



## **SECTION V: THE LMS MITIGATION BLUEPRINT**

### **A. GUIDING MITIGATION PRINCIPLES**

The Local Mitigation Strategy Working Group has been established to reduce potential losses and to protect county physical and economic resources from natural or man-made catastrophic events. To this end, governments, public and private sectors and citizens within the county developed strategies that will assist citizens and businesses in resuming normal functions after such an event. The following goal and list of objectives are the “guiding principals” that are used to (1) develop the overall strategy of the LMS and (2) to evaluate initiatives for implementation.

#### **Goal:**

Minimize the effects of any potential natural or man-made disasters on our community and its infrastructure.

#### **Objectives:**

1. Public Education  
Increase public awareness in the use of mitigation programs and techniques to reduce the impacts of natural and man-made hazards.
2. Coordination  
Coordinate public and private sector participation in identifying and managing and/or implementing mitigation projects and measures throughout Hillsborough County.
3. Development Management  
Identify and implement a combination of regulatory, incentive and initiative programs that will reduce potential loss and would encourage participation in ongoing hazard mitigation.
4. Critical Facilities  
Develop and maintain an inventory management system on all data affecting hazard mitigation.

### **B. EVALUATION OF EXISTING AUTHORITIES, POLICIES, PROGRAMS AND RESOURCES**

The process of developing a Local Mitigation Strategy (LMS) includes an assessment of programs currently in effect that are associated with hazard mitigation. It is not intended that the LMS generate a completely new set of directives to address hazard mitigation, but to emphasize the need to coordinate and unify mitigation policies and programs into a single approach.

The establishment of goals and objectives is critical to the development of the LMS. It is emphasized that any statement of a goal and objectives is subject to revision based upon a broad range of considerations. Economics, political influences and changing demographic factors will influence the environment within which the LMS is developed. Continuing review of goals and objectives to accommodate these factors is essential to the effectiveness of the LMS and its future development.

The purpose of this review is to specifically evaluate the effectiveness of current mitigation processes in the context of implementing the goal and objectives identified in the LMS planning process. As such, it is a part of a continuing assessment performed by local governments for current policies, programs and plans as part of the adopted growth management initiatives, floodplain management strategies and the countywide emergency management plan.

Appendix B lists the current regulations, plans/policies, and/or programs within the County and municipalities. **It should be noted that neighborhood plans (Sector Plans, Visioning Plans, Stormwater Plans, etc.) not specifically addressed in Appendix B are developed and must comply with the State Plan, the local government comprehensive plans (LGCP) and the floodplain/ CRS plans of the local jurisdictions consistent with state law. This includes mitigation initiatives developed as a part of the LGCP process. In addition, all plans must comply with “Government in the Sunshine” regulations including the public participation requirements.**

Potential areas which should be strengthened in order to achieve the mitigation goal and objectives are illustrated in Appendix B and summarized below.

Hillsborough County and the cities of Temple Terrace, Plant City and Tampa currently have processes that effectively “work” with respect to hazard mitigation. The understanding of these processes assists in the development of the Local Mitigation Strategy (LMS) and will assist in developing a bridge between local growth management and emergency management plans, land-development regulations, building codes and other ordinances and programs. Special emphasis will be required for ongoing cooperative action between county and city governments, businesses and industry, as well as, other segments of the community. The LMS development will further these programs by illustrating avenues to unify County processes through the coordination of programs within County government and through inter-agency coordination with other local governments and businesses within the county. The following descriptions illustrate topic areas derived from the analyses. These topic areas identify areas in which greater attention may be required in order to strengthen regulatory frameworks or to better integrate other similar processes.

1. **Regulatory review** – Local governments employ regulatory procedures that manage growth through the development review process. These regulations are principally associated with mitigating the impacts of development associated with floodplains/floodways (includes the establishment of base-flood elevations or identification of floodproofing), wetlands, and coastal high-hazard areas.

The current regulatory framework does not fully address certain techniques that may assist in furthering hazard mitigation initiatives. Some of these topic areas include items that may be better established first through policy within the Comprehensive Plan, and then through drafting/modifying regulations in order for consideration to be provided through development-review and building-permitting functions.

At a minimum, considerations to the following items may be included:

- watershed alteration,
- alternatives to redevelopment in high hazard areas,
- development review and building permitting processes that incorporate hazard mitigation alternatives,
- potential flooding from hurricane storm-surges and associated wind and wave action,
- redevelopment, or the prohibition of, non-conforming uses after a disaster (an economic analysis may be required),
- development/redevelopment in areas associated with repetitive losses due to natural disasters, and
- storm surge/ severe winds of greater magnitude storms.

2. **Plans and policy implementation** – the adopted Local Government Comprehensive Plans are used to guide growth based upon factors such as: development limitations, public-service provision and environmental resource protection. Additionally, the County and municipalities have adopted other plans for use in mitigating hazards and in the development review process.

These plans are principally associated with mitigating development associated with:

- Limiting development density and intensity through limiting public-service provision (indicated through development areas) for various areas within the County – some of which are associated with hazard prone areas,
- Prioritizing areas for protection and have a preservation or a conservation value,
- Minimizing (non-mitigated) development within high-hazard coastal areas,
- Identifying the need to retrofit and improve stormwater systems,
- Maintaining adequate level-of-service capacities associated with public infrastructure and services, and
- Implementing procedures of the Comprehensive Emergency Management Plan.

At a minimum, the following considerations are needed:

- redevelopment of existing properties after a disaster to ensure mitigation strategies are considered that would minimize the number of non-conforming uses,
- Modify the Comprehensive Plan to recognize strategies approved within the Local Mitigation Strategy (and per Chapter 163, Florida Statutes and 9J-5, Florida Administrative Code),
- Update the Comprehensive Emergency Management Plan to use hazard-mitigating strategies (where appropriate) as identified through the Local Mitigation Strategy,

- Establish a policy direction that encourages removal of septic tanks or hazardous sites from high hazard areas throughout the county after a catastrophic event,
  - Establish policy direction that provides incentives for the retrofit of vulnerable structures as defined within the Local Mitigation Strategy, and
  - Establish policy direction to ensure evacuation shelters are addressed per the direction of the CEMP.
3. **Program implementation** – The County has implemented programs that are effective in mitigating hazards. However, the various programs are mostly confined to hazards associated with flooding. In addition the respective plans are not unified or integrated. One of the principal purposes of the Local Mitigation Strategy is to unify these programs and identify areas for strengthening to ensure implementation of the Local Mitigation Strategy. Plans principally associated with mitigating development are:
- Post - disaster redevelopment Plan,
  - Greenways and environmental lands acquisition – some areas identified for acquisition may serve a dual purpose (recreation/preservation and hazard mitigation)
  - National Flood Insurance Program and the Community Rating System – criteria provides for the provision of flood insurance,
  - Floodplain Management and Stormwater drainage programs – these programs have been established to minimize and mitigate flooding hazards, and
  - Sustainable Communities Program – a cooperative process between Hillsborough County and the City of Tampa to “break” the repetitive cycle of injury, property damage and rebuilding caused by disasters

Areas in which additional considerations are needed include:

- Development of monitoring systems to monitor flood levels,
- Expansion of acquisition programs to acquire more hazard prone areas,
- Review of allowances made for nonconforming uses to rebuild,
- Update the Comprehensive Emergency Management Plan to include a definition of critical facilities as defined within the Local Mitigation Strategy,
- Coordinate repetitive-loss cases to better examine historical patterns of repetitive damage to determine whether the policy should be expanded or modified to other areas,
- Coordinate repetitive loss flood insurance “payouts” from the Federal government to ensure payments are not for nonconforming structures,
- Establish a permanent funding source for mitigation projects within the Capital Improvements Program,
- Identify alternatives (and incentives) in building techniques for development within high hazard areas, and
- Identify all potential hazards in the review of new development.

### **C. COOPERATING TECHNICAL PARTNER (CTP) PROGRAM AND THE DIGITAL FLOOD INSURANCE RATE MAP (DFIRM) CREATION**

The Hazard Mitigation Section of the County's Planning and Growth Management Department has worked with County and City of Tampa agencies in obtaining approval from the Federal Emergency Management Agency (FEMA) to update the Flood Insurance Rate Maps (FIRMs). The FIRMs for Hillsborough County were originally produced in 1979 with partial updates in the 1980s and early 1990s. FIRMs are required for Hillsborough County in order for property owners to obtain Federal flood insurance. Additionally, flood insurance is required by property owners that carry a Federally backed loan for structures located within the Special Flood Hazard Area.

Hillsborough County was not scheduled for an update to FIRMs. Staff worked closely with FEMA over the years 1999 and 2000 to illustrate currently mapped special flood hazard areas and areas of new development trends within the County. This information in conjunction with illustrating floodplain management programs that amount to more than \$100 million assisted in having the County scheduled for a FIRM update beginning in January 2001.

The principal task will be conducted using County data to update the Flood Insurance Study, which will be used to update FIRMs. The end-product from FEMA will be a new Flood Insurance Study and digital FIRMs (paper maps will be provided too). Additionally, the Assistant County Administrator's office and the development community have recently shown interest in this project. Their interest is principally due to the County changing the referenced vertical datum (required by FEMA and strongly supported by the County Surveyor) and potential impacts to the development community during the FIRM update period.

The Board approved a draft agreement with FEMA in December 2000. The Agreement is the outcome of many months of effort between County agencies and FEMA. One product that will be provided to the County from this effort is a "digital" FIRM. Although this is only one of the major products associated with the project, it is a product in which the County will be mandated to use in determining flood zones associated with development review and construction approvals.

The Federal Emergency Management Agency (FEMA) Flood Hazard Mapping Program has specific mandates within the Housing and Urban Development Act of 1968 (also known as the National Flood Insurance Act of 1968), as amended; the Housing and Urban Development Act of 1969; the Flood Disaster Protection Act of 1973, as amended; and the National Flood Insurance Reform Act of 1994. These Acts authorize FEMA to identify, publish, and update information with respect to all floodprone areas in the nation. FEMA has complied with this mandate by publishing and updating flood maps for more than 19,000 communities.

Because flood hazard conditions change over time due to natural and manmade changes in watersheds and floodplains, FEMA has an ongoing program to update flood maps for floodprone communities. However, flood map update needs are increasing and Federal funds are limited, thus a significant portion of the approximately 100,000-panel flood map inventory is becoming outdated. To reverse this trend, FEMA designed a [plan](#) to modernize the flood map inventory. Over time, FEMA plans to eliminate the existing backlog of outdated flood maps and convert all flood maps to a digital format.

One of the key objectives of the FEMA Map Modernization Plan is to increase local involvement in, and ownership of, the flood mapping process. To meet this objective, FEMA developed and implemented the Cooperating Technical Partners (CTP) program. As technologies have improved and applications have expanded dramatically, many State agencies, regional agencies, and local communities have become technologically sophisticated and have invested significant resources in flood hazard identification. This document presents initial guidance for the CTP program. Additional information about the CTP program is available from FEMA's Flood Hazard Mapping website at [www.fema.gov/mit/tsd/ctp\\_main.htm](http://www.fema.gov/mit/tsd/ctp_main.htm).

### **1. Benefits of the CTP program**

The following are beneficial reasons for partnering with State, local, and regional organizations to produce National Flood Insurance Program (NFIP) maps:

- The data used for local permitting and planning will also be the basis for the NFIP map, facilitating more efficient floodplain management.
- The CTP program provides the opportunity to interject a tailored, local focus into a national program; thus, where unique conditions may exist the special approaches to flood hazard identification that may be necessary can be taken.
- The partnership mechanism provides the opportunity to pool resources and extend the productivity of limited public funds.

### **2. Objectives of CTP program**

In support of the CTP program, FEMA has committed to the following:

- Recognize the contributions made by FEMA's State, regional, and local community Partners by providing timely and accurate flood hazard information.
- Maximize the use of Partner contributions as a means of leveraging limited public funds to the fullest extent while maintaining essential NFIP standards.
- Fully integrate Partners into the flood hazard data development process with the corresponding authorities and responsibilities.
- Provide training and technical assistance to Partners when appropriate.
- Facilitate mentoring to increase capability for existing and potential Partners.

### **3. Administration**

FEMA and its Partners will administer activities under the CTP program through close and frequent coordination. There are three types of formal agreements- Partnership Agreements, Mapping Activity Statements, and Cooperative Agreements. Each Partner will enter into an overall Partnership Agreement with the appropriate FEMA Regional Office for their area. The Partnership Agreement is a broad statement of principle, emphasizing the value of the NFIP's three components of insurance, floodplain management, and mapping.

The Partnership Agreement recognizes the fundamental importance of flood hazard identification in the successful reduction of future flood losses and the Partner's commitment to the effort. The Partnership Agreement is a prerequisite to any further activities under the CTP program. For projects that meet eligibility requirements, FEMA may award funds through the mechanism of a Cooperative Agreement. The Cooperative Agreement provides for the disbursement of Federal funds and defines the legal responsibilities associated with it.

As the Partner and FEMA identify specific tasks to undertake, Mapping Activity Statements will be developed to define roles and responsibilities of all Partners involved in a particular flood mapping project. Developing the Mapping Activity Statements will be a collaborative effort where both the Partner(s) and FEMA contribute data and units of work to maximize the extent, accuracy, and usability of flood hazard studies to best meet local, State, and Federal needs, while minimizing costs for all parties. The Mapping Activity Statement is a key component of the Cooperative Agreement package because it defines the activities that will be accomplished, the entity responsible for them, how the activities will be funded, and the nature of the working relationship between FEMA and its Partners.

#### **4. Timeline/Current Status (As of April 2004)**

- The County expects to have “final draft” maps ready for adoption in late 2004. The Public Works Dept has submitted all 17 of the watersheds to FEMA for review. FEMA will then work with the County to correct errors/inconsistencies. Here is the estimated timeline for upcoming events:
- February/March 2003 – Meet with area developers, engineers, and the Citizen Action Committee to discuss technical issues associated with the remapping.
- March 2003-May 2004 – Review sample paper and digital FIRM maps from FEMA. Resolve issues associated with floodways, data requirements, and vertical datum (referenced height) change. Create outreach strategy with FEMA, County, and other appropriate entities to disseminate information to the Public. Continue to update new floodplain for recent subdivisions built above the base flood elevation (BFE).
- August - November 2004 – Implement outreach strategy. Take preliminary maps to the public and explain the implications of new flood maps.
- November 2004 - Summer 2005 – Adoption period for maps. Maps will still be unofficial while this is underway.
- Late Summer 2005 – New maps become official. Insurance, banking, and construction communities will have to follow updated maps.

This timeline may be adjusted. If maps are going through without much correction, some of the items above can proceed at the same time, which would move the maps up to an official date around Spring 2005. If FEMA and the County have problems with the map products, the official date will be further out.

#### **D. REPETITIVE LOSS INITIATIVE**

The unincorporated area of Hillsborough County has been identified as a National Flood Insurance Program category “C” community by the Federal Emergency Management Agency. A repetitive loss is defined as two (2) or more insurance claims in excess of \$1,000 each for the same property. A category “C” community is one in which ten (10)

or more repetitive losses have occurred in the community. Because repetitive flood-loss properties represent approximately one third of the flood insurance claims processed by FEMA, they have made the adoption of a plan to address the specific properties in this classification a mandatory requirement for participation in the Community Rating System (CRS).

### **1. Flood Mitigation Activities**

The possible activities that could be undertaken to reduce potential flooding to repetitive loss properties must be balanced with rights of property owners, the ability of the County to finance various activities and the potential benefits of those activities. Considering these variables, the County has undertaken the following:

- The Planning and Growth Management Department worked to update the list of repetitive loss properties maintained within the Flooded Structure Database. Another system (Permits Plus) is used in the process of monitoring permit activity associated with specific structures to ensure construction activity (based upon reported values) does not exceed 50% of the structure's values unless actions are taken to have the entire structure brought into code compliance. (This process is as defined in the Flood Damage Control Regulations.)
- Pursuant to the requirements of the National Flood Insurance Program, the County through the Community Rating System Coordinator has sent each repetitive loss property identified by FEMA a personal warning letter. These letters explained that their homes are susceptible to flooding and include information on retrofitting, elevation, relocation and stormwater protection.
- The Planning and Growth Management Department did perform a site visit for all repetitive-flood loss structures. The result of this analysis was comprehensively addressed in the previous reporting period and did not call for an update to be sent to the County's ISO Coordinator. Additionally, this review was a part of the County's annual inspection of all (existing and newly identified) repetitive loss properties to ascertain the cause of flooding and suggest possible methods to prevent future flooding of these properties.
- The County (through the Community Rating System Coordinator) did request, but has not yet received a listing of flood claims processed within the County. This listing illustrated single-event flood-loss structures.
- The Community Rating System Coordinator performed an analysis of flood losses. Information obtained from this analysis was reviewed for the inclusion into the Local Mitigation Strategy (adopted by the Board of County Commissioners). The analysis for this reporting period did include changes from the previous year's report to the County Administrator as three more structures were added to the Repetitive Flood Loss List. This is an annual task to identify to County managing staff any emerging patterns of flooding. These patterns are used in the decision process for zoning changes and prioritization of capital projects listed within the LMS and is provided to the Public Works Department's Stormwater Section.

## 2. Flood Damage Prevention Action Plan

Taking into consideration the existing fiscal constraints in Hillsborough County and the realization that all floodplain management activities are conducted through various agency-operating budgets, the following action plan is designed to serve as a balanced, comprehensive program to mitigate and manage the impact of development activity in the floodplain.

- Prevention -- The Planning and Growth Management Department, Planning and Zoning Division conducts County regulatory review activities associated with land-development requests, which includes reviewing the need for preservation of open space for mitigating impacts associated with development in identified floodplain area. The County's Land Development Code (LDC) and the Construction Code provide regulations that limit and manage development activity in the floodplain by limiting encroachment into wetlands and preserving open space. This is primarily accomplished by ensuring limitations on impervious surface and preservation of critical areas.
- Stormwater Management -- The enforcement of the Land Development Code to ensure requests for development retains and attenuates stormwater impacts. Specifically, the Stormwater Technical Manual continues to be used to regulate all development, whether it is located within or outside of the floodplain. The Stormwater Management Section of the Public Works Department evaluates each flood event to determine the effectiveness of recently constructed projects and identify potential additional projects or improvements. The County's budget includes funding for the alternatives identified in the revised Watershed Management Plans for the County's seventeen basins as identified in the Stormwater Management Element of the County's Comprehensive Plan.
- Drainage System Maintenance -- The County continues to take the appropriate actions to maintain the County's stormwater management systems. The Water and Public Works Departments, through maintenance programs funded by its operating budget, maintains the stormwater conveyance systems to ensure that flooding impacts are minimized.
- Property Protection through Acquisition – Since 1998, the County has used matching funds with State and Federal Funding (initiated through the Hazard Mitigation Program) to acquire or elevate 20 properties that have experienced repetitive losses due to flooding. The County had acquired these listed properties during the last reporting period and is currently performing demolitions. Hillsborough County spent \$101, 728.00 or 12.5% of the cost of this project (\$813,820 total) on acquisition. In addition, the County paid \$14,875 or 12.5% of the total cost of demolition (\$119,000). During the reporting year of Oct 1, 2002 to October 1, 2003, three additional properties have been acquired with total project costs of approximately \$328,000.
- Additionally, through land acquisition purchases by the Environmental Land Acquisition Program, the County will continue to remove property located in the floodplain from the impacts of development. The continuing implementation of this program regarding flood mitigation is important because the removal of property located in the floodplain and its preservation as resource-based recreation maintains storage capacity and removes respective floodplain areas from potential development. A complimentary benefit is the acquisition of

adjacent uplands as open space further reduces the introduction of impervious surfaces that can contribute to flooding problems -- buffer to floodplains.

- Building Elevation -- Through the enforcement of the County's Flood Damage Control Regulations (Ordinance) and in conjunction with its participation in the National Flood Insurance Program Community Rating System, structures located in floodplains will continue to be identified for elevation to mitigate for their location in flood-prone areas. The County completed three elevation projects on repetitive loss properties during the 2001-2002 year. During the 2002 to 2003 reporting year, the County elevated, via a demolition/rebuild one more structure. The County views this activity as a major contribution toward mitigating the impacts of flooding and is currently in the process with the State and FEMA to elevate additional structures. The County is also completing a planning grant where one of the main goals is to target elevation and acquisition projects.
- Insurance -- The County will continue to actively participate in the National Flood Insurance Program. A major contribution to this effort is the recognition of the Community Rating System program is managed by a full-time staff member. To this end, the County has developed a Hazard Mitigation program staffed full-time. As part of the program, it is recognized that a major emphasis should be placed on the education of those property owners who are located in the floodplain that they should secure flood insurance. Increased insurance policies will add protection to policyholders during times of flooding; for example, the magnitude of potential flooded structures may include 42,000 structures indicated by FEMA or as great as 54,000 parcels that are (or could be) built upon (County data).
- Emergency Services -- The coordination of emergency services during times of flooding is through the Public Safety Department's Emergency Management Office (EMO). The EMO is responsible for coordinating publication of the County's annual evacuation and severe weather warning publication and in activating the County's warning systems.
  - ❖ Flood Warning -- When the National Weather Service issues flood watch or warnings, the EOC initiates those activities appropriate to the potential threat of the event.
  - ❖ Flood Response -- Through the EOC, the Roads and Streets Department furnishes sandbags to County residents at Maintenance Stations located throughout the county. If evacuation is deemed necessary, the EOC opens shelters in affected areas and coordinates activities of the Sheriff's Office, the Red Cross Emergency Medical services and other agencies as required to accomplish a safe evacuation.
- Structural Projects -- The County's Stormwater Program was approved by the Board of County Commission in fiscal year 1998 and continued again in 2003. These activities include projects that implement the County's Master Drainage Plan. County staff reviews, evaluates and prioritizes needs so that available funding is allocated to those projects that are most critical in alleviating flood impacts.
- Storm Sewers -- The County, as part of its Capital Improvements Program continuously provides funding for the reconstruction of obsolete storm sewer systems. This activity includes the replacement of storm pipes, manholes, end walls, culverts and conveyance systems. The CIP also provides funding for

individual projects designed to alleviate flooding problems in specific locations in the County.

- Retention -- Each development, whether private or public, is required to meet the provisions of the Stormwater Technical Manual. Instead of providing reservoirs to store stormwater runoff, each project must provide on-site retention of its runoff and/or tie into the County's stormwater system. As part of the County's effort to retrofit its stormwater system, funding in the Capital Improvement Program is provided to acquire property and construct stormwater retention facilities to alleviate flooding impacts to roads and private property.
- Public Information -- The County has undertaken various activities that advise property owners concerning the hazards and potential mitigating activities associated with building in the floodplains. This is evident through the County's participation with FEMA as a Project Impact partner.
- Map information -- Residents, both existing and potential, can access information relating to the floodplains at the Permit Services Center. Floodplain determinations can be requested that provide an official determination of whether a property is located, fully or partially, within a floodplain. Additionally, the County has mapped the floodplains on its Geographical Information System (GIS). The County has also mapped the storm surge from hurricanes based on the SLOSH model.

### **3. Community Rating System (CRS) Overview 2002-2003**

During the period of October 1, 2002 to August 1, 2003, the County has suffered several severe flooding events. Flood Warning Systems were activated and the Board of County Commissioners authorized funding of more warning systems to help reach citizens in the most vulnerable areas. The County continued to work with FEMA and its contractor, Dewberry and Davis, Inc. to complete the update to the Flood Insurance Rate Maps. A stakeholder group was created that represents citizens, realtors, insurance agents, lenders, and engineers. This group will assist with the outreach and education of citizens and industries on the implementation of the new maps and flood vulnerability in general. The 17 Watershed Master Plans were completed and recommended projects totaling \$250 million. The County also continued to work with grants for planning and structural efforts for flood protection. Next year will bring the release of new Digital Flood Insurance Rate Maps and continued proactive efforts toward improving flood mitigation through education and coordination of citizens, businesses, government agencies, and regional and national organizations.

The County intends to maintain its Class 6 rating under the CRS program. Communities are rated from 10 to 1, with 1 being the best. The Class 6 rating provides a 20% discount to National Flood Insurance Program (NFIP) policy-holders in the SFHA and a 10% discount to policy-holders outside the SFHA. The City of Tampa is currently a Class 7 community and the City of Temple Terrace remains a Class 8 community. The City of Plant City does not currently participate in the CRS program.