which additional resource management activities are necessary to protect the Management Plan's identified natural resources.

LAND DEVELOPMENT CODE

LAND USE

The Flood Hazard Protection Ordinance discussed under the Plan portion of this Report appears to be codified as Chapter 110 of the Land Development Code. Section 110-1 provides definitions for *flood-proofing, substantial damage, and substantial improvement*. Section 110-119 provides parameters for exceptions to the regulations for historic structures. Section 110-121 provides requirements and limitations on new construction and substantial improvements in the CHHA. Section 110-122 provides requirements and limitations on substantial improvement and substantial damage structures. Section 118.8.5, subsection 4, establishes density limits in the CHHA.

HOUSING, ECONOMIC REDEVELOPMENT, INFRASTRUCTURE AND PUBLIC FACILITIES, HEALTH AND SOCIAL SERVICES, and **ENVIRONMENT** aspects of disaster-related redevelopment are not generally addressed in the LDC beyond those mentioned above.

APPENDIX C – GAPS ANALYSIS

AN ANALYSIS OF GAPS BETWEEN THE CURRENT COMPREHENSIVE PLAN AND L.D.C. AND SUGGESTIONS TO BETTER ADDRESS DISASTER-RELATED REDEVELOPMENT TOPICS

INTRODUCTION / OVERVIEW

The purpose of Appendix C is to analyze in greater detail the gaps in policies not currently existing in the Plan and LDC identified in Appendix B. The gaps between existing provisions and regulations and guidance and best practices discussed below have the potential to improve the disaster-related redevelopment planning of the City of Fort Myers. The PDRP guidance analyzed in Appendix C is derived from the state's PDRP Guidebook to a large extent and is supplemented and underscored by efforts of other Florida local governments.

Organization. Appendix C identifies that the current Plan and LDC are lacking in disaster-related redevelopment provisions and regulations. Recognizing that in a period of adequate local government finance liquidity, seeking to establish fully-blown, advanced, best practices Comprehensive Emergency Management Plan (CEMP) and Post-Disaster Redevelopment Plan (PDRP) in a short timeframe is unlikely, the City's current economic finance situation suggests that a more measured phased approach is probably more practical and more achievable in the short- and long-term. Appendix C breaks the gaps into three general categories for each of the six broad PDRP topics: **Minimum Achievement Level, Intermediate Achievement Level, and Advanced Achievement Level.**

Minimum Achievement Level. These items are recommended to be undertaken first. City documents make reference to many of the items listed under topics associated with this achievement level, but do not appear to have actually been achieved in most cases. It is recommended that the focus of current disaster-related redevelopment planning achieve these fundamental **minimum** benchmarks before endeavoring to undertake too many of the **Intermediate** or **Advanced** achievement level items.

Intermediate Achievement Level. These items can be addressed simultaneously with **Minimum** items if adequate personnel and other necessary resources are available. Current circumstances may dictate that **Intermediate** items be addressed during a subsequent planning cycle than that which accomplishes the **Minimum** items. One possibility would be as part of the City's next Community Rating System (CRS) review, which is likely to be conducted under a new CRS Coordinators Manual, scheduled for adoption in 2012. The CRS is the National Flood Insurance Programs system for establishing a community's discount rate for flood insurance.

Advanced Achievement Level. These items are for communities to commence once a solid foundation for hazard mitigation and post-disaster recovery is already established. These items are considered best practices.

Takeaways. The City has ample opportunities to improve its emergency management and preparedness, particularly as it relates to PDRP. So ample are these opportunities that, in light of limited resources to further development and implementation of PDRP, they may seem overwhelming. A phased approach, focusing on achieving the minimal levels of PDRP preparedness appear to be the likely first step, with the addition of any intermediate achievements that policy and resources suggest may be enacted in the short run. There may be synergies that will arise from the proposed changes to the CRS requirements for flood insurance discounts on the horizon for 2012 to achieve more intermediate and advanced levels of PDRP while also improving – or at least maintaining – the City's current discount rate for flood insurance.

LAND USE

Land use is the most central topic to address in a Post-Disaster Redevelopment Plan (PDRP). Post-disaster redevelopment can provide the City the opportunity to change previous development decisions that may no longer be desired, leap forward in implementing its vision for the future, and become more resilient to disasters by avoiding or mitigation development in hazardous

locations. The City must also recognize private property rights and the financial burden that disaster survivors might face if required to rebuild to higher standards. The PDRP should establish a flexible strategy for redeveloping consistent with the Plan and in a manner that will increase the resiliency of the City to future disasters.

MINIMUM ACHIEVEMENT LEVEL

Phased reconstruction and streamlined permitting

Existing: Chapter 22 of the City's Code of Ordinances, Article II addresses Emergency Management, authorizing certain persons to declare by proclamation a state of emergency, provides for its duration, automatic activation of disaster emergency plans, and distribution of equipment, facilities, materials, and supplies suppose to be available pursuant to such plans. Sec. 22-34. It does not, however, address the

effectiveness of any building moratoria or expediting or prioritizing any building permitting in a post-disaster scenario.

Policy 10.2 refers to an interlocal agreement with Lee County adopting the provisions of Lee County Ordinance 95-14, discussed below. *From research to date it does not appear that any such interlocal agreement exists. See also Action 10.2.1, discussed supra in Part I of this Report.*

PDRP Guidance/Best Practices: An established provision for a phased building moratorium or other temporary restrictions on processing development orders is a vital tool for the City after a disaster. Temporarily modifying the local permitting process can provide for rapid disaster repairs while maintaining a reasonable amount of time for permitting officials and property owners to assess the situation and make smart redevelopment decisions. Procedures for differentiating between types of permit applications and when they will be processed assure that critical permits needed for recovery to advance are not delayed and City staff are not overwhelmed.

major damage (10 days), minor damage (4 days), and new development (30 days).

"Moratoria" may not be politically popular as a term, so "Post-Disaster Temporary Permit Suspension" (Palm Beach County), or a "triaged" system of prioritizing permits and inspections (Polk County) may be more politically palatable. Whatever it is called, the adjustment to normal operations is necessary so that the quality of reconstruction will not be compromised. A phased or "triaged" moratorium that is specific to the type of permit may be more publicly acceptable than a generic policy that leaves details to be determined after the disaster.

Moratoria should be phased based on the level of damages and/or the location so that structures or areas with light to moderate damage can be quickly processed with necessary repairs while those with more severe damages can consider options for rebuilding to current standards or relocating.

Lee County had a post-disaster recovery ordinance in place since 1995. Lee County Ordinance 95-14. Following Hurricane Charley and the other storms of the 2004 and 2005 seasons, Lee County totally overhauled it ordinance based on the lessons learned from those recent storms. Lee County Ordinance 07-20, codified in the County's Code of Ordinances as Chapter 13-1/2, Article IV addresses many of the issues identified in this Report and could be a starting point for the City in crafting regulations for its procedures.

Another option is to base the moratorium on the degree of damage to the individual structure. Hillsborough County, Florida, Ordinance 93-20 provides for an initial moratorium of 72 hours from the declaration of disaster, followed by moratoria for destroyed structures (30 days),

Build back standards for nonconforming and substantially damaged structures

Existing:

- Policy 1.2 of the Surface Water Management section of the Municipal Services element of the Plan requires regulation of development in the floodplain. Action 1.2.1 requires certain construction accord to flood hazard reductions standards.
- LDC Section 110.121 regulates construction in the CHHA and establishes requirements for new construction and substantial improvements (df). Section 110.122 regulates substantial improvement and damage structures, including renovations, lateral additions, and vertical additions. Notably, the City does not appear to have provisions to address repetitive losses.
- LDC Chapter 98 regulates nonconformities. Section 98.4.2B provides that in the event of a natural disaster, the City may permit reconstruction of any *single-family dwelling* to the same or decreased nonconformity that existed immediately prior to the natural disaster in compliance with the Florida Building Code. The LDC does not have PDRP considerations for nonconforming uses or for non-single family structures and site improvements. LDC Sections 98.4.4 and 98.4.5.

PDRP Guidance/Best Practices: Requiring post-disaster rebuilding to meet current safety codes and floodplain regulations is essential to building a more disaster-resilient city, but other standards, such as different aesthetic and other non-essential requirements, e.g., yard setbacks or commercial building design may not be as necessary and could be a burden to disaster recovery efforts.

It is often unclear what standards a community will enforce concerning nonconformities when rebuilding after a disaster and, in some cases, there may be conflicting standards among plans and regulations. The City should review its plans and codes so that the hard choices between what is fair to disaster survivors and furthering the City's vision for the future are decided pre-disaster.

Build-back standards should be clearly understood before a disaster occurs to ensure that they are enforced and do not become a matter that delays the redevelopment process. The Town of Fort Myers Beach provides that if post-disaster damages exceed 50 percent of the building's market value (based on an independent appraisal ordered

by the Town) and the repair is thus not a "substantial improvement", repairs can be made without bringing the building into full compliance with building size, dimension, lot location, number of units, building type, or floodplain regulations. If, however, the damage exceeds 50 percent, the building is considered to be "substantially damaged" and the replacement building must comply with all development, floodplain, and zoning regulations with certain allowances for building height, setback, and open space requirements where such requirements would preclude equitable reconstruction of the spatial volume of the previously existing building.

The Town's floodplain regulations also require that *repetitive losses*-defined as "flood-related damages sustained by a structure on two or more separate occasions in any ten-year period, for which the cost of repairs equals or exceeds 25 percent of the market value of the structure before the damages occurred--are included within the term *substantial improvement* and are therefore required to comply with those floodplain requirements.

INTERMEDIATE ACHIEVEMENT LEVEL

Reducing disaster vulnerability through land use and development regulations

Existing: Current City policies and regulations are minimal, focusing primarily on evacuation times and shelter, and surface water management, as discussed in Part I of this Report. The floodplain regulations in the LDC are also minimal, currently rating a 7 through

the NFIP CRS. The CRS standards are due to change in 2012 and a thorough review of the City's CRS standard may be necessary to maintain that rating and will be necessary for the City to achieve a lower rating and resulting greater discounts on flood insurance costs.

PDRP Guidance/Best Practices: The best practice for post-disaster redevelopment is to restrict rebuilding in hazardous locations and require mitigation where vulnerable development cannot be precluded. Careful consideration of legal implications concerning private property rights and extensive public outreach should be factored into use of regulatory tools for increasing disaster resiliency for the City, especially if pursued during the post-disaster "window of opportunity" for future disaster vulnerability reductions. Among these tools are: reduced intensity and density of use, special permit

requirements, increased setbacks from hazard sources such as wetlands and waterways, hazard-specific site design requirements, and increased structural mitigation requirements. The City may consider policies and regulations instituting lower damage thresholds requiring nonconforming uses and structures to meet current standards, zoning overlay districts, post-disaster specific land development regulations, and special assessment districts to fund mitigation projects that benefit more than one property.

Prioritizing areas to focus redevelopment

Existing: The DRA appears to be the City's current priority focus for redevelopment, as discussed in Part I of this Report.

PDRP Guidance/Best Practices: The City should consider expanding its post-disaster redevelopment planning to areas less vulnerable than the CHHA, establish priorities and incentives for more sustainable development in these additional targeted areas. The best way to build resiliency to disasters is to direct future development to safe locations while minimizing or mitigating highly vulnerable type of development in hazardous areas. The City should analyze potential locations and choose pilot sites to assess the capacity of infrastructure and development allocation to understand what modifications would be needed for it to support the goals of a Priority Redevelopment Area

(PRA) strategy. Targeted sustainable redevelopment areas can provide immediate opportunities for redevelopment since they will have sustained less damage and can be prioritized for infrastructure restoration and expedited permitting. Allowing for rapid redevelopment in safe areas intended for increased future development can provide time to minimize vulnerable redevelopment or plan the sustainable reconstruction of areas severely impacted from the disaster. Designated PRAs can also provide opportunities to locate temporary post disaster uses more efficiently and consistent with future land uses.

Reducing disaster vulnerability through voluntary mitigation programs

Existing: As discussed in Part I of this Report, Plan Action 1.7.4 limits the number of residential units that the City may permit within the DRA CHHA and pledges the City to work with developers to reduce the total number of vested dwelling units.

PDRP Guidance/Best Practices: Post-disaster redevelopment planning should provide for better rebuilding in high hazard locations through regulations, or through voluntary programs such as acquisition, transfer of development rights (TDR), and mitigation incentives, thereby avoiding concerns over private property rights infringement.

The City should pursue hazard mitigation grant funding for land acquisition of highly vulnerable or damaged properties pre- and post-disaster. These properties can be used to further certain environmental restoration and public recreation efforts such as those under Goal 2 of the City's Conservation and Coastal Management element discussed in Part I of this Report.

A TDR program that includes criteria for decreasing development rights in hazardous locations by transferring them to more sustainable areas is another strategy but must consider the difficult paradox that the most valuable real estate is often in the most hazardous areas of the City.

The ability of the City to make major increases in disaster resilience should not be limited by a strategy that only utilizes acquisition or TDRs due to the high costs of compensating CHHA property owners and the difficulty of finding willing sellers. The City should also consider incentives for structural hazard mitigation during reconstruction. Proven building techniques can mitigate disaster damages but are typically not required during repairs or reconstruction. Post-disaster monetary incentives in addition to education are another strategy to encourage property owners to voluntarily rebuild to a higher standard and reduce hazard vulnerability.

The City should work with Lee County to accomplish the Policies and Actions under Objective 3 of the Plan's Public Safety element through a crossover initiative between the Local Mitigation Strategy (LMS) and the City's CEMP and PDRP, using the LMS as a tool for obtaining funding and for a pre-disaster education campaign and the PDRP to lay out the strategy for preparing and implementing the post-disaster actions. See www.pdrp.org/; www.floridadisaster.org/Mitigation/rcmp/index.htm.

ADVANCED ACHIEVEMENT LEVEL

Controlling long-term post-disaster blight

Existing: None.

PDRP Guidance/Best Practices: As witnessed in New Orleans in the aftermath of Hurricane Katrina, some residents may choose not to return to their homes or lack the necessary funds to repair them after a disaster, and many damaged commercial spaces may remain damaged and vacant as tenants go out of business or relocate to better locations and newer buildings. The result of these actions may be sporadic blight throughout the community. This could lead to weakness in investor confidence as well as public safety concerns and the inability of area residents to feel a return to normalcy.

Blight abatement after a disaster could be beyond the capability of traditional local code enforcement procedures. The City should review its protocols for the demolition of destroyed structures for opportunities to streamline the process so that unsafe, blighted structures do not remain in neighborhoods for unacceptable timeframes. The City should also consider alternative methods for demolition cost recovery since the typical resort to property liens may

not be adequate to maintain demolition operations if condemnations are widespread and extended beyond Federal reimbursement program timeframes.

Pre-disaster public awareness as well as outreach early on in post-disaster recovery will be integral to successful blight removal timelines. The City will want to ensure that abandoned property is made available to those who can and will rebuild it. The City's Attorneys should determine the best way of streamlining the acquisition and reselling of adjudicated blight properties after a disaster, particularly in light of the Florida Constitution's and Florida Statutes' limitations on eminent domain. See Section 73.013 Florida Statutes. The City should designate areas where acquisition of property would be most effective and establish priorities to guide those acquisitions. Temporary moratoria policies should address reconstruction in areas targeted for acquisition.

Historic preservation and restoration

Existing: LDC Section 98.4.4E. Provides that historic landmarks or structures over 50 years old, *in a locally designated historic district*, and their site improvements shall be considered conforming, and may be enlarged, rebuilt, or renovated, subject to the requirements of Historic Preservation chapter (114) of the LDC.

LDC Section 114-2 defines *state of emergency condition* as "an unforeseen combination of events or circumstances resulting in an urgent need for assistance or relief." Section 114-74 provides that in a case of a state of emergency condition and the building official

determines a historic structure within a designated historic district to be imminently dangerous to life, health, or property, the regulations of the historic preservation chapter will not prevent temporary construction, reconstruction, demolition, or other repairs and the requirement for review by the historic preservation commission is temporarily suspended. Article IV of chapter 114 provides for a 100 percent ad valorem tax exemption for ten years for qualifying improvements of designated history property improvements as authorized by Section 196.1997, Florida Statutes.

PDRP Guidance/Best Practices: The City should engage the Historic Preservation Commission in review of the existing policies and regulation in developing a PDRP and in implementation policies and procedures. Common historic preservation mistakes after a disaster include:

- Restorable buildings are torn down;
- Irreplaceable architecture elements that could be salvaged are carted away with debris;
- Property owners make hasty decisions and inappropriate repairs;

- Archaeological resources are disturbed by heavy equipment;
- Construction applications may overburden officials, as there may be insufficient staff to carefully review all the applications;
- Inspections of historic structures may be carried out by persons without appropriate qualifications with respect to the preservation of historic resources. See www.1000friendsofflorida.org/PUBS/HistoricalDisaster/1000%20Friends%20Book.pdf.

ECONOMIC REDEVELOPMENT

MINIMUM ACHIEVEMENT LEVEL

INTERMEDIATE ACHIEVEMENT LEVEL

Resumption and retention of major employers

Existing: None.

PDRP Guidance/Best Practices: The ability of a local economy to recover after a disaster dictates the success of the community's long-term recovery. Disasters tend to magnify trends or conditions in place before the disaster strikes. Major employers in the City may have business continuity plans and may be able to work with the City as partners in planning for post-disaster redevelopment and provide insight as to what City assistance they could use to ensure rapid resumption of business. They may also have the means to assist in actions to support workforce retention if included in the planning process.

Actions such as credentialing major employers' Business Continuity Managers so that they can enter the disaster zone before the general public to assist in assessing what it will take to resume operations and the implementation of procedures for the expedited permitting of disaster repairs for businesses can provide large companies the tools

they need for rapid resumption of business, thereby contributing to the long-term recovery by getting people back to work and recreating the demand for all of the smaller, supporting businesses. In looking at the PDRP, the City should consider some of the factors that may aid in the retention of major employers, including a high level of communication before and after a disaster about post-disaster redevelopment goals and expectations and incentives to ensure retention, if necessary. Networking tools like Florida International University's Business Continuity Information Network (BCIN), see www.bizrecovery.org, are available for public and private sector coordination post disaster.

The economic redevelopment strategy of the PDRP should incorporate coordination with the County CEMP ESF 18 and a method of transitioning from or extending its lead role in economic recovery to long-term redevelopment.

Small business assistance

Existing: None.

PDRP Guidance/Best Practices: Small businesses usually comprise the majority of businesses in the City and are a component of most industry sectors in Florida. Small businesses are more likely than large businesses to either never reopen after a disaster or fail shortly after reopening. Pre-disaster outreach to the small business community is an important component of any economic recovery strategy. The City can determine whether additional pre-disaster efforts are needed as part of its "capacity assessment"--the City's ability to implement the PDRP.

Post-disaster outreach is also necessary. Business recovery centers and services such as counseling can assist small businesses in making

decisions on when to reopen, whether they should temporarily pursue other types of business, and what financial assistance sources are advisable to pursue.

The City can consider a business disaster preparedness program that may include free marketing after a disaster in order to drive business and generate revenues, and provide recovery information and resources.

A Small Business Development Center can provide counseling and assistance to help businesses that have closed or experienced damages recover from the disaster.

Workforce retention

Existing: None.

PDRP Guidance/Best Practices: At the same time the City is trying to retain existing businesses, efforts must also address retaining the workforce that supports those businesses. Ensuring that schools reopen and childcare is available, allowing temporary on-site housing for employees, and communication of the City's PDRP can assist in getting employees back to jobs as soon as businesses have reopened.

Workforce training programs are important to provide residents with appropriate skill sets to fill newly available positions due to recovery efforts and to adjust workforce skills to other industries that may take more permanent hold in the community due to post-disaster business recruitment efforts.

Tourism renewal

Existing: The City currently participates in the efforts of the Lee County Tourism Development Council (TDC), an advisory board to the Visitors and Convention Bureau (VCB) and the Lee County Board of County Commissioners

PDRP Guidance/Best Practices: Tourists tend to be apprehensive about planning vacations to a community that has recently experienced a disaster. The City's economy is, to a large extent, dependent on tourism and will need to re-establish this revenue stream as soon as possible after a disaster. Redevelopment strategies should not overlook aspects of the City that draw tourism, whether they be natural attractions or entertainment and cultural establishments. The City should assess whether tourism-based businesses, such as accommodations and service industry establishments, need assistance in understanding land use strategies to reduce vulnerability and finding ways to assist them in rebuilding in

a less vulnerable way. The City can partner with the County and other municipalities in a unified marketing strategy that maximizes the use of marketing dollars while comprehensively promoting the region. A unified regional effort may be more successful in publicizing the areas and markets that have successfully recovered and reopened their doors to business. Local festivals and cultural activities are good opportunities to attract positive media attention and tourists to the area while showcasing the successes of recovery and redevelopment efforts. Celebrations are also beneficial to residents as they restore a sense of normalcy to the City.

ADVANCED ACHIEVEMENT LEVEL

Physical economic redevelopment projects

Existing: None.

PDRP Guidance/Best Practices: After a disaster, opportunities may arise to move forward with planned physical economic development projects or to create new projects to utilize post-disaster funding, available land, or public will. Economic development projects that are disaster-resilient and fill a need in the City after a disaster should be a priority for post-disaster funding. Community Redevelopment Agency

districts, Enterprise Zones, and other business districts can be prime locations to focus post-disaster redevelopment projects since they offer financial tools and incentives, such as tax increment financing, reductions on impact fees, and State tax incentives. The City may also plan to use its business incubator to encourage economic development in disaster devastated areas.

Opportunities to sustainably restore economic vitality

Existing: None.

PDRP Guidance/Best Practices: Retaining existing businesses is the first priority after a disaster. Post-disaster redevelopment may also present an opportunity for businesses to assess their long-term applicability in the local market and take advantages of any changes in demographics or business incentives that may occur due to disaster impacts and an influx in outside funding to the City. Inevitably, some large and small businesses that receive a significant amount of damage or indirect losses are going to fail or choose to relocate after a major disaster. Ideally, the City will have a diverse spectrum of businesses so if an industry sector is severely impacted by a disaster,

the majority of the workforce can be integrated into typical ongoing economic development activities. With its strong research universities; network of clean energy companies, suppliers and closely related industries; and sustainability-minded utilities, Florida is poised to become the next major clean energy hub. Industries targeted for attraction and incentive programs after a disaster should further a more disaster-resilient and sustainable economy for the City and be appropriate for the post-disaster circumstances. The PDRP should plan for a holistic recovery of all aspects of the City and post-disaster opportunities for economic improvements.

HOUSING

MINIMUM ACHIEVEMENT LEVEL

INTERMEDIATE ACHIEVEMENT LEVEL

Temporary housing siting criteria, provision, and removal

Existing: None.

PDRP Guidance/Best Practices: A housing disaster results when there is no reasonable alternative housing available for survivors or there is no capacity to finance the repair or reconstruction of unit lost in a reasonable timeframe. A basic foundation of the City's recovery from a disaster is the timely provision of temporary housing and rapid repair and reconstruction of permanent housing that meets the needs of *all* residents' income levels. Housing disaster survivors is a prerequisite to all other components of long term post-disaster recovery.

Strategies for infrastructure restoration, job recovery, social service provision, and land use control should be in place. Providing safer and more affordable and sustainable housing options, public outreach and intergovernmental and stakeholder coordination are essential components of the process.

The City should consider developing siting criteria for temporary housing in lieu of designating specific sites pre-disaster. A Disaster Temporary Housing Plan could include parameters by which potential sites can be compared to determining suitably ideal locations depending on the disaster event, extent, and location of damage. A best practice, when safe and feasible is for the City to allow individual placement of interim housing on private property during repair and

rebuilding as well as allowing employer-supplied temporary housing on commercial properties. Criteria can be used to ensure that housing sites are consistent with the Future Land Use Map, are located near employment centers, and have access to public transportation.

An ideal scenario would be for a temporary group housing site to be designed in such a way that it could do double duty--provide temporary housing to disaster survivors and then transition into a permanent, affordable housing development due to saving on site preparation and infrastructure paid for through disaster funding. It is further important for the City to ensure that disaster housing is, in fact, temporary and that removal timeframes and procedures are in place and enforced.

The City should also consider and be prepared to provide assistance to disaster survivors in transitioning from temporary to permanent housing to ensure that temporary housing can be removed in a timely manner.

Expedited post-disaster repair permitting and inspection processes can increase a community's ability to reconstruct homes rapidly. The City should analyze its processes as part of its PDRP development and modify them accordingly.

Transitioning residents back to permanent housing

Existing: None.

PDRP Guidance/Best Practices: Many residents may need assistance on issues such as understanding disaster assistance program, navigating insurance claims, finding reputable contractors, understanding their renters' rights and making decisions on whether to rebuild. Community outreach and counseling services, such as legal assistance to survivors in interpreting insurance policies to help ensure that the maximum benefit can be obtained from their claims, are important for the success of housing recovery. The City's PDRP can include a local strategy to organize and target various resources for public education, counseling, and case management throughout

long-term redevelopment to ensure that government assistance is fairly and equitably provided to disaster survivors who need help moving out of temporary housing.

Voluntary Organizations Active in Disasters (VOIDS), Long-Term Recovery Organizations (LTROs), and other community-driven funding sources providing case management to assist low-income and under-insured residents with locating and transitioning into permanent housing should be identified in the PDRP, and their capabilities assessed and enhanced appropriately.

Encouraging homeowners to incorporate mitigation during rebuilding

Existing: None.

PDRP Guidance/Best Practices: Due to a rush to rebuild, a lack of information, or the perceived costs, residents may overlook opportunities to include hazard mitigation and prevent repetitive losses after a disaster. The window of opportunity for encouraging homeowners to voluntarily exceed building code requirements and include more mitigation only lasts a short time after a disaster.

A public outreach strategy for homeowners with hazard mitigation information and technical assistance can be included in the PDRP. The strategy should be integrated with pre-disaster education strategies in the local mitigation strategy (LMS) and relevant short-term recovery operations detailed in the CEMP can be coordinated with the long-term strategy. The City should closely coordinate these efforts with Lee County.

ADVANCED ACHIEVEMENT LEVEL

Rebuilding affordable housing

Existing: None.

PDRP Guidance/Best Practices: The affordable housing gap will be wider after a disaster. The sense of community and neighborhood fabric could be destroyed if widespread displacement or gentrification occurs after a disaster. Redevelopment projects not only need to include some affordable units, but they also need to include realistic proportion to meet the needs of the community. There may also need to be post-disaster monitoring of whether the demand for rental housing units is being met.

In addition to providing affordable alternative housing to low-income disaster survivors, actions need to be taken to

prevent widespread gentrification of damaged neighborhoods through programs that assist low-income homeowners in repairing or rebuilding their homes so that they can remain in them. After Hurricane Andrew in 1992 in Miami-Dade County, the Metro Dade Department of Environmental Resources Management and the Homestead Habitat for Humanity collaborated to build Jordan Commons, an affordable, sustainable community model for low-income families left vulnerable to homelessness by the hurricane: www.smartcommunities.ncat.org/success/jordan.shtml.

Ability to reconstruct homes rapidly

Existing: None.

PDRP Guidance/Best Practices: During short-term recovery, efforts to recruit qualified workers to the area, process their credentials, and educate residents on hiring licensed contractors is an important factor in setting the speed of redevelopment. An organized volunteer force can assist in this initial push for speedy repairs, and the County Emergency Support Function (ESF) 15 of the County CEMP and Long-Term Recovery Organization serve a critical role in planning for volunteer resource use. The City should consider creating an easy system that allows residents to post their needs and contractors to advertise their skills. City-regulated message boards or databases in public places, e.g., Disaster Recovery Centers (DRC) can

offer residents the assurance that they are dealing with properly licensed contractors and give contractors a simple way to find business.

The City should analyze its permitting and inspection procedures for opportunities to make temporary changes post-disaster that will allow for expedited operations without compromising quality. Augmenting staff will likely be necessary post-disaster. The City should also pursue Interlocal Agreements with other local governments as well as cross-training of in-house and other local government staff for short-term increases while new, temporary hires may be needed for the duration of the redevelopment period.

INFRASTRUCTURE AND PUBLIC FACILITIES

MINIMUM ACHIEVEMENT LEVEL

Infrastructure for temporary recovery operations

Existing: Objectives 1 and 3 of the City's Potable Water subsection of the Infrastructure and Public Facilities element are broad enough to hold Policies, Actions, and Standards for disaster-related redevelopment, but do not currently include any.

PDRP Guidance/Best Practices: Restoration of infrastructure and critical public facilities after a disaster is a prerequisite for recovery--one that is addressed in local government and private utility and infrastructure companies' emergency response and short-term recovery plans.

Long-term redevelopment considerations for infrastructure restoration also must be weighed in conjunction with land use, environment, housing, and economic redevelopment issues. Opportunities to upgrade, mitigate, or even relocate infrastructure of public facilities after a disaster should be addressed in the PDRP. Advanced planning can afford the City an opportunity to make deliberate decisions and use disaster repairs as an opportunity to include hazard mitigation.

The many agencies, jurisdictions, and stakeholders involved in providing infrastructure, public facilities, and utility services need to establish communication and coordination procedures to ensure that long-term recovery and redevelopment occurs in an efficient and organized manner. Among the types of infrastructure and public

facilities to be considered in developing the PDRP are: Transportation systems; Potable water, sewer, and stormwater systems; Power, natural gas, and telecommunications; Schools, libraries, and government offices; and Parks and recreation facilities.

After a disaster, temporary recovery needs for infrastructure arise, particularly related to temporary housing, discussed *supra*. The long-term implications of temporary recovery operations are often related to the precedent set by providing infrastructure to a location. Using infrastructure in a temporary manner is wasteful when expense of placing that infrastructure could be spent on placing or enhancing infrastructure capacity to a site suited for permanent development.

City and County utilities and public works staff should collaborate with emergency managers to develop creative ways for temporary recovery operations to be pre-planned in ways that also benefit community capital improvement goals. These collaborations should happen on an annual basis to brainstorm scenarios for temporary infrastructure reuse depending on current opportunities.

INTERMEDIATE ACHIEVEMENT LEVEL

Debris Management

Existing: None.

PDRP Guidance/Best Practices: A massive amount of debris can be generated from a major disaster and will need to be properly disposed of, or "reduced," to prevent long-term impacts.

Depending on the type of debris being handled, precautions have to be taken to limit soil and water contamination as well as air pollution, discussed *infra* in the Environment section of this Report. Debris that contains chemical contaminants will require separate processing and disposal. Waterway debris can pose a threat to plant and animal species, block channels, and disrupt navigational operations. Debris removal efforts should ensure that environmental areas do not suffer from prolonged exposure to pollutants, and clean-up procedures should consider sensitive environmental areas to minimize additional impacts.

A dedicated debris management plan and staff training is necessary to plan for these concerns during "blue skies" and to implement best practices debris operations when a disaster occurs. See www.fema.gov/pdf/government/grant/pa/demagde.pdf.

A coordinated debris management plans will enable the City to be better prepared and aware of its capabilities related to debris removal. Preplanning for debris operations may mitigate some of the common errors applicants face in FEMA's Public Assistance (PA) program and decrease the likelihood of work that is ineligible for reimbursement.

Components of a debris management plan may include: debris assumptions and forecasting; debris collection plans; potential debris management sites, recycling methods, and final disposal locations; identification of priority routes and critical facilities to be cleared first; procedures for contracting services; and processes for conducting private property debris removal. In the infrastructure planning process, it is also wise to document facilities that are shared resources where jurisdictional determinations may come into question, including having jurisdictional documentation on file.

Financing Infrastructure and public facilities repair

Existing: None.

PDRP Guidance/Best Practices: When the City starts to make decisions about which structures to relocate after a disaster or which mitigation projects it should invest in pre-disaster, it should consider funding availability. Spending prioritization requires knowing what is covered under insurance policies, which projects will be eligible for Federal reimbursement through the PA program, which projects can be funded through grant programs, and if there are financial reserves that can be targeted for grant matching funds or local investment.

The City should assess its insurance policies to determine which facilities are covered and for what extent of damage, and use this assessment to make decisions about increasing coverage or financing repairs to uninsured structures. As a result, the City can also determine whether mitigation enhancements would be covered under current policies and PA or whether additional funding, such as Hazard Mitigation Grant Program (HMGP) assistance would be needed. This assessment should be updated annually.

Currently, the Federal government pays for at least 75% of all local infrastructure damages through PA program funds. The City should insure its infrastructure and ensure that the premiums are aligned with the level of risk across hazard zones. The City can also consider establishing special assessment zones that would levy property assessments in accordance with the degree of risk that could pay for infrastructure insurance.

The PA program currently funds project approved under two categories: alternate and improved.

- Alternate Projects can include repair or expansion of public facilities other than those damaged in a disaster; construction of new public facilities; purchases of capital equipment; and funding of hazard mitigation measures in the area affected by the disaster.
- Improved projects can include relocation of public facilities; using improved materials; expanding capacity; and rebuilding to higher codes and standards.

Infrastructure and public facilities mitigation and historic considerations

Existing: Action 3.4.3 and Standard 3.4.2.1 of the Future Land Use element of the Plan address this issue to a minimal extent.

PDRP Guidance/Best Practices: The City can capitalize on opportunities post-disaster to mitigate damaged infrastructure and public facilities so they are more resilient to future disasters. With pre-planning, mitigation can be included during repairs or rebuilding of the facility. If it is critical infrastructure or a facility that must be restored rapidly, the repairs can be done with the knowledge that they are going to be temporary until a more comprehensive rebuild can occur. For less critical facilities that are priorities for mitigation, the potential for delaying restoration in order to include mitigation should be considered in coordination with any plans for phasing private redevelopment.

There are several funding sources available for infrastructure mitigation, depending on the specific project the community is pursuing. FEMA HMGP and Pre-

Disaster Mitigation (PDM) program can both provide assistance to conduct infrastructure retrofitting, as long as 1) the project's end result is to protect and mitigate public/private property from natural hazards, and 2) there is a clear cause and effect relationship between the natural hazard and the damage. Infrastructure retrofit projects include measures that reduce risk to existing utility systems, roads, and bridges.

Five years after Hurricane Wilma caused significant damage to electric utility lines in South Florida, the City of Coconut Creek is continuing to implement its goal to mitigate the power issues they experienced from the storm. The City Commission in 2010 approved a \$464,505 payment to Florida Power and Light for the second of a three-phase project to place a significant portion of utility lines in the city underground.

ADVANCED ACHIEVEMENT LEVEL

Relocation of vulnerable infrastructure and public facilities

Existing: Action 3.4.2 and Objective 4 of the Future Land Use element of the Plan currently support addressing this issue.

PDRP Guidance/Best Practices: In order to prevent repetitive damage to infrastructure and public facilities, the City should consider relocating severely damaged infrastructure to less vulnerable areas instead of rebuilding in the same location. Relocating infrastructure may also further goals to direct development away from vulnerable locations such as the CHHA.

The City should develop Standards or criteria pre-disaster in order to assist in making post-disaster decisions about which facilities should be relocated based on factors such

as damage, cost, and location. Preliminary plans for new facilities can be drafted pre-disaster to speed relocation in the event of a disaster. City staff can also prepare for relocation opportunities by being aware of eligible funding requirements.

The City could also consider investing in relocation projects for vulnerable facilities identified in the planning process before a disaster instead of funding major renovations or maintenance projects for those facilities.

Regional infrastructure and public facilities repair

Existing: Plan Action 3.4.11 and Objective 5 under the Future Land Use element currently support this issue to some extent.

PDRP Guidance/Best Practices: After a major disaster the City may be dependent on Lee County or sister municipalities that are home to regional infrastructure systems to recover quickly and efficiently before the City can recover. The speed of restoration for facilities, such as the Southwest Florida International Airport, and infrastructure such as bridges and truck routes can greatly impact the timing of the City's recovery.

The City may become host to long-term evacuees from neighboring jurisdictions, which may require increase infrastructure capacity. A best practice for the PDRP is to coordinate regionally; this is especially important for infrastructure and public facility recovery.

The FEMA-sponsored Florida Catastrophic Planning Initiative, which began in November 2006, may be a resource for understanding and integrating regional planning on infrastructure and facility restoration in the City's PDRP.

Enhanced infrastructure capacity to priority redevelopment areas

Existing: Action 3.4.3 and Standards 3.4.3.1 through 3.4.3.4 and Actions 3.4.4, 3.4.5, and 3.4.6 and the Standards following it current support this issue to some extent.

PDRP Guidance/Best Practices: If the City identifies Sustainable PRAs (as discussed *supra*) as a strategy for its PDRP, advanced planning for equipping these areas with infrastructure necessary to support targeted redevelopment after a major disaster is essential to the strategy's success. Priority Redevelopment Areas may require new infrastructure service or enhanced capacity if the intensity or density of development is to be increased

to accommodate the transfer of population and businesses from more hazardous areas of the City (or neighboring communities) to sustainable redevelopment areas. The City may be able to enhance or mitigate infrastructure and facilities in PRAs with post-disaster funding and waive impact fees as an incentive for residents and businesses to relocate to sustainable areas.

HEALTH AND SOCIAL SERVICES

MINIMUM ACHIEVEMENT LEVEL

Coordination and assistance for non-governmental organizations and volunteers

Existing: Objective 2 of the Public Safety element of the Plan addresses this issue to some extent.

PDRP Guidance/Best Practices: Immediately following a disaster, the City could witness an influx of volunteers to aid in short-term recovery efforts that can be a substantial asset to the recovery process with proper coordination and organization. Typically, as the media attention tapers after the initial response and recovery, so does the interest of potential volunteers. However, if a volunteer effort is particularly well-promoted and organized, it could be extended into the long-term redevelopment phase.

On-going capacity in the form of Community Emergency Response Teams (CERT), Unmet Needs Committees, and Long-Term Recovery Organizations can be utilized to coordinate and organize the volunteer effort. The City should review its policies to ensure coordination with Lee County to bolster the capacity of these groups pre-disaster so that they can provide optimal services when a disaster occurs.

Provide for special needs populations throughout long-term recovery

Existing: None.

PDRP Guidance/Best Practices: Special needs populations, including those living in nursing homes and assisted living facilities (ALFs) as well as homebound populations, will require distinct assistance after a major disaster. Disabled populations are going to need special accommodations and temporary housing during evacuation and recovery. Lee County emergency management maintains a voluntary special needs list of these residents for them to receive assistance.

The City should coordinate with Lee County to ensure that attention is given to nursing homes and ALFs during long-term redevelopment as evacuated residents return to their home facilities. There is likely to be a shortage of qualified staffing and suitable facilities. The return of these residents must be closely coordinated with emergency management personnel, and finance assistance or mutual aid agreements may be needed.

INTERMEDIATE ACHIEVEMENT LEVEL

Public safety service levels re-established throughout the community

Existing: The Public Safety element of the Plan addresses this issue to some extent.

PDRP Guidance/Best Practices: It is imperative that public safety levels are quickly re-established after a disaster. This may necessitate a temporary increase in local safety personnel despite revenue losses that may strain the resource availability and public safety funding during long-term recovery. The location of public safety facilities can also have an impact on re-establishing

adequate levels of service. Public safety facilities are sometimes located in areas that may make them vulnerable to severe damage during a disaster event. The City can reconsider the location of public safety facilities and capitalize on opportunities after a disaster to permanently move them if they are temporarily unable to operate.

Public transportation restoration and improvement

Existing: None.

PDRP Guidance/Best Practices: After a disaster, changes in the location of housing and employment centers (temporary and permanent) may alter the City's public transportation needs, or the population dependent on public transit may increase. Post-disaster redevelopment projects may present unique opportunities to expand existing transit capabilities consistent with the multimodal needs of the Long-Range Transportation Plan. Any changes to public transit should be closely coordinated with stakeholders with expertise relative to the Land Use and Infrastructure sections of this Report.

The City should coordinate with Lee County and Lee Tran to assure that pre-disaster their recovery plans address long-term redevelopment, and determine which populations would require public transit for evacuation, following a disaster, and identify potential alternate routes and means for supplying uninterrupted services.

In a post-disaster scenario, this coordination should incorporate changes into reconstruction plans that make roads better suited for public transportation, realign routes to account for shifting population and temporary housing complexes, and increase the public transit fleet to account for increased ridership due to personal vehicle damages or destruction.

Health facility restoration

Existing: None.

PDRP Guidance/Best Practices: The socially and economically vulnerable are often most affected during and after a disaster event. The City's level of social vulnerability and the extent to which health and social services are effectively provided will determine the success of long-term recovery.

Post-disaster redevelopment actions and strategies should address long-term recovery health and social needs that will be exacerbated by a disaster and prepare for providing the best possible services in such a situation by

ensuring a smooth transition of health and social services from short-term recovery operations to long-term redevelopment assistance. Planning to integrate any temporary resources, labor, or funding into the local healthcare structure can improve local capacity and prevent disruptions during long-term redevelopment when the temporary increases are terminated. The City should work closely with Lee County and the County's CEMP to assure that assistance is coordinated within the City's PDRP.

Schools, higher education reopened

Existing: The Public Education element of the [Plan](#) addresses this issue to some extent.

PDRP Guidance/Best Practices: It is important for public schools to reopen quickly after a disaster to establish a sense of normalcy and consistency in students' lives and to continue providing the community with quality education. Higher education and private facilities may also need assistance in reopening whether through permitting, assistance with repairs, or providing adequate services for faculty and students returning to the area. During the City's pre-disaster preparations and through the

mitigation phase is should take time to reduce vulnerability of higher education institutions and the local school system by locating facilities in less vulnerable areas or reinforcing those facilities that must remain where they currently are. The City should coordinate with the School District to prepare for a disaster through continuity of operations plans that are viable during long-term redevelopment to prevent a gap in essential functions, including payroll and student data.

Medical personnel retention and recruitment

Existing: None.

PDRP Guidance/Best Practices: Attracting and retaining sufficient qualified medical personnel is an issue even during pre-disaster periods, and this trend is generally exacerbated in the post-disaster environment, especially during long-term redevelopment after the initial flux of emergency medical professionals has dissipated. Recruitment programs that can be used post-disaster may need to target a range of positions, including but not limited to providers,

radiology, pharmacy, administrative, financial, and facility as well as any other specialized or general occupations. The City's PDRP should consider actions that support the health care system. National health and medical organizations such as the Medical Reserve Corps can provide assistance, volunteers, and resources to help prevent lapses in education programs for health care givers after a disaster.

ADVANCED ACHIEVEMENT LEVEL

Social service provision to socioeconomic vulnerable populations

Existing: None.

PDRP Guidance/Best Practices: As the City's PDRP evolves into a more complex plan, the issue "Social Service Provision to Socioeconomic Vulnerable Populations" may need to be broken down into more focused issues, each with a topic-specific strategy. Some of the issues the City may wish to address include: Low-income assistance, homeless programs, children and family services,

targeted assistance for seniors, assistance programs targeted towards racial and ethnic minorities, and services for women. As with other issues under the Health and Social Services heading, the City should coordinate its efforts in this area with Lee County and the County's CEMP.

Mental and behavioral health assistance

Existing: None.

PDRP Guidance/Best Practices: Disasters are emotionally traumatic for many survivors. Caring for the mental and behavioral health and well-being of the City's residents could include coordination for providing special services through county and non-governmental programs as well as ensuring that mental health providers have the resources they need to deal with the influx of patients. Many people are not going to seek counseling, so programs may need to be readily available in temporary housing communities and other long-term recovery centers.

Although a disaster may leave most people physically unharmed, it affects everyone who experiences it. During a disaster, both individuals and communities experience a range of emotional highs and lows that are typically associated with the phases of disaster recovery. The City and its communities may move from a sense of heroism and altruism to a sense of hopelessness and abandonment, all in a short period of time. A key step to recovery is regaining a sense of control. Supportive, educational, face-to-face interventions with individuals and communities can empower survivors and support long-term recovery.

Health-related pollution and environmental justice

Existing: None.

PDRP Guidance/Best Practices: A major contributor to post-disaster health issues that may not be obvious or thought to be a health hazard immediately is mold that can quickly grow to unhealthy levels in a home, business, or public building that has had flood damage. Other environmental health concerns include contact with hazardous water of soil; disposing of household hazardous waste; addressing problems with private water wells and septic systems; and poor air quality due to demolition, construction dust, debris reduction or other causes.

It is often low-income housing and neighborhoods that are impacted the worst by health-related problems, and these areas are often the last to receive immediate attention. Environmental justice can become a significant issue post-disaster in regards to the clean-up of health-related pollution. In order to stop unhealthy conditions before they can begin, the PDRP should give special consideration to planning and procedures for timely clean-up and remediation, especially among the economically disadvantaged.

Quality of life factors

Existing: None

PDRP Guidance/Best Practices: Quality of life factors encompass a breadth of topics that vary widely, including the restoration of recreation and cultural activities, community wellness programs, neighborhoods, after school activities, child care programs, and other features and amenities that provide City residents with a sense of place, of well-being, and make the City desirable. Restoring quality of life after a disaster is an imperative step to attract displaced residents, tourists, and eventually revive population growth and rebuild social networks. The City should consider incorporating healthy community principles, like complete streets, into its PDRP as opposed to rebuilding previously unhealthy infrastructure that

limits opportunities for daily exercise, creates inefficiencies, and challenges maximizing the health of its residents. A healthy City includes elements that enable people to maintain a high quality of life and productivity, e.g., access to healthcare services that focus on both treatment and prevention for all members of the City. A healthy City is safe. It has infrastructure, including roads, transit, schools, playgrounds, and other services to meet the needs of the people in the City. A healthy City has a healthy and safe environment.

www.healthypeople.gov/Publications/HealthyCommunities2001/healthycom01hk.pdf.

ENVIRONMENT

MINIMUM ACHIEVEMENT LEVEL

INTERMEDIATE ACHIEVEMENT LEVEL

Beach and dune restoration

Existing: The City currently does not address beach and dune restoration.

PDRP Guidance/Best Practices: The absence of beaches and dunes within the incorporated limits of the City should not ignore the fact that the City benefits economically from the nearby presence of beaches and dunes in sister municipalities and the unincorporated

County. Creative partnerships can be forged among the Lee County local governments and state and federal entities to secure funding for beach renourishment projects to maintain these environmental assets.

Environmental contamination

Existing: As identified in Part I of this Report, the City currently has general language in the Conservation and Coastal Management element of the [Plan](#), but nothing specifically geared toward disaster-related redevelopment.

PDRP Guidance/Best Practices: Certain disaster circumstances may result in a need to sample contamination level prior to permitting occupancy by residents. Site contamination often requires a lengthy and costly clean-up process and may impede long-term redevelopment efforts. The City should review existing brownfield and hazardous materials programs to evaluate their adaptability to disaster-related redevelopment scenarios to ensure a long-term environmental

restoration strategy. The City should participate in regional, intergovernmental planning to address recovery from a "toxic soup" event resulting from a hazardous materials spill mixing with a storm surge; identify pre-approved contractors specialized in hazardous materials testing, clean-up, and disposal. The City should also inventory and explore relocating at-risk facilities to less vulnerable sites.

Environmental and historic review of temporary sites

Existing: Currently no provisions have been identified to address this item in the [Plan](#) or [LDC](#).

PDRP Guidance/Best Practices: After a disaster, sites are often needed for temporary housing, businesses, and debris management as well as other recovery staging activities. The City should explore the Florida Division of Emergency Management's [Florida Greenbook](#):

[Environmental and Historic Preservation Compliance](#) for methods to prevent environmental and historical degradation from recovery operations to identify actions for incorporation into the [Plan](#).

Natural land and habitat restoration

Existing: As identified in Part I of this Report, the City has general policies to promote ecosystem restoration, but apparently nothing directly addressing disaster-related redevelopment.

PDRP Guidance/Best Practices: A natural disaster can devastate natural areas, jeopardizing fragile ecosystems and the species that depend on them. These areas include the CHHA, areas located near potential sources of debris or contamination, areas prone to flooding, and areas with a high risk for severe wildfires. Accelerated sea level rise further threatens coastal habitats through inundation, increased salinity levels, and increased exposure to storm

surge. As part of a secondary effort to improve its disaster-related redevelopment planning, the City should consider a program to protect, reestablish, and restore critical habitats essential to their long-term recovery. Funding for such programs may be available through FDEP from various grants from other state and federal agencies. (www.dep.state.fl.us/northwest/Ecosys/section/restoration.htm).

ADVANCED ACHIEVEMENT LEVEL

Green rebuilding

Existing: Plan Policies 1.3, 1.5, 1.6, refer to "green building" practices by referencing the incorporation of Leadership in Energy Efficient Design (LEED) standards as a criteria for bonus densities, and Policy 1.8 states that special consideration will be given to industrial projects incorporating LEED standards, but there is currently

no policy specifically addressing "green rebuilding". The City may wish to expand its reliance on LEED standards to consider, e.g., the Florida Green Building Coalition's Green Home Standard and the Institute for Business and Home Safety "Fortified . . . for safer living" standard.

PDRP Guidance/Best Practices: According to the U.S. Environmental Protection Agency, "green building is the practice of creating structures and using processes that are environmentally responsible and resource efficient throughout a building's lifecycle from siting to design, construction, operation, maintenance, renovation and deconstruction. This practice expands and complements the classical building design concerns of economy, utility, durability, and comfort (2009)." A need for large scale reconstruction in the City post disaster can be

an opportunity to make strides in achieving goals of sustainability and incorporating green and healthy design components into a large number of both private and public rebuilding projects. As part of later advanced planning, the City should consider offering incentives after a disaster such as fast-tracking major redevelopment projects that meet green standards. Due to the increases in this industry, the City may also wish to consider supports for the industry as part of a future economic redevelopment element.

Parks and urban reforestation

Existing: The City does not appear to have any current disaster-related redevelopment policies or regulations regarding parks and trees.

PDRP Guidance/Best Practices: A significant loss of parks and mature trees has economic implications, public health and safety concerns, and environmental impacts from the loss of shade to reduce energy consumption, and the functions of filtering pollutants from the air and water, aquifer recharge, and species habitat. Post-disaster restoration of these community elements affect the quality of life and can be a symbol of recovery and a return to normalcy, as well as attracting tourists as soon as the City is ready to bring them back. As an advanced planning achievement, the City should consider short-term policies and regulations for and environmental

restoration that include a damage assessment, immediate treatment of affected trees, clean-up and debris removal. The City should be able to quickly coordinate with professional foresters, debris removal contractors, and recovery crews. Salvageable trees should be identified prior to clean-up to provide treatment and avoid unnecessary removal of trees. Long-term efforts should include professional care and citizen education to address proper replacement selection, replanting methods, pruning, and maintenance. Long-term efforts may provide volunteer opportunities.

Explanation of Achievement Levels

Minimum. These items are recommended to be undertaken first. City documents make reference to many of the items listed under this achievement level, but do not appear to have actually been achieved in most cases. It is recommended that the focus of current disaster-related redevelopment planning achieve these fundamental **minimum** benchmarks before endeavoring to undertake too many of the **Intermediate** or **Advanced** achievement level items.

Intermediate. These items can be addressed simultaneously with **Minimum** items if adequate personnel and other necessary resources are available. Current circumstances may dictate that **Intermediate** items be addressed during a subsequent planning cycle than that which accomplishes the **Minimum** items. One possibility would be as part of the City's next Community Rating System (CRS) review, which is likely to be conducted under a new CRS Coordinators Manual, scheduled for adoption in 2012. The CRS is the National Flood Insurance Programs system for establishing a community's discount rate for flood insurance.

Advanced. These items are for communities to commence once a solid foundation for hazard mitigation and post-disaster recovery is already established. These items are considered best practices.

This case study focuses on the following documents:

- *Joint Unified Local Mitigation Strategy for Lee County, Florida* (2007), which fulfills the state and federal local hazard-mitigation plan requirement
- *The Lee Plan* (2007) and the February 25, 2009, Amendment to the Hurricane Evacuation/Coastal High Hazard Area
- *Lee County Master Mitigation Plan (Environmental Quality Investment and Growth Mitigation Strategic Plan)* (2007)

Mitigation documents describing the State of Florida's natural-hazard mitigation plan and local mitigation guidelines are also reviewed.

The following officials reviewed this case study, to ensure the accuracy of its description and interpretation:

- John Wilson, Lee County Public Safety Director
- Mary Gibbs, AICP, Lee County Community Development Director
- Bill Spikowski, AICP, planning consultant and former director of the Lee County Growth Management Department ◀

LEE COUNTY, FLORIDA

David R. Godschalk, FAICP

A low-lying county facing the Gulf of Mexico, Lee County faces significant natural hazards of flooding and hurricanes, as well as wildfires, tornadoes, thunderstorms, and other hazards. In attempting to remedy the impacts of decades of urbanization on its natural environment while also managing continued growth, the county has adopted a collaborative Joint Unified Local Mitigation Strategy that coordinates mitigation for the county and its five municipalities. The strategy is integrated with the comprehensive plans of all the jurisdictions and is implemented through development regulation, as well as through governmental expenditures. The county's approach can be viewed as a model for dealing with coastal hazards in urbanized counties with significant natural areas.

Purpose and Method

Because the unified strategy brings together the mitigation efforts of the county and its five municipalities, it can serve as a model for regional coordination. Additionally, because it directly integrates hazard mitigation and the local comprehensive plans, it can be viewed as a model for integration of mitigation into comprehensive planning. Last, because it carries out hazard mitigation through both development regulations and governmental expenditures, the strategy can be viewed as a model for prioritizing and implementing mitigation initiatives through such tools. This collaborative strategy has both strengths and problems.

Florida governments are required to prepare five plans (or parts of plans) that involve mitigation and land use:

- *Local Comprehensive Plan*—a local policy plan defining future land-use and growth patterns
- *Coastal Element of the Comprehensive Plan*—a section of the comprehensive plan focusing on protection of the coastal environment and communities from natural hazards
- *County Comprehensive Emergency Management Plan (CEMP)*—an operational plan defining emergency management procedures
- *Local Mitigation Strategy*—a plan required by both the state and the federal government
- *Postdisaster Redevelopment Plan*—a plan for the postdisaster recovery period

Background: Hazards, Geography, and Institutions

The context for hazard mitigation planning—natural hazards, geographic setting, and regulatory environment—sets the context for mitigation implementation. Lee County faces significant natural hazards and occupies a low-lying environment with large areas of wetlands. In response, it has created agencies and procedures to mitigate its hazards, conserve its environmental resources, and manage its future development.

Lee County lies on the southwest Gulf Coast of Florida. As seen in Figure 6.1, the county includes five municipalities: Fort Myers, Fort Myers Beach, Sanibel, Cape Coral, and Bonita Springs. It is split by the Caloosahatchee River, which flows west from Lake Okeechobee into the Gulf of Mexico, and it has an extensive shoreline, exposing all of its urban areas to the threat of flooding.

Hurricanes, tropical storms, and drought are the major natural hazards in Lee County, along with thunderstorms, tornadoes, floods, and wildfires.

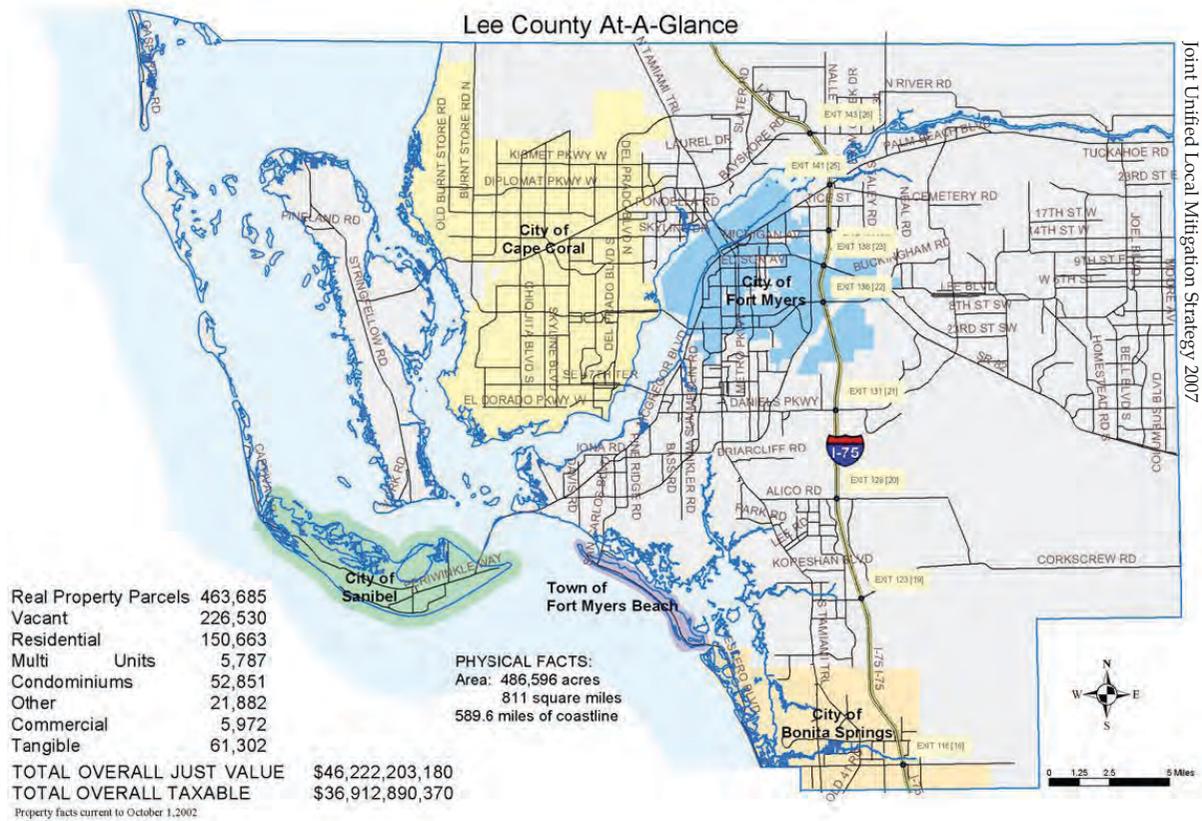


Figure 6.1. Lee County map

According to the county’s 2007 Hazard Vulnerability Analysis, hurricanes, tropical coastal storms, tropical cyclone events, and drought affect the largest population—615,741, the total population of the county at that time (Lee County Division of Emergency Management 2007). Other natural-hazard impacts include those from storm surge events affecting 532,589, thunderstorms and tornadoes affecting 18,096, floods affecting 13,490, and wildfires affecting 7,047. (See Table 6.1.)

Lee County’s natural environment—consisting of 804 square miles of land and 408 square miles of coastal and inland waters—is extremely sensitive (Lee County Board of County Commissioners 2007). Historic development has fragmented aquatic systems, destroyed upland areas, and filled or drained freshwater, saltwater, and tidal wetlands. In the process, water-retention and drought-buffering capacities have been lost, along with wildlife habitat. Freshwater and estuarine systems have been listed as “impaired” by the Florida Department of Environmental Protection (DEP). This is important to hazard mitigation since these natural systems are the first line of defense against coastal flooding, storm surge, and drought.

Lee County’s hazard mitigation and planning agencies operate within the federal/state/local hierarchy of governments. Because the natural environment is critical to hazard mitigation and because urban development determines which areas will be subject to hazards, this hierarchy includes environmental management and comprehensive planning agencies, as well as emergency management agencies.

TABLE 6.1. 2007 HAZARD VULNERABILITY ANALYSIS

Hazard Description	Is Event Significant	Frequency			Maximum Population Affected
		1 year	5 year	10 year	
Agricultural Freeze	Y		X		22,815
Air Transportation Accident	Y		X		11,961
Bridge Failure	Y			>	0
Brush Fires, Wildfires, and Forest Fires	Y	X			
Civil Disturbance	Y				10,695
Commercial Nuclear Power Plant Incidents	N				0
Critical Infrastructure Disruption (Computer Threat, Gas Pipeline Disruption)					
Drought	Y		X		615,741
Exotic Pest and Disease (Mediterranean fruit flies, citrus canker, red rings disease)	Y			X	26,842
Extreme Temperatures					
Flood (Major)	Y		X		13,490
Flood (Minor)	Y	X			1,127
Fixed Facility, Hazardous Material	Y		X		250,036
Oil Spill, Hazardous Coastal Material	Y		X		-----
Highway Accident, Hazardous Material	Y	X			217,452
Rail Accident, Hazardous Material	Y			X	228,329
River, Hazardous Material	Y	X			228,901
Hurricane / Tropical Storm	Y		X		615,741
Major Transportation Incidents					-----
Mass Immigration	Y			>	13,000
Nuclear Attack	Y				615,741
Pandemic Disease Outbreaks	Y				532,589
Power Failure	Y	X			126,086
Radiological Incident, Transportation	Y		X		1,425
Severe Thunderstorms	Y	X			1,414
Sinkholes and Subsidence	N				-----
Special Events (dignitary visits, spring break, etc.)	N	X			-----

(continued on page 63)

(continued from page 62)

TABLE 6.1. 2007 HAZARD VULNERABILITY ANALYSIS (CONTINUED)

Hazard Description	Is Event Significant	Frequency			Maximum Population Affected
		1 year	5 year	10 year	
Tropical Cyclone Events, Storm Surge	Y	X			532,589
Tropical Cyclone Events, Wind	Y	X			615,741
Terrorism	Y			X	198,624
Thunderstorms and Tornadoes	Y	X			18,096
Urban Fire	Y	X			1,414
Wildfire	Y	X			7,047

Note: > means occurrence is greater than 10 years
Source: Joint Unified Local Mitigation Strategy 2007

The primary federal hazards agency is FEMA. However, the U.S. Army Corps of Engineers, the U.S. Environmental Protection Agency, and the U.S. Department of Interior Fish and Wildlife Service also play important roles in Lee County.

At the state level, the Florida Department of Community Affairs (DCA) directs comprehensive planning. DCA administers the Florida Growth Management Act, a prescriptive, top-down approach in which state laws and regulations set out explicit requirements governing the scope of local comprehensive plan goals, objectives, and policies (Deyle, Chapin, and Baker 2008). Regulations adopted by DCA require coastal counties and municipalities to adopt comprehensive plan objectives and policies that limit development in and direct population away from Coastal High Hazard Areas (storm surge zones for Category 1 hurricanes) and maintain or reduce evacuation times within hurricane vulnerability zones (areas that would be evacuated for a Category 3 hurricane).

The Florida Division of Emergency Management (DEM), now in the Office of the Governor but formerly a division within DCA, administers FEMA hazard-mitigation funding programs, oversees preparation of county comprehensive emergency-management plans, oversees the preparation and review of local hazard-mitigation plans, and maintains the state hazard-mitigation plan.

The Florida DEP, Fish and Wildlife Conservation Commission, and Department of Transportation also play important roles in both planning and hazard mitigation.

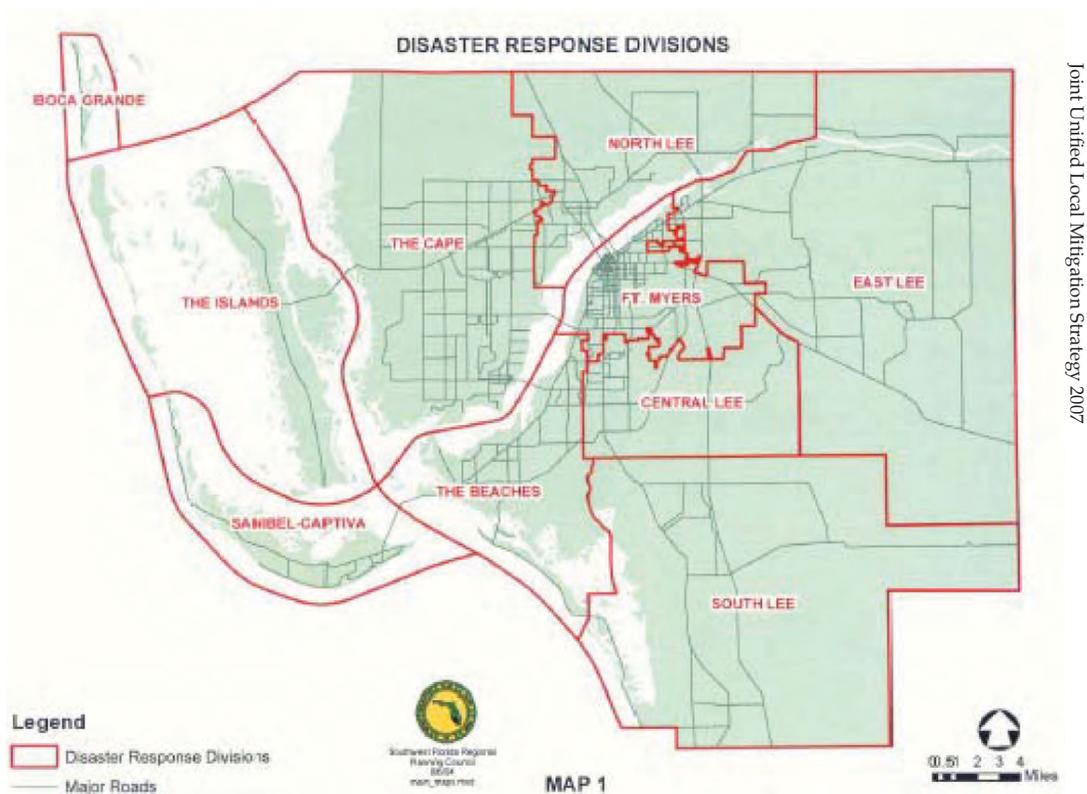
DCA's guide for local mitigation planning, *Florida Local Mitigation Strategy* (State of Florida n.d.), recommends policies that:

- limit public expenditures in repetitive damage areas;
- protect critical facilities;
- remove and relocate damaged and vulnerable infrastructure;
- eliminate development in hazard-prone areas;
- regulate nonconforming land uses;

- regulate land use, beach and dune alteration, floodplains, nonpoint-source runoff, and sanitary sewers and septic tanks in hazard-prone areas;
- prioritize coastal areas for water-dependent uses;
- encourage removal of septic tanks and hazardous sites;
- regulate watershed alteration;
- encourage economic diversification;
- prioritize property for acquisition;
- address repetitively damaged structures;
- identify policies for poststorm reconstruction;
- review application for funding for concurrence with mitigation objectives; and
- establish a working group to direct mitigation initiatives.

At the regional level, the South Florida Water Management District has regulatory and water-resource management responsibilities. The Southwest Florida Regional Planning Council is a six-county regional planning agency charged with protecting and improving the region’s social, physical, and economic environment. However, it has no regulatory authority.

At the county level, the primary hazard mitigation agency is the Lee County Public Safety Division. In addition to its emergency management program, the division operates the 9-1-1 program, the emergency medical-services program, an emergency telecommunications program, a logistical support program, and a public information program, and it also provides fire protection services to dependent districts. For response operation purposes, the county is divided into 10 Disaster Response Divisions (Figure 6.2).



Joint Unified Local Mitigation Strategy 2007

Figure 6.2. Lee County Disaster Response Divisions

The primary planning agency is the Lee County Department of Community Development, which maintains and updates the Lee Plan. Its responsibilities include not only monitoring and evaluating the plan but also processing amendments to it and implementing its goals, objectives, policies, and standards through the county zoning and development review processes, which are required to be consistent with it. Divisions within the department include Planning (land-use plan, housing, and historic preservation), Development Services (plan review, permitting, and rezoning), Environmental Sciences, Building Inspections, and Code Enforcement.

Hazard Mitigation

The Joint Unified Local Mitigation Strategy (LMS) seeks to lessen the human, economic, and environmental costs resulting from large-scale natural hazards (Local Mitigation Strategy Work Group 2007). It is a plan to promote mitigation from hazards posing a threat to communities within Lee County and a tool to establish funding priorities for disaster assistance following a major disaster. It is structured to comply with Lee Plan Policy 110.1.5, which states that the county shall maintain the floodplain management plan that assesses the flooding problem of unincorporated areas, inventories flood hazard areas, reviews possible activities to remedy flooding problems, selects appropriate alternatives, and formulates an implementation schedule. It is tied directly to policies contained in the Lee County Comprehensive Emergency Management Plan (CEMP), as well as to the Lee Plan, and it includes the Lee Plan Future Land Use Map and other specific linkages. For example, Objective 1.1 of the LMS states that preventive activities shall be governed by the Lee Plan and the Lee County Land Development Code. Similarly, Objective 1.7 is to continue supporting the Lee Plan, while many other objectives seek to maintain natural resources and systems identified in the Lee Plan.

The LMS assesses the vulnerability to and risk from various types of hazards on a parcel-by-parcel basis, identifies plans and programs to lessen the effects of disasters, and implements the strategy, which is necessary to secure pre- and postdisaster federal mitigation grant funding, support pre- and postdisaster decision making, and identify and rank mitigation initiatives across all county and municipal agencies.

The LMS planning process was conducted by the legally adopted Lee County Disaster Advisory Council, which serves as the Local Mitigation Strategy Workgroup. Chaired by the public safety director, the workgroup includes:

- County department heads
- Community representatives
- Municipal government liaisons
- School and independent fire district representatives
- Regional governmental bodies
- Others appointed by the Lee County Commission

The workgroup solicited public comments, contacted other agencies, and reviewed existing plans, reports, and technical information. It then prepared the strategy, including a detailed statement of goals and objectives and a prioritized list of mitigation initiatives.

The overall goal of the strategy is to develop and maintain a hazard-resistant community. Its seven specific goals, each with multiple objectives, are to:

- Reduce risk to life and damage to property
- Reduce damage to repetitively damaged properties

- Preserve or maintain natural areas
- Support emergency services
- Obtain funding for engineered projects
- Provide public information
- Maintain pre- and postdisaster redevelopment and mitigation policies

The workgroup created a prioritized list of mitigation initiatives from plans, programs, and projects identified during the risk analysis. It developed criteria and assigned numerical scores, using a ranking worksheet. Initiative ranking criteria were:

- Presence in community comprehensive plans, programs, and policies
- Consistency with existing regulatory framework
- Probability of funding (with local funds)
- Community Rating System credit
- Community benefit
- Community exposure to identified hazard
- Level of public demand, countywide
- Complexity of implementation
- Estimated ratio of benefit to cost
- Critical services improvement
- Time frame to complete project

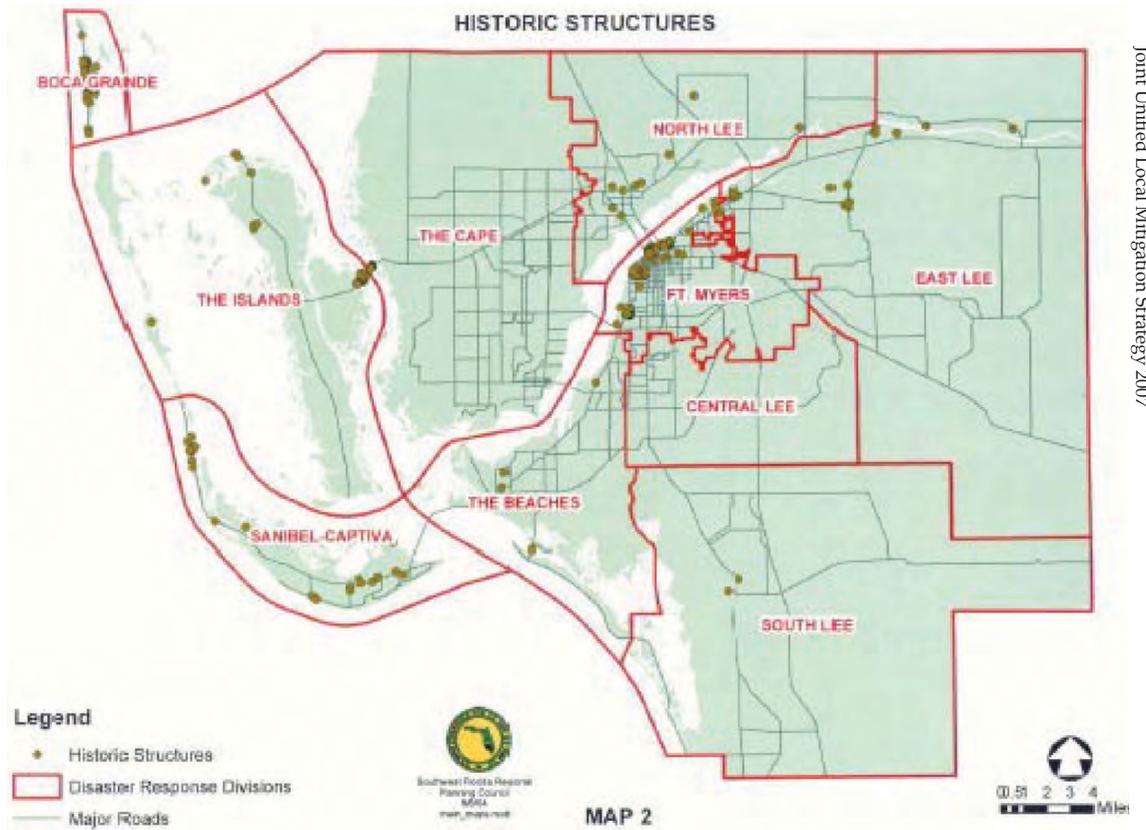
The final table of ranked initiatives characterizes them by community, estimated cost, eligibility for federal Hazard Mitigation Grant Program (HMGP) funding, initiative completion or status, and the goal and objective met.

The risk assessment includes four main components: hazard identification, profiles of hazard events, asset inventory, and potential loss estimation. While the risk assessment looks at Lee County as a whole, it also singles out specific areas of special concern, including historic structures (Figure 6.3), top 100 employers (Figure 6.4), target neighborhoods with an 80 percent or greater concentration of below-poverty-level households that may have special needs in the event of a disaster (Figure 6.5), and critical facilities, infrastructure, and lifelines (Figure 6.6). Each of these focus areas is mapped relative to the Disaster Response Divisions.

Comprehensive Planning

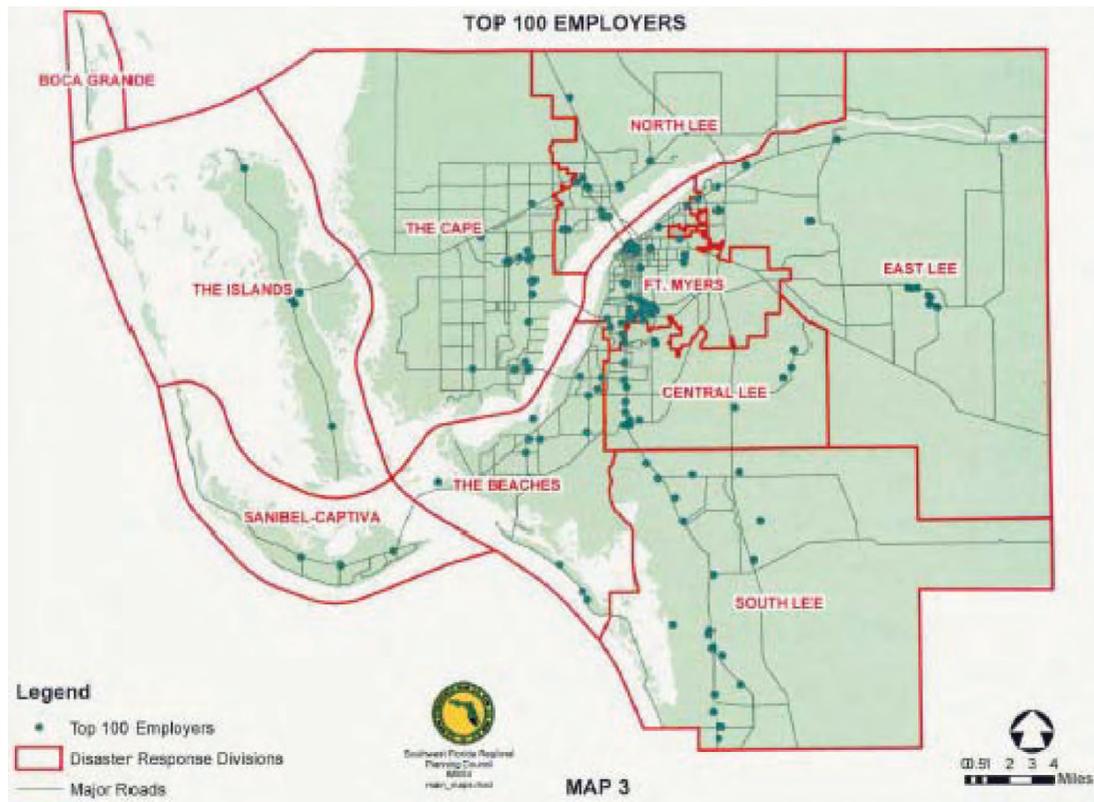
All Florida local governments are required to adopt comprehensive plans under chapter 163 of the Florida Statutes. The plans serve three broad purposes. First, certain public and private activities within each jurisdiction must be consistent with the goals, objectives, and policies in the adopted plans. Second, the plans provide authority for local governments' land-development regulations and official actions, such as zoning ordinances and capital improvement programs. Finally, the plans represent the communities' vision of what they should look like by the end of the planning horizon.

The Lee County vision is designed to depict the county in 2030. It projects an increase in population to 979,000 permanent residents, with an additional 18 percent increase in seasonal residents (Lee County DCD 2009a, I-1). Its themes are:



Joint Unified Local Mitigation Strategy 2007

Figure 6.3. Historic structures



Joint Unified Local Mitigation Strategy 2007

Figure 6.4. Top 100 employers



Figure 6.5. Target neighborhoods with an 80 percent or greater concentration of low-income, below-poverty-level households

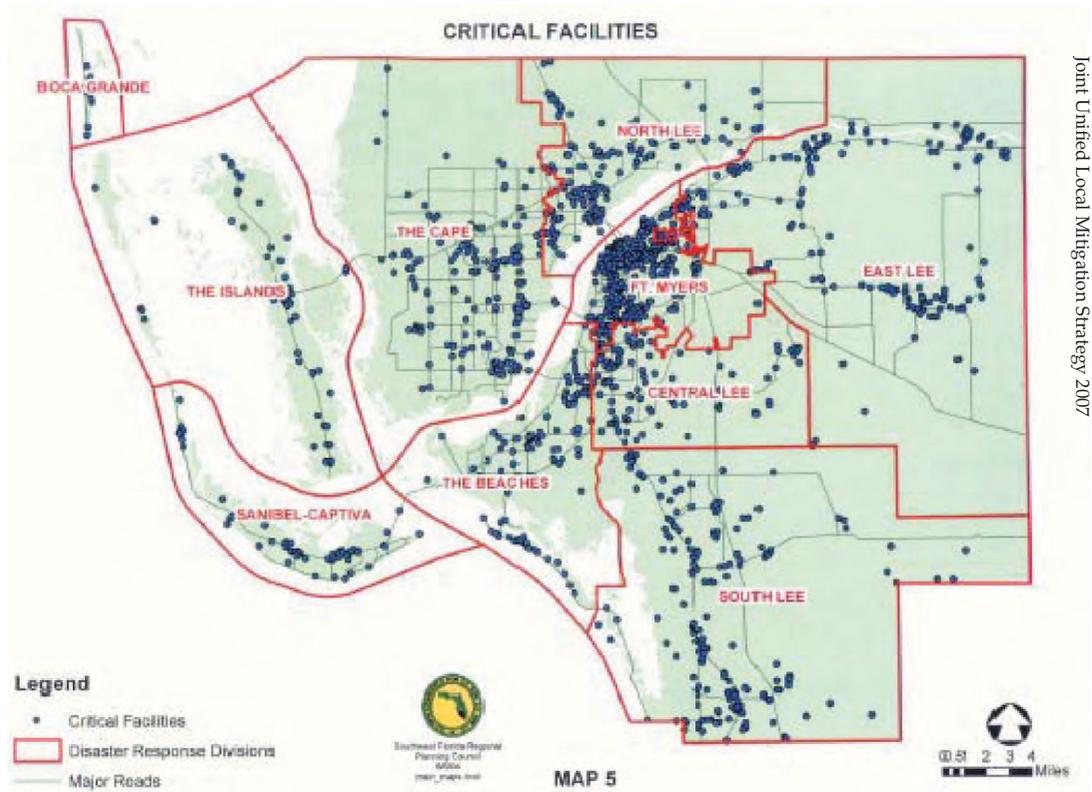


Figure 6.6. Critical facilities, infrastructure, and lifelines

- Growth patterns will be dictated by the Future Land Use Map (FLUM), which will not change dramatically during the plan's time frame. The urban area will be essentially built out by 2030, with the exception of Cape Coral and Lehigh Acres (a large unincorporated subdivision) and some potential redevelopment. The success of the plan in distinguishing between urban and rural areas will depend upon the continuing viability of agriculture and the amount of publicly owned land in outlying areas.
- The county will protect its natural resource base through public land acquisition and enforcing land-use and environmental regulations that supplement federal, state, and regional regulatory programs.
- The traditional economic base will be diversified to increase high-paying jobs, reduce residents' tax burdens, and enhance community stability. Agriculture, commercial fishing, tourism, and construction will continue to be significant but will become less important in relation to new business opportunities afforded by the expanded international airport and the new university.
- Cultural, educational, and recreational opportunities will expand as the result of the county's increased urbanization.
- Increased urbanization will require investment in physical and social infrastructure. Public facilities will be maintained at adequate levels of service, both by construction of new facilities and by conserving capacity of existing facilities. Social problems will be addressed by early intervention and other programs.
- The Lee Plan's land-use accommodation is based on an aggregation of allocations for 22 Planning Communities, which are planning subdistricts designed to capture the character of individual areas of the county.

In addition to the Vision Statement, the Lee Plan contains elements addressing specific functions, including Future Land Use; Transportation; Community Facilities and Services; Parks, Recreation, and Open Space; Capital Improvements; and others. In terms of natural-hazard mitigation, the most significant element is chapter 7, on conservation and coastal management, which contains 128 goals, most related to critical environmental conservation issues but seven particularly focused on mitigation. Specific natural-hazard mitigation goals, as well as more general conservation and coastal management goals, of this element are:

Goal 101: Planning, coordination, and implementation

Goal 102: People with special needs

Goal 105: Protection of life and property in coastal high-hazard areas

Goal 106: Limitation of public expenditures in coastal high-hazard areas

Goal 109: Evacuation and shelter

Goal 110: Hazard mitigation

Goal 111: Postdisaster redevelopment

Goal 101: Planning, Coordination, and Implementation. Under this goal, objective 101.1 states that the county will maintain a system that protects the population at risk of injury or death from the natural and technological hazards defined in the Lee County Hazard Vulnerability Analysis. This

objective is supported with policies that state that: (1) the Comprehensive Emergency Management Plan will be the operational guide for hazard preparation, response, and recovery; (2) the county will implement an education and information program on the risks of hazards and their mitigation; (3) the county will maintain facilities and sites for emergency assistance; and (4) the county will coordinate the development of emergency plans and programs among governments, Florida Gulf Coast University, and other agencies.

Goal 102: People with Special Needs. Under this goal, objective 102.1 states that the county will have mechanisms to assist people with special needs during an emergency. This objective is supported with policies that require (1) new hospitals, nursing homes, adult congregate living facilities, or projects for the developmentally disabled to prepare emergency preparedness plans; (2) the county to assist in emergency transportation needs of residents with limited mobility; and (3) the county to continue to provide basic medical services in shelters for people with special needs.

Goal 105: Protection of Life and Property in Coastal High-Hazard Areas. Objective 105.1, development in coastal high-hazard areas, states that: (1) new development on barrier islands will be limited to densities that meet required evacuation standards; (2) new development requiring seawalls for protection from coastal erosion will not be permitted; and (3) allowable densities for undeveloped areas in coastal high-hazard areas will be considered for reduction. This objective is further amplified through policies relating to barrier island densities, use of natural vegetation, setbacks and beach renourishment rather than hardened structures, and limits on future populations exposed to coastal flooding.

Goal 106: Limitation of Public Expenditures in Coastal High-Hazard Areas. Objective 106.1, coastal high-hazard expenditures, states that public expenditures in areas subject to repeated destruction by hurricanes will be limited to necessary repairs, public safety needs, services to existing residents, recreation, and open space uses. This objective is supported with policies requiring findings by the county commission that such expenditures are necessary and prohibiting new causeways to any islands and new bridges to undeveloped barrier islands except to achieve evacuation clearance-time objectives.

Goal 109: Evacuation and Shelter. Objective 109.1, evacuation (as amended in 2009), states that by 2030 Lee County will work toward attaining a level of service for out-of-county hurricane evacuation for a Category 5 storm event that does not exceed 18 hours (16 hours for plan amendments in the coastal high-hazard area). This objective is supported with policies requiring:

- assessment of the impact of new development on hurricane evacuation and mitigation through either structural (on-site or off-site shelter) or nonstructural methods;
- updates of the hurricane evacuation portion of the CEMP to be coordinated with computer transportation modeling to identify critical roadway links;
- assignment of high priority for capital improvement expenditures to critical roadway links causing congestion on evacuation routes;
- design and construction of bridges on evacuation routes to accommodate needs of both auto and marine traffic; and
- comprehensive plan amendments that decrease density within coastal high-hazard areas to meet specific evacuation and shelter criteria.

The county adopted land-development regulations addressing hurricane preparedness and requiring mitigation measures that offset development impacts on hurricane evacuation and shelter (Lee County Land Development Regulations II.XI).

Objective 109.2, shelter, states that by 2010 adequate shelter space will be available for the population in the Hurricane Vulnerability Zone at risk under a Category 3 storm. This objective is supported with policies that (1) state the basis for shelter demand as 10 percent of the population at risk in the Hurricane Vulnerability Zone under a Category 5 storm hazard scenario; and (2) require the county to implement a program to meet this level of service by 2030, to meet standards for on-site shelters, and to determine the feasibility of using vertical shelters.

Goal 110: Hazard Mitigation. Objective 110.1, development regulations, states that all development regulations will be reviewed and revised to require a reduction of the vulnerability of future development in the FEMA A-Zone. This objective is supported with policies that state that:

- regulations and incentives will be examined for additional setbacks in critical erosion areas, conservation of dunes and vegetation, flood-proofing of utilities, and structural wind resistance and floodplain management;
- new or expanded mobile home or recreational vehicle development will not be permitted on barrier islands or in V-Zones;
- new residential development of more than 50 units must provide information on hurricane evacuation and shelter locations, and that of more than 100 units must formulate an emergency hurricane-preparedness plan;
- the county will analyze alternatives to solve flooding problems and formulate a schedule for implementation;
- the county will maintain the provision of the Flood Management Ordinance that holds that the 50 percent improvement threshold is cumulative for repetitive loss properties;
- the county will maintain the regulation requiring that any repetitive loss property that is improved by more than 25 percent of its replacement value must be brought into compliance with current regulatory standards.

Goal 111: Postdisaster Redevelopment. Objective 111.1, postdisaster strategic plan, states that the county will maintain institutions and procedures to guide county actions following a natural or technological disaster. This objective is supported with policies to maintain a Recovery Task Force and guidelines for determining acquisition priorities for storm-damaged property in hazard-prone areas, to establish principles for repairing or relocating public facilities in hazard-prone areas, and to modify the CEMP to contain details for postdisaster recovery.

Objective 111.2, postdisaster ordinance, states that an ordinance will be maintained to implement the Post-Disaster Strategic Plan (see the Lee County Post-Disaster Recovery Ordinance: www.lee-county.com/gov/bocc/ordinances/Ordinances/07-20.pdf). This objective is supported with policies that the ordinance will provide for enactment of a temporary moratorium on rebuilding, that it may incorporate a redevelopment plan for hazard-prone areas, and that it will implement the county build-back policy, which states that damaged structures whose reconstruction cost exceeds 50 percent of their replacement value may be rebuilt at their original size and type only if they comply with all federal, state, and local regulations, including elevation above the 100-year flood level.

Finally, the Future Land Use Map is included in both the Lee Plan and in the Joint Unified Local Mitigation Strategy for Lee County. The Future Land Use Map specifies the location and type of all areas of land use for the planning period. It is the touchstone for regulation of future development and conservation in the county. The extensive amounts of Non-Urban Areas and Environmentally Critical Areas (Wetlands) shown in various shades of green

on the map also tend to coincide with many of the hazard areas in the county. (See Figure 6.7.) That it is published in both the comprehensive plan and the hazard mitigation plan is a strong indicator of the coordination of these plans.

Both in terms of broad goals and specific objectives and policies, the county's planning and emergency management divisions are on the same page. There can be no doubt that the leaders of these organizations have worked together over time to formulate and coordinate their respective plans. The next question is: Do they work together to implement the plans?

Integrated Implementation Techniques

Guided by adopted goals, objectives, and policies, plan implementation in Lee County is accomplished through a variety of means, ranging from day-to-day decisions to public expenditures to regulatory enforcement. Effective implementation requires a multi- and intradepartmental approach. For example, Planning works with Public Safety to write and revise the major policies, but implementation of those policies is carried out through zoning, building and site plan review, and permitting and development review. Use of procedures in the Land Development Code and safeguards, such as site plan review checklists, ensures that critical issues are not overlooked. Because the most effective way to keep future county residents out of harm's way is through development regulations that limit growth in high-hazard areas, enforcement of those regulations is a cost-effective, ongoing means of implementing natural-hazard mitigation.

For example, a recent planning staff letter explains why the North River Village development proposal failed to meet the hazard mitigation intent of the Lee Plan: "Planning staff is concerned that the request is counter to the intent of the *Lee Plan* as expressed in the Conservation and Coastal Management element Goal 105, Objective 105.1, and Policy 105.1.4. Goal 105 seeks to protect human life and developed property from natural disasters. Objective 105.1, in part, provides that allowable densities for undeveloped areas within coastal high-hazard areas will be considered for reduction" (Lee County DCD 2008). The letter notes that Policy 105.1.4 states that future land-use designations of undeveloped areas within coastal high-hazard areas will be considered, through the plan amendment process, for reduced density categories in order to limit the future population exposed to coastal flooding. It points out that the applicant is seeking to double the density on a site with substantial lands within the Coastal High Hazard Area, which is inconsistent with the intent of the Lee Plan policy. The development proposal was later withdrawn.

Lessons Learned

Lee County offers important lessons for integrating natural-hazard mitigation strategy and comprehensive planning.

- By bringing together mitigation for the county and its five municipalities into a unified plan, the strategy offers a model for regional (countywide) coordination. The Unified Local Mitigation Strategy was prepared by the Local Mitigation Strategy Workgroup, made up of representatives from each municipality, as well as the county and other relevant agencies. Each municipality's vulnerabilities and mitigation needs were explicitly recognized in the strategy, along with those of the overall county.
- By directly integrating the hazard mitigation strategy and the local comprehensive plan, the strategy offers a model for integration of mitigation into comprehensive planning. Goals and objectives of the strategy and the plan complement one another, with clear references to relevant activities and programs.
- By carrying out hazard mitigation through both governmental expenditures and development regulations, the strategy offers a model for prioritizing and

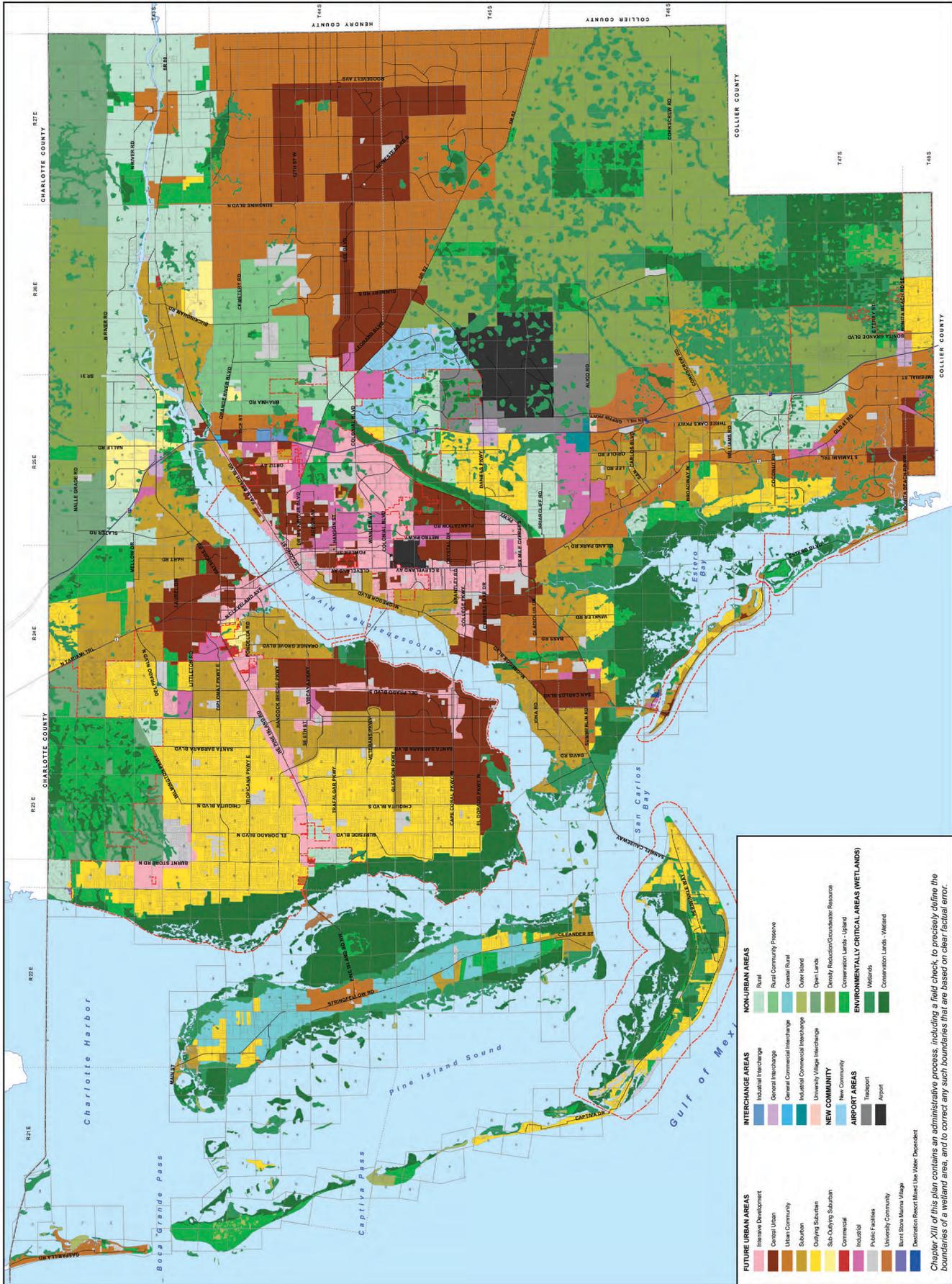


Figure 6.7. Future land use map

implementing mitigation initiatives. The workgroup ranks the mitigation initiatives, which are recognized in and implemented through the capital expenditure programs of the individual governments, ensuring local buy-in. Mitigation is also implemented on an ongoing basis through development plan reviews and regulations, ensuring that all rezoning and land-development applications, down to the level of building permits, are systematically evaluated against the plan policies, goals, and objectives. Each rezoning and site plan approval request is assessed by the county planning staff for compliance with the goals of the comprehensive plan, including those that pertain to mitigation as well as to future development in general.

An additional lesson has to do with the importance of history and consistent leadership to the success of the county's emergency management and planning operations. Emergency management and community development coordination goes back to the Lee County 1979 Hurricane Evacuation Plan, which identified the hurricane safety problem as a growth issue, based on the pioneering efforts of the City of Sanibel to set a carrying-capacity-based growth cap linked to evacuation capacity. It led to regional evacuation studies using SLOSH (Sea, Lake and Overland Surges from Hurricanes, a computerized model run by the National Hurricane Center to estimate storm surge heights and winds) to define the hurricane hazard.

Lee County has benefited from continuing leadership in planning and emergency management since adoption of the 1989 Lee Plan. Champions have included: Porter Goss, former mayor of Sanibel and chair of the County Commission; Wayne Daltry, executive director of the Southwest Florida Regional Planning Council; Mary Gibbs, community development director, who was previously a staff planner at the Regional Council; and John Wilson, Public Safety Department director, who is trained in both emergency management and comprehensive planning (a rare but valuable combination). All championed the cause of planning keyed to hazard mitigation. When Goss became chair of the Lee County Commission, he built on his experience as mayor during adoption of the Sanibel Plan to spark the preparation of the 1989 Lee Plan with its explicit environmental policies. Daltry and Gibbs applied their knowledge from earlier regional evacuation work to continuing planning and emergency management at the county level. And Wilson used his background in comprehensive planning to craft mitigation policies for the Lee Plan's land-use element.

A final lesson is that even the most comprehensive and collaborative natural-hazard mitigation and comprehensive planning policies cannot completely overturn years of previous unwise development actions. Many of the policies in the Lee Plan and the Unified Local Mitigation Strategy are aimed at attempting to repair historic zoning decisions that allowed development in the high-hazard areas. As research has shown, this is a lesson for Florida as a whole and other states; planning mandates aimed at managing development in critical areas may have marginal effects because of prior entitlements and the legal and political inertia of previous plans and land-development regulations (Deyle, Chapin, and Baker 2008). It is difficult to undo the impacts of decades of unsafe development practices.

On balance, the Lee County approach offers a model collaborative process and a set of mitigation and comprehensive plan policies whose integration could not be more complete.

CHARLOTTE-MECKLENBURG COUNTY, NORTH CAROLINA

Joseph MacDonald, AICP

Over the past several decades, Charlotte-Mecklenburg County, North Carolina, has experienced rapid growth and both the positive and negative consequences of it. Located in the Piedmont of south-central North Carolina, Mecklenburg

